



REQUEST FOR PROPOSALS  
RFP# 162-17-08

Issue Date: June 27, 2017  
Title: Specialized Transportation: Automatic Fare Collection System  
Issuing and Using Agency: GRTC Transit System  
Attn: Tonya Thompson  
Director of Procurement  
301 E. Belt Boulevard  
Richmond, Virginia 23224

Proposals for furnishing the services described herein will be received until: 11:00 a.m. local time on August 2, 2017.

All Inquiries For Information Should Be Directed To: ISSUING AGENCY, address listed above at Phone: (804) 358-3871, extension #372.

IF PROPOSALS ARE MAILED, HAND DELIVERED OR SENT BY COURIER, DELIVER TO: GRTC TRANSIT SYSTEM, PURCHASING DEPARTMENT, 301 E. BELT BOULEVARD, RICHMOND, VA 23224. The RFP number, date and time of proposal submission deadline, as reflected above, must clearly appear on the face of the proposal package.

In Compliance With This Request for Proposals and To All Conditions Imposed Therein and Hereby Incorporated By Reference, the Undersigned Offers and Agrees to Furnish the Goods/Services Described Herein in Accordance with the Attached Signed Proposal or as Mutually Agreed Upon by Subsequent Negotiation.

Name and Address of Firm:

\_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ By: \_\_\_\_\_  
*(Signature in Ink)*

\_\_\_\_\_ Zip Code: \_\_\_\_\_ Name: \_\_\_\_\_  
*(Please Print)*

Telephone: ( ) \_\_\_\_\_ Title: \_\_\_\_\_

Fax Number: ( ) \_\_\_\_\_ FEI/FIN Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

SBSD-CERTIFIED DISADVANTAGED BUSINESS ENTERPRISE: ( ) YES ( ) NO

If YES, Certification Number: \_\_\_\_\_

THIS SOLICITATION CONTAINS 68 PAGES

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## DEFINITION OF WORDS AND TERMS

Words and terms shall be given their ordinary and usual meanings. Where used in the Contract documents, the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular, plural, masculine, feminine and neuter of the words and terms.

Acceptance or Accepted: Written documentation of GRTC's determination that the Contractor's Work has been completed in accordance with the Contract.

Addendum/Addenda: Written additions, deletions, clarification, interpretations, modifications or corrections to the solicitation documents issued by GRTC during the Solicitation period and prior to contract award.

Administrative Change: Documentation provided by GRTC to Contractor, which reflects internal GRTC procedures not affecting the Contract terms or Scope of Work.

Best and Final Offer: Best and Final Offer shall consist of the Proposer's revised proposal, the supplemental information, and the Proposer's Best and Final Offer. In the event of any conflict or inconsistency in the items submitted by the Proposer, the items submitted last will govern.

Bidder/Proposer or Offeror: Individual, association, partnership, firm, company, corporation or a combination thereof, including joint ventures, submitting a bid/proposal to perform the Work.

Buyer: Individual designated by GRTC to conduct the Contract solicitation process, draft and negotiate contracts, resolve contractual issues and support the Project Manager during Contract performance.

Change Documentation: A written document agreed upon by Project Managers, which if it creates a material change to the Contract term or Scope of Work shall be executed as a Contract Amendment.

Change Order: Written order issued by GRTC, with or without notice to sureties, making changes in the Work within the scope of this Contract.

Contract Amendment: A written change to the Contract modifying, deleting or adding to the terms or scope of work, signed by both parties, with or without notice to the sureties.

Contract or Contract Documents: The writings and drawings embodying the legally binding obligations between GRTC and the Contractor for completion of the Work under the Contract.

Contract Administrator: The individual designated by GRTC to administer the Contract and be the Contractor's primary point of contact. The Contract administrator will approve orders, receipts, invoices and document the Contractor's performance. This Person may be the Project Manager.

Contract Period: The period of time during which the Contractor shall perform the Services or Work under the Contract.

Contract Price: Amount payable to the Contractor under the terms and conditions of the Contract for the satisfactory performance of the Services or Work under the Contract.

Contractor: The individual, association, partnership, firm, company, corporation, or combination thereof, including joint ventures, contracting with GRTC for the performance of Services or Work under the Contract.

Cost Analysis: The review, evaluation and verification of cost data and the evaluation of the specific elements of costs and profit. Cost analysis is the application of judgment utilizing criteria to project from the data to the estimated costs in order to form an opinion on the degree to which proposed costs represent what the Contract should cost, assuming reasonable economy and efficiency.

Day: Calendar Day.

Documentation: Technical publications relating to the use of the Work to be provided by Contractor under this Contract, such as reference, user, installation, systems administration and technical guides, delivered by the Contractor to GRTC.

DOT: Department of Transportation.

Final Acceptance: The point when GRTC acknowledges that the Contractor has performed the entire Work in accordance with the Contract.

FTA: Federal Transit Administration.

GRTC: Greater Richmond Transit Company.

Person: Includes individuals, associations, firms, companies, corporations, partnerships, and joint ventures.

Price Analysis: The process of examining and evaluating a price without evaluating its separate cost elements and proposed profit.

Project Manager: The individual designated by GRTC to manage the project on a daily basis and who may represent GRTC for Contract administration. This Contract may be part of a larger GRTC project.

Provide: Furnish without additional charge.

Reference Documents: Reports, specifications, and/or drawings that are available to Proposers for information and reference in preparing proposals but not as part of this Contract.

RFP or Solicitation: Request for proposals. Also known as the solicitation document.

Scope of Work or Statement of Work (SOW): A section of the Contract consisting of written descriptions of Services to be performed, or the goods to be provided, or the technical requirements to be fulfilled under this Contract contained within the Scope of Work Section.

Services: The furnishing of labor, time or effort by a Contractor, but not involving the delivery of any specific manufactured goods.

Shall or Will: Whenever used to stipulate anything, Shall or Will means mandatory by either the Contractor or GRTC, as applicable, and means that the Contractor or GRTC, as applicable, has thereby entered into a covenant with the other party to do or perform the same.

Specifications or Technical Specifications: A Section of the Request for Proposals consisting of written descriptions of services to be performed under this Contract.

Subcontractor: The individual, association, partnership, firm, company, corporation, or joint venture entering into an agreement with the Contractor to perform any portion of the Work covered by this Contract.

Submittals: Information that is submitted to the Contract Administrator in accordance with the Scope of Work/Specifications.

VDMBE: Virginia Department of Minority Business Enterprise

Work: Everything to be provided and done for the fulfillment of the Contract and shall include all goods and services specified under this Contract, including Contract Amendments and settlements.

## SECTION 1— INSTRUCTIONS TO PROPOSERS

### 1-1 Introduction

GRTC is the primary public transportation provider for the Richmond region. The company is a not-for-profit public service corporation jointly owned by the City of Richmond and Chesterfield County. Currently, GRTC operates 37 local routes and 10 express routes (including extended express routes) that provide transit service within the City of Richmond, Henrico County, and a small portion of Chesterfield County – a service area that accounts for more than 8 million passenger rides yearly.

In addition to traditional fixed-route service, GRTC provides complementary ADA paratransit service, welfare-to-work transportation, and vanpool and carpool development services. In the provision of these services, GRTC employs an active fleet of approximately 157 fixed-route transit vehicles and 87 specialized transportation vehicles. RideFinders, the rideshare component of the transit system, provides assistance to car pools and van pools.

### 1-2 Purpose

GRTC is seeking proposals from experienced and qualified vendors to provide an Automatic Fare Collection System for installation on GRTC's specialized fleet of approximately ninety (90) vehicles all located at one garage site.

### 1-3 Proposal Submission

In order to be considered for selection, Proposers must submit a complete sealed written response to this RFP. One original of each proposal and three copies, each of which are marked "Copy", must be submitted to GRTC in addition to one electronic version on a compact disc (CD). Oversize pages used for drawings or similar purposes are not prohibited. Each proposal, complete with affidavits and certifications, will be bound together with the required RFP Cover Page and Vendor Checklist (Attachment A) on top. The package containing the proposal must be clearly marked with the words "Proposal for Automatic Fare Collection System" and the time and date proposals are due.

If no proposal is to be submitted, do not return the solicitation unless otherwise specified. A letter or postcard should be sent to the GRTC Director of Procurement advising whether future solicitations for the type of supplies or services covered by this solicitation are desired. Failure of the recipient to notify GRTC that future solicitations are desired may result in removal of the name of such recipient from the mailing list for the type of supplies or services covered by this solicitation.

### 1-4 Postponement or Cancellation of Request for Proposals

GRTC reserves the right to cancel the RFP at any time or change the date and time for submitting proposals by announcing same prior to the date and time established for proposal submittal.

### 1-5 Proposal Signature

Each proposal shall include the RFP Cover Page signed by a person authorized to bind the proposing firm to the terms of the Contract. Proposals signed by an agent are to be accompanied by evidence of that person's authority, unless such evidence has been previously furnished to GRTC.

### 1-6 Addenda

Receipt and review of Addenda by each proposer must be acknowledged on the Addendum Page (Attachment C). All addenda must be signed and returned with each proposal

## 1-7 Procurement Schedule

The projected schedule for this procurement is:

Request for Proposals available:	June 27, 2017
Pre-Proposal Meeting	July 13, 2017
Deadline for requests for clarification/changes to the RFP and requests for approved equals:	July 20, 2017
Deadline for addenda and responses to requests:	July 26, 2017
Proposals due by 11:00 a.m. local time:	August 2, 2017
Evaluation of proposals by selection committee and possible interviews:	August 3 – August 11, 2017
Contract negotiations:	August 14, 2017 – September 1, 2017
Resolution to Award @ Board Meeting:	September 19, 2017
Contract signing/Notice to Proceed/Notice of Award:	September 22, 2017
Commencement of Project:	October 1, 2017

## 1-8 Pre-Proposal Conference

There will be a pre-proposal conference on July 13, 2017 at 10:00 am at GRTC's Administrative Building located at 301 E. Belt Boulevard, Richmond, VA 23224. All prospective proposers are encouraged to attend.

## 1-9 Inquiries

The proposer is required to show on all correspondence with GRTC the following: "Proposal for Automatic Fare Collection System." Any communication with GRTC should be written and directed to: Tonya Thompson, Director of Procurement, GRTC Transit System, 301 E. Belt Boulevard, Richmond, VA 23224. Written communication may also be forwarded via facsimile to (804) 622-8028 or email to [tothompson@ridegrtc.com](mailto:tothompson@ridegrtc.com). Correspondence will not be accepted by any other party. Contact with any other person may result in the Proposer being disqualified from consideration.

## 1-10 Interpretation of RFP and Contract Documents

No oral interpretations as to the meaning of the RFP will be made to any proposer. Any explanation desired by a proposer regarding the meaning or interpretation of the RFP, specifications, etc., must be requested in writing and with sufficient time allowed (a minimum of fifteen (15) calendar days before date set to receive proposals) for a reply to reach proposers before the submission of their proposals. Any interpretation or change made will be in the form of an addendum to the RFP, specifications, etc., as appropriate, and will be furnished as promptly as is practicable to all parties to whom the RFP has been issued, but at least seven (7) calendar days prior to the proposal due date. All Addenda will become part of the RFP and any subsequently awarded Contract. Oral explanations, statements, or instructions given by GRTC before the award of the Contract will not be binding upon GRTC.

## 1-11 Approved Equal

In all cases, services and materials must be furnished as specified. Where brand names or specific items are used in the specifications, consider the term "or approved equal" to follow.

Any unapproved deviations, exceptions, substitutions, alternates or conditional qualifications contained in a proposal may be cause for its rejection.

If potential proposers believe that their product is equal to the product specified, they must submit a written request to GRTC on the provided form (Attachment D) and this request will be approved or rejected by GRTC at least seven (7) calendar days prior to due date of proposals. Requests for approved equals and clarification of specifications must be received by GRTC in writing a minimum of fifteen (15) days before

the proposal opening to allow analysis of the request.

Any request for an approved equal must be fully supported with catalog information, specifications and illustrations, or other pertinent information, as evidence that the substitute offered is equal to or better than the specification. Where an approved equal is requested, the Proposer must demonstrate the equality of this product to GRTC to determine whether the Proposer's product is or is not equal to that specified.

#### **1-12 Examination of RFP and Contract Documents**

Proposers are expected to examine the scope of services required, specifications, schedules, all instructions, and form agreement. Failure to do so will be at the proposer's risk. It is the intent of these specifications to provide services of first quality, and the workmanship must be the best obtainable in the various trades. The goods and services, which the vendor proposes to furnish, must be high quality in all respects. No advantage will be taken by Contractor or vendor in the omission of any part or detail, which goes to make the services complete. All manner of workmanship and material used in the provision of the services and not herein contained or specified shall be of the industry standard and shall conform to the best practices known in the industry.

Contractor will assume responsibility for all equipment used in the proposal item, whether the same is manufactured by Contractor or purchased ready made from a source outside Contractor's company. It is the sole responsibility of Contractor to read the requirements and understand them.

The submission of a proposal shall constitute an acknowledgment upon which GRTC may rely that the Proposer has thoroughly examined and is familiar with the solicitation and form agreement, including any work site identified in the RFP, and has reviewed and inspected all applicable statutes, regulations, ordinances and resolutions addressing or relating to the goods and services to be provided hereunder. The failure or neglect of a Proposer to receive or examine such documents, work sites, statutes, regulations, ordinances, or resolutions shall in no way relieve the Proposer from any obligations with respect to its Proposal or to any Contract awarded pursuant to this RFP. No claim for additional compensation will be allowed which is based on lack of knowledge or misunderstanding of this RFP, work sites, statutes, regulations, ordinances, or resolutions.

#### **1-13 Cost of Proposals**

GRTC is not liable for any costs incurred by Proposers in the preparation, presentation, testing, or negotiation of Proposals submitted in response to this solicitation.

#### **1-14 Samples**

Samples of items when called for must be furnished free of expense. Samples must be labeled with the Proposer's name, manufacturer's brand name and number, proposal number, and item reference. Request for return of samples shall be accompanied by instructions, which include shipping authorization and name of carrier, and must be received within ninety (90) days after proposal opening date. If instructions are not received within this time, the commodities shall be disposed of by GRTC.

#### **1-15 Modification or Withdrawal of Proposals Prior to Submittal Date and Late Proposals**

At any time before the time and date set for submittal of proposals, a Proposer may request to withdraw or modify its Proposal. Such a request must be made in writing by a person with authority as identified on the RFP Cover Page, provided their identity is made known and a receipt is signed for the proposal. All proposal modifications shall be made in writing executed and submitted in the same form and manner as the original proposal. Any proposal or modification of proposal received at GRTC's office designated in the solicitation after the exact time specified for proposal receipt will not be considered.

#### **1-16 Errors and Administrative Corrections**

GRTC will not be responsible for any errors in proposals. Proposers will only be allowed to alter proposals after the submittal deadline in response to requests for clarifications or Best and Final Offers. GRTC reserves the right to request an extension of the proposal period from a Proposer or Proposers.

GRTC reserves the right to allow corrections or amendments to be made that are due to minor administrative errors or irregularities, such as errors in typing, transposition or similar administrative errors. Erasures or other changes or entries made by the proposer must be initialed by the person signing the proposal.

#### **1-17 Compliance with RFP Terms and Attachments**

GRTC intends to award a Contract based on the terms, conditions, and attachments contained in this RFP. Proposers are strongly advised to not take any exceptions. Proposers shall submit proposals which respond to the requirements of the RFP. An exception is not a response to a RFP requirement. If an exception is taken, a "Notice of Exception" must be submitted with the proposal. The "Notice of Exception" must identify the specific point or points of exception and provide an alternative. Proposers are cautioned that exceptions to the terms, conditions, and attachments may result in rejection of the proposal.

GRTC may, at its sole discretion, determine that a proposal with a Notice of Exception merits evaluation. A proposal with a Notice of Exception not immediately rejected may be evaluated, but its competitive scoring will be reduced to reflect the importance of the exception. Evaluation and negotiation will only continue with the Proposer if GRTC determines that a Contract in the best interest of GRTC may be achieved. The Notice of Exception will be used as part of GRTC's evaluation of the proposal, and, therefore, must be made known during the course of the proposing process. Comments and exceptions substantially altering the form agreement will not be considered after conclusion of the review process. Failure to submit a marked-up copy of the form agreement with a proposal will be interpreted by GRTC as the proposer's acceptance of the form agreement provided herein.

#### **1-18 Proposal Requirements**

Proposals shall fully explain their ability to fulfill all requirements described in GRTC's Statement of Work. They must contain the following items and follow the exact sequence outlined below:

A. Cover Letter, providing the following information:

1. Identification of the proposer(s), including name, address and telephone number of the appropriate contact person at each firm.
2. Working relationship among proposing firms, i.e., prime-subcontractor, if applicable.
3. Signature of a person authorized to bind the proposing firm to the terms of the proposal.

B. RFP Cover Page and Attachments A-P

Price Proposal (Attachment B) – Proposers must clearly state their price proposal for the required services.

C. Notice of Exception (if applicable)

D. Qualifications and Capabilities of the Firm(s)

1. Names, titles, and resumes of key personnel proposed for the duration of the contract, the individual's years of experience with automatic fare collection systems and area of expertise that would benefit GRTC on this project. Provide an organization chart and indicate who would be responsible for the day to day administration of the contract. Include your designation of a primary contact person. In the event that oral presentations are conducted, the designated key personnel will be required to attend along with other representatives of the Proposer.
2. Provide a brief profile of the Proposer, including its principal line of business, year founded, form of organization, number and location of branch and home offices, location of office to service this account, number of employees, and a general description of the Proposer's financial condition, as well as the name, address, and telephone number of the Proposer's financial institution. Identify any conditions (bankruptcy, pending merger, pending litigation,

planned office closures) that may impede the Proposer's ability to perform the work.

3. Provide a brief history of your firm's experience in providing and installing automatic fare collection systems. Identify all qualifications and organizational capabilities that will establish the proposer as a satisfactory provider of the required work by reason of its strength and stability. Proposers must provide a statement of why they are most qualified to handle GRTC's contract.
4. Identify subcontractors, if any, by company name, address, contact person, telephone number, and project function. Provide the same information for each subcontractor as requested above.

E. Related Experience and References

1. This section of the Proposal should establish the ability of the Proposer to satisfactorily provide the required work by demonstrating competence in the performance of services to be provided; the nature and relevance of other contracts; record of satisfactory performance in similar projects; and supportive customer references. Provide examples of similar contracts that Proposer has been awarded (indicating current status of each) within the last three years. For each reference cited as related experience, furnish the name, title, address, and telephone number of the person(s) at the purchaser's organization who is the most knowledgeable about the work performed.
2. For each subcontractor cited in the section above, provide examples of similar contracts performed by the subcontractor, citing the same client information.

F. Technical Proposal (to include)

1. Proposers must demonstrate their understanding of the project, describe their project approach, and explain how they will meet GRTC's needs. The merit of the proposed goods and services will be judged largely on the basis of your narrative description of your work plan. It is important that the proposal contain all information required for an effective review process. The proposal must include detailed information on how the contractor proposes to staff this project. This includes an outline of specific staff responsibilities under this contract.
2. A response to each line item in the Statement of Work. Proposers will identify the response to each line item in the order the line item appears in the solicitation. The proposer will identify how the line item requirements will be met. This response will incorporate all approved equals and addenda to the RFP. Each response should be clearly defined and will include, but not be limited to, a detailed statement of how the Proposer intends to achieve full compliance, or an explanation of why full compliance cannot be attained.
3. To the extent that there are any disclaimers or caveats pertaining to the provision of services as described in GRTC's statement of work, they must be listed. Except as clearly stated in this section, it shall be assumed that GRTC's requirements shall supersede any and all such suggestions that may be described and/or included in the proposal.
4. Describe the major steps in the contract implementation plan.
5. Proposed project start-up schedule in weeks, phases, and/or steps. Identify the total length of time required to begin the contract.
6. Highlight any tasks that require GRTC's involvement and explain to what degree GRTC must be involved.

**1-19 Collusion**

The proposer guarantees that the proposal submitted is not a product of collusion with any other proposer, and no effort has been made to fix the proposal price of any proposer or to fix any overhead, profit, or cost element of any proposal price (Attachment G). Failure to submit the signed affidavit at the time proposals

are due shall be grounds for disqualification of the proposer's offer.

If GRTC determines that collusion has occurred among Proposers, none of the proposals from the participants in such collusion shall be considered. GRTC's determination shall be final.

#### **1-20 Pricing, Taxes and Effective Date**

The price to be quoted in any proposal will include all items of labor, materials, tools, equipment, delivery and other costs necessary to fully meet the requirements of GRTC. Any items omitted, which are clearly necessary for the provision of service, will be considered a portion of such specifications, although not directly specified.

Price proposals shall include all applicable freight charges, FOB to the designated delivery points.

GRTC is exempt from payment of Federal, Excise and Transportation Tax, and Virginia Sales, Excise and Use Tax. Proposers will not include these taxes in their price(s). All other government taxes, duties, fees, licenses, permits, royalties, assessments, and charges shall be included in the proposed price.

In the event of a discrepancy between the unit price and the extended amount for a required item, the unit price will govern.

The price quoted by the proposing firms will not change for a period of ninety (90) days, beginning from the date the proposal is opened.

#### **1-21 Rejection of Proposals**

GRTC reserves the right to reject any or all proposals and waive any minor informalities or irregularities.

#### **1-22 Exclusionary or Discriminatory Specifications**

GRTC agrees that it will comply with the requirements of 49 U.S.C. Section 5323(h)(2) by refraining from using any Federal assistance awarded by the Federal Transit Administration to support procurements using exclusionary or discriminatory specifications. GRTC further agrees to refrain from using state or local geographic preferences, except those expressly mandated or encouraged by Federal Statute.

#### **1-23 Protest Procedures**

Any protest or objection to the Conditions and Specifications will be submitted for resolution to GRTC's CEO. Each protest must be made in writing and supported by sufficient information to enable the protest to be considered. A protest or objection will not be considered by GRTC if it is insufficiently supported or if it is not received within the specified time limits.

All protests based upon restrictive specifications, alleged improprieties, or similar situations prior to proposal opening must be submitted to GRTC's CEO no later than seven (7) calendar days prior to the specified proposal opening date.

Protests arising after the opening of proposals based upon grounds that were known or should have been known will be submitted to GRTC's CEO within five (5) business days after notification of Contract award. All protests will be considered by the Protest Review Board. The decision of the Protest Review Board is final. The Protest Review Board will consist of the Chief Executive Officer, Chief Operating Officer, and the Legal Counsel for GRTC. No further appeals will be considered by GRTC. The proposer may file a protest with FTA provided that the proposal complies fully with the requirements of FTA Circular 4220.1F.

##### **A. Protest Bond**

Any proposer wishing to protest the awarding of a contract by GRTC to the apparent most responsive and responsible proposer will be required to furnish, at its own expense, a protest bond in the amount of one-half of one percent (.5%) of the total offer before GRTC will consider the protest. This protest bond will serve as a guarantee by the proposer of the validity and

accuracy of the protest. Failure to provide this bond may result in GRTC denying the proposer's protest. If the Protest Review Board denies the proposer's protest, the bond will be used by GRTC to recover the costs and damages incurred because of the protest and the resulting delay in the provision of services. The bond will be either a cashier's check or certified check made payable to GRTC

**B. Review Process**

Except as otherwise provided in this Contract, any Protest concerning a question of fact arising under this Contract which is not disposed of by agreement shall be decided by a Protest Board comprised of GRTC's Chief Executive Officer, Chief Operating Officer, and Legal Counsel. This board shall reduce their decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Protest Board shall be final, unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a Protest hereunder, the Contractor shall proceed diligently with the performance of the Contract and in accordance with the Protest Board's decision.

This clause does not preclude consideration of law questions in connection with decisions provided for in this clause, provided that nothing in this Contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

**1-24 Proposal Alternatives**

Proposals shall address all requirements identified in this solicitation. In addition, GRTC may consider proposal alternatives submitted by Proposers that provide enhancements beyond the RFP requirements. Proposal alternatives may be considered if deemed to be in GRTC's best interests. Proposal alternatives must be clearly identified.

**1-25 Disadvantaged Business Enterprises (DBE) & Small, Women, and Minority Businesses (SWAM)**

It is the policy of GRTC that Disadvantaged Business Enterprises (DBE) as defined in 49 CFR Part 26 shall have a maximum opportunity to participate in the performance of federally funded contracts. Also GRTC encourages the utilization of Small, Women, and Minority (SWAM) Businesses to participate.

A list of certified DBE and SWAM firms are maintained on the Virginia Department of Minority Business Enterprise's (DMBE) website at [www.dmb.e.virginia.gov](http://www.dmb.e.virginia.gov) under the DBE and SWAM Vendor Links.

Proposers are encouraged to take all necessary and reasonable steps to ensure that DBE firms have a maximum opportunity to compete for and perform services on the contract. If the proposer intends to subcontract a portion of the services on the project, the proposer is encouraged to seek out and consider DBE firms as potential sub consultants.

No DBE goal was established for this solicitation. Any DBE participation on the contract will be counted as race-neutral DBE participation.

**SECTION 2 – PROPOSAL EVALUATION & CONTRACT AWARD**

**2-1 General**

Any contract resulting from this solicitation will be between GRTC and the Contractor responsible for providing the goods and/or performing the services described herein. GRTC is not party to defining the division of work between the Contractor and its Subcontractors, if any, and the Specifications and/or Statement of Work have not been written with this intent.

GRTC shall employ the competitive negotiation purchase method in making the award for this procurement. Technical information and price information will be evaluated concurrently.

Offerors will be required to submit supporting documentation on the technical aspects and cost. The Evaluation Committee may elect to interview proposers in order to clarify their proposals and/or for the Proposers to make oral presentations. If interviews, presentations, or negotiations are held, the evaluation team may reevaluate the proposals of those firms interviewed. GRTC expects all offerors to fully cooperate with its evaluation process.

## **2-2 Eligibility for Award**

In order to be eligible for award, proposers must be responsive and responsible.

- A. Responsive proposals are those complying in all material aspects of the solicitation, both as to the method and timeliness of submission and as to the substance of the resulting Contract. Proposals that do not comply with all the terms and conditions of the solicitation may be rejected as non-responsive.
- B. Responsible proposers are those prospective Contractors who, at a minimum, must:
  - 1. Have adequate financial resources, as required during performance of the Contract.
  - 2. Are able to comply with the required or proposed delivery or performance schedule, taking into consideration all existing business commitments.
  - 3. Have a satisfactory record of past performance.
  - 4. Have necessary technical capability to perform.
  - 5. Certify that they are not on the U.S. Comptroller General's list of ineligible Contractors.
  - 6. Are qualified as a regular provider of the services being offered.
  - 7. Allow GRTC or designated third party to conduct a Pre-Award Audit to verify accuracy of Buy-America certification in accordance with 49 CFR 663.
  - 8. Are otherwise qualified and eligible to receive an award under applicable laws and regulations.

## **2-3 Evaluation of Proposals**

The Evaluation Committee will evaluate the proposals in accordance with the criteria set forth below. The total evaluation points, as separately determined by each team member, will be added and each proposer will be ranked in numerical sequence, from the highest to the lowest score. GRTC may then select the proposal that is considered to be the most advantageous to GRTC.

## **2-4 Scoring and Evaluation Criteria**

The statement of work, as amended through the request for approved equal or exception process, and any addenda thereto, set forth the minimum requirements of the contract, including all parts, components, warranty, service, support, and other deliverables GRTC requires through this procurement.

Proposer's level of response to requested information will be considered throughout the scoring process. The evaluation criteria and corresponding weight of each are listed as follows:

- A. Price (30%)
- B. Organizational Background, Qualifications and Capabilities (15%)
- C. Related Experience and References (20%)
- D. Technical Proposal (35%)

## **2-5 Competitive Range**

The competitive range is determined through a preliminary evaluation of proposals, which applies the evaluation criteria as set forth above. The groups remaining in the competitive range may be invited to participate in additional evaluations, testing, Best and Final Offer, or negotiations.

## **2-6 Negotiations**

GRTC may undertake concurrent negotiations with proposers determined to be within a competitive range. GRTC does, however, reserve the right to award a contract based on the original proposal without any negotiations. The decision to award without negotiation may be made by GRTC if, in the sole opinion of GRTC, preliminary evaluation of the proposals received indicates that the best achievable and technically acceptable proposal has been received.

Concurrent negotiations with all proposers whose proposals are within the competitive range may be conducted by GRTC. Negotiations may be entered with one or more proposers to finalize contract terms and conditions. In the event negotiations are not successful, GRTC may initiate negotiations with the next ranking proposer or reject proposals.

Negotiation of a Contract will be in conformance with all applicable federal, state, and local laws, regulations, rules, and procedures. The objective of the negotiations will be to reach agreement on all provisions of the proposed Contract.

Upon completion of negotiations, the proposal that best meets the requirements of the RFP and ranks the highest evaluation score earned by its proposal based on the evaluation criteria shall be recommended to GRTC's Board of Directors as the successful proposer for award.

## **2-7 Cost or Price Analysis**

GRTC reserves the right to conduct a cost or price analysis for any purchase. GRTC may be required to perform a cost analysis when competition is lacking for any purchase. Sole source procurements which result in a single proposal being received will be subject to a cost analysis which will include the appropriate verification of cost data, the evaluation of specific elements of costs and the projection of data to determine the effect on proposal prices. GRTC may require a Pre-Award Audit and potential Contractors shall be prepared to submit data relevant to the proposed work which will allow GRTC to sufficiently determine that the proposed price is fair, reasonable, and in accordance with Federal, State and local regulations. Procurements resulting in a single proposal will be treated as a negotiated procurement and GRTC reserves the right to negotiate with the single proposer to achieve a fair and reasonable price. If a negotiated price cannot be agreed upon by both parties, GRTC reserves the right to reject the single proposal. Contract change orders or modifications will be subject to a cost analysis.

If only one proposal is received in response to the RFP, a detailed cost proposal and analysis of three (3) contracts, if available, awarded to the proposer within the past two (2) years may be requested of the single proposer. A cost/price analysis and evaluation and/or audit may be performed of the cost proposal in order to determine if the price is fair and reasonable.

## **2-8 Contract Award**

Contract award, if any, will be made by GRTC to the responsible Proposer whose proposal best meets the requirements of the RFP, and will be the most advantageous to GRTC with respect to operational plan, quality, and other factors as evaluated by GRTC. GRTC shall have no obligations until a Contract is signed between the Proposer and GRTC.

## **2-9 Execution of Contract and Notice to Proceed**

The Proposer to whom GRTC intends to award the Contract shall sign the Contract and return it to GRTC. Upon authorization by GRTC's Board of Directors, or designee, the Contract will be countersigned. Upon receipt by GRTC of any required documentation and submittals by the Proposer, a Notice to Proceed or

Purchase Order may be issued, if appropriate.

## **2-10 Public Disclosure of Proposals**

GRTC is subject to the Virginia Freedom of Information Act. Therefore, the contents of this RFP and the Contractor's proposal submitted in response to this RFP shall be considered public documents and are subject to the Virginia FOIA statutes. As such, all proposals submitted to GRTC will be available for inspection and copying by the public after the selection process has been concluded. There are, however, various items that may be exempt under public disclosure laws. If any proprietary, privileged, or confidential information or data is included in the Contractor's proposal, each page that contains this information or data should be marked as such (e.g., "Proprietary," "Confidential," "Business Secret," or "Competition Sensitive") in order to indicate your claims to an exemption provided in the Virginia FOIA. It is GRTC's sole right and responsibility, however, to make the determination whether these items are exempt or not exempt under the Virginia FOIA statutes.

All data, documentation and innovations developed as a result of these contractual services shall become the property of GRTC.

## **2-11 Conflicts of Interest and Non-Competitive Practices**

- A. Conflict of Interest – Contractor, by submitting a proposal to GRTC to perform or provide work, services, or materials, has thereby covenanted that it has no direct or indirect pecuniary or proprietary interest, and that it shall not acquire any interest, which conflicts in any manner or degree with the work, services, or materials required to be performed and/or provided under this Contract and that it shall not employ any person or agent having any such interest. In the event that Contractor or its agents, employees or representatives hereafter acquires such a conflict of interest, it shall immediately disclose such interest to GRTC and take action immediately to eliminate the conflict or to withdraw from this Contract, as GRTC may require.
- B. Contingent Fees and Gratuities – Contractor, by submitting a proposal to GRTC to perform or provide work, services, or materials, has thereby covenanted:

No person or selling agency except bona fide employees or designated agents or representatives of Contractor has been or will be employed or retained to solicit or secure this Contract with an agreement or understanding that a commission, percentage, brokerage, or contingent fee would be paid; and

No gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by Contractor or any of its agents, employees, or representatives, to any official, member or employee of GRTC or other governmental agency with a view toward securing this Contract or securing favorable treatment with respect to the awarding or amending, or the making of any determination with respect to the performance of this Contract.

## SECTION 3 – SCOPE OF WORK

### 3.1 INTRODUCTION

It is GRTC's intent to award a contract to an established contractor of Automatic Fare Collection Systems. The selected Proposer will act as prime contractor and will provide expertise to supply, install and commission any and all hardware, software and licenses necessary to implement the Automatic Fare Collection System under the GRTC's CARE/ADA transportation services. The proposer will provide cost and approach to providing the services and equipment specified under the Scope of Work, as well as, cost and options for maintenance and support of the system.

### 3.2 Technical Specifications

GRTC requests proposals for the purchase, delivery, installation and commissioning of (90) Transit Fare On-Board Reader/Validator devices for the Specialized Paratransit Transportation Division with a deployment of a complete Smart Card fare collection system with a Central Data Collection System and Web Fare Portal.

GRTC is seeking a modern fare collection back office and fare payment system that is built to (1) foster higher degrees of rider engagement, (2) offer more flexible choices and (3) provide personalized decision support and accountability. The goal is to have a single unifying platform for payments that meets the evolving expectations of our riders as well as the operational, financial, and management needs of GRTC.

GRTC is planning to upgrade the system which is based on paper ticketing booklets fare media. The replacement system is envisioned to allow at least the following:

An interoperable automated fare collection (AFC) system based on an account-based architecture that can accept a range of fare media including but not limited to ISO/IEC-14443 compliant contactless media smartcards. The "Long Term" use contactless Smart Cards will be replacing GRTC's paper ticket system. GRTC's tickets are sold in books of six (6) and ten (10). A ticket book of (6) costs \$18.00; a ticket book of (10) costs \$30.00. The new Smart Card system should be able to provide "Tickets/Stored Rides" to be used under the actual specialized division fare structure system. GRTC must be able to print additional text and image data on the card, including but not limited to card sequence number, organizational logo, and cardholder's photograph.

The proposed "Long Term" use Smart Card should have the necessary encoding to provide:

- A "free" ride validation under the GRTC's Revenue fleet using the SPX Genfare "Fast Fare" fareboxes.
- A "free" ride validation option under the Scheidt & Bachmann Ticket Vending Machines (TVM) for the GRTC's Bus Rapid Transit (BRT) Pulse system.
- The ability to be read and validated under the GRTC's fare inspector's devices at the BRT Pulse Route including the expiration date and verify the card thru the hot/bad list. The MT-60 fare validator devices are manufactured by the Scheidt & Bachmann AFC provider.
- The ability to be part of the main database of the Hot/Bad list from each vendor AFC software using the card sequence number, designator, TPBC, agency ID and security code.

GRTC requires that the chosen Contractor provides a non-disclosure agreement (NDA) signed document indicating that the encoding of the proposed "Long term" smart cards for this project will be provided to the Genfare and Scheidt & Bachmann vendors to be accepted on any AFC equipment used at GRTC. The Contractor will cover any costs related to the above requirement. No use of magnetic card type is allowed under this project. GRTC will be the owner of the encoding provided from the Contractor needed for the proposed "Limited" & "Long Term" smart cards.

GRTC will provide the proposed "Long Term" use Smart Cards with photo ID to each customer under our Specialized Transportation Division. GRTC understands that in some cases customers will not be able to purchase "Tickets/Stored rides for whatever reason thru the proposed GRTC web portal. GRTC wants the vendor to provide "Limited" use Smart Cards options that can be sold on any GRTC approved outlets. The

“Limited” use Smart Cards options should be “Stored Rides” which will replace the ticket book option under the actual fare structure for the Specialized Transportation division.

A Central Data Management System that allows GRTC to:

- Track sales and revenue by GRTC fare media;
- Manage point of sales transactions;
- Monitor usage of fare programs.

It is the intent of GRTC to purchase Transit Fare Reader/Validators in a standard configuration and shall include those options indicated herein and confirmed in the procurement/purchase order documents.

The equipment shall be in the quantities indicated and provided with such options and ancillary support equipment, spare parts and services as further indicated and quantified.

**Proposers shall provide information on their central data collection system in detail including any annual costs for cloud system capabilities.**

#### **LIST OF ABBREVIATIONS AND ACRONYMS**

ABD	As-Built Document
ACH	Automated Clearinghouse
AIL	Action Items List
ATP	Acceptance Test Procedures
AFC	Automated Fare Collection
AVL	Automated Vehicle Location
BRT	Bus Rapid Transit
BT	Burn-In Testing
CDMS	Central Data Management System
CDR	Critical Design Review
CRM	Customer Relationship Management
CSN	Card Serial Number
DSRC	Dedicated Short Range Communication
DSS	Data Security Standards
EOD	End of Day
FDD	Final Design Document
IDD	Installation Design Documentation
IEC	International Electro-technical Commission
IEEE	Institute of Electrical and Electronics Engineers
IP	Internet Protocol
ISO	International Organization for Standardization
IT	Installation Testing

LAN	Local Area Network
MM	Maintenance Manuals
NDA	Non-Disclosure Document
NEMA	National Electrical Manufacturers Association
NTP	Notice To Proceed
OCU	Operator Control Unit
ODBC	Open Database Connectivity
OM	Operator Manuals
OMGR	On-board Mobile Gateway/Router
PCI	Payment Cards Industries
PDD	Preliminary Design Document
PDR	Preliminary Design Review
RM	Requirements Matrix
RR	Requirements Review
SA	System Acceptance
SIP	Implementation Plan
SM	Systems Manuals
SOT	Sales Outlet Terminal
ST	System Testing
TP	Training Plan
TRD	Test Results Documentation
TVM	Ticket Vending Machine
UM	User Manuals
UPS	Uninterruptable Power Supply
WiFi	Wireless Fidelity
WLAN	Wireless Local Area Network
WPA	Wireless Protected Access

### 3.3 In-Vehicle Technology

The functional and technical requirements represent GRTC's interests in secure, state-of-the-art technology with proprietary hardware.

1. The solution must support a single driver sign on/start up process through the proposed fare reader/validator unit or a separate Operator control Unit (OCU). Below are the items needed for a successful log on:
  - Driver ID
  - Vehicle ID
  - Run ID
2. The driver interactions must be intuitive and simple to follow and only accessible when the vehicle is stationary.
3. Validator **"transactions"** needed to be able to recollect "tickets" and "ridership". The wording below will need to be present at the validator screen or proposed operator control unit (OCU).

- A. **“NO ID”** – when a customer without a “Long Term” GRTC ID smart card or with a defective one wants to use our service, the Operator should “tap” the validator with his Driver ID smart card to enable and press the “NO ID” button or touchscreen at the validator. For an OCU unit the operator should be able to count the ridership under the “NO ID” button. The ridership will be attached to the Operator card sequence number or Driver ID at the validator’s reports with the event “NO ID”. Then the customer will be able to use the proposed “limited” use stored ride smart card to pay for the service.
  
- B. **“C-VAN”** – when a customer under the C-VAN section wants to use our service, they will not need the “Long Term” GRTC ID or “Limited’ use smart card at all; the operator should “tap” the validator to enable the C-VAN button or touchscreen to count that ridership after choosing this option at the validator. For an OCU unit, the operator should be able to count the ridership under the C-VAN button. The ridership will be attached to the Operator card sequence number or Driver ID at the validator’s reports with the event “C-VAN”.
  
- C. **“GUEST”** –when a valid customer with a “Long Term” GRTC smart card finished paying his fare at the validator, the customer will have the option to present at the validator for paying for a guest. This option will be enabled at all times so no operator interaction with their smart card will be necessary if the customer wants to pay the appropriated fare for his guest. For an OCU unit, the operator should be able to count the ridership and tickets under the “Guest” button. The ridership will be attached to the customer sequence number at the validator’s reports with the event “Guest”. Both types of payment will be accepted, “Long Term” and “Limited” smart cards.
  
- D. **“CHILD”** – when a valid paid customer is using the specialized service, a child under (5) years is eligible to get a free ride under this service. When a valid customer with a “Long Term” GRTC smart card finished paying his fare at the validator, the Operator should “tap” the validator with his Driver ID smart card to enable and press the “Child” button or touchscreen at the validator. For an OCU unit, the operator should be able to count the ridership and tickets under the “Child” button. The ridership will be attached to the customer sequence number at the validator’s reports with the event “Child”.
  
- E. **“SHORT FARE”** – when a customer with a valid GRTC ID smart card “Long Term” that it do not have enough “tickets” to pay for the service or a defective “limited” use smart card is noted, GRTC still needs to provide the service. The Operator should “tap” the validator with his driver ID smart card to enable and press the “Short Fare” button or touchscreen at the validator. For an OCU unit the operator should be able to count the ridership under the “Short Fare” button. The ridership will be attached to the Operator card sequence number or Driver ID at the validator’s reports with the event “SHORT FARE”.
  
- F. **“PCA”** – “Personal Care Assistant” – GRTC customers are allowed to have one personal Care Assistant when using our specialized service. On those instances, a free ride is provided to the customer’s PCA. The customer will need to pay for his regular service; the Operator will need to “tap” the validator with his driver ID smart card to enable the “PCA” button or touchscreen at the validator. The customer will need to “tap” his GRTC ID smart card so the “PCA” button at the validator can be pressed. The ridership will be attached to the customer GRTC ID smart card. For an OCU unit, the operator should be able to count the ridership under the “PCA” after the customer “taps” his GRTC ID smart card at the validator. The ridership will be attached to the customer ID smart card sequence number at the report with the event “PCA”.

4. The stationery reader/validator display must provide a clear easy to read interface with audible prompts and visual alerts to indicate:
  - (a) Acceptance of fare
  - (b) Rejection of fare
  - (c) Successful logon/logoff
5. Stationary readers/validators must be mounted in each bus vestibule, positioned in a convenient way for riders to touch with smart cards.
6. Any "ticket" used at the fare validator will be assigned to a GRTC ID "Long term" smart card by the sequence number, with the RUN ID, Operator ID, Vehicle ID, Date, Location (Latitude/Longitude) and Time Stamp at any ridership reports thru the contractor software.
7. Proposed routers connected with the fare validators will have GPS capabilities in which the location (Latitude/Longitude) will be part of the ridership reports.
8. "Pass back" by time will activate at the fare validator for only (3) seconds. If the customer needs to pay two (2) tickets for one ride depending of the fare service provided by distance, for the second "tap" the customer will need to wait (3) seconds to validate the second ticket at the validator. The smart card will need to be "tapped" two times on those instances to recollect two (2) tickets per one ride. If by accident a customer's "tap" the smart card two consecutive times in less than (3) seconds, the validator will not deduct the second ticket.
9. Maximum Tickets collected per transaction will be two at all times by the sequence number. If customers "tap" the smart card at the validator after a second time, the validator will not be able to recollect a ticket. Only way to recollect more tickets will be only if the customer wants to pay tickets for another companion in whom the "GUEST" option will need to be chose at the fare validator.
10. Ability to add any outlet limited use smart card by the sequence number/Designator/TPBC/Agency/Manufacturer/Security Code to the Contractor software Negative/Hot Bad List so the smart card cannot be accepted at the proposed fare validators
11. Ability to provide to the customer how many remaining tickets are left available after the GRTC ID card or any outlet store limited smart card is used at the validator at all times. Information will be available at the screen at all times when tapped the smart card and ticket gets deducted.
12. The validator will be able to determine the amount of tickets left from the card and will not need to be online.
13. Ability to provide a free ride if the GRTC "Long Term" ID smart card is "tap" at the GRTC Bus Revenue Genfare farebox's smart card reader system.
14. Ability to change the expiration time for any GRTC "Long Term" smart card. Those cards will have an activation time of (5) years (Period Pass) after first activation, in some instances the expiration time will need to be changed by the customer eligibility provided. GRTC wants from the Contractor a Printer/Encoder machine that will meet the above requirements.
15. Ability to choose the time (sample 1 hour) in which a validator will log off automatically after no event is occurs.
16. Ability after vehicle ignition is lost, the validator remains "active" for a chosen period of time in order to download any data thru the server and to be able to collect tickets as normal. For example, ignition is lost; we can chose that the validator will still work normally before it goes into sleep mode after one (1) hour.
17. Ability to issue a credit "ticket" to a customer using the GRTC web portal after admin rights have been added to a specific user with recorded log files saved at all times with date & stamp data available on a security report.

18. Ability thru the Contractor's software to change any wrong data input as a wrong operator ID and any other data with a log recording those instances by the user. Admin rights will be needed to get thru this section.
19. Minimum of (5) years from the Contractor's software will be capable of keeping reports under the specialize transportation.
20. The stationary reader/validator mounting must provide a secure, maintenance-free method of affixing the reader/validator to the vehicle structure. Contractor should propose a mounting solution as part of this proposal. The mounting system will need to have a security lock system which only maintenance personnel will be able to unlock.
21. The card reader must support Smartcard ISO 14443.
22. The card reader/validator mount must meet all applicable American Disability Act (ADA) provisions and must not compromise the prescribed circulation requirements within the bus. Onboard equipment shall operate from the vehicle electrical system.
23. The transaction time for interaction between the smart card and the stationary reader/validator to produce approval or denial must be no more than 500 milliseconds.
24. The validator must be able to complete validation in an offline environment, with any supporting lists being synchronized on a perpetual basis when connectivity is available.
25. GRTC is interested in pursuing any and all alternative validation methods that are consistent with the guiding principles and interests outlined above. Contractor is encouraged to propose as "optional" any alternative in-vehicle validation solutions that may be more forward-thinking and innovative.
26. Storage data capabilities of the proposed validators before getting downloaded wirelessly should be minimum of (30) days. If the proposed validators has SIM cards capabilities, GRTC will provide them under this project. In case that the main battery power is lost or no connectivity with the router is accomplished at the vehicle for a long period of time, data still should be stored for minimum of (30) days at the validator.
27. Proposed validators should have a shutdown delay process when the vehicles ignition power is lost. The proposed validator should come with a timer delay power box to keep the proposed validator with electrical power to be able to shutdown normally or finish a transaction in case ignition power is lost at the vehicle.
28. Proposed validator should have touch screen ability if no buttons or OCU can be used.
29. Proposed validator mounting pole mount or any variable mounting hardware equipment should be included on the Contractor proposal for final approval by GRTC.
30. Proposed validator should have Wireless capabilities.
31. Proposed validator should have external wired communications ability as Ethernet, RS-232 as samples.
32. Proposed validator should be "color" display, screen should support a GRTC "LOGO" ability.
33. Proposed validators must have visual transaction indicators, (voice or tone) audio indicators.
34. Proposed validators must have "Barcode" scanner to read QR codes (mobile payments) and barcodes.
35. Proposed validator and router should have a minimum life of cycle and support of ten years by the Contractor.
36. Proposed validator should have screen brightness configuration ability.

GRTC is not requiring that the proposed validators interface with our actual AVL/Paratransit scheduling provider under this project.

### **3.4 Rider Web Portal:**

The technical and functional requirements represent GRTC's interests in offering its riders fully inclusive, easy-to-use tools that enable them to securely self-manage their fare collection needs.

Contractor's proposed web site portal will need to have the ability for the unlimited use "Long term" GRTC ID smart cards for the specialized transportation division:

1. The customer web portal must be a modern design that provides the ability to:
  - (a) Register an account
  - (b) View and manage account/s
  - (c) Add funds to increase account balance using a credit / debit card
  - (d) Add, remove, or prioritize credit / debit card(s)
  - (e) Purchase tickets
  - (f) Request a refund
  - (g) Suspend a smartcard if it is lost or stolen
  - (h) Activate a new smartcard
  - (i) Set notifications for low balance alerts
  - (j) Add authorized users who can add funds to an account
  - (k) View a log of all transactions and rides associated with the account
2. All customer tools must be fully compliant with Section 508 of the Rehabilitation Act of 1973.
3. Ability to add/Reload "Tickets" (stored ride) to the GRTC ID Specialize CARE "Long Term" smart card:
4. Explanation on how to use and activate and purchase "tickets" to the "Care ID" card. (Create Online Account)
5. Credit cards tickets purchase ability. (Maximum ability chosen by GRTC of transactions permitted per 24 hours)
6. Secure Login screen for returning customers.
7. Auto load option.
8. Management online protection option.
9. Ability to delete/deactivate cards by the customer and management.
10. Cancellation of the account.
11. For security purposes, a maximum of transactions available per card.
12. Balance protection option
13. Login page with required Email and password log on information
14. . Ability to purchase tickets to "Unregistered Cards" by the sequence number.
15. GRTC wants the ability to issue a credit "ticket" to a customer using the GRTC web portal after admin rights have been added to a specific user with recorded log files saved at all times with date & stamp data available on a security report.

16. All customer tools must have built-in analytics designed to collect data on rider usage in order to effectively improve rider adoption, rider experience with technology, and rider engagement with GRTC.
17. All customer tools must be consistent with GRTC's guiding principle of inclusivity – offering the same experience for all users regardless of service mode.

### 3.5 Smart Card Ticketing System Overview

GRTC is planning to upgrade its old fare collection system which is based on paper fare media. The replacement system is envisioned to allow at least the following:

1. An interoperable automated fare collection (AFC) system based on an account-based architecture that can accept a range of fare media including but not limited to 1) ISO/IEC-14443 compliant media as the DESFIRE & MIFARE smartcards. GRTC will have the option to decide which type of smart card will be chosen after contractor provides suggestions.
2. A central revenue management system that allows GRTC to:
  - Track sales and revenue by GRTC fare media;
  - Manage point of sales transactions;

### 3.6 Existing Fare Structure

Paratransit Fare Guide:

Service Type	Cost per one-way
CARE	\$3.00 (City of Richmond & Henrico County Residents)
CARE PLUS	\$6.00 (City of Richmond residents)
CARE PLUS	\$3.00 (Henrico County residents)

**“Pre-purchased tickets are the only accepted form of payment on CARE vans. Tickets are sold in books of six (6) and ten (10). A ticket book of 6 costs \$18.00. A ticket book of 10 costs \$30.00”.**

“Tickets may be purchased from select GRTC ticket outlets or by mail. CARE ticket books cannot be purchased at GRTC Headquarters”.

“Every CARE customer must present a ticket to ride the service. A ticket must be provided for each ride for each rider, including children. Only one child, under the age of 5 and the personal care assistant (PCA) may be permitted to ride for free, with a paying CARE customer. Anyone who does not present a ticket will not be transported”.

### 3.7 Service Areas & Operating Hours

All CARE trips are identified as either CARE or CARE Plus service. CARE and CARE Plus services are available in the City of Richmond, Henrico County, and portions of Chesterfield County.

Service Type	Operating Hours (7 days a week)
CARE:	5:00 am - 1:00 am* (City of Richmond residents)
	6:00 am - 11:00 pm* (Henrico County residents)
	*(Hours may vary depending on fixed route bus service at the desired time of travel. Additionally, two fixed routes do operate until 3:00 am.)

**CARE trips are required by the Americans with Disabilities Act (ADA). This service operates within GRTC's fixed route coverage area and including 3/4 of a mile beyond GRTC's fixed route bus lines.**

<b>CARE Plus:</b>	<b>6:00 am - 8:00 pm (City of Richmond residents)</b>
	<b>6:00 am - 11:00 pm (Henrico County residents)</b>

**CARE Plus service is not required by the Americans with Disabilities Act (ADA). A trip will be designated as a CARE Plus trip if the origin or destination location is more than 3/4 of a mile from GRTC's fixed route bus line, or if travel is desired to a destination in Henrico County on a day or time when GRTC's fixed route buses are not running in Henrico County.**

#### **4. Information Technology (IT) Requirements**

The Contractor in the rest of this document shall provide the hardware and configuration details of the proposed system installation at GRTC.

All software applications to be installed in GRTC application environment must utilize the Microsoft Operating System consistent with current GRTC upgrades, patches and service packs on the servers and desktops.

##### **GRTC Software Infrastructure**

<b>Category</b>	<b>Current GRTC Environment</b>
<b>Server OS</b>	Microsoft Windows Server 2008 R2
<b>Desktop OS</b>	Microsoft Windows 7
<b>Productivity Software</b>	Microsoft Office 2013
<b>Database</b>	Microsoft SQL Server 2008 R2
<b>Domain Controller</b>	Windows Active Directory
<b>Website Infrastructure</b>	Website is built using Linux, Apache, MySQL, PHP (LAMP) Stack with JavaScript front-end. Website hosting is outsourced.
<b>Network Security</b>	

The Contractor shall notify GRTC at least 90 days in advance of releasing new versions of installed products. Further, the Contractor shall notify GRTC at least one (1) year in advance of the date beyond when installed products can no longer be supported and also provide a transition plan to continue to provide existing features. The Contractor must comply with GRTC's change management process when making any changes to supported systems.

#### **4.1 Computer Hardware and Software Installation**

The Contractor shall implement a test environment, with all software components installed on parallel hardware at GRTC, where software updates and configuration changes can be tested prior to being implemented in the production system. Any future updates or upgrades must be tested in the test environment before being implemented on production servers.

All software upgrades or changes required by the Contractor must be made in a GRTC test environment and certified prior to moving into a production environment.

The successful Contractor shall provide software and specifications for hardware that comprise the proposed central system, including the required number of licenses for all users. The cost of each component shall be provided per the instructions on the Price Proposal Form.

## **4.2 Network Connectivity**

Proposers shall provide a detailed system network diagram identifying how components within proposed solution will connect with each other and existing GRTC system environment.

## **4.3 Source-code Escrow**

The Contractor shall either provide their proposed system's source code to GRTC, establish an escrow account with the exact version of the source code being implemented at GRTC, or provide an alternative solution to ensure that GRTC has unrestricted access to and use of the source code in the event the Contractor ceases to exist, ceases to support the application, or otherwise terminates its relationship to and/or ownership of the product.

## **4.4 System Availability and Redundancy**

The CDMS and all related system components shall meet the functional and performance requirements defined in this document and must perform without failure to attain 99% availability monthly and annually.

The Central system shall be setup in redundant configuration by default. So, if the primary system fails, the secondary system that is configured to run in hot-standby mode shall automatically start running as the primary system to ensure fail-safe operation.

Proposers shall provide a clear description of their approach for enabling redundant system configuration. The redundancy approach shall cover all aspects of the system that include but are not limited to power, network connectivity, storage, server hardware and applications.

## **4.5 Information Security (General)**

Proposers shall describe in their proposals the compliance of proposed solution with the required information security requirements.

The Contractor shall comply with at least the following information security requirements:

- GRTC IT security policy;
- Payment Card Industries (PCI) Data Security Standards (DSS); and
- Payment Applications (PA) Data Security Standards (DSS).

The Contractor shall provide a detailed description of information security compliance in the design documents.

## **4.6 IT Security**

All proposed software applications must support role-based security.

Web-based applications shall provide secure data exchange via transport layer security (TLS)/ secure socket layer (SSL) protocol only and shall comply with TLS 1.2 or better.

Proposed web applications shall be digitally certified using common certification authorities (e.g., COMODO, DigiCert and Verisign/Symantec).

All software applications must have the ability to use Windows Authentication based upon Active Directory setup. The methods used for encrypting stored passwords must be disclosed. Industry standard encryption methods utilizing at least 256 bit encryption techniques are required.

The Proposer must disclose the provisions to secure the database in its proposal.

Any vulnerabilities or exploits discovered by the Contractor or others for the proposed application must be reported to GRTC immediately with a proposed mitigation strategy.

#### **4.7 Compliance with PCI-DSS**

Systems and subsystems provided by the contractor that involve processing of credit, debit, prepaid cards (e.g., media sale components) shall be fully compliant with current Payment Card Industries (PCI) security standards through the system warranty.

The Contractor shall ensure that the proposed solution is compliant with requirements as mandated by the PCI Data Security Standards (DSS).

The Contractor shall perform monthly audits to ensure that systems (existing and proposed) associated with the GRTC fare collection system are in full compliance with the current PCI standards and the approved information security plan. The information security plan shall be developed by the Contractor and presented to GRTC along with design review documentation.

#### **4.8 PA-DSS Compliance**

Vendor shall be fully compliant with Payment Application Data Security Standard (PA-DSS) for proposed system modules that involve processing of credit card and debit card transactions.

#### **4.9 Data Storage and Maintenance**

All database-related components of the solution (e.g. tables, stored procedures, scripts, extensible markup language [XML] schema, and related information) shall be fully accessible and available for support and use by GRTC and GRTC staff.

Proposer's solutions shall be developed and configured using prescribed standards for Microsoft SQL Server, and be flexible enough to run in consolidated database environments with other applications using different schemas and virtualization.

GRTC data shall be retained in a read-only historical database for use by management and other GRTC staff to plan and assess system performance, and to address inquiries, conflicts and related issues. The system shall allow all such data to be retrieved, even if it has been archived.

All queries made to the database shall be logged for audit purposes. GRTC shall have the ability to view these logs when required.

The online data storage system shall ensure data integrity in the event of a computer disk-drive failure. In addition, the system shall include a means of archiving transaction data, or restoring data from an archive, while the system is in operation. It shall not be necessary to shut down the database to perform a successful backup operation.

The Contractor shall provide a data maintenance plan that is compliant with GRTC's backup and archival policy. The system shall store data for at least seven (7) years in the database before archival.

Proposers shall determine and describe the need and procedure for an incremental, daily or other time frame-based backup of data. Other needs related to the archiving of data, such hardware and software, shall also be determined and described by each Proposer.

The system administrator (SA) account shall not be used with SQL server applications. If it is, the solution must allow GRTC staff to change the (SA) password on a periodic basis without limitations.

The Contractor must provide the following:

- Scripts in order to recreate database;
- An entity relationship diagram;
- Database schema with a data dictionary detailing all database entities (e.g., tables, columns, and attributes); and
- Recommended practices document for support and maintenance of the database.

#### **4.10 Data Access for GRTC and its Partners**

The proposed system shall follow an open architecture model, providing the capability for GRTC to independently develop system interfaces or enable integration with other internal or third-party systems. The use of standard network communication protocols (e.g., Transmission Control Protocol/Internet Protocol [TCP/IP] and system interfaces (e.g., Open Database Connectivity [ODBC] for databases) is required. The database structures and any proprietary interfaces shall be documented in the proposal. GRTC shall be allowed royalty-free access to the database tables, and royalty-free use of the data and interfaces. If necessary, GRTC shall be allowed to extend such access and use to third party vendors for integration purposes.

All system data shall be the property of GRTC and shall be immediately available to GRTC. The Contractor shall acknowledge in writing that GRTC will own any and all data and the database where the data resides.

### **5. Accepted Fare Media and Transaction Processing**

#### **5.1 Fare Media**

The proposed solution shall accept contactless smart card media issued by GRTC and GRTC partners. The media shall be compliant with ISO/IEC 14443.

##### **Long Term Use Smart Card:**

The contactless smart media shall be based on a closed-loop payment concept and shall be readable only by GRTC approved devices.

The smart media shall be used as follows under the specialized transportation division:

- 1) Stored ride counts (e.g. 6 rides, 10 rides, etc.) that can be purchased thru the proposed web portal.

Contactless smartcard media shall be credit card sized (3.370 × 2.125 × 0.030 in) and shall be compliant with physical characteristics defined in ISO/IEC 7810 or better.

Smart media in credit card form factor shall be constructed of laminated layers with the central layer being constructed of Polyethylene Terephthalate (PET) plastic and other layers may be constructed using Polyvinyl chloride (PVC) plastic. The laminated layer shall protect all pre-printed card graphics. The smart media shall comply with ISO/IEC 10373 and ASI INCITS 322 or better for durability.

The smart media shall be read only and shall include a microprocessor ("chip") to provide non-volatile memory, short-range wireless contactless communication and built-in security. The media shall use 3DES/AES encryption or better and shall support 128 bit AES as provided in DESFire contactless smartcards.

The smart media chip shall be encoded with a read-only 20 digit serial number or unique ID, to be referred as card serial number (CSN) in this document. The fare media shall be verified for payments using this unique CSN with the central data management system (CDMS).

The account-media shall be reloadable only via approved GRTC applications and at approved GRTC preferred retail locations. All transactions shall be validated with the CDMS.

GRTC shall be able to print additional text and image data on the card, including but not limited to card sequence number, organizational logo, and cardholder's photograph.

Fare media shall utilize industry standard security schemas to ensure that the media cannot be counterfeited, cloned or altered through reverse engineering. These media shall employ Digital Encryption Standard (DES)/Advanced Encryption Standard (AES) or better algorithms to ensure compliance with advanced security standards.

Fare media distribution/sale shall be permitted only through the following channels:

- GRTC web portal for fare media to be provided as part of proposed solution;

- GRTC-authorized retail centers.

The Contractor shall describe details of smart media to be provided and these details must be approved by GRTC. The information these details provide shall cover but not be limited to physical characteristics, processing details, encoding schema, security standard, manufacturer, and card construction material.

The Contractor shall provide complete specifications for both long term use and limited use media to GRTC for any future procurement of those cards to be conducted by GRTC. These specifications and relevant documents shall become the property of GRTC.

The fare media encoding schema and the media reader authentication schemas shall be described in the design documentation. The encoding schema shall become the property of GRTC. Card Artwork design will be provided by GRTC.

### **“Limited Use” Smart Card**

Limited use cards physical characteristics shall be designed such that their cost is minimized (e.g., use of small thickness and reusable cards).

The “Limited Use” Smart card should:

- Replaced the actual GRTC “Ticket” books sold on authorized Outlet stores. (e.g., one “Limited Used” card should provide up to six rides for \$18.00 dollars)
- A thin plastic RFID Card
- Be compatible with the actual GRTC specialized division fare structure

GRTC partners such shall be able to register their read-only contactless smartcard media with GRTC. Once these cards are registered, the CDMS shall be able to verify validity of partner smartcard media when the media is presented to the on-board reader/validator.

Card Artwork designs will be provided by GRTC.

### **5.2 Transaction Processing (General)**

The Contractor shall provide detailed flowcharts that include steps involved in media sale/replenishment and payment processing. Such flowcharts shall be used to for conducting gap analysis to determine any updates or upgrades required to the existing GRTC fare system infrastructure, including all field and central fare system components. The Contractor shall be responsible for providing such updates and upgrades.

Fare payment transactions and media sale/payment transactions that require interface with a financial institution (e.g., to complete media purchase) shall be performed in a secure manner. Any transactions that involve credit/debit and prepaid cards payments (for media sale) shall comply with PCI-DSS and PA-DSS.

All fare payment transactions shall be performed using an account-based framework to be established for this system. The following fare payment transactions shall be supported:

- Postpaid (also known as “pay-as-you-go”): Such transactions shall be performed by charging customer accounts after rides are taken.
- Prepaid: Such transactions will occur when customers use prepaid media such as passes. This also includes pre-purchased stored-ride account-based media.

In both postpaid and prepaid scenarios, transactions shall be performed by using the payment instrument (e.g., credit/debit cards) or stored funds (e.g., through in-person or electronic cash payments ) in CDMS.

The system shall support the following fare media sale transactions at GRTC:

- Direct back account debit through automated clearinghouse (ACH);
- Credit card and debit card payments at customer service locations, and GRTC website

### **5.3 Account Fund Management.**

CDMS shall be updated with a new account entry for every new fare media unit issued by GRTC. Also existing accounts shall be updated when fare media is used for account replenishments.

Customer accounts shall provide the ability to store funds in the form of tickets (e.g., 10 ride tickets). The system shall allow automatic replenishments at a GRTC-configurable threshold on a periodic or automatic basis (e.g., every month or when value drops below amount required for two (2) rides) and when authorized by customers. The system shall further allow customers to request replenishments on an ad-hoc basis.

Replenishment funds shall be added to the customer account immediately following the confirmation of the replenishment payment action.

The registered customers shall be able to link a payment method (e.g., credit card or ACH) for automatic replenishments of their accounts. Customers shall be allowed to add up to two (2) replenishment sources. Customers shall be able to replenish accounts anonymously through a credit/debit card transaction at the proposed fare web portal without requiring the ability to register their "Long term" GRTC smart card. The customer should have the option to register or not their GRTC smart card at the fare web portal. Customer choosing the option of not registering should be able to purchase "tickets" using the sequence number of the card assigned by GRTC through a credit/debit card transaction.

The system shall automatically determine a list of accounts for which associated payment method is about to expire and notify those customers at configurable timeframe (e.g., least 30 days in advance). If a customer account does not have enough value to provide additional rides, the customer's account shall be suspended until an alternate mode of payment is provided. Once the payment is made, the account shall be reactivated. The registered customers shall have the ability to suspend automatic replenishments for a period of time when needed through the account management portal.

The registered customers shall be provided receipts of every sale transaction through their preferred mode of communication (e.g., email, text message or paper copy). At a minimum, the receipt shall contain the following details:

- Unique transaction number;
- Date and time of transaction;
- Type of fare media purchased (e.g., 10 ride card);
- Mode of payment (e.g., automated payment by bank card or ACH).
- Amount paid.

#### **5.4 Transaction Speed**

All smart media fare transactions on-board vehicles validators shall be performed within a configurable duration (e.g., 500 milliseconds).

All CDMS transactions related to fund management that require credit and debit card transactions or ACH shall be performed in real-time and shall not take more than 5 seconds to process. If transactions cannot be processed in 5 seconds, transactions shall time out.

#### **5.5 Transaction Records**

Each transaction shall be recorded in the system with a unique transaction ID to ensure any reconciliation and historical reporting can be performed as necessary. The transaction ID shall represent at least the following values:

- Origin device ID;
- Date and time; and
- Running sequence of transactions.

At a minimum, transaction record shall contain the following additional data:

- Amount;
- Type (e.g., fare payment, media sale);
- Origin device ID;
- Location;
- GRTC vehicle, if applicable;

- Payment amount;
- Payment mode (credit card, smart media);
- CDMS account number for customer;
- Origin time;
- Completion time;
- Status (e.g., failed or successful); and
- Failure code, if applicable.

## **6 On-board System Components**

### **6.1 General**

Equipment modules, cables, mounting hardware and connectors shall be designed to withstand the full range of operating environments found in the areas in which they are to be installed, and shall not interfere with the operation of existing onboard equipment.

Equipment shall be tested and revenue-proven, capable of withstanding power transients, electromagnetic interference, and radio frequency interference at levels encountered in typical transit operations without degradation.

Cabling and wiring shall be installed in accordance with these specifications while withstanding the vibration and shock forces encountered in typical transit operations

Onboard equipment shall be specifically designed for the harsh transit environment and shall meet the requirements of this specification under all conditions encountered in typical transit operations.

### **6.2 Wireless Data Communication**

Proposers shall describe the data communication infrastructure required to satisfy the following communication needs for this project:

- Wireless data communication between specialized vehicles located at the garage and the central system; and
- Wireless data communication between the central system and specialized vehicles.

Contractor shall identify the specific on-board and central hardware and software that will be required to establish wireless communication infrastructure.

### **6.3 Hardware and Connectivity**

The Contractor shall provide an On-board Mobile Gateway/Router (OMGR) for GRTC vehicles to accomplish 1) wired connectivity with other on-board equipment; and 2) wireless connectivity with the central system. The OMGR shall comply with on-board hardware requirements described under this RFP.

The OMGR shall provide the following connectivity capabilities:

- Cellular Modem: the OMGR shall be equipped with built-in modem card slots for cellular data connectivity, compliant with each major cellular carrier network available in the GRTC service area. The OMGR shall have at least two (2) built-in card slots. The OMGR shall accept cards compliant with Peripheral Component Interconnect and Universal Serial Bus (USB) standards.
- Wi-Fi: The OMGR shall be equipped with built-in Institute of Electrical and Electronics Engineers (IEEE) 802.11n card for Wi-Fi Connectivity to an external access point.
- Ethernet: The OMGR shall be equipped with a built-in Ethernet adaptor for local area network (LAN) connectivity in-vehicle: The OMGR shall consist of at least four (4) built-in Ethernet ports and shall have the ability to extend to eight (8) Ethernet ports by utilizing an external network switch.
- The OMGR should have wireless Hotspot capabilities.

The OMGR shall be certified to be used on all major carriers available in the GRTC service area that at least include AT&T, T-Mobile, Sprint and Verizon.

The OMGR shall be equipped with at least two USB 2.0/3.0 connection ports.

The OMGR shall be equipped with at least one RS-232 connectivity port.

The OMGR shall have built-in information security capabilities (e.g., encryption) to protect the data routed over wired or wireless networks. The Contractor shall describe all built-in security capabilities.

The OMGR shall be configurable locally (via Ethernet) or remotely (via wireless network).

The OMGR shall support port filtering/blocking and port forwarding capabilities.

## **6.4 Data Communications**

The OMGR shall support QoS to ensure protected bandwidth for multiple sub-channels when multiple sub-channels are enabled for connectivity of individual on-board systems.

The OMGR shall be configurable to control which on-board subsystem can perform outbound communication based on the speed of data connection available at a given time. Fare transaction data shall be given priority. The OMGR shall have the ability to configure the data rate limits for inbound and outbound data communications by on-board subsystem.

The OMGR shall be able to automatically switch to an available network (cellular or Wi-Fi) based on the agency configuration. The configuration parameters shall include but shall not be limited to available network(s) and their priorities, time of day, current geographic location and GRTC fleet type.

The OMGR shall have the capability to use port filtering/blocking to ensure only appropriate data traffic (e.g., fare transaction) is routed on an available wireless network.

The OMGR shall support Dynamic Host Control Protocol (DHCP) for connected devices and provide the capability to turn on and off the DHCP server as needed.

The OMGR shall have at least 10GB of built-in solid state flash storage to store application logs.

The OMGR shall have GPS capabilities in which the reports provided by the CDMS will have the Latitude/Longitude data.

The OMGR will be required to upload/download the following information to GRTC vehicles:

- Configurations, firmware upgrades, and patches to vehicles; and
- Transaction data and logs from vehicles.

Proposed routers need to have the necessary ancillary equipment included on the contractor quote to connect with the fare validator. Samples: Antenna, Ethernet, cables, connectors.

Proposed antenna should be a Dual Band antenna with GPS and Wi-Fi (W-LAN) capabilities. Location will be at the roof of the vehicle with final approval of location by GRTC.

Proposed router by the contractor will be provided to GRTC for final approval. Router specifications and requirements documents will be provided together with final documentation for the RFP.

## **7 On-board Contactless Fare Media Reader/Validator**

### **7.1 General**

The Contractor shall install a contactless smartcard reader/validator on all the specialized vehicles.

The reader/validator shall be capable of reading ISO/IEC 14443 Type A and Type B cards.

The reader/validator shall function as standalone units. The reader/validator shall be able to communicate with the central system over a cellular data network using OMGR.

## **7.2 Rider Interface**

Once driver logon is complete, the on-board reader/validator shall be ready to perform fare transactions for the route and schedule information entered by the driver.

The on-board reader/validator shall function even when driver logon is not available.

The reader/validator unit shall display connectivity status using a visual indicator to indicate if the device is online.

## **7.3 Payment Processing Interface**

The on-board reader/validator shall include a color backlit graphical display, readable under the full range of ambient illumination conditions.

The display shall be able to display characters, up to one (1) inch high.

## **7.4 Transaction Status Indicators**

The on-board reader/validator shall provide audio and visual indicators for transaction status. Distinct audio tones or voice-overs shall be used to communicate/indicate transaction status.

The on-board reader/validator shall provide distinct indicators for different status (e.g., successful, invalid media, communication failure) of transactions.

# **8 Smart Media Processing Unit**

## **8.1 Contactless Smartcard**

The processor shall be a contactless/proximity type which provides a reader target which can process a card when passed in the vicinity of the target.

The processor shall be able to read ISO/IEC 14443-compliant contactless smartcards.

The reader/validator shall be able to decrypt data during card read process.

This scope of work (SOW) requires read-only operation on the cards presented by the riders. However, the processor shall have the ability to perform both read and write operation per the proximity range, power requirements and communication protocol requirements as described in ISO/IEC 14443 specifications or better. Cards shall be read on first proper pass with an accuracy of not less than 99.99%, assuming each card is valid.

## **8.2 Storage**

The on-board media reader/validator shall be equipped with built-in non-volatile flash storage. The built-in storage shall be designed or shall be expandable such that it can meet GRTC's requirements for the next 10 years.

The reader/validator shall use this memory for storing system configurations, action lists and recording on-board transactions.

The storage shall also include valid list of operators and driver/vehicle schedule information to allow operator logons in the event vehicles are offline and cannot communicate with the CDMS.

Additionally, the system shall use this storage to store any logs generated by the reader/validator. These logs shall include enough information to allow troubleshooting during maintenance and support activities. GRTC shall have the ability to automatically archive and delete logs after a configurable amount of time (e.g., logs older than 10 days).

### **8.3 Action List**

The media reader/validator shall store a list of acceptable and unacceptable CSNs reported by CDMS along with other information provided by CDMS, necessary to complete offline transactions. The media reader/validator shall use this list to approve or disapprove transactions. GRTC may also choose to approve of card validation based on the action list to minimize the number of real-time transactions.

The action list shall be refreshed at a configurable amount of time (e.g., every hour).

### **8.4 System Diagnostics**

The on-board reader/validator shall have built-in diagnostics to determine system health issues with each of the built-in components (e.g., smart media processor).

The diagnostics data shall be stored in the built-in storage and shall be downloaded using GRTC WLAN when vehicles are located near WLAN access point. The CDMS shall process such log and provide reports as necessary to authorized GRTC staff.

The reader/validator shall allow authorized staff to perform any maintenance (e.g., firmware upgrade, log download) using a maintenance laptop through a local diagnostics port (e.g., Ethernet port) or remotely via a secure wireless network.

### **8.5 Location Data**

The reader/validator shall provide latitude and longitude data using existing GPS receivers at every scheduled stop or when requested by the reader/validator.

Proposers shall describe how system handles the event when GPS data is not available or lost.

## **9 Driver Interface**

### **9.1 Logon and Logoff**

The validator/OCU shall allow drivers to perform a single-point logon using their driver ID and run information to the reader/validator. Also, drivers shall be able to select the correct fare set.

Drivers shall be able to logoff the reader/validator.

Driver logon and logoff events shall be recorded by the on-board reader/validator and sent to the CDMS via cellular network in real-time. After, successful logon, the on-board reader/validator shall be connected with CDMS for fare transactions.

The MDT shall allow maintenance/training mode logon to perform any required non-revenue activities on the on-board reader/validator.

### **9.2 Transaction Status Indicators**

Validators shall provide audio and visual indicators for fare transactions performed on the Rider/Validator Unit.

## **10 Central System Specifications**

### **10.1 Central Data Management System (CDMS) General**

The Contractor shall provide a CDMS that will serve as the consolidated data system for all back-office needs related to the proposed new fare payment system under this RFP for the specialized division.

The CDMS application shall be accessible over a web browser via a secure web connection.

The technical and functional requirements represent GRTC's interests in a secure, agile framework to scale with the relatively dynamic payment environment as future options and validation methods become available, to be a fully inclusive platform for understanding all our riders regardless of mode, and to easily integrate with our existing systems and potential community partners.

1. The CDMS must be account based and must support fare payment by the following methods:
  - (a) Smart Card (Extended & Limited use)
2. The system must also be designed to accommodate future payment options including but not limited to:
  - (a) ACH
3. The CDMS must also function as a CRM tool for better understanding and engagement with our riders. The proposal should explain in detail the extent of the proposed solution's CRM capabilities.
4. The CDMS must be certified under the PCI data security standards as well as meet the privacy and security standards of the Health Information Portability and Accountability Act (HIPAA) for any trips or data that might be subject to it.
5. The solution must be compliant with Section 508 of the Rehabilitation Act of 1973.
6. The system must support E2EE/P2PE using AES256 or greater and 3DES encryption for smartcard protection.
7. The CDMS must provide comprehensive reports on all aspects of the fare collection statistical data, including:
  - (a) Sales by date/fare type/payment method
  - (b) Daily transaction log
  - (c) Refunds report
  - (d) Residual balance reports
8. The CDMS must provide reports to adequately reconcile transactions with deposits.
9. The CDMS must provide information and warning about potential fraud/abuse and automatically prevent any clear fraudulent use. The system must also provide detail activity logging to ensure full traceability for all transactions, including details of those personal involved with each step.
10. The CDMS must be able to provide information, promotions (e.g. new fares) and alerts to all riders or to a subset of riders.
11. The CDMS must be able to create, edit and manage all fares and fare types simply through the CDMS.
12. The CDMS must be able to have a "Bus link" status in which the ability to see all the specialized fleet status of validators that has been connected and downloaded properly in a daily basis. GRTC wants the ability to see any validator alarm status in which no connection has been established.
13. Contractor should explain and provide specification of the proposed routers under this project in how it will be "linked" to the back office (CDMS) and communicate wireless with the validators.
14. Contractor software shall have a security report available with the below minimum requirements:
  - Security Log: provides a shift activity summary for each employee showing dates, times and device used. It shows also all logins, logouts and other important events, referred to the selected employee and device including workstations. It is possible to see the exact time of the activity, as well as a description.
  - Encryption Key: report shows all security keys, their creation and deletion of data, and if there are days left to use the key or if the key has to be changed.

15. The CDMS must be able to change any wrong data input as a wrong operator ID and any other data with a log recording those instances by the user. Admin rights will be needed to get thru this section.
16. The CDMS must be able to store vehicle ID, Operator ID, RUN ID at their reports sections.
17. The CDMS Finance report section must be able to include: Reports for total revenue, reports for revenue by vehicle ID, reports for revenue by device, reports for revenue by article, reports for shift summary, transaction reports.
18. The CDMS report section must be able to include: Ridership report, Status report , Probed/not Probed report, Monthly Summary report, Daily report, shift summary report, Usage by sequence card number report, usage report, event report.
19. GRTC requires that all data is based on the end of the transit day which will be 4 am. If any vehicle data is not downloaded at the end of the day (vehicle down, dealer) when wireless connectivity is established later on, GRTC requires that the data is assigned to the original date on the reports.
20. Contractor must interface either to its own payment service provider or to GRTC's desired acquirer/processor to securely collect, process, and settle all purchase transactions in accordance with all applicable financial industry standards. The Contractor is responsible for the development, testing, and certification of the interface to GRTC's existing acquirer/processor. The contractor must ensure that GRTC is not limited to this provider only, but can also be switched to an alternative provider during the period of this contract after customer request & acceptance.
21. The CDMS must provide customer service tools to allow GRTC employees to create, register, view, and modify customer accounts. Additionally, GRTC employees must be able to easily search and access customer accounts by numerous methods (including name, customer ID, phone number) and perform the following functions:
  - (a) Research account history
  - (b) Correct erroneous charges
  - (c) Refund fare products or payments (supervisory authorization process for refunds)
  - (d) Configure login/password. Reset customer application or portal password.
  - (e) Create Roles/Profiles designed to limit user's access to relevant functions in the system.
  - (f) Re-issue purchased fare products, etc.
  - (g) Suspend/re-activate a customer account or payment method (smart card or phone)
  - (h) Account restitution in the event a smart card is reported lost or stolen.
22. The CDMS must provide a complete inventory management and monitoring system to manage the smart cards. A "Hot List" or "Bad List" should be available for deactivating any smart card at any time.
23. The CDMS must be intuitive and easy to use, requiring little to no training.
24. The CDMS must have an established, public API to easily integrate with third-party systems and other community partners that GRTC may choose to establish relationships with.
25. The CDMS must be robust enough to act as the central payments and clearing house platform for any community of partners and mobility options established by GRTC.
26. The CDMS must allow for the inclusion of a modern loyalty platform aimed toward rider engagement.
27. System must be designed to facilitate multiple external sales partners, such as retailers or strategic community partners.
28. The CDMS must be hardware agnostic allowing the GRTC to acquire additional hardware components from the general market place.

29. As part of efforts to future proof the solution the System must have a modern Architectural structure such as service oriented or micro services architecture.

The CDMS shall perform at least the following functions:

- Fare payment support
- E-commerce application for media sales
  - Customer account management
  - Customer account funds management
- Third party programs/transactions
  - Smart media management by GRTC partners
  - Sponsor program management
  - Preferred vendor sale program
  - Bankcard processing for customer account transactions via existing payment gateway
- Management of an action list
- Data management
  - Data warehousing
  - Reporting
- System administration
  - Fare table management
  - Device management
  - System monitoring
  - Fare media management

## **10.2 Fare Payment Support**

The CDMS shall process all transaction requests from media reader/validator installed on-board GRTC vehicles in real-time.

The CDMS shall verify the transactions as follows to ensure card validity:

- Verify if the card presented to the reader/validator is valid and not expired.
- Perform additional checks to ensure that the card transaction initiated by the reader/validator is not fraudulent. Business rules for checking the fraudulent nature of transaction shall be documented by the Contractor in the design review and shall be approved by GRTC.

After validity has been performed, the CDMS shall use the CSN to process the transaction as follows:

- For prepaid accounts such as stored ride passes and stored value cards, immediately approve fare payment transaction if passes are still valid.
- For postpaid accounts, charge/invoice customers for the rides.

## **11 Central System Specifications**

### **11.1 General**

The Contractor shall provide a customer service/e-commerce (CSE) application that provides at least the following features:

- Capability for GRTC customers to create and manage their accounts;
- Capability for GRTC customers to perform payment transactions to buy and reload fare media and review past transactions;
- Capabilities for GRTC staff to perform actions on behalf of customers, generate reports, and perform system maintenance and administration.

The Contractor shall provide a clear description of applications that will be accessed by GRTC staff, as part of the proposed fare system.

Proposed application shall be accessible via common web browsers over a secure connection.

Proposed application design shall be modular and scalable such that it can be enhanced to accommodate future capabilities desired by GRTC.

In the event third party components or plug-ins are used for developing and/or running the application, vendors shall include the cost of those third party components in the proposed application cost. No separate licensing with third parties shall be required for GRTC to deploy and run the proposed application.

## **11.2 Customer Profile Management**

The CSE application shall allow GRTC customers to register and create their profiles. Customers shall be able to register by providing the following:

- Unique user name;
- A strong password;
- First, middle, and last name;
- Mailing address;
- Email address;
- Phone number and phone number type (mobile or non-mobile); and
- Communication preference (e.g., email or phone).

If the proposed application requires customers to fill additional details, required information shall be indicated to customers (e.g., with an "\*" sign).

The registration interface shall include mechanisms such as CAPTCHA and reCAPTCHA to prevent the misuse of the registration interface.

Once customers are able to register successfully, they shall be sent the registration confirmation in an email with a unique customer identification number (CIN). Customers shall be asked to electronically verify the receipt of confirmation email to ensure the validity of the email address.

Once customers successfully login using their user id and password, they shall be allowed to manage their profile to perform at least the following actions:

- Change password;
- Change customer profile details;
- Link one or more of GRTC fare media;
- Manage GRTC fare media configurations; and
- Link one or more payment method for account replenishments as the following:
  - Bank debit or credit card
  - Automated Clearinghouse (ACH) payment source (e.g., bank checking account)

The system shall ensure that the user passwords meet industry standards for strong passwords.

## **11.3 Web Payments and Product purchase**

CSE shall provide a product purchase portal that shall list smart media/products available for sale.

Customers shall be able to use their accounts to select and purchase fare media/products from the purchase portal. Customers shall be able to make a payment using bankcards or ACH transactions. Customers shall be able to save payment information in their profile for future use.

Cards shall be delivered to the customer at their shipping address or customers shall be able to pick up those cards at GRTC customer service locations.

Amounts paid by customers for media/product purchase shall be automatically added to the customer account funds.

## **11.4 User Interface**

The CSE application shall be accessible via desktop and mobile browsers. The application shall automatically detect the browser type and provide an appropriate interface to the customer.

The CSE shall provide an ADA and Section 508 compliant web interface which is accessible via common screen reader software (e.g., JAWS).

Proposers shall provide details of the user interface accessible on mobile devices (e.g., smartphones, tablets). Use AES encryption. The built-in security measures shall prevent cloning, alterations and counterfeits of mobile tickets.

## **12 Third Party Transactions**

### **12.1 Preferred Vendor Sales Program**

GRTC shall allow certain retail stores in its service area to be able to sell "Limited use" smart cards on behalf of GRTC. The Contractor shall coordinate with GRTC to determine retailer locations and finalize the list and include that in the design document.

### **10.2 Bankcard Processing**

The CDMS shall allow processing of credit and debit cards for fare media sale and replenishments.

The CDMS shall utilize the existing payment gateway with GRTC current transaction processor, Vantiv. The Contractor shall coordinate with GRTC to determine the best approach for transaction completion (e.g., real-time or end of day (EOD) batch transaction completion).

The CDMS shall accept Visa, Mastercard, Discover, PayPal and American Express.

The CDMS shall maintain a list of bankcards that are unacceptable for processing due to fraudulent activities and use that list to reject bankcard transactions. Proposers shall describe their approach to determine this list.

All payment transactions for bankcard processing shall be completed within 5 seconds. If transaction cannot be completed, transaction shall timeout and CDMS shall reverse the transaction.

### **12.3 Card Reader/Validator Action List**

The CDMS shall maintain a master database of all cards that includes at least the following information for each CSN:

- CSN
- Status of card (e.g., active or suspended)
- Status of stored funds or pass (e.g., tickets/rides nearing completion)

Also, the action list shall contain the following recommendation for on-board media reader/validator to complete fare payment transactions:

- Cancel and reject the fare transaction; and
- Complete the fare transaction and track all usage

The CDMS shall broadcast the action list at least to all field devices at a predefined interval (e.g., at least every hour). Also, if status of any media is changed (e.g., updated account value for a medium, account replenishment), the CDMS shall immediately broadcast the changed master list to all field devices.

## **12.4 Reporting**

The system shall provide the ability to automatically email reports to authorized GRTC staff per predefined time-intervals (e.g., daily, weekly, and monthly).

At the least the following standard reports shall be available:

- System revenue;
- System ridership and ridership by Day “Transit Day” and other operational parameters such as driver, run and trip;
- Boarding by route, driver, stop and vehicles;
- Number of failed transactions by device;
- Number of communication failures by device and vehicle;
- Media sale by fare type;
- Fare media usage;
- Summary and details of driver activity on GRTC vehicles;
- List of registered media;
- List of partner media and their usage;
- List of media sold by preferred retail locations and their usage;
- List of unsuccessful transactions by media type;
- List of suspected fraudulent transactions by media type;
- List of denied transactions; and
- List of bank transactions with their status

The CDMS shall allow GRTC to modify standard reports to change reporting layout and data fields.

The CDMS shall allow GRTC to generate custom reports either using existing reporting views or by writing new SQL queries.

## **13 System Administration**

### **13.1 Fare Table Management**

The CDMS shall provide the ability to create and manage configuration tables in its database that represent GRTC’s current and at least one future fare structure and allowed transactions and pricing per fare type and media type.

The CDMS shall allow changes to these fare tables due to changes in GRTC service or due to changes in GRTC fare policy/structure.

### **13.2 Device Management**

When proposed validators are on the GRTC network range (Wi-Fi) it should:

The CDMS shall allow GRTC to manage configurations of on-board devices remotely.  
The CDMS shall allow GRTC to upload and download data to those devices wirelessly.  
The CDMS shall allow GRTC to restart devices remotely.

### **13.3 System Monitoring**

The CDMS shall have the ability to monitor the current status of all system components.

The CDMS shall report alarms received from proposed on-board devices.

For all servers, the CDMS shall provide their current status and immediately notify GRTC staff when a server goes down.

## **13.4 Fare Media Management**

The CDMS shall provide the capability to categorize certain CSN as “bad list” and update the action list when fraudulent activity is automatically detected by the CDMS or reported by GRTC staff or GRTC partners.

Accounts associated with cards reported as lost or stolen must be suspended immediately.

In the event a customer requests a refund for an account tied to media, the CDMS shall allow GRTC to perform that transaction.

## **14 Wireless Local Area Network (WLAN) Data Exchange**

### **14.1 General**

On-board mobile routers shall be installed on all specialized vehicles. The vendor will provide to GRTC different options with all technical specifications and range of prices for any proposed mobile Router/Wireless Gateway.

Wireless communication between vehicles and the central system will be provided by GRTC at the central GRTC garage location using Institute of Electrical and Electronics Engineers (IEEE) 802.11n (Wi-Fi) standards.

GRTC has WLAN access points at the GRTC facility to upload and download data when vehicles are coming in or out of service, as necessary. Four Access points are available at all times in different locations at the shop area including the main Specialized Transportation parking lot.

The Contractor shall conduct the survey of the GRTC garage facility to determine and test the wireless access points on place and certify if they pass their requirements for communication with the proposed equipment.

The service set identifier (SSID) for access points shall be not broadcast publicly and must be accessible to only GRTC vehicles. The access points shall avoid significant signal availability outside of the intended coverage area.

The Contractor shall survey and test indoor and outdoor parking areas at the GRTC garage for specialized-route vehicles.

### **14.2 Access Point Hardware**

The GRTC WLAN access points support the Wireless Protected Access 2 (WPA2) security standard.

### **14.3 WLAN Data Transfer**

The WLAN data transfer support software (either a separate application or part of CDMS) shall manage the WLAN data transfers between vehicles and the central software using the garage WLAN.

## **15 Project Implementation**

### **15.1 System Implementation Plan**

The Contractor shall prepare a System Implementation Plan (SIP), including the detailed implementation activities/schedule, roles and responsibility of parties in the proposed project team, progress milestones/status and assigned staff.

The initial draft of the SIP shall be provided to GRTC within two weeks from Notice to Proceed (NTP). Proposers shall provide sample SIPs along with their proposals.

The Contractor shall also include a Safety Management Plan in their SIP, which shall detail their responsibilities and procedures for safety during the different phases of the project, including (1) conducting pre-installation

surveys to identify potential project safety hazards; (2) identifying project hazard control procedures, including occupational (worker) and public hazards; (3) providing project safety orientation and training to its subcontractors and GRTC staff who will be involved in the project; and (4) furnishing procedures and training for project accident reporting and investigations.

The revised SIP, addressing comments from the first onsite meeting, shall be provided to GRTC within two weeks after this meeting.

The SIP must be approved and accepted by GRTC before it can become effective.

An updated SIP shall be submitted to GRTC at the beginning of each month.

The SIP shall include the following content:

- Project team details;
- System roll out plan;
- A detailed schedule in Gantt chart format with lists of each project task, start and end times for those tasks, and resource needs;
- Roles and responsibilities associated with each task, including assistance needed from GRTC staff;
- High-level plan for testing and system acceptance;
- High-level plan for quality assurance and quality control; and
- Identification of risks and risks mitigation strategies, as applicable.

The SIP shall include a rollout plan for all GRTC and contractor vehicles.

### **15.2 Action Items List**

The Contractor shall maintain an Action Items List (AIL), indicating for each item the following: (1) item number; (2) date generated; (3) item priority; (4) brief item descriptive title; (5) assigned person with lead resolution responsibility; (6) date resolved; and (7) ongoing dated notes on resolution status.

The AIL shall be sorted, primarily by unresolved vs. resolved items, priority, and date the item was generated. Items shall not be closed unless authorized by GRTC.

### **15.3 Bi-Weekly Conference Calls**

The Contractor shall participate in bi-weekly conference calls with the GRTC Project Manager, other GRTC staff, and outside consultants as determined by the GRTC Project Manager. If necessary, the GRTC Project Manager may request to conduct weekly meetings.

The agenda for these meetings shall be to discuss the most current status of and plans related to all issues identified in the recent releases of the SIP and AIL.

GRTC reserves the right to identify for discussion any additional issues beyond those in the SIP and AIL. A status report shall be issued to GRTC at least two days prior to each conference call, including (1) an agenda for the upcoming conference call highlighting key discussion items; and (2) an updated AIL with the updates incorporating the discussions of the previous bi-weekly conference call as well as other subsequent developments since the previous AIL release.

The Contractor shall be represented in these conference calls by at minimum its Project Manager, as well as any additional Contractor staff necessary to properly address the current issues and project status.

GRTC will be represented by its designated implementation management representatives.

Conference call facilities will be arranged and paid for by the Contractor.

The Contractor shall submit minutes within two days of each conference call.

### Required Timeline of Activities from “Notice to Proceed” (NTP)

Description	
1	Notice to Proceed
2	Revised SIP Submission
3	Requirements Review Meeting (Meeting at GRTC)
4	Preliminary Design Document Submission
5	Preliminary Design Review Meeting (Meeting at GRTC)
6	Final Design Document Submission
7	Critical Design Review Meeting (Meeting at GRTC)
8	Design Document Approval
9	Acceptance Test Procedures (ATP) for Factory Test
10	Factory Test (FT) (Meeting at Vendor Facility)
11	FT Results Document and FT Approval
12	Training Manuals
13	Training
14	Pilot Test ATP
15	Pilot Test (Meeting at GRTC)
16	PT Results Document and PT Approval
17	System Test ATP
18	System Test (ST) (Meeting at GRTC)
19	ST Results Document and ST Approval
20	Burn-in/Rigorous Test (BT) (Meeting at GRTC)
21	ST Results Document and ST Approval
22	Final System Acceptance

## 16 System Design Reviews

### 16.1 Gap Analysis

The Contractor shall review the current system environment at GRTC and prepare a gap analysis report as part of the design phase. The gap analysis shall include but not be limited to the following:

- Existing fare structure;
- Integration with SPX system components;
- Integration with Scheidt & Bachmann system components
- Integration with GRTC website;
- Existing ticket vending machines;
- Existing TVM's;
- Existing GRTC networking infrastructure and connectivity between relevant GRTC devices; and
- Computer hardware infrastructure.

### 16.2 Requirements Review

The Contractor shall participate in the Requirements Review (RR), as part of the first onsite meeting. The RR will initialize the Requirements Matrix and the Contractor will use this Matrix to produce the draft Design Document for conducting the Preliminary Design Review (PDR) at the second on-site meeting.

The RR meeting shall discuss the following for each contract requirement: (1) the GRTC design intent; (2) the intended Contractor design approach; and (3) the general Contractor approach to demonstration through the acceptance testing process.

A traceability matrix with finalized contract requirements will be prepared by GRTC after the RR meeting and has been referred to as Requirements Matrix (RM) hereafter. GRTC will maintain the RM through the deployment process.

### **16.3 Preliminary Design Review**

The Preliminary Design Document (PDD) shall include the following materials:

- A conceptual diagram illustrating all elements in the system and data flows between those elements;
- A detailed system network diagram identifying all network nodes and connectivity;
- An overview of the equipment, system and configuration proposed for implementation;
- Detailed technical documentation for each equipment item;
- Details on servers, workstation and networking infrastructure;
- Detailed technical documentation on all software, including the functions of each module, the format of all user interface screens, the format of all reports, the data fields to be included in all data exchange interfaces and any other software aspects warranting advance agreement with GRTC prior to system customization/configuration;
- A table providing cross-references for each section of the PDD to the appropriate element of the RM.

The RR and PDR meetings shall include a review of the facility and available resources that may need to be updated to accommodate the added technologies. The Contractor shall determine and detail the exact demand of resources required of GRTC.

The Contractor shall update the PDD base on GRTC feedback and submit the updated documentation as the final design document (FDD).

The FDD shall include the following materials: (1) updated PDD incorporating GRTC feedback and comments; (2) final list of equipment to be procured; (3) final design and configurations of the system to be built including all customizations to be made to the system; and (4) an updated table providing cross-references between sections is the FDD and elements of the RM.

### **16.5 Final Design Review**

The Contractor shall conduct the Final/Critical Design Review (CDR) two weeks after the FDD has been submitted.

The PDD and FDD are intended only to reduce the chance of any misunderstandings on the design intent or interpretation of the contract requirements. The PDR and CDR shall not alter the need for the successful formal demonstration of each requirement through the Acceptance Testing process.

Once the CDR is complete, the Contractor shall provide a detailed list of equipment for the system. The Contractor shall provide a detailed list of system configurations for individual system components, as applicable.

The Contractor shall document configurations of the fixed-end computer hardware and networking infrastructure (e.g., list of IP addresses).

## **17 Installation**

### **17.1 General**

The Contractor shall install and configure the entire system, including any GRTC provided computer hardware and integration with existing systems at GRTC's central facility.

The Contractor shall specify rack space needed for hardware as needed for the proposed solution. The Contractor shall comply with GRTC's naming conventions and networks configuration standards.

The Contractor shall provide all necessary personnel, tools, test equipment, transportation, hardware and supplies for the successful and complete installation of all equipment and software.

The Contractor shall be responsible for its own and subcontractors' performance and safety.

Installations shall be performed in accordance with all Federal, State, and local laws and regulations.

The Contractor shall supply any electrical equipment necessary to operate system components using existing DC electrical power available on GRTC vehicles and existing AC electrical power at fixed facilities. If existing power arrangements are unsatisfactory, the Contractor must specify proposed alterations.

The Contractor shall supply any network cabling (Cat6 or Fiber) necessary to operate system components including any UPS.

The capabilities of existing infrastructure affected by or to be integrated into the new system, such as GRTC's local area network(s) (LAN) and wide area network(s) (WAN) shall not be reduced at any time by system implementation.

The Contractor shall only be authorized to undertake installations after GRTC approval of a pre-installation inspection for each installation site, documenting the existing condition of any existing infrastructure that may be affected by the installation.

After installations, the Contractor shall be responsible for restoring the condition of any affected existing infrastructure at the installation sites to their pre-installation condition.

The Contractor shall be responsible for the security of equipment prior to installation.

## **17.2 Vehicle Installations**

Installations shall be performed at specific times during the day and as approved by GRTC. The Contractor shall be required to perform installations over nights and weekends, and installations need to be performed at the vehicle's home base garage.

GRTC reserves the right to limit no more than 5% of its vehicle fleet to be out of service within any given 24-hour period to accommodate vehicle installations. GRTC reserves the right to allow less of its vehicle fleet to be out of service if necessary in order to avoid disruption to revenue service in conjunction with maintenance requirements.

The Contractor shall ensure that all vehicles made available for overnight installation work are ready for service by the start of the next service day.

Equipment shall be properly grounded, with onboard equipment connected as directly as possible to the chassis ground.

Equipment components shall be replaceable as discrete units and identified by unique serial numbers. Equipment inputs and outputs shall be protected, to absorb "routine" electrostatic discharges, over-voltages and reverse polarity conditions. In the event of "extraordinary" conditions, equipment shall be designed to sacrifice inexpensive and easily identifiable components when necessary to protect more expensive components or those less easy to troubleshoot.

Equipment shall be housed in enclosures that cannot be opened with standard hand tools, and resist damage from vandalism.

Onboard equipment shall operate from the vehicle electrical system, between 9 and 12 volts.

Onboard equipment shall be securely mounted in the interior of the vehicle, clear of obstructions and interference-generating devices. The installed location of onboard components shall be determined in collaboration with GRTC staff.

### **17.3 Installation Design Document**

The Contractor shall submit Installation Design Documentation (IDD), for GRTC approval prior to undertaking any installations.

The IDD shall provide text, drawings, illustrations and images using adequate detail to allow for quality installation by a technician without further training in conjunction with other installation instructions provided by the contractor of individual equipment components.

The IDD shall include details on (1) equipment installation locations/mounting; (2) routing, conductors, color-coding, labeling, and connectors for power, communications and vehicle ground circuits; (3) connections with, any required modifications to and restoration of existing infrastructure; (4) work area and equipment storage requirements (5) methods and quality standards; and (6) supervision and quality assurance procedures.

The IDD shall include procedures for pre- and post-installation checklists for tests to be performed by installers. The installations shall not be considered complete unless GRTC provides signoff on the pre and post installation checklist for each vehicle.

### **17.4 Accessibility**

Customer-facing equipment shall meet or exceed all ADA requirements found in 49CFR Parts 37.167 and 38.35, as well as the requirements of the current version of the ADA Accessibility Guidelines (ADAAG) at the time of implementation. Compliance involving readability distance shall involve the selection of character features, including background contrast, high character brightness, character font selection, number of pixels per character, character aspect ratio and number of pixels separating characters.

### **17.5 Accessibility**

GRTC shall provide space for the Contractor to establish secure storage facilities adjacent to each installation area. The Contractor shall provide details on the space required for equipment storage and vehicle installation.

GRTC shall provide building access and parking.

GRTC shall provide remote access to relevant virtual servers/network.

GRTC shall provide conference rooms/training rooms for on-site testing/training.

GRTC shall provide space for central system installations and vehicle installations.

GRTC shall provide light and electrical service at all installation locations, as well as access to compressed air at vehicle installation locations.

GRTC shall provide staff to move vehicles to and from the installation locations.

## **18 Acceptance Testing**

### **18.1 Acceptance Test Procedures**

The Contractor shall submit an Acceptance Test Procedures document (ATP), for GRTC approval prior to undertaking any testing.

The ATP shall clearly address: (1) how each testable specification requirement will be demonstrated, including the method for performing the test; (2) the results that will constitute success for each test; (3) responsibilities of both Contractor and GRTC's representatives during each test; and (4) a cross-reference to which contract requirements from the RM are being addressed by each test procedure.

The ATP shall include an updated RM from the DRD, to include the test stage at which each contract requirement will be demonstrated; and a cross-reference to the test procedure(s) that serve to address each contract requirement.

The ATP shall be submitted to GRTC at least three weeks in advance of any intended testing. GRTC shall approve all ATPs prior to any required testing listed in this section is performed.

The ATP shall incorporate the following distinct testing stages for the proposed system: (1) Factory Acceptance Test (FAT); (2) Pilot Testing (Pilot); (3) System Testing (ST); and (4) Burn-In Testing (BT).

GRTC may authorize the Contractor to proceed to the next testing stage with certain deficiencies not yet resolved after the Contractor provides an action plan to resolve outstanding issues from a test stage.

The Contractor shall provide written notice to GRTC at least two weeks in advance of any testing, indicating the specific tests to be completed as well as the date, time and location.

The Contractor shall be required to reschedule testing if GRTC witnessing representatives cannot be present or if other circumstances prevent testing from taking place.

### **18.2 Factory Test**

FAT shall be completed before the equipment and software is shipped to GRTC for installation, and deficiencies shall be rectified before shipping to GRTC for installation.

The Contractor shall specify any testing to be performed in FAT against test data or in a different manner of electronic transmission than GRTC uses. In such case, GRTC shall approve and stipulate additional testing to be performed as part of Pilot Testing.

FAT shall be witnessed by GRTC's representatives that include GRTC staff and designated support consultants.

### **18.3 Pilot Test**

Pilot shall be completed for at least (10) specialized vehicles in GRTC's fleet, for any on-board systems. Pilot test shall also include GRTC staff and customers to verify the functional aspects of the installed system.

Pilot test shall verify integration with third party systems (e.g., SPX,).

Pilot test shall not be performed until GRTC employees have been trained on installed systems.

Pilot test shall be performed after a settling period of 2 weeks after the installation.

Any deficiencies observed in a four-week period following Pilot shall be rectified before the initiation of ST, i.e. vehicles used during Pilot will be in operation for four weeks to observe issues that arise in daily operations. Pilot shall be witnessed by GRTC representatives.

### **18.4 System Test**

ST shall be completed after the entire system has been installed, and deficiencies shall be rectified before the initiation of BT.

ST shall be witnessed by GRTC representatives.

### **18.5 Burn-in Test**

BT shall involve specialized service use of the system over a (30)-day period after the completion of ST, and deficiencies shall be rectified before GRTC will grant Final System Acceptance (SA) for the system.

During BT, GRTC shall record issues reported by GRTC drivers and other staff, and customers in a punch list.

GRTC shall perform data audit during BT to determine any issues with the data and reports generated by the system installed by the contractor. Any issues discovered during BT shall be included in the BT punch list and must be resolved by the Contractor.

The Contractor shall resolve all issues in the BT punch list before acceptance can be granted for BT.

## 18.6 Acceptance Criteria

The Contractor shall provide written Test Results Documentation (TRD) after completing each stage of testing. The TRD shall document the results of each ATP procedure and provide an updated RM that indicates which contract requirements have been demonstrated.

The RM shall be used as a “punch list” to track which requirements have not yet been demonstrated at each stage of testing.

A requirement classified as having been “demonstrated” during a certain AT stage can be subsequently redefined as having been “not demonstrated” if compliance issues emerge prior to SA.

The TRD must be approved before GRTC grants the system Acceptance test SA.

**System Acceptance (SA) will not be granted until all contract requirements are formally demonstrated and a (30) Day period “free” of any reported problems during the Burn-in-Test by GRTC after full live deployment.**

## 18.7 Documentation

The Contractor shall provide an As-Built Document (ABD) to GRTC for approval.

The ABD shall include: (1) an inventory of all components supplied including supplier, model number, serial number and installation location; (2) an inventory of all spare parts supplied including supplier, model number, serial number and storage location; (3) all reference and user manuals for system components, including those components supplied by third parties; (4) all warranties documentation, including that for components supplied by third parties; (5) a diagram indicating the as-built interconnections between components; and (6) the version number of all software and license counts, including that supplied by third parties.

The Contractor shall provide Maintenance Manuals (MM) documenting (1) how the system components were installed; (2) how to install and configure spare components; and (3) the schedule/procedures for preventative maintenance, inspection, fault diagnosis, component replacement and warranty administration on each system component.

The Contractor shall provide User Manuals (UM) for the CDMS system components and other relevant applications.

The Contractor shall provide Vehicle Operator Manuals (OM) documenting use of the MDTs and on-board equipment.

The Contractor shall provide a Systems Manuals (SM), documenting (1) the configuration and topology of central systems hardware and software; (2) central systems software functions and operations; (3) scheduled maintenance required for the central systems; and (4) database structure and data dictionary.

The Contractor shall provide disaster recovery documentation highlighting how system can function and prevent any data loss in the event of a natural disaster or other unexpected events.

## 18.7 Training

The Contractor shall provide training courses for at least:

- Vehicle equipment installers/maintainers;
- Added modules to existing SPX and other systems;
- Trainers for vehicle operators;
- Users of the CDMS and other system components/interfaces;
- Users of the reporting software; and
- Applications/systems administrators.

The Contractor shall ensure that trainers are knowledgeable about the components for which they are providing the training and have prior experience in delivering similar training sessions.

The Contractor will describe the necessary pre-requisite computer skills and knowledge expected for each of the training courses in order to develop training classes based on user skill level.

The Contractor shall provide all training materials in both Microsoft Office and Adobe PDF formats on compact disc (CD) and DVD with a permission to reproduce copies later on. Additionally, the Contractor shall perform visual recording of training sessions for future reference of training videos by trainees.

The Training Plan (TP), including the training schedule and course outlines, must be provided to GRTC for review at least three weeks in advance of the start of training. At least the following topics must be included in the TP for each training session:

- Course objective;
- Topics to be covered;
- Required GRTC staff;
- Time required for training;
- Resources required from GRTC;
- Follow-up need (in-person or webinar);
- Prerequisites for trainees; and
- Evaluation procedure for students.

The TP must be approved by GRTC before the start of any training.

Proposers shall provide a sample TP in their proposals.

Proposers shall provide the number of training classes by each training course included in their proposals. The Contractor shall furnish all special tools, equipment, training aids, and any other materials required to train course participants, for use during training courses only.

The instructors shall demonstrate a thorough knowledge of the material covered in the courses, familiarity with the training materials used in the courses, and the ability to effectively lead students in a classroom setting. If any instructor is considered unsuitable by GRTC, either before or during the training, the Contractor shall provide a suitable replacement within five business days of receiving such notice from GRTC.

The Contractor shall provide brief refresher versions of each training course to the original trainees between three to six months after SA for the system at no additional cost.

The Contractor shall provide additional training to the original trainees after SA for the system at no additional cost if major modifications are made to the system after the initial training due to system upgrades or changes made under warranty; and/or SA occurs at least three months after the completion of training, due to delays for which the Contractor is responsible.

## **19 Warranty and Maintenance Support**

### **19.1 Equipment Warranty**

The warranty period for the system shall run concurrently for all system components, through to three years from the date of System Acceptance (SA).

The Contractor shall offer an option to extend the warranty period for additional years for up to five years from the date of SA. The Proposers shall document any differences in the warranty terms for these option years in their proposal.

The Contractor shall warrant that it has reviewed and evaluated all information furnished by GRTC and has made all inquiries necessary such that the Contractor is fully aware of GRTC's business requirements and

intended uses of system, as set forth or referenced in the Request for Proposals and any Addenda, Amendments or Final Proposal Requests, as well as in discussions during the Pre-proposal Conference.

The Contractor shall warrant that the system satisfies the foregoing requirements in all material respects and will be fit for such intended uses.

The Contractor shall warrant that the design, materials, construction, software and workmanship of the equipment shall reflect the intended use of the equipment as a component of the overall transit management system in GRTC environment.

The Contractor shall warrant that equipment and software, including the initial supply of spare components, (1) is free from defects in design, material and workmanship, and shall remain in good working order, and (2) function properly and in conformity with this Contract.

The Contractor shall warrant that the documentation provided shall completely and accurately reflect the operation and maintenance of the equipment and software, and provide GRTC with all information necessary to maintain the system.

If there is a change in the production configuration of any equipment or software being installed prior to SA, GRTC will require that all previously installed equipment and software be upgraded to match the updated configuration.

The Contractor shall warrant compliance with all applicable laws and regulations relating to the project. The Contractor shall warrant that its employees, agents and subcontractors assigned to perform services under this contract shall have the proper skill, training and background to perform in a competent and professional manner and that all work will be so performed. GRTC reserves the right to remove any subcontractors if their work is deemed incompetent or unprofessional.

During the warranty period, the Contractor shall, at no cost to GRTC, furnish such materials, labor, equipment, software, documentation, services and incidentals as are necessary to maintain the system in accordance with the warranty.

The Contractor shall provide any software updates and patches for the current software version at no cost to GRTC during the warranty period.

In addition to the foregoing warranties, the Contractor shall assign to GRTC, and GRTC shall have the benefit of, any and all Subcontractors', Suppliers', and Vendors' warranties and representations with respect to the deliverables provided.

In its agreements with Subcontractors, Suppliers and Vendors, the Contractor shall require that such parties (1) consent to the assignment of such warranties and representations to GRTC; (2) agree that such warranties and representations shall be enforceable by GRTC in its own name; and (3) furnish documentation on the applicable warranties to GRTC.

The Contractor shall provide a single point of contact for all warranty administration during the warranty period. The Contractor shall warrant that GRTC shall acquire permanent title to all equipment and non-proprietary software provided under the Contract, free and clear of all liens and encumbrances.

## **19.2 Customer Support**

Software support during the warranty period shall include technical support for all proposed hardware and software, with a 24x7 support line, as well as providing, licensing, installing and integrating all released software patches and updates for the proposed solution.

The Contractor shall provide, during the warranty period, supplementary support in accordance with an agreed-to escalation procedure. The escalation procedure can initially involve telephone support, but must culminate in the Contractor providing on-site support if needed. The proposal must define the proposed support escalation procedures.

GRTC must be able to view the status of their support request(s) at any time through an online tracking system to be provided by the Contractor.

### **19.3 Follow-up Analysis**

The Contractor shall provide one week of onsite follow-up analysis at six-month intervals during the warranty period, including a written report on the findings of each analysis. Each report shall describe how the system is being used and if there are any additional training or system enhancement needs. Further, any required adjustments in the system configurations must be performed based on the system review.

The first follow-up support effort shall be completed no earlier than six months but no later than nine months after Final System Acceptance.

### **19.4 Software Maintenance Updates/Upgrades**

The Contractor must describe their maintenance update and upgrade approaches in their proposals. The Contractor shall describe the difference in processes and costs associated with updates and upgrades. The Contractor is required to notify GRTC at least (90) days in advance of the installation when new software releases become available.

The Contractor is required to notify GRTC at least six months in advance when it is expected that the current releases and related systems will no longer be supported.

The Contractor shall ensure that all existing software configurations are protected after the system has been upgraded or updated for the entire duration of the time when GRTC uses the product.

The Contractor must comply with GRTC's change management process when making any changes to supported systems. These changes must be reported to the GRTC project manager.

### **19.5 Repair or Replacement of Faulty Components**

During the warranty period, the Contractor shall repair or replace any faulty components, with the cost included in the warranty price. GRTC will ship each faulty component to the Contractor, who shall return a new or repaired component within one week of originally receiving it.

If the Contractor determines that a returned component is not faulty, GRTC shall receive the original component back in working order within two days of the Contractor originally receiving the returned component. All components received back at GRTC from the Contractor will be tested in accordance with the original ATP, and returned to the Contractor if faulty accompanied by a certification.

The Contractor shall pay all shipping charges to and from GRTC, and any duties associated with the repair or replacement of faulty units.

Returned or replaced spare components shall be packaged, organized and labeled in the same manner as the original supply of spare components.

### **19.6 System-wide Replacement**

If at least 25% of a given component requires repair or replacement within the three-year warranty period, the component shall be deemed to warrant system-wide replacement.

System-wide replacement shall require the Contractor to replace all units of the suspect component throughout the system, whether or not they have exhibited any fault.

Even if the system-wide replacement activity extends beyond the end of the two-year warranty period, the Contractor shall be obligated to complete it if the need was documented before the end of the warranty period.

## **19.7 Spare Components**

The Contractor shall provide an initial supply (10) of spare components to GRTC for all installed hardware. Quote must have (10) complete kits for the validators including antennas, routers and any ancillary equipment.

The proposal shall include a list of the spare components and quantities to be provided, including manufacturer, model numbers and unit prices. At any time during the warranty period, GRTC shall be able to purchase additional spare components at the unit price stated in the price proposal form.

Spare components shall be delivered to GRTC already organized and labeled such that they can be readily identified and found. The organization and labeling must be approved by GRTC's Project Manager.

Spare components shall be packaged to protect their reliability, including providing for them to be identified, inspected, stored for long periods, and endure multiple inventories without damage or degradation.

Additional spare components purchased during the warranty period shall be packaged, organized and labeled in the same manner as the original supply of spare components, although additional storage provisions will not need to be provided.

## **19.8 Liquidated Damages**

Liquidated Damages will be assessed at the rate of \$100.00 per reader/validator for each calendar day the installation delivery of the reader/validator is not 100% complete and 100% fully functional.

By entering into this Agreement, Contractor agrees that in the event the Services are delayed beyond the scheduled milestones and timelines as provided, GRTC will suffer actual damages that will be impractical or extremely difficult to determine; further, Contractor agrees that the sum of these damages can become cumulative should the Contractor fail to carryout and fulfill the entire contract.

As such, for each installation that is delayed 30 days beyond the scheduled milestones an amount equal to the full installation price, plus a 25% premium will be assessed against the performance bond not as a penalty, but as a reasonable estimate of the loss that GRTC will incur based on the delay, established in light of the circumstances existing at the time this contract was awarded.

GRTC may deduct a sum representing the liquidated damages from any money due to Contractor or call upon payment of such damages.

Such deductions shall not be considered a penalty, but rather agreed monetary damages sustained by GRTC because of Contractor's failure to deliver to GRTC within the time fixed or such extensions of time permitted in writing by Purchasing.

## **19.9 Complete Implementation Project Delivery Duration**

Delivery of the complete reader/validator smart card implementation project shall be within (6) months after receipt of contract. Exact time for delivery shall be coordinated with Customer and site preparation activities.

## **19.10 Invoicing**

The Contractor shall only submit an invoice once a fully-signed Acceptance Certificate is generated by GRTC indicating that a progress payment milestone has been achieved. The Contractor shall provide "percent-complete" status for the project with each invoice.

GRTC will withhold 10% retainage on each invoice. Total retainage amount held from each invoice shall be released by GRTC after Final System Acceptance.

**ATTACHMENT A: VENDOR CHECKLIST**  
 (to verify that all necessary documents are included)

This form must be completed and returned with the technical proposal. Failure to return this form may be cause for considering your proposal non-responsive.

	<u>Vendor Check-Off</u>	<u>GRTC Check-Off</u>
Cover Letter	_____	_____
RFP Cover Page	_____	_____
Attachment A Vendor Checklist	_____	_____
Attachment B Proposal Affidavit / Price Proposal	_____	_____
Attachment C Addendum Page	_____	_____
Attachment D Request for Clarification/Approved Equal	_____	_____
Attachment E Ineligible Proposers Certification (prime contractor)	_____	_____
Attachment F Ineligible Proposers Certification (subcontractors)	_____	_____
Attachment G Non-Collusion Affidavit	_____	_____
Attachment H Federal Lobbying Certification	_____	_____
Attachment I Firm Data Sheet	_____	_____
Attachment J DBE Letter of Intent	_____	_____
Attachment K DBE Affidavit	_____	_____
Attachment L DBE Unavailable Certification	_____	_____
Attachment M SWAM Letter of Intent	_____	_____
Attachment N SWAM Affidavit	_____	_____
Attachment O SWAM Unavailable Certification	_____	_____
Attachment P Buy America Certification	_____	_____
Notice of Exception	_____	_____
Qualifications and Capabilities of the Firm(s)	_____	_____
Related Experience and References	_____	_____
Technical Proposal	_____	_____

ATTACHMENT B: PROPOSAL AFFIDAVIT FOR: AUTOMATIC FARE COLLECTION SYSTEM

The undersigned hereby declares that he/she has carefully read and examined the Advertisement, the Statement of Work, Form Agreement, the Specifications, Warranty and Quality Assurance Requirements with all supporting certificates and affidavits for the provision of goods and services specified at the price stated on the following page.

SIGNED: \_\_\_\_\_

TITLE: \_\_\_\_\_

FIRM NAME: \_\_\_\_\_

Subscribed and sworn to before me this \_\_ day of \_\_\_\_\_, 20\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

**PRICE PROPOSAL**

**REQUIRED EQUIPMENT AND SERVICES**

<b>Equipment/Service</b>	<b>Quantity</b>	<b>Unit Price Each</b>	<b>Extended price</b>
Transit Fare Onboard Reader/Validators furnished with Smart Card Reader, 2D Bar Card Reader, Wi-Fi Data Transfer, Operator sign on, ADA Annunciation capabilities and operator control unit. Associated cabling and hardware needed for Installation.			
Central Data Management & Rider Web Portal Information System computers for tracking sales, revenue, point of sales and usage.			
Software licenses, maintenance updates and upgrades for all computers and Reader/Validators			
Data Transmission Hardware Garage systems for Wi-Fi Data Transfer from On-Board Readers/Validators equipment to the Central Reporting Computer System.			
Smart Cards Encoding Property Rights with the proposed account-based architecture system			
Data Collection and Reporting System (Portable Data Computer) communicating with the Central Reporting Computer System.			
3G/4G Cell Mobile Routers			
Installation of all Transit Fare On-board reader/Validators			
Fare Media/Smart Cards (Per 3,000 card unit) (Long Term Use Smart Card)			
Fare Media/Smart Cards (Per 10,000 card unit) (Limited Use Smart Card)			
Mobile Fare ID workstation with capabilities to change expiration time at the smart cards			
Maintenance Test Stand			
Equipment Documentation			
Operations Documentation			
Maintenance Documentation			
Computer System Documentation			
Spare Parts Kits			
On-site Training : Maintenance			

Onsite Training: Operator Training			
Onsite Training: Computer Data system (Administration)			
Project Management			
Warranty: 3 year minimum for Complete Automatic Fare Collection System.			
<b>Total Price</b>			

<b>Equipment/Service</b>	<b>Quantity</b>	<b>Unit Price Each</b>	<b>Extended Price</b>
Extended Warranty Plan, Per Year			
<b>Total Price</b>			

ATTACHMENT C: ADDENDUM PAGE

The undersigned acknowledges receipt of the following addenda to the Documents.

(Give number and date of each)

Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_

Failure to acknowledge receipt of all addenda may cause the proposal to be considered non-responsive to this Request for Proposal, which will require rejection of the proposal.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

**ATTACHMENT D: REQUEST FOR CLARIFICATION / APPROVED EQUAL**

DATE: \_\_\_\_\_

PROPOSER: \_\_\_\_\_

SECTION: \_\_\_\_\_ PAGE: \_\_\_\_\_

PROPOSERS REQUEST:

GRTC RESPONSE:

APPROVED

DENIED

COMMENTS:

GRTC SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**ATTACHMENT E: INELIGIBLE PROPOSERS CERTIFICATION  
(Prime Contractor)**

The Contractor \_\_\_\_\_ certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or involuntarily excluded from participation in this transaction by any Federal Department or Agency.

Where the Contractor is unable to certify to any of the statements in this certification, such Contractor shall attach an explanation to this proposal.

Contractor (Name) \_\_\_\_\_ certifies or affirms the truthfulness and accuracy of the contents of the statement submitted on or with this certification and understands that the provisions of 31 U.S.C. Sections 3801 ET Seq. are applicable thereto.

AUTHORIZED OFFICIAL: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

ATTORNEY'S SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**ATTACHMENT F: INELIGIBLE PROPOSERS CERTIFICATION  
(Subcontractors)**

The Lower Tier Participant (Applicant for a third party subcontract or sub-grant under an Federal Transit Administration Project), \_\_\_\_\_, certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or involuntarily excluded from participation in this transaction by any Federal Department or Agency.

Where the Lower Tier Participant (Applicant for a third party subcontract or sub-grant under a Federal Transit Administration Project) is unable to certify to any of the statements in this certification, such Contractor shall attach an explanation to this proposal.

The Lower Tier Participant (Applicant for a third party subcontract or sub-grant under a Federal Transit Administration Project) \_\_\_\_\_ certifies or affirms the truthfulness and accuracy of the contents of the statement submitted on or with this certification and understands that the provisions of 31 U.S.C. Sections 3801 ET Seq. are applicable thereto.

AUTHORIZED OFFICIAL: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

ATTORNEY'S SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**ATTACHMENT G: NON-COLLUSION AFFIDAVIT**

Affidavit of Non-Collusion

I hereby swear (or affirm) under the penalty for perjury:

1. That I am the proposer (if the proposer is an individual), a partner in the proposal (if the proposer is a partnership), or an officer or employee of the proposing corporation having authority to sign on its behalf (if the proposer is a corporation);
2. That the attached proposal(s) has been arrived at by the proposer independently and has been submitted without collusion and without any agreement, understanding, or planned common course of action with any other vendor or materials, supplies, equipment, or service described in the request for proposals, designed to limit independent proposals or competition;
3. That the contents of the proposal(s) have not been communicated by the proposer or its employees or agents to any person not an employee or agent of the proposer or its surety on any bond furnished with the proposal(s), and will not be communicated to any such person prior to the official opening of the proposal(s); and
4. That I have fully informed myself regarding the accuracy of the statements made in the affidavit:

Signed

Firm Name

Subscribed and sworn to before me this \_\_ day of \_\_\_\_, 20

Notary Public

My Commission expires \_\_\_\_\_, 20

Proposer's E.I. Number \_\_\_\_\_(number used on Employer's Quarterly Federal Tax Return)

**ATTACHMENT H: FEDERAL LOBBYING CERTIFICATION**

The undersigned certifies to the best of his/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 any 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 influencing or attempting to influence 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.
  
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients 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 Section 1352, Title 31, U.S. Code. 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.

By: \_\_\_\_\_ (Date) \_\_\_\_\_  
(Signature of Company Official)

\_\_\_\_\_  
(Official's Title)

**ATTACHMENT I: FIRM DATA SHEET**

The prime contractor is responsible for submitting the information requested below on all firms on the project team, both prime and all subcontractors. All firms are to be reported on one combined sheet unless the number of firms requires the use of an additional sheet. Failure to submit complete data will result in the Expression of Interest not being considered.

<b>Firm's Name and Address</b>	<b>DBE Status*</b>	<b>Firm's Age</b>	<b>Firm's Annual Gross Receipts</b>

\* Y = DBE Firm Certified by VDMBE      NA = Firm Not Claiming DBE Status  
 N = DBE Firm Not Certified by VDMBE      IP = Certification w/VDMBE In-Process

**ATTACHMENT J: DBE LETTER OF INTENT**

To: \_\_\_\_\_  
(Name of Prime Contractor)

The undersigned intends to perform work in connection with the above project as a DBE (check one)  
\_\_\_\_\_ individual \_\_\_\_\_ corporation  
\_\_\_\_\_ partnership \_\_\_\_\_ joint venture.

The Disadvantaged Business status of the undersigned is confirmed:  
(a) on the reference list of Disadvantaged Business Enterprises dated \_\_\_\_\_, or  
(b) on the attached Disadvantaged Business Enterprise Identification Statement.

The undersigned is prepared to perform the following work in connection with the above project (Specify in detail particular work items or parts thereof to be performed):

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At the following price:  
\_\_\_\_\_

You have projected the following commencement date for such work, and the undersigned is projecting completion of such work as follows:

Items	Projected Commencement Date	Projected Completion Date
_____	_____	_____
_____	_____	_____

The above work will not be sublet to a non-Disadvantaged Business Enterprise at any tier. The undersigned will enter into a formal agreement for the above work with you, conditioned upon your execution of a contract with GRTC.

Date \_\_\_\_\_  
Name of Disadvantaged Business Enterprise

By \_\_\_\_\_

**ATTACHMENT K: DBE AFFIDAVIT**

STATE OF \_\_\_\_\_ (Date \_\_\_\_\_)

COUNTY OF \_\_\_\_\_

The undersigned being duly sworn, deposes and says that he/she is the

\_\_\_\_\_  
(sole owner, partner, president, treasurer or other duly authorized official of a corporation) of

\_\_\_\_\_  
(Name of DBE)

and certifies that since the date of its certification by VDMBE (Virginia Department of Minority Business Enterprise), the certification has not been revoked nor has it expired nor has there been any change in the minority status of

\_\_\_\_\_  
(Name of DBE)

\_\_\_\_\_  
(Signature and Title of Person Making Affidavit)

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
(Notary Public)

**NOTE: The offeror must attach the DBE's most recent certification letter or document to this affidavit.**



**ATTACHMENT M: SWAM LETTER OF INTENT**

\_\_\_\_\_  
(Name of Proposer)

is committed to using the SBE, WBE and/or MBE-certified businesses listed below in the performance of the contract resulting from this solicitation.

Instructions to Prime Proposer: List the names of the SWAM businesses your firm intends to use during the performance of this contract. State whether each business is a SBE, WBE or MBE. Briefly identify the role of each business in the performance of the contract, and the amount (i.e., dollar value) of the work to be performed by each business. Use additional pages if necessary.

<u>Name of Businesses:</u>	<u>SBE, WBE or MBE</u>	<u>Role in contract</u>	<u>Amount (\$)</u>
----------------------------	------------------------	-------------------------	--------------------

_____			
_____			
_____			
_____			
_____			

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Total Commitment for Utilization of SWAM Businesses:

\$ \_\_\_\_\_, representing \_\_\_\_\_ % of the total proposal price.

Offeror understands and acknowledges that the percentages stated above represent a commitment by the Offeror to utilize SWAM businesses.

Date \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name/ Title (Print)

**ATTACHMENT N: SWAM AFFIDAVIT**

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The undersigned being duly sworn, deposes and says that he/she is the \_\_\_\_\_  
\_\_\_\_\_ (sole owner, partner, president,  
treasurer or other duly authorized official of a corporation) of \_\_\_\_\_  
\_\_\_\_\_ (Name of SWAM firm)

which intends to perform the following work on this contract: \_\_\_\_\_  
\_\_\_\_\_  
(Brief description of role in contract / work to be performed)

at a cost of \$ \_\_\_\_\_ (Amount).

The undersigned certifies that:

\_\_\_\_\_ (Name of SWAM firm) is currently certified by the  
VDMBE as a SBE, WBE or MBE. The undersigned also certifies that since the date of its certification by  
VDMBE, the certification has not been revoked, nor has it expired, nor has there been any change in the status  
of the firm that would change the firm's certification.

\_\_\_\_\_  
(Signature) (Name, Printed)

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
(Notary Public)

**NOTE: The Offeror must attach a copy of the SWAM's most recent certification letter or document to this affidavit.**



**ATTACHMENT P: BUY AMERICA CERTIFICATION**

**CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR  
MANUFACTURED PRODUCTS**

This procurement is subject to the Federal Transit Administration requirements in 49 CFR Part 661. A Buy America Certificate, as shown below, must be completed and submitted with the bid. A bid, which does not include the certificate, shall be considered non-responsive.

**Certification of Compliance with Section 165(a)**

The Bidder hereby certifies that it shall comply with the requirements of Section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, and the applicable regulations in 49 CFR Part 661.11.

DATE: \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

AUTHORIZED REPRESENTATIVE NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

**Certification of Non-Compliance with Section 165(a)**

The Bidder hereby certifies that it cannot comply with the requirements of Section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, but it may qualify for an exception to the requirement pursuant to section 165(b)(2) or (b)(4) of the Surface Transportation Assistance Act and regulations in 49 CFR Part 661.7.

DATE: \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

AUTHORIZED REPRESENTATIVE NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_