MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

MEMORANDUM

TO: Holders of Contracts Documents

FROM: Karen Elsey, Procurement Administrator
Maryland Transit Administration
Procurement Division
6 Saint Paul Street, 7th Floor
Baltimore, Maryland 21202-1614

SUBJECT: Addendum No. 6
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

DATE: February 5, 2013

This is ADDENDUM No. 6 to the Invitation for Bid (IFB) for Contract No's: T 8000-0368, SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS).

PLEASE NOTE: The Procurement Officer is responsible for this solicitation and the sole point of contact for all matters relating to this solicitation. If you have any questions or concerns, please direct them to the Procurement Officer. All responses must be in writing.

Issued herewith and effective this date is Addendum No. 6. The Bidder shall include acknowledgement of receipt of this Addendum in the *Bid Form Section, Page 3, Invitation for Bid.*

ITEM ONE:

- **The Technical Proposal and Price Bid due date is:**

  The submission deadline for proposals is no later than **Thursday, February 28, 2013** no later than 2:00PM.at the **Maryland Transit Administration, William Donald Schaefer Tower, Procurement Division, 6 Saint Paul St. 7th Floor, Baltimore Maryland**.

ITEM TWO: APPROVED EQUAL QUESTION AND RESPONSES:

NOTE: All changes to the documents resulting from the Approved Equals has been highlighted in red to bring attention to the changes. The Questions and Answers document is for items that did not affect the Technical Specification.

Approved Equal Questions and Answers

The following questions are general questions that were submitted as part of the Approved Equal Requests. The MTA is providing responses to these questions/requests for clarification of the overall Solicitation. The majority of these responses is clarifications to the Solicitation Instructions and General Provisions and is not reflected in the updated Technical Specification, Special provisions or the Unit Price Schedule. Due to the fact that many of the questions were asked by more than one potential bidder, the questions have been paraphrased for the purpose of providing a response from the MTA. Any and all Approved Equal Requests that were accepted have been reflected in the latest version of the Technical Specification, Special Provisions and the Unit Price Schedule. All changes to these documents have been highlighted in red for clarification.

1. **QUESTION:**

   According to the Unit Price Schedule, the amount to be awarded for the options will be the average of all submitted prices from various bidders. Can the MTA please clarify as this may not represent the true costs of the options to the various bidders?

   RESPONSE:

   After careful consideration, the MTA has revised the basis of award to include option pricing to determine the lowest responsive bid.

   Item 7 - Award of Contracts on page 12 of Section I will be reworded with the following:

   "Basis of award for this contract shall be the lowest responsive and responsible bid provided by vendors(s) having been found providing acceptable technical proposals and within the structure outlined on the Unit Price Schedule.

   The basis for award will be made based on the low total vehicle base price for each category of award of the Unit Price Schedule (Items 01, 02/03, 04/05 and 06/07) *plus* the cost of all options listed.

   The MTA wants to clarify that although the basis of award includes the cost of all listed options, orders for vehicles will be for the *base vehicle only* plus *selected* options by the end users."

   In addition, Section I. on Page 2 of General Information will be reworded as follows:

"The award of the contract for this Invitation to Bid shall be broken into four categories for award as follows:

- Type 1A – 138" wheelbase, SRW, Gas
- Type 2A/2B – 138" wheelbase, DRW, Gas and Diesel
- Type 3A/3B – 158" wheelbase, DRW, Gas and Diesel
- Type 4A/4B – 176" wheelbase, DRW, Gas and Diesel

The MTA reserves the right to make a single award for all categories or separate awards for each category. "

2. QUESTION:

Page 6 of the solicitation instructions, section Z states that the base warranty period shall be five (5) years and the Special Provisions states that the base warranty is one year or 50,000 miles. Page 35 of 38 in the technical specifications states different warranty periods for different components' of the bus and chassis. Can we clarify the warranty requirements of this IFB?

RESPONSE:

The basic warranty for the vehicle is one year or 50, 000 miles.

Section Z on Page 6 of the Solicitation Instructions will be reworded as follows:

"… and shall be free from all defects and faulty materials and workmanship for a warranty period of one (1) year or 50,000 miles following acceptance for revenue service, unless specified otherwise in the Technical Specification or Special Provisions."

Various components or subsystems require superior warranty requirements as specified in the Special Provisions and Technical Specification. The warranty requirements for the components or subsystems have been clarified in the Technical Specification and the Special Provisions.

3. QUESTION:

Page 3 of the solicitation information and instructions, proposal format and organization, section 2, states that the total page count of the proposal shall not exceed 50 pages. Can we remove the limit of 50 pages as the technical requirements that the MTA is asking for will greatly exceed 50 pages.

RESPONSE:

The page count will remain at 50 pages, however, all attachments such as the Altoona Test Report and other reports supporting the proposal will not be included in the page count.

The last sentence in paragraph A.2 under 'Proposal Format and Organization' on page 3 of Section I will be reworded as follows:

"Not included in this total page count are the Title Page, Table of Contents, Schematics, Catalogue Cuts, Vehicle Questionnaires and Test Reports, such as the Altoona Test Report"

4. QUESTION:

The specification requires that an RV style step be provided to lower the step height to 10". It is our experience that this type of step may cause a tripping hazard due to inconsistent step heights and will be a maintenance problem from damage. Please remove this requirement from the specification.

RESPONSE:

The MTA agrees to remove the RV style step from the specification; however the requirement for the first step height has been changed to 10" maximum as a requirement. Please refer to the specification.

5. QUESTION:

The specification requires that all Lifts have a 1000# lifting capacity, including the folding platform lifts. Will the MTA accept an 800# capacity for the folding platform lifts?

RESPONSE:

All lifts, including the folding platform lifts shall meet the 1000# lifting capacity, without exception.

6. QUESTION:

Can the requirement for Goodyear tires in section 33.14.3 of the Mobility option be deleted?

RESPONSE:

Due to the current tire contract that the MTA has with Goodyear, this requirement cannot be deleted or changed for the Mobility Option under Option 14 in section 33.14.

7. QUESTION:

Please clarify the requirement for Manuals in Section I. Will the MTA accept electronic copies only, without paper copies? Can flash drives be submitted in lieu of CD-Rom's or DVD's?

RESPONSE:

The requirement for manuals in Item 11 on page 12 of Section I will be modified as follows:

11. MANUALS:

A. The Contractor shall provide the following manuals for EACH vehicle delivered as part of this contract:
- Two (2) copies of the Operator's Manual(s), as required for the Body and Chassis
- One (1) copy of the Illustrated Parts Manual, both body and chassis
- One (1) copy of the Maintenance and Repair Manual, both body and chassis, including Electric Schematics showing location of fuses and components
- One (1) copy of the parts and maintenance manuals for each vendor supplied component or subsystem

B. All manuals shall be supplied, in hard copy, upon delivery of vehicles along with one CD-Rom, DVD or flash drive containing all of the manuals and parts catalogs for each vehicle delivered.

C. Draft parts, repair/shop (if applicable) and maintenance manuals for each vendor item (i.e., wheelchair lift, auxiliary air conditioner and condenser etc.) shall also be supplied for each vehicle as part of this contract. The draft manuals shall be supplied upon delivery of vehicles.

D. The final manuals shall be delivered in hard copy no later than 60 days after the delivery of the vehicles along with one CD-Rom, DVD or flash drive containing all of the manuals and parts catalogs for each vehicle delivered. There will be a 5% holdback on payments until such time that all manuals have been received.

8. QUESTION:

In light of the fact that the FTA has dropped the recommendation for higher passenger weights for testing the vehicles at Altoona, it is requested that the weight requirements be reduced to the current FTA requirement of 150 lbs. per passenger and 200 lbs. per wheelchair passenger for this procurement.

RESPONSE:

The MTA agrees to the change in the weights and has updated the specification accordingly. Please refer to the specification.

9. QUESTION:

The specification requires that the service life is to be 7 years or 200,000 miles and is to be Altoona tested. Does this imply that the buses must be Altoona tested to 7 years/200,000 miles? Will the MTA accept a 5 year/150,000 mile service life for this procurement?

RESPONSE:

For clarification, the service life is to be 7 years, 200,000 miles and shall be Altoona tested for that requirement for all buses except for Type 1A, 138" wheelbase, SRW.

The MTA will accept the 5 year/150,000 mile service life for the 138" wheelbase, SRW (Type 1A) only. This vehicle shall be Altoona tested to meet this requirement.

10. QUESTION:

Item C under Payment in the Special Provisions states that payment shall not be made until receipt of all manuals. It is requested that this requirement be changed to allow delivery of manuals 30 days after available without regard to payment.

RESPONSE:

The MTA has reviewed the request and revised the due date for final manuals as detailed in the section for manuals and will make payment for the vehicles less a 5% holdback until time that all manuals have been received and accepted.

Item C will be reworded as follows along with a new Item D for release of the holdback:

C. Payment for the vehicle shall be made once the vehicle(s) have been delivered and accepted by the MTA at the final destination, less a 5% holdback for any final manuals that are not delivered with the vehicle(s).

D. The payment of the 5% holdback will be released once all final manuals have been delivered and accepted by the MTA.

11. QUESTION:

Given the fact that Lenny Howard is retiring, who do we address all documentation to as defined in the solicitation?

RESPONSE:

Lenny Howard's name will be changed to Elizabeth Kreider in all places in the solicitation as required.

ITEM THREE:

REVISED TECHNICAL SPECIFICATIONS

(REVISIONS IN RED)

TECHNICAL SPECIFICATIONS
SMALL BUSES FOR LOTS

1.0 GENERAL REQUIREMENTS

1.1 PURPOSE

The purpose of this specification is to provide a transit quality paratransit vehicle manufactured on a standard cutaway chassis with provision for stand-up entry, a wheelchair lift and tie downs as detailed in this specification. All body, floor and roof joints must be tightly sealed to eliminate drafts and water leaks. Vehicle shall exhibit attention to workmanship and detail. Used, shopworn, or prototype vehicles are not acceptable. Vehicles furnished to these specifications must meet or exceed all requirements herein.

ALL VEHICLES DELIVERED IN ACCORDANCE WITH THIS SPECIFICATION MUST MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

1.2 REQUIREMENTS

1.2.1 Vehicles are to be equipped with low emissions gasoline or diesel engines and must provide sufficient power to allow the vehicle to meet acceleration, top speed and gradeability requirements for demand-responsive service.

1.2.2 Vehicles shall provide features essential for safe, efficient and comfortable operation. Driver shall have optimum road and traffic visibility under all driving conditions. The vehicle must be maneuvered easily in normal and heavy traffic. The coaches shall be able to operate daily on all urban, suburban and rural primary and secondary roads within the state of Maryland.

1.2.3 Vehicles shall be designed and manufactured using a heavy-duty, RV/commercial cutaway van chassis of the latest model year available, or approved equal, as specified herein.

1.2.4 Vehicle assembler, converter, or second stage manufacturer whose product is offered, as part of this bid must be formally approved by the chassis manufacturer for the additions made to/upon the chassis.

Bidder shall provide a letter or certificate for the body manufacturer from the chassis manufacturer verifying full compliance with the manufacturer's transit vehicle quality program and that all warranties offered by the original chassis manufacturer shall be transferred to the Procuring Agency. Failure to provide such certification with the bid will result in rejection of the bid as non-responsive.

1.2.5 Vehicles must comply with all relevant Maryland State Department of Transportation and Department of Motor Vehicle regulations as well as any requirements of the Federal Motor Vehicle Safety Standards.

1.2.6 Vehicles must comply with the accessibility regulations established by the United States Department of Transportation as specified in 49 CFR Parts 27, 37, and 38, as amended.

1.2.7 Vehicles offered under this procurement must comply with vehicle testing requirements of USDOT 49 CFR Part 665, as amended. The bidder shall submit a letter of certification, titled Form CM-3: Certification of Federal Vehicle Testing, with their Technical Proposal stating that the "vehicle proposed has (has not) been tested at the Altoona Bus Research and Testing Center (ABRTC) for a 7 Year/200,000 mile test cycle (5 Year/150,000 mile for the 138" SRW) and is (is not) exempt from testing". If the proposed vehicle is exempt from testing, the bidder shall attach the reasons and a certificate of exemption from the FTA. a) If the vehicle has been tested, the complete report of test results must accompany the Technical Proposal. b) If the proposed vehicle must be tested, a schedule of test dates

shall be included with the Technical Proposal. Any vehicle requiring testing will not be accepted for delivery until it has completed its tests and the test report, with results, has been submitted to, and approved by, the Procuring Agency. Withdrawal of a vehicle from scheduled testing by the manufacturer or failure of the vehicle during testing shall not constitute an "Unavoidable Delay".

1.2.8 The gross vehicle weight rating (GVWR) shall exceed the weight of a fully loaded vehicle. A fully loaded vehicle equals the weight of the vehicle equipped to meet these specifications, verified by a weight ticket, plus the weight of the passengers (150 pounds for each ambulatory placement, 200 pounds for each wheelchair placement). There is no requirement for standees in the calculation.

1.2.9 The successful Bidder shall submit weight calculations with their proposal, ensuring that the chassis manufacturer's requirements concerning weight distribution have been met. These weight calculations shall also be utilized to determine that the proposed vehicle total weight (GVW) remains less than the GVWR.

1.2.10 The price quoted in any bid submitted shall include all items of labor, material, tools, equipment, and other costs necessary to fully complete the manufacture and delivery of the vehicles pursuant to these specifications. ***It is the intent of these specifications to provide and require a complete vehicle of the type prescribed ready for operation including all required equipment such as seats and seatbelts. Paratransit vehicles shall be fully compliant with all ADA requirements including a wheel chair lift.***

1.2.11 This specification reflects the buyer's preference as to dimensions, materials and major components. However, the bidder shall not omit any part or detail, which goes to make the vehicle complete and ready for service, even though such part or detail is not mentioned in these specifications.

1.2.12 A Pre-Production Meeting will be held with the manufacturer prior to the start of production. The location of the meeting is at the discretion of the MTA, but is intended to be held at the manufacturer's facility. The purpose of the meeting is to review the final configuration of the vehicles as proposed by the manufacturer and for the MTA to review all approvals listed in this specification. It is the intention to grant all approvals at this meeting.

1.2.13 *The Bidder shall assume sole responsibility for the entire vehicle as to warranty and after-sales parts and service. This includes the pick-up and delivery of the vehicle when it is determined that the vehicle is inoperable and/or cannot be safely operated for any reason.*

1.3 LEGAL REQUIREMENTS

1.3.1 Upon submission of bid, the Bidder shall provide to the MTA specific documentation demonstrating compliance with legal requirements below:

1.3.1.1 Bidder shall submit with the bid, documentation certifying that the proposed vehicle meets all applicable Federal Motor Vehicle Safety Standards (FMVSS) Regulations in effect on the date of manufacture of the bus body. At a minimum the following standards shall be included in the certification.

FMVSS 102	FMVSS 207	FMVSS 217	FMVSS 403
FMVSS 104	FMVSS 208	FMVSS 220	FMVSS 404
FMVSS 119	FMVSS 209	FMVSS 221 (if applicable)	
FMVSS 205	FMVSS 210	FMVSS 302	

1.3.1.2 The Contractor shall comply with all applicable Federal, State and Local regulations including all relevant portions of the Americans with Disabilities Act (ADA). In the event of any conflict between the requirements of this specification and any applicable legal requirement, then the legal requirement shall prevail.

1.4 MATERIALS - INTERCHANGEABILITY, ACCESSORIES, RESPONSIBILITY, STANDARDS

1.4.1 All units and components procured under this contract, whether provided by suppliers or manufactured by the Contractor shall be duplicated in design, manufacture and installation to assure interchangeability among vehicles in each order. This interchangeability shall extend to the individual components as well as to their locations in the vehicles.

1.4.2 Whenever possible, the Contractor shall use standard parts and components. Custom design items shall be avoided when standardized parts and components are available.

1.4.3 Wherever an item, material, apparatus, device, product or process is called for by trade name or catalog reference, or by the name of the patentee, manufacturer or dealer in these specifications, it shall be construed as establishing a minimum standard of quality and not construed as limiting competition. In these instances, a Contractor desiring a substitution shall request an approved equal under the procedures specified in Requests for Exceptions/Approved Equals.

1.4.4 The Contractor shall be responsible for all materials and workmanship in the construction of the vehicle and all accessories used, whether manufactured by the Contractor or purchased from suppliers. This provision excludes any equipment leased or supplied by the Procuring Agency, except insofar as such equipment is damaged by the failure of a part or component for which the Contractor is responsible, or is caused by the Contractor during the manufacture of the vehicles.

1.4.5 The Contractor shall install all externally supplied components as per the specifications of the manufacturer/supplier. Where the contractor does not follow the installation instructions of the manufacturer/supplier, the contractor shall be solely responsible for ensuring that the component performs as designed and to the complete satisfaction of the Procuring Agency.

1.4.6 All materials used in construction of the vehicle and all its parts shall conform in all respects to American Society of Testing Materials, Society of Automotive Engineers or similar association standards. Materials used shall be of first quality and shall be exactly duplicated in manufacture, design and construction on each of the vehicles.

1.4.7 All bolts, nuts, washers, and exposed linkages shall be zinc- or cadmium plated, phosphate-coated or stainless steel to prevent corrosion.

1.4.8 All plywood shall be marine-grade, Greenwood Products XL Bus Panels, or approved equal, with sealed waterproof edges, rot resistant and no internal or external voids.

1.4.9 All painted aluminum sheets shall be thoroughly cleaned and coated on the outside with zinc-chromated protective paint, epoxy primer or approved equal, prior to assembly on or in the vehicle.

1.4.10 All joints shall be treated to prevent corrosion; materials and method shall be approved by Procuring Agency prior to assembly.

1.5 WORKMANSHIP

1.5.1 Workmanship shall be of the best grade and shall conform in all respects to the best practice in the industry.

1.5.2 Welding procedures, welding materials and qualifications of operators shall be in accordance with the standards of the ASTM and the American Welding Society. All exposed welds shall be ground smooth after welding to present a smooth appearance. Where metal is welded to metal, the contact surfaces shall be free of scale, grease and paint.

1.5.3 All materials that are not inherently corrosion resistant shall be protected with corrosion-resistant coatings. All joints and connections of dissimilar metals shall be corrosion resistant and shall be

protected from galvanic corrosion. The process to prevent galvanic corrosion shall be approved by the MTA prior to start of production.

1.5.4 All bolts or rods passing through wood shall be stainless steel, cadmium or zinc plated, or approved equal. Where wood and wood are placed together, both shall be coated with powdered aluminum and spar varnish or linseed oil and titanium oxide, or other approved sealing compound.

1.5.5 All exterior surfaces shall be smooth and free of visible fasteners, wrinkles, and dents. Exterior and interior surfaces, to be painted, shall be properly cleaned and primed as appropriate for the paint used, prior to application of paint to assure a proper bond between the basic surface and successive coats of paint for the service life of the vehicle. Paint shall be applied smoothly and evenly with finished surface free of dirt, runs, orange peel and other imperfections.

1.5.6 All exterior light fixtures and window frames shall be fitted to the contour of the vehicle body and adequately sealed to prevent entrance of water.

1.5.7 All rubber seals on ventilator doors and compartment cabinet doors, except vents above windshield, shall be placed in "U" shaped channels designed to hold rubber firmly in place, or captures by a retaining lip around the perimeter of the doors for interior equipment access doors and hatches which include recessed gaskets or the manufacturer shall submit another method for approval.

1.5.8 All burrs and sharp edges shall be dressed to prevent injury to passengers, operators and maintenance personnel.

1.5.9 Special care shall be taken with the outside sheathing, roof, roof bonnets, and the interior finish so that all kinks and buckles are removed before assembly to present a true and smooth finish without excessive grinding off of the material which could tend to weaken the structure.

1.5.10 Drilled holes and cutouts in exterior surfaces shall be made prior to cleaning, priming and painting. The bus shall be completely painted prior to installation of exterior lights, windows, mirrors and other items that are applied to the exterior of the bus.

1.6 GENERAL DIMENSIONS

• Wheelchair Lift: Location (except 138” SRW)	Behind rear axle, curbside
• Wheelchair Lift: Location (138” SRW)	Ahead of rear axle, curbside
• Lifting Capacity	1000 lbs. Minimum
• Static load	2,400 lbs. Minimum
• Wheelchair envelope	30"x 54" Minimum
• Width Overall, excluding mirrors	96", +0”, -2”(88" for the SRW only)
• Interior Width (Measured 12” above floor)	90.5" Minimum (75" for the SRW only)
• Aisle Width	18" Minimum
• Height Overall, including all protrusions	117” Maximum
• Interior Height	78" (76” for Flat Floor) (75" for the SRW ony)
• Passenger Door Width – clear opening width	32 Inches Minimum (30” for the SRW)
• Door Height- clear opening height	80 Inches Minimum
• Ground Clearance excluding axles	10" Minimum
• Height of First Step - front door	10" Maximum
• Step Risers	10" Maximum
• Service Life	7 years or 200,000 miles
• Service Life (138” SRW only)	5 years or 150,000 miles

1.7 VEHICLE TYPES

1.7.1 Type 1A – 138" Wheelbase, Single Rear Wheel (SRW) with 4/2 seating, Gas Engine

1.7.1.1 The chassis shall be a Ford E-350 or GM 3500 cutaway chassis, or MTA approved equal.

1.7.1.2 The engine shall be a 4.8 Liter V-8 with 255 HP *minimum*, or MTA approved equal.

1.7.1.3 Capacities

- Seated Passenger Capacity — 4 Minimum (not including the driver)
- Wheelchair Positions — 2 Minimum
- Front Axle — 4,000 lbs., Minimum
- Rear Axle — 7,000 lbs., Minimum
- Gross Vehicle Weight Rating — 10,050 lbs., Minimum
- Fuel Capacity — 30 Gallons

1.7.1.4 Dimensions

- Wheelbase — 138-139”
- Overall Length (bumper to bumper) — 260", Nominal
- Rear Overhang — 69" Maximum
- Wheels — 16" x 7" Minimum
- Tires — LT245/75R16, Load Range E Minimum

1.7.1.5 The length of the vehicle shall be the minimum necessary to satisfy the specified seating configurations of this bid while meeting all applicable FMVSS requirements and chassis manufacturer requirements for weight distribution.

1.7.2 This section deleted in its entirety.

1.7.3 Type 2A - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Gas Engine

1.7.3.1 The chassis shall be a Ford E-350 or GM 3500 cutaway chassis, or MTA approved equal.

1.7.3.2 The engine shall be a 4.8 Liter V-8 with 255 HP *minimum*, or MTA approved equal.

1.7.3.3 Capacities

- Seated Passenger Capacity — 8 Minimum (not including the driver)
- Wheelchair Positions — 2 Minimum
- Front Axle — 4,600 lbs., Minimum
- Rear Axle — 7,500 lbs., Minimum
- Gross Vehicle Weight Rating — 10,500 lbs., Minimum
- Fuel Capacity — 33 Gallons

1.7.3.4 Dimensions

- Wheelbase — 138-139”
- Overall Length (bumper to bumper) — 266", Nominal
- Rear Overhang — 80" Maximum
- Wheels — 16" x 6" Minimum
- Tires — LT225/75R16, Load Range E Minimum

1.7.3.5 The length of the vehicle shall be the minimum necessary to satisfy the specified seating configurations of this bid while meeting all applicable FMVSS requirements and chassis manufacturer requirements for weight distribution.

1.7.4 Type 2B - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Diesel Engine

1.7.4.1 The chassis shall be a Ford E-350 or GM 3500 cutaway chassis, or MTA approved equal.

1.7.4.2 The engine shall be a 6.6 Liter V-8 diesel with 260 HP, *minimum*, or MTA approved equal.

1.7.4.3 Capacities and dimensions shall be the same as Type 2A above.

1.7.5 Type 3A - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Gas Engine

1.7.5.1 The chassis shall be a Ford E-450 cutaway chassis, or MTA approved equal.

1.7.5.2 The engine shall be a 6.0 Liter V-8 or 6.8 Liter V-10 with 300 HP, *minimum*, or MTA approved equal.

1.7.5.3 Capacities

- Seated Passenger Capacity — 12 Minimum (not including the driver)
- Wheelchair Positions — 2 Minimum
- Front Axle — 5,000 lbs., Minimum
- Rear Axle — 9,600 lbs., Minimum
- Gross Vehicle Weight Rating — 14,200 lbs., Minimum
- Fuel Capacity — 55 Gallons

1.7.5.4 Dimensions

- Wheelbase — 158-159”
- Overall Length (bumper to bumper) — 290", Nominal
- Rear Overhang — 79" Maximum
- Wheels — 16" x 6" Minimum
- Tires — LT225/75R16, Load Range E Minimum

1.7.5.5 The length of the vehicle shall be the minimum necessary to satisfy the specified seating configurations of this bid while meeting all applicable FMVSS requirements and chassis manufacturer requirements for weight distribution.

1.7.6 Type 3B - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Diesel Engine

1.7.6.1 The chassis shall be a Ford E-450 or GM 4500 cutaway chassis, or MTA approved equal.

1.7.6.2 The engine shall be a 6.6 Liter V-8 diesel with 260 HP, *minimum*, or MTA approved equal.

1.7.6.3 Capacities and dimensions shall be the same as Type 3A above.

1.7.7 Type 4A - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Gas Engine

1.7.7.1 The chassis shall be a Ford E-450 or GM 4500 cutaway chassis, or MTA approved equal.

1.7.7.2 The engine shall be a 6.0 Liter V-8 or 6.8 Liter V-10 with 300 HP, *minimum*, or MTA approved equal.

1.7.7.3 Capacities

- Seated Passenger Capacity — 16 Minimum (not including the driver)
- Wheelchair Positions — 2 Minimum

- Front Axle 5,000 lbs., Minimum
- Rear Axle 9,600 lbs., Minimum
- Gross Vehicle Weight Rating 14,200 lbs., Minimum
- Fuel Capacity 55 Gallons

1.7.7.4 Dimensions

- Wheelbase 176-182”
- Overall Length (bumper to bumper) 310", Nominal
- Rear Overhang 84" Maximum
- Wheels 16" x 6" Minimum
- Tires LT225/75R16, Load Range E Minimum

1.7.8 Type 4B - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Diesel Engine

1.7.8.1 The chassis shall be a Ford E-450 or GM 4500 cutaway chassis, or MTA approved equal.

1.7.8.2 The engine shall be a 6.6 Liter V-8 diesel with 260 HP, *minimum*, or MTA approved equal.

1.7.8.3 Capacities and dimensions shall be the same as Type 4A above.

1.7.9 The wheelbase and GVWR for each vehicle type shall be selected to carry the driver, seated and standing passenger, wheelchair and bus body loads without exceeding the manufacturers’ recommended axle, wheel assembly and tire loads.

2 AXLES

2.1 The front and rear axles shall have a minimum GAWR rating to meet the minimum GVWR and vehicle load requirements for each vehicle type.

2.2 The rear axle ratio shall be appropriate for the GVWR in order to meet performance requirements.

3 SUSPENSION

3.1 The minimum RV/commercial cutaway van chassis Gross Vehicle Weight Rating (GVWR) shall be no less than specified in the vehicle types.

3.2 The vehicle shall be equipped with the manufacturer's heavy duty handling package.

3.3 The vehicle shall be equipped with both front and rear stabilizer bars.

3.4 The heaviest duty springs, shock absorbers, wheel bearings, hubs and spindles available for the GVWR shall be provided.

3.5 Springs shall be heavy-duty type front and rear. Front and rear springs shall have a capacity rating of at least the rating of the axles.

3.6 Shock absorbers shall be double acting heavy-duty front and rear, with minimum 1-3/8 inch diameter and sufficient capacity to stabilize the loaded vehicle.

3.7 The drive shaft shall be guarded to prevent it from striking the floor of the vehicle or the road and shall meet all MDOT requirements.

4 WHEELS AND TIRES

4.1 Vehicles shall be equipped with the chassis manufacturers heaviest duty 8 hole steel disc, Oxford white (inside and out), 16 inch diameter and 6 or 7 inch minimum width, as required.

4.2 Vehicles are to be equipped with tubeless, all-season, steel belted radial tires of *minimum* size LT 225/75R16E BSW-AS, and a 10-ply rating, or load range E, with the exception of the 138" SRW, which shall be a minimum size of 245/75R16E BSW-AS, and a 10-ply rating, or load range E

4.3 One (1) full size OEM spare tire, mounted on a 8 hole steel disc, Oxford white (inside and out), shall be provided for each vehicle.

4.4 All wheels and tires are to be interchangeable.

4.5 Deleted.

5 ENGINE

5.1 Engine shall be heavy-duty truck-type low emissions gasoline flex-fuel engine, if available, or diesel engine with quality of bearings, pistons and crankshaft designed for sustained full-load operation. The best available valve seats exhaust valves and valve rotators are required. Engine shall be equipped with ETC Electronic Throttle Control and Active Fuel Management.

5.2 The engine displacement shall be as required to meet the performance requirements for each vehicle type. A V-8 configuration is preferred. All gas engines shall be compliant with EPA Clean emission standards at the time of manufacturer and where available from the OEM chassis manufacturer, be approved to operate on E85, a blend of 85% ethanol mixed with gasoline or any combination of the two not to exceed the aforementioned ratio. All diesel engines shall be compliant with EPA Clean emission standards at the time of manufacturer and be approved to operate on Ultra Low Sulfur Diesel (ULSD) or Biodiesel up to B20 or any combination of the two.

5.3 The engine shall be furnished with a large capacity full flow oil filter of the spin-on type. The filter shall be easily reached and replaced without removal of any major component in addition to an auxiliary oil cooler mounted in front of the engine behind the grill to help the engine oil maintain proper operating temperature, preventing oxidation and increasing the oil's lubricating and protecting properties.

5.4 A dry-type air cleaner must be provided.

5.5 The engine compartment shall have an inside hood release/locking device.

5.6 The engine and exhaust system must meet all applicable federal standards for noise level and emissions. The exhaust shall be routed to the left rear corner.

5.7 A sound reduction package from the OEM shall be included with the engine and shall be provided to include dash sound/heat absorption, external engine cover insulator and instrument panel insulation.

5.8 Chassis shall be equipped with the OEM speed control (road speed governor), preset by the chassis OEM to a maximum speed of 65 mph (70 mph for the diesel engine). An Intermotive Speed Sentinel II Programmable Road Speed Limiter, or Approved Equal, shall be provided when an OEM speed control is not available.

5.9 A driver adjustable cruise control shall not substitute for the road speed governor requirement.

5.10 An automatically engaging "engine fast-idle" system with a manual override button shall be installed in the dash area or in a separate panel within easy reach of the seated driver.

5.11 A fuel line water separator and engine block heater shall be proved for the diesel engine option.

5.12 A chassis manufacturer's auxiliary engine oil cooler shall be provided. Aftermarket oil cooler shall not be accepted

5.13 Contractor shall provide pricing for chassis manufacturers hand-held diagnostic data reader kit for reading trouble codes stored in ECM memory and for providing operating information about the engine. An aftermarket handheld diagnostic reader is acceptable if it performs the same functions as the OEM diagnostic reader. The diagnostic data reader shall also be capable of diagnosing the electronically controlled transmission. The kit shall include: instruction manuals with codes, hookup cables and appropriate software to properly diagnose the bus.

6 TRANSMISSION

6.1 The transmission shall be a five or six speed heavy-duty, fully automatic, electronically controlled unit with overdrive.

6.2 The transmission shall be equipped with an auxiliary transmission fluid cooler in order to maintain a safe operating temperature under all operating and load conditions, including stop-and-go driving conditions. Transmission cooler shall be the largest size available. All connections shall be made with threaded fittings and flared stainless steel tubing.

6.3 A transmission over-heat sensor connected to a warning light mounted in the driver's compartment shall be provided, if available from the OEM. Sensor shall activate at a temperature 5°F below the manufacturer specified maximum safe operating temperature.

6.4 The transmission shift lever shall be interlocked with the starting motor to prevent engagement of the starter in any gear position other than neutral or park.

6.5 The transmission shift lever shall be interlocked to prevent shifting from ‘Park’ without the brake pedal being pressed.

6.6 The transmission shall be installed such that it is possible to remove the transmission as a unit without disturbing the engine or final drive.

7 STEERING

7.1 Vehicle shall be equipped with factory-installed power steering and an auxiliary power steering fluid cooler. Where possible, all connections shall be made with threaded fittings and flared stainless steel tubing.

7.2 Steering wheel shall be adjustable position tilt type.

8 FUEL AND EXHAUST SYSTEM

8.1 Total usable fuel capacity shall be as specified for each vehicle type.

8.2 Fuel tank(s) shall be constructed of welded steel or hardened plastic, and equipped with a safety blow out plug per I.C.C. regulations and with all protective heat shields. Fuel tank shall meet FMVSS standard 301 and FMCSR 393.67.

8.3 Fuel line shall be equipped with an engine-mounted fuel filter with replaceable elements to remove particles 2 microns and larger in diameter.

8.4 Fuel cap shall be attached to the vehicle body or fuel tank fill tube by means of a tether or chain.

8.5 Exhaust tail pipe shall conduct the exhaust gases from the muffler to an outlet with stainless steel or aluminized deflector directed to the rear street side of the vehicle. The exhaust outlet shall terminate behind the rear wheel and forward of the rear bumper. Exhaust tail pipe shall be properly installed with heat shields on vibration attenuation mounts and not exhaust directly under a window.

9 BRAKES

9.1 Brakes provided must feature a: 4-wheel disc anti-lock braking system, power assisted, heavy-duty hydraulics, self-adjustment and must be rated to correspond to the GVWR of the chassis.

9.2 The braking system shall comply with FMVSS 105 and FMVSS 106.

9.3 Brakes shall conform to all Federal and Maryland Vehicle Safety Standards.

9.4 Parking brake shall be OEM standard mechanical system.

9.5 There shall be a parking brake warning light on the dashboard.

9.6 Routing of brake lines shall be such as to minimize corrosion from road salt, other chemicals and road hazards. Lines shall be sufficiently separated so that simultaneous failure due to accidental damage or debris impact is unlikely to occur.

10 COOLING SYSTEM

10.1 The radiator shall be the heaviest duty available from the chassis manufacturer and shall be equipped with a surge or overflow tank (coolant recovery kit) designed so that the coolant, propylene glycol with SCA's, expelled is saved and restored to the cooling system.

10.2 The cooling system must provide adequate engine cooling at 100°F ambient temperature with air conditioner(s) on.

10.3 Vehicle to be provided with propylene glycol with SCA's, all season coolant, to protect cooling system to -20°F.

11 CRASHWORTHINESS

11.1 The vehicle body and roof structure shall withstand a minimum static load equal to 150 percent of the curb weight evenly distributed on the roof with no more than a 6-inch reduction in any interior dimension. Windows shall remain in place and shall not open under such a load.

11.2 The vehicle, at GVWL and under static conditions, shall not exhibit deformation or deflection that impairs operation of doors, windows, or other mechanical elements. Static conditions include the vehicle at rest with any one wheel on a 6-inch curb or in a 6-inch deep hole.

11.3 All seats and seating shall meet Federal safety standards for: A) Seating system and layout B) Occupant crash protection C) Seat belt assemblies D) Seat belt assembly anchorages

11.4 Deleted.

12 BODY, FRAME AND EXTERIOR

12.1 The design, materials and assembly shall result in a durable vehicle structure able to operate for the expected seven (7) year (five (5) year for the 138" SRW) life span of the vehicle under normal paratransit operating conditions in the Procuring Agency's service environment.

12.2 The highest possible quality of RV/commercial, cutaway van chassis, or approved equal, is required for the vehicle understructure. The body, including the roof, shall be of sufficient strength to support the entire weight of the fully loaded vehicle on its top or side, if overturned when the vehicle is stationary (consistent with Section 11).

12.3 Body and roof support frame shall be a welded, all steel rollover cage, or steel reinforced FRP body, adequately reinforced at all joints or where stress concentrations may occur. Passenger compartment rollover cage must extend over driver's area. Bidders must provide evidence that the bus meets the

requirements of Section 11, CRASHWORTHINESS with submission of engineering drawings of internal structure and certified testing laboratory results as outlined in Section 11.4.

12.4 The sidewalls of the vehicle shall be constructed to provide an essentially straight or slightly curved vertical panel from floor to ceiling. Exterior wall panel(s) shall be durable aluminum alloy, fiberglass reinforced panels (FRP), galvanized steel or MTA approved equal. The number of exterior panels shall be kept to a minimum to minimize the number of body panel seams. All exterior panels shall overlap the adjacent panels by a minimum one (1) inch to prevent water or moisture from penetrating the exterior skin of the vehicle. All fixed exterior panels shall be closed end riveted, bonded, welded or securely fastened to the body structural members with a method approved by the MTA. No exposed metal screws shall be permitted.

12.4.1 Where applicable, sidewall structure shall be adequately reinforced to support attachment of wheelchair-related securements, seat belts and shoulder harnesses

12.5 The roof shall be constructed so that there will be a minimum of 78 inches of interior headroom in the entire vehicle. Twisting motion of the vehicle must not cause a separation at the joints of the roof and the side panels of the vehicle. Roof super-structure shall be constructed of a 1-piece seamless construction. Roof panel shall lap side panels by minimum of 1 inch. The overlapping panel construction is to preclude water leakage into the vehicle. Other methods of assembly will be evaluated provided that the Bidder submits an approved equal, clarification and/or exception form for MTA review and approval. Panels shall be riveted, bonded or welded to the superstructure.

12.6 Minimum OEM chassis corrosion protection warranty shall be five (5) years or 100,000 miles. 12.7 The entire body frame understructure is to be rust proofed /undercoated at the body manufacturer's site or at a location in close proximity to this factory. Undercoating must be applied in compliance with all supplier and applicable federal standards. The interior of doors, walls, pillars, headers, all double panel areas and all their enclosed areas, including the inner surfaces of all tubular construction for the body construction, must be treated with a rust-proofing process material such as Ashland Oil Tectyl #506G, Quaker-Kote, Bilstein 2000, PPG Corashield 7972, Z-Tech Z-Guard or MTA approved equal. Holes drilled in doorposts and edges, sills, etc. for the application of the material shall be plugged with rubber, neoprene or plastic plugs. A manufacturer's certification shall be provided, stating that all components listed above have been zinc coated prior to finish coating application.

12.8 Front and rear body caps shall be constructed of fiberglass; bonded and sealed to the vehicle body by a minimum of 1 inch overlap to prevent the penetration of moisture into the interior of the vehicle body. Fiberglass caps shall be of the sturdiest construction possible to endure the entire life of the vehicle.

12.9 All bolts and rivets used in the manufacture of the body shall be high strength metal. All bolts shall be equipped with lock washers or other acceptable devices to prevent loosening under vibration. All nuts, bolts, clips washers, clamps, and like parts shall be zinc- or cadmium-plated, phosphate coated, black oxide coated, or stainless steel to prevent corrosion.

12.10 Sheet metal screws of any type shall not be used in the construction of bodies except for attaching electrical wire moldings, exterior molding trim and end caps and or light fixtures, or for interior panels which must be removed to give accessibility to other interior or concealed components.

12.11 All exposed screws and fasteners shall be painted or finished to blend in with the surrounding area.

12.12 Mud flaps shall be provided for all wheels. In the event the tires extend beyond the side of the bus body, splash aprons and fenders shall be provided. Mud flaps shall be constructed from ¼ inch thick black thermoset plastic.

12.13 A flexible, tenacious, high-quality colored caulking compound must be applied to the top of all rub rails, all unwelded metal joints, and to any place which would allow moisture to enter through the joints of the exterior panels. This does not include the fresh air intake of the heater or the drain openings at the bottom of the rub rails. The compound shall be applied in a neat and workmanlike manner without voids or skips. Body shall be thoroughly water tested and made tight to prevent leakage.

12.14 The front bumper shall be a chrome OEM bumper. The rear bumper shall be Romeo Rim "Help" energy absorbing type, or approved equal. The rear bumper shall be constructed of urethane rubber and uniformly black in color. The rear bumper shall be anti-ride design.

12.16 Two (2) tow eyes or tow hooks are to be provided at the rear of the vehicle under the rear bumper for towing and lifting. Each towing device shall withstand, without permanent deformation, tension loads up to 1.2 times the curb weight of the vehicle within 20 degrees of the longitudinal axis of the vehicle. The rear towing devices shall allow attachment of a rigid tow bar and shall permit lifting of the vehicle, at curb weight, by the towing devices and the tow bar until the rear wheels are clear of the ground. Each towing device shall accommodate a crane hook with a 1-inch throat.

12.17 Rain gutters shall be provided to prevent water from flowing from the roof onto the side windows and passenger doors. An expanded rain gutter, of sufficient size to divert water as displaced from the roof away from the driver's immediate area, shall be provided at the driver's door. When the vehicle decelerates or is operated on a downslope, the gutters shall not drain onto the windshield or the driver's side windows, or into the door boarding areas. Rain gutters shall be fabricated of materials compatible with that portion of the vehicle body to which they are attached, and shall be fastened to the vehicle body with an adhesive system and a minimum number of fasteners

12.18 A stepwell shall be provided in which the first step is a maximum of ***10 inches*** above ground level. See Section 14 Floor and Stepwell.

12.19 Vehicle exterior shall be finished in accordance with section 32.1.

12.20 License plate holders for standard size U.S. license plates shall be mounted on the front and rear of the bus at locations to be approved by the Procuring Agency. The license plates shall be either flush-mounted or recessed so that they can be cleaned by automatic bus washing equipment without being caught by the brushes. The license plate mounting shall not allow a toehold or handhold for unauthorized riders. The rear license plate location shall be lighted.

12.21 Vehicle shall be equipped with a driver's side running board.

12.22 **Documentation certifying compliance with FMVSS 220 shall be submitted with bid.**

13 INSULATION AND FIRE SAFETY

13.1 The passenger and engine compartments shall be separated by a bulkhead constructed of fireproof and/or fire retardant materials. The bulkhead shall serve to inhibit the spread of any engine compartment fires into the passenger-occupied section of the vehicle. The bulkhead shall be insulated with a minimum of one (1) inch thick fire-resistant fiberglass material or equivalent to minimize transmission of noise, heat and fumes.

13.2 Materials used for insulation throughout the vehicle shall be fire resistant and have noise-absorbing properties, in addition to insulating qualities. The materials used shall not release flammable or

poisonous fumes in the event of fire or exposure to heat. Materials shall be sealed to minimize entry of moisture, shall be non-hygroscopic, and resistant to fungus and the breeding of insects. Vibration compacting or settling during the life of the vehicle shall not affect any of the insulation materials' properties.

13.3 A 1 inch minimum fire resistant fiberglass blanket insulation, high density polysterene panels, composite panel air cells or equivalent is to be provided between the interior and exterior panels to reduce heat and cold penetration and act as a sound-deadening vibration-reducing material. The insulation shall achieve a minimum R factor of 5.

13.4 The complete roof shall be insulated with at least 1-inch thick fire resistant fiberglass insulation, 1½ inch thick rigid Styrofoam insulation, composite panel air cells or 1" thick expandable spray foam insulation. The insulation shall achieve a minimum R factor of 5.

13.5 Thermal insulation shall allow internal temperatures of the vehicle to be maintained between 65° F. and 80° F. in all operating conditions. The vehicle shall be sealed so that the driver or passengers during normal operation will feel no drafts with the passenger doors closed.

13.6 All materials used in the vehicle shall meet or exceed the flammability and smoke emission requirements specified in FMVSS 302.

14 FLOOR AND STEPWELL

14.1 Plywood shall be a minimum 3/4" thick, 7-ply Marine grade plywood, installed with side "A" facing up, Greenwood Products XL Bus panels, or approved equal, and with all edges sealed. Preservative treated plywood shall utilize a chemical that contains no EPA listed hazardous compounds and have moisture content at or below fifteen percent. Plywood shall be of a grade that is manufactured with a solid face and back. Plywood prior to any preservative treatment shall be certified at the time of manufacturing by an industry approved third-party inspection agency such as APA-The Engineered Wood Association (formerly the American Plywood Association). The floor, as assembled, including the sealer, attachments and covering shall be waterproof, non-hydroscopic, and resistant to mold growth and impervious to insects. A galvanized steel or aluminum sub-floor [moisture barrier] shall be installed beneath the plywood and shall be suitably sealed and completely undercoated, with attention to the rear wheel-wells.

14.2 Floor shall be securely attached to underframe through elevator bolts and self-tapping countersunk screws or tapping plates (with a thickness equal to a standard nut) or using structural adhesive such as Sikaflex 252 or Soudal SoudaSeal FC. Floor fasteners shall be protected from corrosion for the service life of the bus. The floor deck shall be reinforced as needed to support passenger loads. At GVWR, the floor shall have an elastic deflection of no more than 0.60 inches from the normal plane. The floor shall withstand the application of 2.5 times gross load weight without permanent detrimental deformation. All floor joints shall be sealed with mastic such as Isoclad. 14.2 There shall be no steps in the aisle area, and no passengers shall be required to step up to get to their seat.

14.3 Heavy duty, non-slip floor covering, which shall form a visually seamless floor covering contiguous with the sidewalls and bulkheads, shall be installed. The floor covering shall be Altro Transflor Meta 2.2, Gerflor Tarabus Sirius NT, or approved equal. Floor covering shall extend to include entrance/exit areas as well as steps, except the drivers compartment. Floor covering shall comply with all pertinent aspects of the ADA and be constructed of a skid resistant material, minimum 2.2mm thick, and adhered to the sub-flooring. The occurrence of seams shall be minimized. Where seams do occur, they shall be heat welded and waterproof. The floor covering shall be essentially black in color. Materials shall be color matched and subject to approval by the Procuring Agency.

14.4 All joints in floor covering shall be butt-cut type. The pieces shall meet flush in order to avoid water seepage. Floor covering shall be bonded to the floor with waterproof sealer.

14.5 Steps shall be sloped only enough to preclude water accumulation in the stepwell. Step treads and exposed vertical risers shall be of matching colored material, with integrally molded nosing, and be consistent with the passenger area.

14.6 A permanent two (2) inch wide, full width, bright yellow or white band shall mark the edge of each step. The colors shall be permanently blended into the tread covering material. Each tread shall be completely sealed around the edges with a waterproof rubber sealant.

14.7 A stepwell low voltage electric heater pad, such as Ultra Heat SH-267 or Lighthouse Warm Welcome, or approved equal, shall be installed on the first step beneath the floor covering of the initial step to eliminate ice and snow build-up.

14.8 The top surface of any wheelchair securement floor plates shall not constitute a tripping hazard and meet all state and federal guidelines.

14.9 Deleted.

15 MIRRORS

15.1 Two (2) fully adjustable, Rosco, Lucerix/Metagal, B&R or approved equal, exterior left side/right side, side view mirrors shall be provided. Each head shall incorporate replaceable mirrors including: a 9 x 7 inch flat mirror (minimum), and a separate 4 x 6 inch (minimum) convex mirror. The convex mirror shall be located below the flat glass mirror so as to allow for increased driver visibility along both sides of the vehicle. The mirror housing shall be molded and feature one point mounting, so as to provide an undistorted view of the rear corners of the vehicle. The mirrors shall be heated and remote controlled, with an LED turn signal in the mirror that can be viewed from behind the bus.

15.2 Mirror brackets are to be made from carbon tubing or anodized cast aluminum, black in color. Brackets shall be spring-loaded, feature single point mounting and be designed to fold out of the way without damage to the mirrors or vehicle body upon contact with an obstruction or when met with resistance.

15.3 The left side mirror shall be mounted on the driver's door and be electrically and remotely adjustable. The right side mirror shall be electrically and remotely operated. The right side mirror shall be fender mounted and braced from behind the fender with a stiffening plate, of a material which does not contribute to galvanic corrosion.

15.4 Interior mirror(s) shall be placed so as to allow the driver to observe passengers throughout the vehicle without leaving his/her seat and without shoulder movement. With a full load, the driver shall be able to observe passengers anywhere in the bus, including the rear wheelchair area, rear seats and anywhere in the aisle via a minimum 6" X 16" mirror that shall be mounted in front and over the driver. In addition, a minimum 3"x 9" rectangular rearview mirror, OEM's standard chassis rearview mirror with non-glare day/night feature as located by the OEM or approved equal, shall be installed in the middle of and on the front windshield for driver's view of and through bus interior. The location of the interior mirrors shall be approved by the MTA at the PDR and shall be consistent throughout each build.

16 DOORS

16.1 The vehicle shall be equipped with four (4) doors: A passenger entrance door with steps on the curbside front, a driver's entrance door on the roadside front, rear door(s) for use as an emergency exit, and a minimum 42 inch wide wheelchair lift service door on the curbside of the vehicle. If the vehicle is

in operation, any unsecured doors shall illuminate a warning lamp on the driver's dashboard panel. Only the driver's door shall be equipped with a key locking mechanism which shall be as provided by the OEM manufacturer.

16.2 Design and operation of all doors, hatches, mechanisms, markings, emergency devices, warning lights and related equipment shall comply with all applicable Maryland State and Federal regulations.

16.3 Front Doors

16.3.1 The front passenger door shall be an outward-folding double leaf design (transit) door and shall be located on the curbside of the vehicle behind the front wheel. The clear door opening between hand rails shall be a minimum of 32 inches in width, with the exception of the SRW which shall be 30". The clear door opening shall be a minimum of 80 inches in height measured from the first step to the door header. Each door leaf shall have a minimum 2-1/2 inch rubber outer edge to protect passengers in the event of an inadvertent door closing. The door portal opening shall be structurally reinforced to insure the structural integrity of the vehicle.

16.3.2 The door shall be electrically operated from the driver's position and shall be held in the open or closed position with a passive mechanical interlock or detent. The front doors shall be equipped with an interior safety release mechanism, permitting the doors to be mechanically opened in the case of an emergency.

16.3.3 The driver's entrance door shall be the standard chassis manufacturer's equipment.

16.3.4 Deleted.

16.3.5 The entrance doors shall have an exterior weatherproof programmable numerical keypad that can open and close the doors. The location of the keypad shall be approved by the MTA.

16.4 Emergency Exit Door

16.4.1 Emergency exit door(s) shall be located in the rear of the vehicle. The door shall be of a single leaf design and shall include either a spring loaded hold-door-open system to maintain a clear opening or a latching mechanism, to be approved by the MTA prior to production, in order to facilitate emergency exit operations. Minimum dimensions of the clear door opening shall be 35.5 inches wide by 54 inches high.

16.4.2 Opening of the rear door(s) shall activate a rear door ajar buzzer and illuminate a red warning lamp on the driver's dash panel, whenever the door is not secure.

16.4.3 The emergency door shall have upper and lower glazing and include one 11" x 14" static cling 'fish eye' wide-angle rear window lens. The lower window shall have a see through mechanism, such as expanded metal panels or grates, to prevent contact of mobility devices. The door shall be openable from outside the vehicle and shall be non-locking. The structure of the door, mounting equipment, inside and outside trim and any exposed mechanisms shall be of durable, corrosion resistant material that is rigidly reinforced. Positive stops to limit the door travel in both the open and closed positions shall be provided.

16.5 Wheelchair Lift Service Door

16.5.1 The wheelchair lift service door shall be located aft of the rear axle on the curbside of the vehicle and shall have a minimum opening of 42 inches wide by 62 inches high. The actual position shall be determined by maximizing the passenger carrying capacity of the vehicle for at least two (2) wheelchairs and the required number of ambulatory passengers in fixed forward facing positions.

16.5.2 The wheelchair lift service door shall be of a double leaf design, with a non-locking handle. Doors shall be held in the open position by means of a gas strut, spring hold open or approved equal. The design of the doors shall be approved by the MTA.

16.5.3 All exposed edges in the doorframe shall be smoothed to remove rough or sharp edges and padded with cushioning material to prevent injuries during passenger loading operations.

16.5.4 Opening of lift door shall illuminate an amber warning lamp on the driver's dash panel. This lamp shall be marked with words 'Door Ajar".

16.6 Emergency Roof Hatch

16.6.1 A Transpec or approved equal roof hatch with exterior hatch release handle shall be provided as an emergency escape exit. Hatch shall be hinged so that the entire lid can be swung away from the opening by passenger operation of a release handle flush-mounted in the interior face of the hatch. The emergency escape hatch shall be permanently attached and shall measure 22-3/4 inches by 22-3/4 inches. Hatch shall also be designed to provide emergency ventilation, ram front, with rear exhaust.

16.6.2 The escape hatch shall be installed towards the rear of the vehicle, with clear emergency escape instructions in English/Spanish.

17 WINDOWS

17.1 All window areas must comply with applicable Maryland State and Federal Motor Vehicle Safety Standards in effect at the time of manufacture of the vehicles.

17.2 Windshield shall be standard chassis manufacturer's laminated safety glass with single density tint and shade band, if available from the OEM.

17.3 The driver's entry door window shall be the standard, manual operation, roller type provided by the chassis manufacturer.

17.4 Passenger's door and rear emergency door glass shall be tempered glass with 70-80% light transmission.

17.5 Side windows shall be typical transit vehicle type T-Slider with 1/4 inch thick Lexan glazing or 1/8 inch thick glass and a minimum 6 inch high horizontal ventilation section. The window shall be positioned with a slide open ventilation section mounted in the top portion of the window frame. Windows shall be mounted in extruded black anodized aluminum frames.

17.6 The slide-type unit shall be split into two sections with the forward section fixed and the rear section adjustable or three sections with the center section fixed and adjustable sliding sections in the forward and rear portions.

17.7 Side window glazing shall be a uniform gray tint acrylic, polycarbonate or tempered glass allowing approximately 30% light transmittal. Acrylic shall be gray Lucite SAR; polycarbonate shall be gray Lexan MR5-T, or approved equal.

17.8 At least four (two for the 138" wheelbase) of the panoramic windows shall be emergency exit windows, two per side (one per side for the 138" wheelbase). The emergency windows shall be located so as not to be blocked by the seat backs or folding seats. They shall be hinged at the top of the frame with positive-locking emergency release latches at the bottom or sides. Metal or hard plastic plates imprinted with emergency operating instructions in English/Spanish shall be installed for the push-out sashes.

17.9 All windows shall be fitted with durable, firmly installed weather seals to prevent the entrance of air and water. Materials used for weather seals shall be designed to withstand varying temperature extremes, road splash and salt and other exterior elements without cracking, leaking, loosening or deteriorating.

17.10 There shall be a window on either side of the Emergency Door on the rear of the bus. These windows shall be fixed, of the maximum size practical, to allow better visibility for the driver.

17.11 A full window shall be provided in the transition panel between the windshield and the ambulatory passenger door(s) to eliminate the blind spot created by the transition panel and enable the driver to view the curb from the driver's seat. The body panel partition between the transition window and entrance doors shall be as narrow as possible to maximize the driver's view of the area around the entrance doors.

18 WINDSHIELD WIPERS

18.1 Two electric, motor driven windshield wipers, with a minimum of 2 fixed speeds and an intermittent, variable speed mode, shall be provided.

18.2 The windshield washer shall be electrically operated.

18.3 There shall be a minimum reservoir capacity for one gallon of windshield washer fluid.

18.4 The spray tips shall direct a stream of fluid into the path of travel of each windshield wiper blade each time the actuating button is operated. The stream of water must be directed so as to effectively clean the entire path of travel of each wiper blade when the vehicle is traveling at highway speeds.

19 EXTERIOR LIGHTING

19.1 All exterior lights must meet Maryland State Department of Motor Vehicles, Maryland Department of Transportation, United States Department of Transportation and Federal Motor Vehicle Safety Standards requirements. All exterior rear and roof marker bus body lights are to be LED with direct termination and come with protective lens coating for protection against scratching, UV degradation and a lifetime warranty for the entire light. All LED lights shall be Dialight, or approved equal.

19.2 Headlights shall be the quartz halogen sealed beam type with Daytime Running Lights. The low beam life rating must be 600 hours minimum.

19.3 Reflectors (amber at front and red in rear) shall be installed on each side of the vehicle, as well on the rear of the vehicle.

19.4 Rear lamps shall consist of 4" diameter lamps. There shall be four (4) red LED combination stop/tail lights, two on each side, and separate amber LED turn signal lenses.

19.5 A red LED Center High Mounted Stop Light (CHMSL) shall be mounted in the center of the rear panel above the emergency door as per revised federal automobile regulations. Rear CHMSL to be an 18" LED red strip light, low profile surface mount, or approved equal. *Rear exterior light configuration shall be submitted with bid package for approval by the MTA*.

19.6 Two 4" diameter bright white LED backup lights shall be provided and shall be supplemented by an audible backup alarm.

19.7 A rear LED license plate light shall be provided.

19.8 There shall be an override switch to permit continuous flashing of the directional signals (hazard warning lamp system).

19.9 An aluminum or stainless steel armored LED turn signal marker light to be mounted either at or near the vehicle beltline slightly in front of the rear axle or above the rear wheel wells and shall be amber Series 15 Dialight or approved equal.

19.10 Two additional flashing LED amber warning lamps, shall be provided to signal passenger loading/unloading operations. They shall operate automatically whenever the passenger loading door, service door, or rear emergency doors are open and the key is in the 'ON' position or when the hazard warning lamps are activated. These two LED lamps shall be located at the extreme outer edges of the roof above the rear windows.

19.11 "Flasher" units for the turn signals and emergency warning lamps shall include an audible indication that these items are in operation. The sound level shall be sufficient to be noticeable above ambient vehicle sound levels at a vehicle speed of 40 mph.

19.12 A heat resistant lamp or lamps shall be provided in the engine compartment for night emergency repairs or adjustments. LED lights are preferred. The light(s) shall be controlled by a labeled toggle switch located inside the engine compartment, which illuminates the light(s) or when the engine compartment hood opens to approximately 20% of its full open position and extinguishes them when the engine compartment hood returns to this 20% open position.

19.13 The passenger entrance doorway and the lift doorway shall have outside LED light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the bottom step tread or lowered lift platform outer edge(s). Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers. These lights shall automatically illuminate when the door(s) are opened.

20 INTERIOR LIGHTING

20.1 All interior lights shall be LED and must meet Maryland State Department of Transportation, United States Department of Transportation and Federal Motor Vehicle Safety Standards requirements.

20.2 An individually switched LED dome light shall be provided for the driver in the driver's compartment.

20.3 Interior shall be illuminated with LED low profile strip lighting with a lifetime warranty so as to provide a minimum of 12 foot-candles of illumination measured at 36 inches above the floor. OEM shall supply certification on vehicles built previously that the proposed lighting system meets the requirements for illumination.

20.4 Driver courtesy light shall light when driver door is opened. All other interior lights shall operate only when ignition is in "ON" position. Stepwell and exterior front door lights shall operate only when the front passenger door is opened. A driver controlled override rocker switch shall be provided to allow operation of all interior passenger courtesy lights when the passenger front doors are open or closed.

20.5 There shall be LED stepwell lighting which goes on automatically when the passenger door is open. Stepwell lighting shall provide at least two (2) foot candles of illumination measured on the step tread. Lighting shall be shielded so as not to distract the driver and shall be integrated into the sidewalls of the stepwell.

20.6 Separate light switches are to be provided for the driver's compartment, interior lights and exterior lights. All switches shall be made of metal or heavy-duty high impact plastic or approved equal and marked with easily read identifiers.

20.7 Wheelchair lift lights, which illuminate the lift device in a 4-foot radius outside at ground level of the door opening, shall be provided in an LED design. The light shall be wired to light automatically when lift door is opened. Lift lights shall be mounted internally in lift area above the lift in the lift door headlining. All LED ADA and interior lighting to have a lifetime warranty.

20.8 Exterior LED lights at the front and lift door areas shall be provided and shall comply with the Americans with Disabilities Act. These lights will activate only when the doors are open.

21 BODY – INTERIOR

21.1 Sidewall, rear wall and ceiling trim panels shall be melamine, ABS plastic, FRP, smooth fiberglass gel coat, vinyl, or the MTA approved equal, applied in one or more sections. Trim molding of stainless steel, anodized aluminum, FRP or ABS plastic shall be used to cover seams. The trim molding shall be continuous except at the door openings, wheel well and fuel intake line covers and run the entire length of each seam covered. All interior panels, materials, and treatments shall be flame retardant in conformance with FMVSS 302 and treated to be easily cleaned.

21.2 Panels shall be supported to prevent, buckles, vibration, drumming or flexing and particular care shall be exercised to keep the body light fixtures from weaving or bouncing when the coach is in service. The ceiling panels shall be supported to prevent sagging. All ceiling and sidewall panels shall be scuff and scratch resistant. All sharp corners, edges and protruding hazardous surfaces shall be eliminated.

Bidders shall submit samples and specifications of the material for approval with their requests for exceptions/approved equals.

21.3 All stanchions and grab rails shall be 1 - 1/4-inch stainless steel. Vertical stanchions shall be secured top and bottom with bolts or screws to ceiling and floor metal framing to prevent twisting. All stanchions shall be mounted at floor and ceiling in to structural metal body member or metal plate.

21.4 There shall be a vertical stanchion, grab rail, and padded modesty panel located at the rear of entrance door. Provision shall be made for grab rails at both sides of door, within easy reach from the ground, to assist passengers in both boarding and egressing. Grab rails shall be mounted to stanchions and structural metal members or metal plates in the sidewalls.

21.5 There shall be a vertical stanchion, grab rail, and padded modesty panel located behind the driver's seat. There shall be a shatterproof, plexiglass panel filling the area from the ceiling to the grab rail and the stanchion to the wall. The purpose of this panel is to protect the driver from being hit with objects from behind.

21.6 All stanchions and guardrails shall be minimum 1-1/4 inch, thick-wall stainless steel tubing. Fittings shall be stainless steel, cast aluminum, cast zinc, or approved equal corrosion resistant material.

21.7 All grab rails, stanchions, and fittings in or adjacent to the passenger compartment and in the stepwell shall be stainless steel and powdered coated or polyethylene coated safety yellow and must meet or exceed standards required by Maryland State regulations. Brackets, clamps, screw heads, and other fasteners used on the passenger assists shall be flush with the surface and free of burrs and/or rough edges.

21.8 Driver's compartment including floor, bulkhead, dashboard and modesty panel shall have a matte black or medium to dark gray non-reflective finish. Instrument panel, switches, controls, fittings, frames and any other items in driver's compartment shall have non-reflective surfaces in order to prevent glare.

21.9 A large stainless steel driver's coat hook with securing straps for the drivers jacket shall be provided and located directly behind the driver in a convenient location and shall support the weight of a heavy

winter jacket. It shall be located so as not to restrict the driver's interior or exterior field of view, or field of view through the interior rear view mirrors when in use.

21.10 There shall be a vertical stanchion, grab rail and modesty panel located between the lift and rear most curbside stationary ambulatory passenger seat. There shall be a shatterproof, plexiglass panel filling the area from the ceiling to the grab rail and the stanchion to the wall.

21.11 All materials used in construction of vehicle interior (except acrylic and plastic window glazing) shall be fire-resistant and meet or exceed the requirements of FMVSS 302.

21.12 Interior decals shall be as per ADA regulations, MDOT regulations, and Section 32.5 of this Specification.

21.13 All modesty panels shall harmonize with interior, both in color and design, and shall not provide a hazard to the passengers.

21.14 Overhead rails required by ADA provisions shall be at height of 71 inches to the top of the handrails from vehicle floor. The rails shall be fastened into structural metal body members or metal plates.

21.15 Overhead handrails shall be provided in all buses that shall be continuous including the wheelchair areas, as required, except for a gap at the rear doorway.

21.16 **Bidder shall submit dimensional scale drawings, both top and elevation views, of the interior of the vehicle, including seats, modesty panels, securement area, driver's area, grabrails, handholds, doors, windows, and other interior details, as part of Bidder's Request for Exceptions/Approved Equals.**

22 DRIVER'S SEAT

22.1 Driver's seat shall be a high-back bucket style seat with right-side armrest, power base and automatically retractable lap and shoulder harness. Upholstery material shall be 32 ounces per square yard (minimum) transit cloth. Colors shall be selected from manufacturer's standard colors to harmonize with the exterior accent stripe color. The seat shall be 6-way power adjustable and the seat back shall be adjustable to multiple positions. The driver's seat shall be adjustable for driver's ranging in size from a fifth (5^{th}) percentile female to a ninety-fifth (95^{th}) percentile male to be able to easily reach all the necessary controls to operate the bus. There shall be no interference or pinching hazard between any grab rail and/or stanchion or any other part of the bus with the seat in any position.

23 PASSENGER SEATS

23.1 Given the presence of a wheelchair lift mounted in a side door behind the rear axle, the Bidder shall supply the Procuring Agency with diagrams of proposed interior configurations based upon the interior dimensions of their vehicle and the requirements of this Specification as well as the requirements of the Maryland State Department of Transportation regarding aisle widths and wheelchair tie-down standards. **Proposed seating arrangements must be supplied by the deadline for submitting Exceptions/Approved Equals Request Forms**. Proposed seating arrangements will be approved by the Procuring Agency as part of the Approved Equal process.

23.2 The underside of the seats, area between sidewall and seats, and general seat configuration shall be designed to prevent accumulation of debris.

23.3 Forward facing ambulatory passenger seating shall be Freedman Feather Weight Mid-Hi back or approved equal, featuring a black molded, top mounted grab handle on each seat and flip-up arm-rests on the aisle side of the forward facing aisle seats. Structure shall be based on welded stainless steel or

powder coated tubing to meet the requirements of FMVSS 210. Installation of the seats shall meet the requirements of FMVSS 207.Seats covering shall be Level 4 or approved equal, 32 ounce anti-microbial fire block type vinyl upholstery, with heat sealed vertical seams. Foam shall be contoured, dense, transit grade polyurethane with a minimum thickness of one and half (1 ½) inches. All fixed forward facing seats shall provide at least 17 inches of seating support. Top of uncompressed seat cushion to floor shall be between 19 inches and 21. Color shall be selected after contract award.

23.4 Seat cover upholstery materials and padding shall meet or exceed the applicable flammability and smoke emission performance requirements specified in FMVSS 302.

23.5 Any flip seat requested as an option shall be equipped with a spring-loaded automatic latching device to prevent the bottom seat cushion from returning to the horizontal position. The locking device shall be constructed to be manually released to avoid accidental return during use. The width of the flip seat in the stored position shall not exceed eleven and one half (11 ½) inches. Additionally, flip seats shall be upholstered with the same quality and color material as the standard passenger seats. The design of the flip seat shall complement the standard passenger seats and be from the same manufacturer or approved equal. The seat shall also lock in the seated position. As an option, a non-locking (in the seated position) flip seat shall be offered.

23.6 Each seat position shall be equipped with a self-retracting passenger restraint system, which meets current FMVSS requirements, intended to hold passengers in a secure seated position during normal operations. Seat belts shall be anchored through the floor structure, independent of the seat, or bolted to the seat frame assembly. Each restraint belt and installation shall meet all applicable FMVSS standards including 208, 209 and 210. The installation of the seat belts shall have no twisting, binding or bunching of the seat belt web material. The retractor shall be mounted to the seat frame. Six (6) seat belt extensions shall be provided with each bus.

23.7 All wall-mounted belt securement points must be mounted into a reinforced sidewall. Wall mounting into the standard sidewall is unacceptable. The belt securement system shall feature an integrated restraint tie-down system securing belts not in use.

23.8 The forward most row of seats on both sides of the bus shall be equipped with DOT/FMVSS approved child seat anchors in each seating positions.

23.9 Seat Dimensions

1.	Seat width per person:	17.5 inches minimum
2.	Seat depth:	17 inches minimum
3.	Seat back:	24 inches minimum
4.	Seat back angle	10 to 15 degrees
5.	Hip to knee room:	27 inches nominal (maximum available)
6.	Aisle width:	18* inches minimum (maximum available)

* To be measured at seated passenger hip height.

24 WIRING

24.1 Original manufacturer's vehicle wiring shall remain unchanged to the greatest extent practicable consistent with the requirements of these specifications. All add-on electrical components controlling the power to the bus body electrical circuits shall be located in a separate electrical junction box. The junction box shall be easily accessible through a hinged lockable door. The junction box shall be suitably sized to allow for ease of maintenance, repair and ten (10) percent additional space for the installation of future electrical components. The junction box shall be located within accessible reach of the driver. All body harnesses shall join on a terminal strip made of a high strength dielectric material. All circuits

shall be protected by manual reset circuit breakers, in lieu of fuses. Circuit breakers shall be numbered and sized to provide proper overload protection for each individual circuit.

24.2 Wiring and terminals shall meet or exceed current Federal and State vehicle requirements and be amply sized for both mechanical strength as well as to carry required currents without significant voltage drops.

24.3 All wiring, including chassis manufacturer's, shall be enclosed in non-metallic loom meeting current SAE Standard J762a and be adequately supported by fully insulated "P" clamps with a minimum spacing of every 24 inches and routed for protection from heat, moisture, solvents, corrosion, road debris, abrasion and tension. Tie wrap shall be used minimally in the securement of electrical harnesses and wiring.

24.4 The bend radii of all installed electrical wires and cables shall not exceed the manufacturer's recommended minimum bend radii.

24.5 All parts of the wiring system and electrical components shall be protected from corrosion. All connectors installed on the underside of the vehicle and/or exposed to any outside element and/or have a 20 amp and high circuit breaker within its electrical circuit shall be double insulated.

24.6 There shall be no exposed or loose wiring in the driver or passenger compartment. Any bus body wiring harnesses containing exposed excess lengths shall have the excess length neatly gathered and secured to a rigid bus body or chassis frame member.

24.7 Wiring shall be of sufficient length to permit positioning, as well as replacement of terminals, twice, without excessive tension.

24.8 Protective grommets shall be provided at points where wiring penetrates metal or other material.

24.9 Battery cables shall be heavy duty and adequately sized to carry current output of the electrical system.

24.10 Grounding of components shall be through polarized, shielded terminals wired to main structural ground points. Grounding through hinged doors or covers of any type shall not be acceptable. Ground points shall be bolted to main structure free of paint, oil or rust, coated with silicone grease after fastening.

24.11 All wires shall be color coded or numbered every 6 inches maximum to correspond with the wiring diagram for ease of service and identification.

24.12 Complete wiring diagrams shall be provided with each vehicle.

24.13 Electrical components that may require servicing or replacement shall be readily accessible through access panels or covers. Installation of aftermarket electrical components and systems in the engine compartment shall be eliminated to the greatest extent possible.

24.14 Maximum radio suppression available from chassis manufacturer shall be provided.

24.15 All switches and controls necessary for the operation of the vehicle shall be conveniently located in the driver's area and shall provide for ease of operation and be appropriately marked. All controls and instrumentation necessary for safely operating the vehicle shall be located within easy reach of a fifth (5^{th}) percentile female through to a ninety-fifth (95^{th}) percentile male driver seated in the driver's seat with the driver's seat belt fastened. All bus body switches shall be of a uniform rocker type with illumination or MTA approved equal mounted in convenient groupings.

24.16 An in-line circuit breaker, with manual reset, of adequate capacity for circuit to mobility lift shall be provided in a location approved by the MTA in accordance with the lift manufacturer's recommendations and the requirements of FMVSS 404. The MTA prefers that the circuit breaker not be located in the chassis engine compartment. The power wire to the lift shall be securely "P" clamped and protected.

24.17 A master battery control switch shall be provided that shuts off all bus body electrical power. The switch shall be located in a separate compartment within or adjacent to the battery box or in the driver's stepwell area. The housing and location of the master battery switch shall prevent corrosion from fumes and battery acid. The location of the master battery switch shall be clearly identified on the access panel and be accessible in less than 10 seconds. The master battery switch shall be capable of carrying and interrupting the total circuit load. Opening the master switch with the power plant operating shall not damage any component of the electrical system.

24.18 All accessories and electrical equipment, with the exception of the driver's dome light, horn, headlights, taillights, parking lights, passenger door and emergency flashers shall be wired through the vehicle ignition switch. The driver's dome light, horn, headlights, taillights, parking lights, passenger door and emergency flashers shall be wired directly to the battery, so as to be operative with individual switches.

25 BATTERIES AND CHARGING SYSTEM

25.1 The vehicle is to be supplied with an alternator powered 12-volt extreme duty electrical system. All components are to be selected and integrated to function in an environment characterized by low engine (alternator) speeds and high amperage draws (due to lights, flashers, heater, and other accessories in constant operation).

25.2 A single OEM alternator of 225 amps minimum rated output at fast engine idle of approximately 2,000 rpm is required. Dual alternators meeting the minimum amperage requirement are also acceptable. *Aftermarket alternators are not permitted.*

25.3 Two (2) heavy-duty 12 volt, with a combined 1200 CCA for gas engines and a combined 1400 CCA minimum for diesel engines shall be provided. The batteries shall be lead acid premium construction and maintenance free. The positive (+) and negative (-) terminals shall be top post or side post and of different size on the same battery to prevent incorrect cable installation. All battery terminals shall be coated with an anti-corrosion and sealant protector. One battery shall be mounted under the hood in accordance with OEM requirements.

25.4 The second battery shall be located in an easily accessible box mounted on the curbside of the bus unless the Chassis manufacturer requires otherwise. The location of the battery box shall be approved by the MTA. This battery box shall include a slide out tray that securely locks in the stowed position. The slide out tray shall be made of stainless steel. Battery terminals shall be located for access in less than 30 seconds with jumper cables. The locking mechanism shall consist of shear pins on both sides of the battery tray, pivoting latches or an equivalent mechanism approved by the MTA. To prevent the shear pins from being misplaced they shall be attached to the battery tray or locking mechanism with a method approved by the MTA.

25.5 Access to the battery tray shall be from outside the bus. The access door to the battery box shall swing up at a minimum 60 degrees to the horizontal plane and shall be non-locking. The mechanism to hold the door in the up position shall also firmly hold the door in the closed position. With the compartment door latch not in the latched position the door shall remain in the closed position when the bus is traveling at any safe speed or making any safe type of turning maneuver. The battery box shall

be sealed to prevent road debris, dust, rain, snow or other forms of precipitation from entering the box, but shall not be air tight for safety reasons. The battery box construction shall be submitted to the MTA for approval prior to installation on the vehicle.

25.6 Battery cables shall be heavy duty and adequate to carry current output of the electrical system.

26 INSTRUMENT PANEL AND CONTROLS

26.1 All controls and instruments are to be within a seated driver's arm reach with seat belt fastened. All switches are to be of uniform rocker type, or approve equal, mounted in convenient groupings in a panel near the driver. Controls shall be located so that boarding passengers may not tamper with control settings.

26.2 Instruments and gauges shall be of a non-glare, illuminated type, for easy maintenance and repairs, and clearly visible to the seated driver.

26.3 The following instruments are to be provided:

- speedometer with odometer
- ammeter or voltmeter
- oil pressure gauge
- fuel tank level gauge
- engine temperature gauge and over-heat warning light
- engine hour meter as part of chassis EMC (aftermarket meter is acceptable)
- headlight-on indicator and headlight high beam indicator; » directional signal and flasher indication light(s) and sound
- A red warning light and audible alarm located on the driver's instrument panel shall be provided for the rear emergency door. The red warning light and alarm shall activate when the rear emergency door is not securely closed. The warning light shall be labeled 'DOOR AJAR'.
- A separate "DOOR AJAR" warning light shall be provided for the lift door. The " DOOR AJAR" warning in the Intermotive System panel will meet this requirement.

26.4 The following controls, in addition to the normal steering, braking and transmission functions, are to be provided:

- column mounted turn signal lever
- emergency flasher control
- auxiliary switches for any clearance or marker lights (switches must all be of uniform type) not controlled by the OEM headlight switch
- switches and temperature controls for passenger compartment heaters and air conditioners
- separate switch and temperature controls for front heaters, defrosters, and air conditioners
- key start engine starter switch
- engine fast idle system (auxiliary idle control) as controlled via the wheelchair interlock mechanism, per FMVSS 404 shall be provided
- two-speed wiper/washer with variable speed, intermittent operation control
- passenger compartment light switch (es) and/or controls
- passenger door control switch

The layout of the controls and switches shall be approved by the MTA and shall be consistent throughout the build.

27 HEATING, AIR CONDITIONING AND VENTILATION SYSTEM

27.1 The heating system shall consist of both the heaviest duty available factory installed front heating unit from the chassis manufacturer and a rear, hot water type, heating unit. The rear unit shall be a unit with a heating capacity in the 29,000 BTU range.

27.2 The front and rear heating units shall be sufficient to maintain a temperature of 60°F at knee level throughout the empty vehicle interior when outside ambient temperature is 0°F and the vehicle is traveling at highway speeds of 55 mph and during stop-and-go operation.

27.3 The rear-heating unit shall be located so as not to interfere with aisle space, wheelchair restraint systems or seating areas (legroom), location to be approved by the Procuring Agency.

27.4 Rear heating unit hot water hoses shall be heavy duty heater hose run under the body, be supported at least every eighteen (18) inches, and be located so they are protected from wear due to friction, road debris and road salt build-up

27.5 The driver's heating unit (front unit) shall operate independently of the passenger area-heating unit (rear unit).

27.6 Supplemental heat to the stepwell must be provided via ducts and an adjustable two speed blower or a low voltage electric heating element located below the flooring cover and shall be of sufficient heat to prevent icing.

27.7 Provisions shall be made for windshield defrosting.

27.8 All controls shall be conveniently mounted for easy operation by a seated driver wearing a seat belt.

27.9 Chassis manufacturers (OEM) In-dash air conditioning, heater, and defroster with maximum OEM available btu/hr rating shall be provided.

27.10 Air conditioning system(s) consist of an OEM supplied driver's area air conditioning system and a passenger area air conditioning system which are completely independent of each other.

27.11. Drivers area and passenger area air conditioning system shall be separately controlled from a control panel at the driver's area. Minimum control functions include off/low/medium/ high fan speed with and a/c, heat, defrost for the OEM supplied in-dash air conditioning system. Minimum control functions for the passenger area air conditioning system shall include a rotary fan speed switch with off/low/medium/high and a rotary thermostat control.

27.12 The passenger air conditioning system fuses, relays, and breakers shall be located in the electronic junction box.

27.13 Refrigerant hose shall be Eaton EZ-Clip, model GH-134, SAEJ2064, double braided Barrier type Goodyear, Aeroquip, Burgaflex or approved equal and shall be completely enclosed in loom over the entire length of the vehicle to prevent chaffing. Refrigerant hose shall be supported at a minimum of every twenty four (24) inches with insulated "P" clamps.

27.14 Refrigerant fittings shall be ATCO, Aeroquip, Burgaclip or MTA approved equal. These fittings may be "O" ring type.

27.15 All refrigeration/heater lines and wiring shall be routed outside of the passenger area to minimize exposure to passengers in case of leaks.

27.16 Refrigerant hose, heat, and condensate lines that enter the passenger compartment shall be encased in rigid material which harmonizes with the interior of the vehicle.

27.17 Protective grommets shall be provided at points where refrigeration hoses, heater hoses, condensate hoses, and electrical harnesses (wires) penetrate metal or other materials.

27.18 All HVAC system hoses and harnesses (wires) that pass within twelve (12) inches of the exhaust system shall be shielded in a manner to prevent heat damage.

27.19 The air conditioning system shall utilize environmentally friendly R-134A refrigerant. Compressor manufacturers specified refrigerant oil shall be utilized.

27.20 Performance

27.20.1 The air conditioning system shall be able to reduce the vehicle interior temperature from ninety five (95) degrees Fahrenheit to seventy five (75) degrees Fahrenheit within thirty (30) minutes when the ambient temperature outside the vehicle is maintained at ninety five (95) degrees Fahrenheit for at least four (4) hours.

27.20.2 The performance standards shall be met in test conditions with vehicle engine operating between 1,000 and 1,500 RPM's.

27.20.3 HVAC system shall include a heat unit for the passenger area. This unit shall be mounted on the floor of the vehicle and shall have a minimum rating of 60,000 btu/hr. All heater coils shall be heavy duty copper or aluminum. Heavy duty quarter turn shut off valves shall be located in the supply and return lines to the passenger area heater. These valves shall be readily accessible. All heat controls shall be located at the drivers control panel.

27.21 For Vehicles on a 138 inch nominal wheelbase:

27.21.1 A/C system shall be American Cooling Technology (A.C.T.) Model ACT-40 HD, Trans/Air Model TA-712 Super, Carrier or MTA prior approved equal.

27.21.2 For wheelbase of 138 inch nominal, the system shall utilize two (2) engine driven compressors. One (1) is the OEM supplied compressor driven off the vehicle engine which is specific to the OEM in-dash driver's area air conditioning system. The second add-on compressor is for the passenger area air conditioning system. This compressor is driven off the vehicle engine and is nominal ten (10) cubic inch displacement and is protected by high and low pressure switches.

27.21.3 A/C system shall include a rear ceiling mounted evaporator rated at a minimum output of 45,000 BTU and 800 CFM at ambient conditions of 95 degrees Fahrenheit and 40% relative humidity. The system shall operate independently of the front chassis supplied system.

27.21.4 Evaporator shall be a single slim line unit, A.C.T., Trans/Air, Carrier or MTA approved equal, mounted to the roof frame structure in the top rear of the vehicle in a location that does not interfere with passengers or wheelchair occupants.

27.21.5 Evaporator shall be copper tube, aluminum fin coil or MTA approved equal with expansion valve, low-pressure switch, and concealed drain hoses. The drain hoses shall be protected at points where the hose penetrates metal or other material.

27.21.6 Evaporator shall incorporate a 12 volt DC motor with total minimum airflow of 800 CFM.

27.21.7 Evaporator cover shall be constructed of fire retardant material, which conforms to FMVSS 302.

27.21.8 System shall utilize an ACT, Trans/Air, Carrier, or the MTA approved equal, skirt mounted 2-fan condenser, rated at a minimum 60,000 BTU, located on the street side of the vehicle, in front of the rear wheels, and installed to minimize collection of road dirt and facilitate maintenance.

27.21.9 Condenser shall be high capacity, high efficient copper tube, aluminum fin coil, lightweight aluminum micro channel or MTA approved equal with filter drier and sight glass.

27.21.10 Condenser shall include minimum two (2) 10" fans with sealed 12 volt DC permanent magnet motors with minimum total airflow of 1600 CFM.

27.21.11 Condenser shall be treated with anti-corrosion material to prevent the deterioration of the condenser due to road salt and/or rust. All exposed tubing and fittings shall be coated with anti-corrosion material.

27.22 For vehicles on a wheelbase equal to or greater than 158 inches:

27.22.1 A/C system shall be American Cooling Technology (A.C.T.) Model ACT-532 HD, Trans/Air Model TA-733 Super, Carrier or MTA prior approved equal.

27.22.2 For wheelbase of 158 or more the system shall utilize two (2) engine driven compressors. One (1) is the OEM compressor driven off the vehicle engine which is specific to the OEM driver's area air conditioning system. The second compressor is for the passenger area air conditioning system. This compressor is driven off the vehicle engine and is nominal ten (10) cubic inch displacement and is protected by high and low pressure switches.

27.22.3 A/C system shall include a rear ceiling mounted evaporator rated at a minimum output of 52,000 BTU and 1330 CFM at ambient conditions of 95 degrees Fahrenheit and 40% relative humidity. The system shall operate independently of the front chassis supplied system.

27.22.4 Evaporator shall be a single slim line unit, A.C.T., Trans/Air, Carrier or MTA approved equal, mounted to the roof frame structure in the top rear of the vehicle in a location that does not interfere with passengers or wheelchair occupants.

27.22.5 Evaporator shall be copper tube, aluminum fin coil or MTA approved equal with expansion valve, low pressure switch, and concealed drain hoses. The drain hoses shall be protected at points where the hose penetrates metal or other material.

27.22.6 Evaporator shall incorporate two (2) 12 volt DC motors with total minimum airflow of 1600 CFM.

27.22.7 Evaporator cover shall be constructed of a fire retardant material which conforms to FMVSS 302 specification standards.

27.22.8 System shall utilize an ACT, Trans/Air, Carrier, or the MTA approved equal, skirt mounted 2-fan or 3-fan condenser, rated at a minimum 70,000 BTU, located on the street side of the vehicle, in front of the rear wheels, and installed to minimize collection of road dirt and facilitate maintenance.

27.22.9 Condenser shall be high capacity, high efficient copper tube, aluminum fin coil, lightweight aluminum micro channel or MTA approved equal with filter drier and sight glass.

27.22.10 Condenser shall include minimum two (2) 12" fans or three (3) 10" fans with sealed 12 volt DC Permanent magnet motors with minimum total airflow of 2400 CFM.

27.22.11 Condenser shall be treated with anti-corrosion materials to prevent the deterioration of the condenser due to road salt and/or rust. All exposed tubing and fittings shall be coated with anti-corrosion materials.

28 RADIO COMMUNICATIONS SYSTEM

28.1 Vehicles shall be equipped to accommodate a radio communications system. The Contractor shall supply and install the antenna bracket, flexible conduit, wiring, and related components.

28.2 Provisions shall be made to simultaneously accommodate an operator supplied radio installed in two interior locations: near the driver's seat at a location to be approved by the Procuring Agency and above the driver's seat in a compartment with a door mounted in header to be approved by the Procuring Agency at the preproduction meeting.

28.3 A sealed connector for an antenna cable shall be installed above the driver's seat of each vehicle. The connector shall be located as close to a structural member as practical in order to provide a mounting base for a radio antenna.

28.4 The Contractor shall supply and install a flexible conduit with pull wire sufficient in size to permit installation of antenna coaxial cable between both radio locations and the antenna location.

28.5 An antenna bracket shall be supplied and installed by the Contractor. Make and model shall be supplied to the successful bidder. A drip loop is required. The Procuring Agency shall approve antenna location and method of mounting.

28.6 Sufficient power supply cable(s) between the chassis manufacturer approved high power radio-connect circuit breaker and both radio locations shall be supplied and installed by Contractor.

29 SAFETY EQUIPMENT

29.1 Heavy-duty OEM dual horns shall be furnished.

29.2 A model 326 Signalstat, Ecco "Smart Alarm" model SA-917, PRECOMATIC model 1040, or approved equal type back-up alarm shall be provided which adjusts the volume of the alarm signal sound to a level of at least 5dB above the background noise level.

29.3 Contractor must provide all safety equipment required by State and Federal regulations. All safety equipment supplied must meet or exceed standards specified by State and Federal regulations.

29.4 All safety equipment shall be located within easy access of the operator, in a secure position or enclosed compartment.

29.5 A twenty-four (24) unit first aid kit, approved by the Maryland Motor Vehicle Administration, shall be provided and securely mounted in an easily accessible location.

29.6 A minimum five (5) pound dry powder type fire extinguisher, with gauge and hose, U.L. approval shall be provided. A bracket to securely hold fire extinguisher inside of vehicle shall be provided. Type of bracket used and location shall be approved by the MTA prior to installation.

29.7 Three (3) triangular emergency road reflectors in a secure storage container shall be mounted near the driver's area.

29.8 Body Fluid Cleanup Kit to include at a minimum:

1. One (1) pair of Latex gloves,
2. One (1) package of absorbent powder,
3. One (1) package of antiseptic BZK towelettes,
4. One (1) bag 24"x 24" Bio-Hazard white w/tie,
5. One (1) bag plastic brown w/tie,
6. Certi-Green surface cleaner towelette,
7. Face mask,
8. Infection control,
9. One (1) SBB-2 scoop bag w/handle scraper,
10. Two (2) towels and
11. Paper crepe.

30 NOISE

30.1 Interior noise level in the vehicle is not to exceed 65 DBA during highway travel at 55 miles per hour.

31 WHEELCHAIR ACCESSIBILITY

31.1 Wheelchair Lift

31.1.1 The wheelchair lift shall be installed in the wheelchair lift service door opening. The installation shall be adequate to withstand the stresses imposed by regular wheelchair operation on a sustained basis. All mounting fasteners shall have a minimum grade rating of eight (8). The manufacturer shall provide documentation with their proposal to demonstrate that the chassis and suspension has been designed or modified to meet the requirements imposed by the lift manufacturer and to prevent excessive leaning of the bus when lifting the maximum load of the lift.

31.1.2 The wheelchair lift shall be a Braun Century 2 Fully-Automatic Lift or a Ricon Titanium S-Series Fully-Automatic Lift with a minimum continuous rated lifting capacity of 1000 pounds, tested to a minimum static load of 2,700 pounds and a vertical drop capability of 48". Either lift shall be offered as the 'standard' installation with the other lift offered as a no cost option at the discretion of the end-user. Lift shall meet all, ADA and FMVSS 403/404 requirements. The end user shall determine which lift will be installed in the bus. *The installation of the lift in the bus shall be certified by the lift manufacturers*.

31.1.3 Lift platform usable clearance area for wheelchair positioning shall be at least 34 inches wide. Collapsible yellow powder coated handrails on both sides of the platform shall be provided. The handrails shall not deform under side loads applied when supporting a standee while the lift is in motion nor shall they structurally deform during repeated lift folding operations. Passive restraining belts shall be incorporated into handrails.

31.1.4 The lift shall have a manual "back-up" system, which allows the operator to raise and lower the lift platform in the event of electrical failure.

31.1.5 The construction of the lift frame shall allow a vertical clearance of at least 64 inches measured from the top of the bridge plate to the bottom of the padding on the horizontal cross member of the frame.

31.1.6 The lift shall be equipped with a switch box made of durable ABS plastic and shall be conveniently mounted on the lift frame, allowing safe operation from both the interior and exterior of the vehicle.

31.1.7 The electrical wiring for the lift shall be a separate shielded cable with its own circuit breaker. It shall be supported along the chassis from the main power source to the lift connection.

31.1.8 The wheelchair lift shall be interlocked with the transmission and emergency brake in such a manner as to prevent the vehicle from moving with the wheelchair lift door in the open position and prevent the wheelchair lift from being operated until the transmission is in park and the emergency brake is completely set. A dash mounted, indicator light will come on to show the system is activated.

31.1.9 The wheelchair lift shall be equipped with a mechanical "cycle counter" which will record a full lift cycle. A full lift cycle is defined as lowering the platform to street level and raising the platform to vehicle floor level or vice versa, but not including only unfolding and folding the platform. The counter shall be conveniently located, without a cover, where both the operator and maintenance personnel can easily view it. The wheelchair lift shall be rated for a minimum of 10,000 cycles.

31.1.10 As an option, a lift with a folding platform for better visibility out the lift door window shall be offered. This lift shall be a Ricon Titanium K-Series, or approved equal. The lift shall meet all of the requirements listed above.

31.2 Wheelchair Securement

31.2.1 The wheelchair/mobility-device securement system shall be the Kinedyne Sure-Lok Retractor Series with 'L' track or ramped 'L' track, Q'Straint Q-8300-A1-L system, American Seating ARM System or MTA approved equal. The system shall have heavy-duty retractors that shall quickly and easily secure a wheelchair and occupant. Systems provided shall be capable of securing wheelchairs and specialized mobility devices such as "Amigos". Alternate systems proposed must include independent wheelchair/mobility-device securements and retractable passenger seatbelt/shoulder-strap restraints.

31.2.2 Wheelchair tie down system shall consist of four (4) floor attachment points per location for the chair. The strap configuration shall consist of a minimum of four (4) fully automatic heavy-duty retractors that can be quickly fastened to the floor attachment points and the wheelchair. The heavy-duty retractors shall be self-locking and self-tensioning. Tie downs shall utilize grade 8 fasteners of the size required by the securement system's OEM. The tie down fastener shall include, as a minimum, SAE grade 8 cap screws, SAE grade 8 hexagon nuts and harden washers.

31.2.3 All floor securement plates shall meet all state and federal guidelines as described in Section 3.8.8. Floor anchorage points shall be Kinedyne Sure-Lok or Q'Straint Heavy Duty 'L' Track, ramped 'L' track or MTA approved equal, utilizing corrosion resistant steel or aluminum and usable for front or rear tie downs or shared by both. All anchorage points shall be recessed and nominally flush with the floor to prevent a tripping hazard. Recessed area shall be sealed prior to anchorage point installation to prevent the intrusion of water.

31.2.4 Occupant and wheelchair securement shall use an integrated system and be securely fastened. Occupant restraint system shall meet ADA requirements and all applicable FMVSS 403 and 404 requirements. Lap belt, included as part of the occupant restraint system, shall be 108 inches.

31.2.5 All wall-mounted belt securement tracks must be mounted into a reinforced sidewall. Wall mounting into the standard sidewall is unacceptable.

31.2.6 The securement configurations proposed and the hardware utilized must comply with all applicable Maryland State and Federal Department of Transportation (ADA) regulations and guidelines.

31.2.7 All proposals shall include a system of storing securement equipment in an efficient, orderly manner so that the equipment is readily available when needed and secured out of the way when not being used. The storage system shall ensure that stored equipment shall remain secured in any type of vehicular accident. Storage Bags provided by the tie-down manufacturer or open boxes on the floor are acceptable. The storage system shall be approved by the MTA.

31.2.8 **The bidder shall submit a proposed plan for providing two (2) wheelchair locations and securement with their Exceptions/Approved Equals requests.** The minimum clear floor space for each wheelchair location shall be 30" x 54", except for the 138" SRW, which shall be 30" x 52" minimum.

32 PAINT, LETTERING AND DECALS

32.1 Vehicles not manufactured with exterior panels of gel-coated fiberglass or pre-primed, pre-painted steel or aluminum skins shall be painted with Dupont Imron 5000, 3.5 VOC; PPG Concept Acrylic Urethane; or approved equal fleet white, to match the OEM cab "White" paint. The exterior 2 mil coat of white finish shall not be required if the exterior skin is pre-finished with an approved process rendering an equivalent "White" finish. Unpainted or exposed surfaces and edges of any approved pre-

finished surface exposed as a result of the manufacturing process shall require primed and painted protection. Prior to manufacture of the vehicle the Contractor shall obtain approval from the MTA of the exterior body color via submission of paint plate samples. This paint specification applies to bodies painted at the body manufacturer or any exterior body surfaces painted by a supplier to the body manufacturer as pre-finished metal or parts.

32.2 To assure a proper bond between the surface of the vehicle and successive coats of original paint for the service life of the vehicle, exterior surfaces to be painted shall be properly cleaned and primed as appropriate for the paint used, prior to application of paint. Paint shall be applied smoothly and evenly with the finished surface free of dirt, runs, orange peel, and other imperfections. All exterior finished surfaces shall be finished with a vinyl topcoat, which is impervious to gasoline, and commercial cleaning agents. Finished surfaces shall not be damaged by controlled applications of commonly used graffiti removing chemicals.

32.3 No welded components shall be added to the vehicle after painting.

32.4 The Contractor shall provide all decals mandated by Maryland State and Federal law. In all instances, application procedures and materials used shall comply with the recommended specifications and practices of the material manufacturer. 32.5 These decals shall be installed at locations to be approved by the Procuring Agency after contract award.

32.5 Interior decals shall consist of Emergency Exit Door, No Smoking (International symbol type), emergency window identification and operating instructions and other identification labels required by the various governmental regulatory agencies.

33 OPTIONAL EQUIPMENT ITEMS The Procuring Agency may choose to exercise all, some or none of the following options. Bidders are required to submit bids on all optional equipment items as described below:

33.1 Option 1: Electronic Destination Signs

33.1.1 Twin Vision LED, or MTA approved equal destination signs shall be provided. The front sign shall be the largest practical, or MTA approved equal and mounted in the top center of the front of the bus. The side sign shall be model #906-1408-008, or MTA approved equal, and the rear route sign shall be model #906-1648-010, or MTA approved equal. Final destination sign locations shall be determined during the pre-production meeting. Defrosting glass or fan shall be provided with the top center destination sign.

33.2 Option 2: Fire Suppression

33.2.1 An automatic fire suppression system shall be provided on each bus, Fogmaker, Amerex V-25 or MTA approved equal. The fire system shall include a minimum of three sensors and three nozzles, a control panel and a manual actuator.At least one temperature sensor and one nozzle shall be in the battery compartment. Contractor shall provide proposed specific configuration and mounting details for the MTA's approval at the Pre-Production Meeting before the vehicles are built.

33.3 Option 3: Fare Box Accommodation

33.3.1 Accommodation for a Main M-4 or equivalent fare box shall be made as far forward as practicable and shall not obstruct passenger traffic. As a minimum, the accommodations shall include a mounting point and power wires.

33.3.2 A horizontal passenger assist shall be located across the front of the vehicle and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration.

33.4 Option 4: Farebox

33.4.1 The contractor shall provide and install a Main M-4 Farebox, or approved equal. Location shall be approved by the MTA. A spare vault shall also be provided.

33.5 Option 5: Full Camera System

33.5.1 The contractor shall provide and install the most recent model GE Security- MobileView Select or Seon Trooper TL four camera system or approved equal mobile digital video recorder in each bus. Installation of all necessary wiring, ceiling mounting holes for the bus video surveillance system shall be included.

33.5.2 The contractor shall provide one set of Computer Equipment and software necessary to view the images from the camera system that is compatible with the GE Security MobileView Select System, Seon Trooper TL or any approved equal as delineated under Option #5.

33.5.3 The contractor shall provide one set of spares for the GE Security MobileView Select System, Seon Trooper TL or any approved equal as delineated under Option #5. The set of spares shall include one set of cameras, one recorder and three data cartridges as appropriate.

33.6 Option 6: Dual-Vision Camera System (In Lieu of Full Camera System)

33.6.1 A Rosco Dual-Vision XC windshield mounted two (2) camera system with forward facing and inward facing views shall be installed. The system shall provide continual audio and visual recording, 24 hour surveillance and post route GPS tracking onto a minimum 32 gig SD card. The video recording shall be a continuous loop recording that operates with the ignition and will note events that will be protected from being overwritten. The camera will provide up to 160 hours of continuous video recording minimum with G-Force, Panic & Speed Event recording & tagging. The SD card shall be an integral part of the camera and must be located in a self- locking port to hinder tampering or theft. Videos must be able to be converted to .avi files for data transfer via e-mail. It shall be a self- managed system, with software provided to manage, sort and report data with capability to output Excel Reports. SD Cards must be able to be read from any computer with USB/SD Card Reader capabilities. Integrated GPS tracking shall be viewable from the SD card using Google Maps Routing & Tracking, with internet access and no additional fees.

33.6.2 Rosco DV-Pro Fleet Management Software shall be included with the system.

33.6.3 Two spare 32 GB SD cards shall be included with the system.

33.7 Option 7: Passenger Stop Request

33.7.1 Controls shall be provided adjacent to the wheelchair securement locations and seats for requesting stops and which alerts the driver that a passenger wishes to disembark. This shall include both audible (chime) and visual (stop request) system.

33.7.2 For ambulatory passengers, the audible controls shall be mounted at a height easily accessible for the passengers to use. For mobility-impaired passengers, the controls shall be mounted no higher than 48 inches and no lower than 15 inches above the floor.

33.7.3 All controls shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate the controls shall be no greater than 5 foot-pounds.

33.7.4 Bidder shall submit details of stop request system for the MTA's approval at the time of pre-production meeting.

33.8 Option 8: Flat Floor

33.8.1 The interior passenger compartment shall be continuously flat from the vestibule area to the rear wall. When fastening the floor understructure to the bus body understructure, no fasteners shall protrude more than one half (1/2) inch below the underside of the floor structure above the rear tires.

33.9 Option 9: Manual Operated Passenger Door

33.9.1 In lieu of an electrically operated passenger door, the passenger shall be manually operated. The mechanism and supports must be of a heavy duty design.

33.10 Option 10: Bike Rack

33.10.1 The vehicles shall be equipped a Sportworks DL-2 S/S (stainless steel) bike rack with a quick release mounting bracket mounted on the front bumper. The bike rack must be easily removable for towing.

33.11 Option 11: Strobe Light

33.11.1 A roof mounted strobe light shall be installed towards the rear of the bus.

33.12 Option 12: Public Address System

33.12.1 Vehicles shall be equipped with public address system permitting the driver to announce stops and provide other passenger information.

33.12.2 The vehicle shall be equipped with a minimum of four (4) interior speakers and one (1) exterior weatherproof speaker, which shall provide for clear, audible messages. A separate volume control shall be provided within easy reach of the driver. The system shall be muted when not in use.

33.12.3 The microphone shall be a handheld microphone located adjacent to the driver. The handheld microphone shall be secured within the driver's range of vision and easy reach. As an option, the microphone shall be hands free.

33.12.4 Successful Bidder shall submit details of public address system for the MTA's approval at the time of pre-production meeting.

33.12.5 As an option the successful Bidder shall submit details on a Clever Devices Speakeasy Public Address System or MTA approved equal

33.13 Option 13: Radio Delete

33.13.1 The factory installed AM/FM Radio shall be deleted and a complimentary plate be installed in its place.

33.14 Option 14: Baltimore MTA Mobility Option (158" DRW with Gas Engine)

33.14.1 Chrome diamond plate, twelve (12) inches in height, shall cover the interior sidewalls rising from the floor in the mobility aid securement area.

33.14.2 The contractor shall install all exterior decals as supplied by the MTA. The following pictures show the current decals installed on the Mobility Bus:

33.14.3 Goodyear tires shall be installed.

33.14.4 There shall be two additional interior lights.

33.14.5 There shall be an additional LED light above the passenger door.

33.14.6 The Center High Mounted Stop Light shall have a strobing module installed for continuous strobing whenever the brake pedal is depressed.

33.14.7 There shall be two antenna mounting plates with interior access hatches.

33.14.8 The interior mirror shall be 6” x 30”.

33.14.9 There shall be transition stone guards installed on the bus body just aft of the running boards.

33.14.10 There shall be a ‘Lift Enable’ switch installed in the dash.

33.14.11 ‘Boxes suitable for storing the wheelchair restraints shall be installed under the passenger seats just forward of the wheelchair positions. A battery box is an acceptable storage box. The storage box and location shall be approved at the Pre-Production Meeting.

33.14.12 A Rosco STSK7465 backup camera system shall be installed with a dash mounted monitor.

33.14.13 The exterior mirrors shall be manually adjustable, with LED turn indicators in the mirror.

33.14.14 All stanchions shall be stainless steel, powder coated safety yellow.

33.14.15 Wall grab handles, 6” minimum, shall be installed in the Wheelchair area in a location suitable for assisting a passenger in a wheelchair to maneuver.

33.14.16 The front bumper shall be a Romeo Rim "Help" energy absorbing type. Bumper shall be constructed of urethane rubber and uniformly black in color.

33.14.17 The driver’s seat shall be Recaro with a Norco power base.

33.14.18 A Motorola Astro XTL 2500 two-way radio shall be installed on an extra heavy mounting duty mounting system.

33.14.19 A Ranger MDC system shall be installed.

33.14.20 Stainless Steel grommet covers shall be installed on all 4" signal lights on the rear of the bus.

33.14.21 Each vehicle shall be equipped with an Amerex V-25 fire suppression system. The system shall include a minimum of two temperature sensors and two (2) extinguishment nozzles located in the engine compartment as well as a temperature sensor and extinguishment nozzle located in the battery compartment. Contractor shall provide proposed specific configuration and mounting details for the MTA's approval at the Pre-Production Meeting before the vehicles are built.

33.14.22 Ignition and door lock keys for all buses procured shall be identical. Each vehicle is to be delivered with four (4) sets of keys. The keypad for the passenger door shall be deleted.

33.14.23 Each vehicle shall be equipped with a brake retardation system that will maintain 90% effectiveness of braking H.P. through all operating ranges down to two (2) mph. The brake retarder shall be a Telma model AC50-55 (low amperage draw) or approved equal.

33.14.24 The passenger seat grab handles shall be safety yellow and there shall be no flip-up arm rests on the passenger seats.

33.14.25 The location of all equipment shall be approved by the MTA at the preproduction meeting.

33.15 Option 15: Diagnostic Equipment

33.15.1 Diagnostic equipment shall be offered for all subsystems, in addition to any diagnostic equipment already specified above.

33.16 Option 16: Training

33.16.1 The Contractor shall provide a program to educate, train and teach personnel in all details of the bus, as required, to enable the MTA to safely and satisfactorily operate, service and maintain the buses. One objective of the program shall be to develop within the property the capability to perform similar training under its own training program subsequent to the Contractor's involvement. *The training program shall be 40 hours minimum.*

33.16.2 The Contractor shall submit a Training Plan with the Technical Proposal in accordance with the specifications requirements. The Training Plan will provide detailed information on the Offeror's training program and the manner in which it proposes to meet the property's training requirements. In addition, the Training Plan shall include the number of classroom and field instruction hours that the Offeror recommends for each system on the bus; the qualifications of the instructors; a list of training aids to be used and furnished; and a brief description of the scope of instruction to be covered.

33.17 Option 17: Backup Camera System

33.17.1 A Rosco Rearview Mirror/Monitor Backup Camera System, Model STSK4530W, or approved equal, shall be installed. The system shall utilize the rearview mirror to display a 4.3" LCD when the vehicle is put in reverse, allowing the driver to see behind the vehicle. The Color 1/3" CCD camera must be able to process images in all light conditions and have a 120 degree diagonal field of vision minimum. The system shall be weatherproof with an IP67 rating and NHTSA 49CFR Parts 571 and 585 compliant. The camera housing shall be white. The warranty shall be one year minimum.

34 QUALITY ASSURANCE

34.1 The Contractor shall assume all responsibility for maintaining quality of components and equipment supplied on these vehicles.

34.2 The Maryland Transit Administration shall have the right to inspect the vehicles during production and a final point of assembly, prior to delivery.

34.3 The Maryland Transit Administration reserves the right to carry out a quality assurance inspection upon delivery, prior to acceptance, of the vehicle and may refuse delivery should defects be found as determined by the Administration.

34.4 The Maryland Transit Administration may be represented at the Contractor's facility by resident inspector(s). They shall monitor in the plant assembly of small buses built under this procurement. The resident inspector(s) shall be authorized to approve the pre-delivery acceptance tests and to release the coaches for delivery. Upon request to the quality assurance supervisor, the resident inspectors shall have the access to the Contractor's quality assurance files related to this procurement. These files shall include drawings, material standards, parts lists, inspection processing and repairs and records of defects.

34.5 The presence of these resident inspectors in the plant shall not relieve the Bidder of its responsibility to meet all of the requirements of this procurement.

34.6 The Maryland Transit Administration shall conduct a water leak test. All windows and doors, both the chassis manufacturers and those altered or placed on the vehicle by the conversion company, shall be tested by the MTA's quality assurance inspector(s) for leaks. All vehicles shall endure this test prior to acceptance.

34.7 Final quality assurance inspections shall be conducted at the Contractor's location.

34.8 The Bidder shall provide office space for the resident inspectors in close proximity to the final assembly area. This office space shall be equipped with desks, outside telephones, and chairs to accommodate the resident inspector's staff. The office space shall be properly heated and air-conditioned.

34.9 The successful Bidder shall deliver vehicles to the User Agency. As part of delivery, Bidder shall instruct user on vehicle operations including all standard and add on equipment.

35 WARRANTY REQUIREMENTS

35.1 Wheelchair Lift

35.1.1 The lift shall be warranted against defects, parts and labor, for a period of five (5)-years (minimum) from date of acceptance of the vehicle by the User Agency.

35.1.2 Full warranty detail and warranty registration form shall be included with the lift operating instructions at time of delivery.

35.2 Remainder of Vehicle

35.2.1 Bidders shall include, as part of bid, a detailed description of the warranty provisions, providing the following minimum coverage of the proposed vehicle and component equipment:

35.2.2 A minimum of 12 months, 50,000 miles for body including (or as specified in previous specification sections or in Table 'A' below):

- Molded Interior Body Panels

- Fabric Covered Interior Body Panels
- Vinyl Covered Interior Body Panels
- Door Locks, Latches
- Electrical Motors – Heater Fan, Other
- Electrical Wiring
- Glass (Except Damaged)
- Mirrors, Brackets
- Seals – Windows and Doors
- Seats – Purchase
- Passenger Seat Belts
- Stanchions
- Any optional equipment/component presented on the Price Quotation Sheet
- Switches – All
- Visors
- Undercoating
- Warning Devices
- Windows and Sliding Windows
- Radio

35.2.3 A minimum of 24 months, 100,000 miles for body including:

- Door Controls
- Paint Adhesion

35.2.4 Specific subsystems and components which are warranted and guaranteed to be free from defects and related defects for more than 12 months are given in Table A. These warranty requirements are minimum requirements.

TABLE A

ITEM	YEARS	MILEAGE
OEM chassis (as listed below)		
Engine assembly	5	60,000
Transmission	5	60,000
Alternator	3	36,000
Rear axle	5	60,000
Front axle	5	60,000
Frame rails/ cross members and engine/transmission mounts	5	60,000
Cab or body corrosion/perforation	5	Unlimited
Emissions equipment	5	Unlimited
Exhaust System and Diesel Particulate Filter System	5	50,000 miles
Bus body warranty	5	Unlimited
Air conditioning/heating system	3	Unlimited
Door System	2	Unlimited
Electronic Destination Sign System	3	Unlimited
Camera System	3	Unlimited

Fire Suppression System	2	100,000 miles
Floor, including wheelwells	5	Unlimited
Floor Covering	5	Unlimited
Wheelchair lift	3	Unlimited

35.3 The Bidder shall provide the location of the vendor providing all warranty repairs listed for each warranted item. The Bidder shall assume full responsibility for all parts, materials, accessories, and equipment – standard, optional, or specialty – used in the vehicle and for their proper installation, whether manufactured or purchased by the successful Bidder from another source.

35.4 If any vehicle is delivered incomplete or contains any defective or damaged parts, said parts shall be removed and new parts shall be furnished. The new parts furnished, including the transportation charges for same, plus the labor for the removal and installation of said parts shall be free of all costs to the Maryland Transit Administration and operating agencies.

35.5 The successful Contractor shall commence warranty related repairs upon verbal or written notification from the User Agency of the vehicle within 3 business days of notification request.

35.6 As an option, all extended warranties available are to be offered to the extent possible for each major system of the vehicle. This includes, but is not limited to, the engine, the chassis, the transmission, the climate control system and the destination sign system. The extended warranties are to price individually for each system.

35.7 The successful contractor shall identify an authorized service center for the vehicle as well as all major components of the bus.

35.8 The contractor shall register all warranties for the end user to the extent possible prior to delivering the vehicles and provide verification of the completed registrations. This registration shall include the chassis and all major subsystems with individual warranties. Any registrations requiring end user signatures shall be filled out and delivered with the vehicles for the end user to submit.

36 MANUALS AND PARTS INFORMATION:

36.1 The follow hard copies of manuals/parts lists shall be provided:

- Two (2) operator's manuals for EACH bus delivered, as required for the body and chassis
- One (1) illustrated parts manual for EACH bus delivered, both chassis and body
- One (1) maintenance manual for EACH bus delivered, both chassis and body, including electrical schematics showing location of fuses and components
- One (1) copy of all utilized vendor parts and maintenance manuals for EACH bus delivered
- One (1) CD-ROM, DVD or flash drive containing all of the manuals and parts lists for EACH bus delivered

37 RADIO

37.1 The vehicle shall be equipped with the chassis manufacturer's AM/FM Stereo Radio or AM/FM/CD Stereo Radio, plus six (6) speakers, two (2) in front and four (4) in rear shall be provided. The use of aftermarket radios of equal or superior quality may be used if not available from the OEM, with approval of the MTA.

38 SPECIAL TOOLS

38.1 The Offeror will define in its Technical Proposal a complete listing of all Special Tools, Programming and Diagnostic and Test Equipment, including all software applications, required for maintenance and repair of the bus and proposed to be supplied.

38.2 As an option, the Contractor shall supply two (2) sets of special tools to the end user for each bus build. The sets of special tools, , if ordered, along with instructions and/or training on how to use these special tools, shall be provided within ten (10) days of delivery of the last bus.

39 AMERICANS WITH DISABILITIES ACT REQUIREMENTS

39.1 ***These requirements are in addition to those previously described in these specifications. This section is a synopsis of what is required by the Americans with Disabilities Act in an effort to make buses accessible to persons with disabilities. The successful Bidder is solely responsible for any additions, deletions, omissions or interpretations of the Act as it relates to constructing a vehicle for this contract. All paratransit vehicles are required to be fully compliant with these requirements.***

39.2 Mobility Lifts

39.2.1 Lift-equipped vehicle shall use an interlock between the lift controls and vehicle braking system, transmission or door, or shall provide other appropriate mechanisms or systems, to ensure that the vehicle cannot be moved when the lift is not stowed and the wheelchair lift cannot be used unless the interlocks or alternate systems are engaged.

39.2.2 In the event of a power or equipment failure the lift shall be designed to deploy no faster than 12 inches per second.

39.2.3 Each lift platform shall have a barrier that prevents a wheelchair from rolling off the edge closest to the vehicle until the platform is in its fully raised position. Each side of the lift platform shall have a 1 and 1/2 inch (minimum) barrier. The existing loading edge barriers are sufficient.

39.2.4 Lift platform surfaces shall be free of any protrusions over 1/4 inch high and shall be slip resistant.

39.2.5 Lift platform shall move at a rate that does not exceed 6 inches per second during lowering and lifting and 12 inches per second during deployment and stowage.

39.2.6 Each lift platform shall be equipped with handrails on two sides, which move in tandem with the lift and shall be graspable and provide support to standees throughout the entire lift operation. Handrail specifications are as follows:

39.2.7 A usable component (handle) at least 8 inches long with the lowest portion 30 inches (minimum) above the platform and the highest portion 38 inches (maximum) above the platform.

39.2.8 A grasping surface with a diameter of 1 and 1/4 to 1 and 1/2 inches and corner radii of not less than 1/8 inch.

39.2.9 A minimum of 1 and 1/2 inches knuckle clearance from the nearest adjacent surface shall be provided.

39.2.10 The boarding edge of lift platform shall have a band of color(s) running the full width of the step or edge, which contrasts from the lift surface.

39.3 Securement Devices

39.3.1 Securement devices and their attachments shall restrain a force in the forward longitudinal direction of up to 2,500 pounds per securement leg or clamping mechanism and a minimum of 5,000 pounds for each mobility aid.

39.3.2 The securement system shall be located as near to the accessible entrance as practicable and shall have a clear floor area of 30 inches by 54 inches. Flip seats may be installed in the securement area but shall not obstruct the clear floor area.

39.3.3 Each wheelchair placement shall include a passenger seat belt and shoulder harness.

39.3.4 The wheelchair securement devices shall secure the wheelchair in a forward facing manner.

39.4 General

39.4.1 Floors in wheelchair securement area shall have slip resistant surfaces.

39.4.2 Each vehicle shall contain a sign(s) that indicates that seats in the front of the vehicle are priority seats for persons with disabilities. Each securement location shall have a sign designating it as such. Characters on these signs shall meet the following requirements:

- A width to height ration between 3:5 and 1:1.
- A stroke width to height ratio between 1:5 and 1:10.
- A minimum height of 5/8 inch.
- Spacing between characters of 1/16 the height of the upper case letters.

ITEM FOUR:

SPECIAL PROVISIONS
(REVISIONS IN RED)

SPECIAL PROVISIONS

1. DELIVERY/ACCEPTANCE:

A. Final delivery and acceptance of the vehicles, equipped as specified, included in the first confirmed order within the contract period and equipped as specified, shall be completed within the time frame detailed as follows:

210 days from Order Date

Final delivery and acceptance of vehicles, equipped as specified, included in all subsequent confirmed orders after the initial order for the contract period shall be completed within:

180 days from the Order Date

Vehicles ready for delivery to the end user agency shall be presented for inspection and delivery approval at the Contractor's Service Center prior to delivery to the user agency location. The Contractor's Service Center must be located within 150 miles of the MTA facility located at 1515 Washington Boulevard. The presentation rate shall not exceed three (3) buses per day. If more than ten (10) vehicles are presented for inspection in one (1) week period the maximum inspection period will be increased to two (2) weeks

B. Final inspection and acceptance of the vehicle shall occur at user agency location. At the time of delivery a complete demonstration of the vehicle and all sub-components (e.g. wheelchair lift, air conditioning and etc.) shall be conducted by the Contractor for the user agency. The vehicle shall also be inspected for damage that may have occurred during delivery. The vehicles shall be delivered at no more than three (3) per day. From time of receipt of the vehicle the user agency has two (2) working days to accept/reject the vehicle. If the user agency rejects the vehicle, the user agency must immediately notify the contractor and the MTA Project Manager of the reason(s) for rejection.

C. All certificates of origin and invoices shall be sent to Elizabeth Kreider, Project Manager, MTA Office of Local Transit Support , 9th Floor, 6 St. Paul Street, Baltimore, Maryland 21202-1614. Certain vehicles shall indicate the Maryland Transit Administration as a "Security Lien" on the vehicle.

D. Delivery of the specified number of final maintenance, parts and operator's manuals, warranties, etc. shall be made 60 days after delivery of the vehicle.

2. LIQUIDATED DAMAGES:

All vehicles shall be delivered and accepted within the delivery schedule described in Section III, Paragraph 12. Failure to comply shall result in liquidated damages of $100.00 per calendar day, per vehicle, until delivery and acceptance has been completed.

3. SAFETY REQUIREMENTS:

A. The vehicle shall meet all applicable FMVSS Regulations in effect on the date of manufacture. The Contractor shall provide a certificate stating that they meet all of the FMVSS requirements.

B. The Contractor shall comply with all applicable Federal, State, and Local regulations. In the event of any conflict between the requirements of this specification and any applicable legal requirement, then the legal requirement shall prevail.

4. RIGHT OF INSPECTION

The MTA reserves the right and shall be at liberty to inspect, with the cooperation of the Contractor, all materials and workmanship during the manufacturing process and shall have the right to reject all materials and workmanship which do not conform to the specifications. The MTA is under no obligation to make such inspection and if such inspection is, or is not, made, the contractor shall not be relieved of any obligation to furnish materials and workmanship in strict compliance with these specifications. Any inspection visit shall be conducted during normal business hours. Any reports generated from such visit shall be submitted to the Contractor.

5. WARRANTY:

Warranties in this document are in addition to any statutory remedies or warranties imposed on the Contractor. A description of the Contractor warranty process shall be included in the proposal package including information on how warranty issues are tracked. The proposal package shall also have a description of the distributor's facilities and services provided at their facilities. The contactor shall assume sole responsibility for the entire vehicle relating to any and all warranty issues and after-sales parts and service. This includes arrangements for scheduling pick-up and delivery of vehicle for warranty repairs.

The vehicle is warranted and guaranteed to be free from defects for a minimum of twelve (12) months or fifty thousand (50,000) miles, whichever comes first, beginning on the date of User Agency acceptance of each vehicle. During this warranty period the vehicle shall maintain its structural and functional integrity. The warranty is based on normal operations in the environmental conditions prevailing in the User Agencies' locale.

Specific subsystems and components are warranted and guaranteed to be free from defects and related defects for more than 12 months are given in Table A.

TABLE A

ITEM	YEARS	MILEAGE
OEM chassis (as listed below)		
Engine assembly	5	60,000
Transmission	5	60,000
Alternator	3	36,000
Rear axle	5	60,000
Front axle	5	60,000
Frame rails/ cross members and engine/transmission mounts	5	60,000
Cab or body corrosion/perforation	5	Unlimited
Emissions equipment	5	Unlimited
Exhaust System and Diesel Particulate Filter System	5	50,000 miles
Bus body warranty	5	Unlimited
Air conditioning/heating system	3	Unlimited
Door System	2	Unlimited
Electronic Destination Sign System	3	Unlimited
Camera System	3	Unlimited
Fire Suppression System	2	100,000 miles
Floor, including wheelwells	5	Unlimited
Floor Covering	5	Unlimited
Wheelchair lift	3	Unlimited

The warranty shall not apply to any part or component of the vehicle that has been subject to misuse, negligence, accident or has been repaired or altered in any way so as to affect adversely its performance or reliability, except insofar as such repairs were in accordance with the Contract's maintenance manuals and the workmanship was in accordance with recognized standards of the industry. The warranty shall be void if the User Agency fails to conduct normal inspections and scheduled preventive maintenance procedures as recommended in the Contractor's maintenance manuals.

The warranty shall not apply to scheduled maintenance items and items such as tires, fluids, lamp replacement, etc, nor user agency supplied equipment, such as radios and other auxiliary equipment, except insofar as all such equipment may be damaged by the failure of a part or component for which the Contractor is responsible.

When the User Agency representative detects a defect within the warranty periods as described in Table A they shall promptly notify the Contractor. Within two (2) working days after receipt of notification, the Contractor and User Agency shall agree whether or

not the defect is covered under warranty.

When warranty repairs are required, the Contractor is responsible for obtaining and completing all vehicle warranty work and shall agree within three (3) working days after notification on the most appropriate course for the repairs and the exact scope of the repairs to be performed under warranty. If no agreement is obtained within the three (3) working day period, the User Agency reserves the right to commence the warranty repairs within the agency repair facility or at a third party facility authorized to perform warranty work. The Contractor shall be responsible for reimbursement to the user agency of all third party charges incurred due to the Contractor's inability to schedule the warranty work within his facility.

The Contractor shall begin the warranty work necessary to effect repairs within three (3) working days after receiving notification of a defect from the User Agency. The User Agency shall make the vehicle available to complete repairs within a mutually agreed upon time schedule. The Contractor shall provide at its own expense all spare parts, tools and space required to complete repairs within the Contractor's service facility.

If the User Agency performs the warranty-covered repairs, it shall correct or repair the defect and any related defects using contractor-specified spare parts supplied by the Contractor specifically for the repair. Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this warranty shall be submitted to the Contractor and copied to MTA by the User Agencies for reimbursement or replacement of parts. The Contractor shall provide forms for these reports.

New parts for warranty-covered repairs performed by the User Agency shall be shipped prepaid via standard shipping to the User Agency from any source selected by the Contractor on the "next business day" from receipt of the request for said parts. If the Contractor requests the return of the parts being replaced under warranty, the total cost for this action shall be paid by the Contractor.

The User Agency shall be reimbursed by the Contractor for labor and parts. The labor costs shall be determined by multiplying the number of man-hours actually required to correct the defect by a fixed rate of $70 per hour, plus the cost of towing the vehicle if such action was necessary. The User Agency shall not accept parts credit as payment of warranty labor claims. The contractor shall also be responsible for the cost of towing the bus to a repair facility, if necessary.

If any component, unit, or subsystem is repaired, rebuilt, or replaced by the Contractor or User Agency, with the concurrence of the Contractor, the subsystem shall be covered by the unexpired warranty period of the original subsystem or a new subsystem warranty, whichever is longer.

A Fleet Defect is defined as cumulative failures of twenty-five (25) percent of the same components in the same or similar application in a minimum order size of twelve (12) or more buses, regardless of the end user, where such items are covered by warranty. A

Fleet Defect shall apply only to the base warranty period in sections entitled “Complete Bus,” “Propulsion System” and “Major Subsystems.” When a Fleet Defect is declared, the remaining warranty on that item/component stops. The warranty period does not restart until the Fleet Defect is corrected.

For the purpose of Fleet Defects, each option order shall be treated as a separate bus fleet. In addition, should there be a change in a major component within either the base order or an option order; the buses containing the new major component shall become a separate bus fleet for the purposes of Fleet Defects.

The Contractor shall correct a Fleet Defect under the warranty provisions defined in “Repair Procedures.” After correcting the Defect, the Agency and the Contractor shall mutually agree to and the Contractor shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same Defect in all other buses and spare parts purchased under this Contract. Where the specific Defect can be solely attributed to particular identifiable part(s), the work program shall include redesign and/or replacement of only the defectively designed and/or manufactured part(s). In all other cases, the work program shall include inspection and/or correction of all of the buses in the fleet via a mutually agreed-to arrangement. The Contractor shall update, as necessary, technical support information (parts, service and operator’s manuals) due to changes resulting from warranty repairs. The Agency may immediately declare a Defect in design resulting in a safety hazard to be a Fleet Defect. The Contractor shall be responsible to furnish, install and replace all defective units.

The Fleet Defect warranty provisions shall not apply to Agency-supplied items, such as radios, fare collection equipment, communication systems and tires. In addition, Fleet Defects shall not apply to interior and exterior finishes, hoses, fittings and fabric.

6. PAYMENT:

Article 27 of the General Provisions for Purchase Contracts is supplemented by the following additions:

A. Contractor's invoice shall be submitted to:

Elizabeth Kreider
Project Manager
Office of Local Transit Support
6 St. Paul Street, 9th Floor
Baltimore, Maryland 21202-1614.

B. Each invoice shall include:

-Contract No.
-Bid Item Number Invoiced
-Number of spare parts/equipment involved, if applicable
-Model and serial number of vehicle invoiced, if applicable

-Unit and total prices by Bid Item Number
-Total invoice amount
-User Agency name

C. Payment for the vehicle shall be made once the vehicle(s) have been delivered and accepted by the MTA at the final destination, less a 5% holdback for any manuals that are not delivered with the vehicle(s).

D. The payment of the 5% holdback will be released once all manuals have been delivered and accepted by the MTA.

7. PRE-AWARD AUDIT

A. The MTA shall conduct a Pre-Award Audit of the apparent low-bidder to determine if bid proposal meets specifications and will comply with Buy America regulations.

B. The apparent low bidder shall submit **original** documentation to the MTA, prior to bid award, certifying the manufacturer's compliance with Federal Transit Administration (FTA) Pre-Award Buy America Audit requirements. The document submitted shall be **original**, **not copies**, and include the following information for each major component and sub-component used on vehicle bid.

- Name and Address of each supplier.

- Cost of each major component and sub-component. In order to protect proprietary information, the document may reflect the percentage of total cost each item represents instead of the actual cost.

- Country of origin of each major component and sub-component.

- Name and Address of company where final assembly occurs.

- Signed by authorized representative of vehicle manufacturer.

C. Once the steps outlined in A and B above have been successfully completed and all MTA approvals have been given the MTA shall award the contract.

8. PRE-PRODUCTION MEETING

A. After the contract has been awarded, the MTA shall conduct a Pre-Production Meeting, at the bidder's location, to determine that the vehicle ordered meets all specifications prior to actual production.

9. IN-PLANT INSPECTIONS

A. The MTA shall conduct in-plant inspections, at the vehicle assembly plant, to ensure that each vehicle meets specifications. Any deviations from the specifications shall be corrected by the manufacturer, at the manufacturer's expense, prior to the vehicle completing the production process.

The presence of a resident inspector in the plant shall not relieve the manufacturer of the responsibility to meet the requirements of this procurement. Deviations from the specifications, not brought to the attention of the Manufacturer by the inspector, do not absolve the Contractor of the responsibility to meet, entirely, the requirements of the contract.

The first in-plant inspection shall occur with the production of the first group of buses ready for delivery to the Contractor's facility. Depending on the number and quality of the vehicles being produced, the MTA may conduct multiple in-plant inspections.

Any disputes arising from this process shall be resolved by the MTA, the MTA inspector and Manufacturer/Contractor based on the contract requirements.

10. POST DELIVERY AUDIT

A. The MTA shall conduct a Post Delivery Audit of the vehicle(s), at the contractor's service center and/or manufacturing plant, to determine that the completed vehicle(s) meets specifications and have fully complied with Buy America regulations.

B. The apparent low bidder shall submit **original** documentation to the MTA, prior to final acceptance of the vehicles, certifying the manufacturer's compliance with Federal Transit Administration (FTA) Post Delivery Buy America Audit requirements. The document submitted shall be **original**, **not copies**, and include the following information for each major component and sub-component used on vehicle bid.

- Name and Address of each supplier.

- Cost of each major component and sub-component. In order to protect proprietary information, the document may reflect the percentage of total cost each item represents instead of the actual cost.

- Country of origin of each major component and sub-component.

- Name and Address of company where final assembly occurs.

- Signed by authorized representative of vehicle manufacturer.

C. Once this process has been satisfactorily completed, the vehicle(s) shall be considered acceptable.

11. ALTOONA TESTING REQUIREMENTS

If the Federal Transit Administration requires testing at the Altoona Bus Testing Facility for the category of vehicle being purchased, documentation certifying that said testing has been completed and a copy of the test results shall be forwarded to the MTA Procurement operations prior to contract award.

12. FTA DBE REQUIREMENTS

The Federal Transit Administration requires that each bidder supply a copy of their approval or certification from the FTA concerning their DBE goals.

13. RIDER CLAUSE

Pursuant to Article 41, Section 18-201 of the Annotated Code of Maryland, except as provided in (B) the following entities may purchase materials, supplies and equipment under this contract:

1. A county or Baltimore City
2. A municipal corporation
3. A government agency in the State of Maryland
4. A public or quasi-public agency that receives State money and is exempt from taxation under Section 501 (C) (3) of the Internal Revenue Code.
5. A private element or secondary school that either has been issued a certificate or approval from the State Board of Education or is accredited by the Association of Independent Schools and/or
6. A nonpublic institution of higher education under Section 17-106 of the Education Article

The contractor shall extend to any or all of the transit systems, or non-profit agencies operating human service transportation in the State of Maryland the right to directly purchase buses from the Contractor in accordance with the rates and terms of this contract with the consent of the MTA.

1. Any participating transit system in the State of Maryland that utilizes this Rider Clause will place their orders directly with the Contractor, however, there shall be no obligation on the part of any participating transit system to utilize this rider clause.

2. It is the Contractor's responsibility to notify the participating transit systems of the availability of the contract rates and terms that are available through this rider clause.

3. Each participating jurisdiction has the option of executing a separate contract with the Contractor. Contracts entered into with the participating transit systems may contain terms and conditions unique to the jurisdiction including, by way of illustration, and not limitation, clauses covering areas such as minority participation, non-discrimination, etc. If, when preparing such a contract, the general terms and conditions of a jurisdiction are unacceptable to the Contractor, the Contractor may withdraw its extension of the contract to that jurisdiction.

4. All purchases under this contract by any such entity which is not a unit or agency of the State of Maryland for which the State of Maryland and the MTA may be held liable in the contract (1) shall constitute a purchase or contract between the contractor and that entity only, (2) shall not constitute a purchase or contract of the State of Maryland or the MTA, (3) shall not be binding or enforceable against the state of Maryland or any of its units or agencies and (4) may be subject to other terms and conditions agreed to by the contractor and the purchaser. The contractor bears the risk of determining whether or not any entity from which the contract receives and order under contract is a unit or agency of the State of Maryland such that the contract may be enforced against the State of Maryland.

5. The right to purchase under this section shall be in addition to, but not in substitution for, the applicable purchasing power granted to any of the listed entities pursuant to any statutory provision or charter provision.

6. The number of buses available will be at the discretion of the MTA for option quantities not purchased by the MTA up to the total quantity of the contract.

14. ASSIGNMENT CLAUSE

The Contractor shall extend to any or all of the transit systems, non-profit agencies operating human service transportation in the State of Maryland, or FTA grant recipient the right to directly purchase buses from the Contractor in accordance with the rates and terms of this Contract with consent from the MTA.

(A) Any participating transit system in the State of Maryland or FTA grant recipient that utilizes this Assignment Clause will place their orders directly with the Contractor, however, there shall be no obligation on the part of any participating transit system to utilize this Assignment Clause.

(B) It is the Contractor's responsibility to notify the participating transit systems of the availability of the contract rates and terms that are available through this Assignment Clause.

(C) Each participating jurisdiction has the option of executing a separate contract with the Contractor. Contracts entered into with participating transit systems may contain terms and conditions unique to the jurisdiction including, by way of illustration, and not limitation, clauses covering areas such as minority

participation, non-discrimination, etc. If when preparing such a Contract, the general terms and conditions of a jurisdiction are unacceptable to the Contractor, the Contractor may withdraw its extension of the Contract to that jurisdiction.

(D) The MTA shall not be held liable for any costs or damage incurred by a jurisdiction transit system as a result of any contract activities extended by the Contractor to the jurisdiction under this Assignment Clause.

(E) The number of buses available will be at the discretion of the MTA for option quantities not purchased by the MTA up to the total quantity of the contract.

ITEM FIVE:

UNIT PRICE SCHEDULE

(REVISIONS IN RED)

UNIT PRICE SCHEDULE
SMALL BUS PROCUREMENT
Contract T8000-0368

Note: All vehicles will be supplied complete with all standard equipment provided on a vehicle of the type specified and must include air conditioning, heat, roof hatches, safety equipment, overhead hand rails, driver's seat, seating, wheelchair lift etc. in accordance with the specification requirements of the base vehicle on the MTA contract.

The award of the contract for this Invitation to Bid shall be broken into four categories for award as follows:

- Type 1A – 138" wheelbase, SRW, Gas
- Type 2A/2B – 138" wheelbase, DRW, Gas and Diesel
- Type 3A/3B – 158" wheelbase, DRW, Gas and Diesel
- Type 4A/4B – 176" wheelbase, DRW, Gas and Diesel

The MTA reserves the right to make a single award for all categories or separate awards for each category.

The basis for award will be made based on the low total vehicle base price for each category of award of the Unit Price Schedule (Items 01, 02/03, 04/05 and 06/07) *plus* the cost of all options listed.

The MTA wants to clarify that although the basis of award includes the cost of all listed options, orders for vehicles will be for the *base vehicle only* plus *selected* options by the end users.

The quantity of buses identified on this price schedule are for bidding purposes only and represent the likely mix of buses to be procured. The MTA reserves the right to change the quantity and mix of buses at their discretion.

OEM supplied option pricing must be supported by OEM dealer discount price lists or OEM invoicing to the contractor and submitted to the MTA.

SMALL BUS

Item	Description	Quantity	Unit Base Price Per Vehicle
01	Type 1A - 138" Wheelbase, Single Rear Wheel (SRW) with 4/2 seating, Gas Engine	10-20	$_____
02	Type 2A - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Gas Engine	40-50	$_____
03	Type 2B - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Diesel Engine	40-50	$_____
SUBTOTAL (LINES 02 & 03)			$_____
04	Type 3A - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Gas Engine	130-150	$_____
05	Type 3B - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Diesel Engine	40-50	$_____
SUBTOTAL (LINES 04 & 05)			$_____
06	Type 4A - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Gas Engine	40-50	$_____
07	Type 4B - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Diesel Engine	40-50	$_____
SUBTOTAL (LINES 06 & 07)			$_____
TOTAL	**(LINES 01 - 07)**		$_____

Options List

08	Option 1: Electronic Destination Signs	$_____ Each
09	Option 2: Fire Suppression	$_____ Each
10	Option 3: Farebox Accommodation	$_____ Each
11	Option 4: Farebox	$_____ Each
12	Option 5: Full Camera System	$_____ Each
13	Option 6: Dual-Vision Camera System	$_____ Each
14	Option 7: Passenger Stop Request	$_____ Each
15	Option 8: Flat Floor	$_____ Each
16	Option 9: Manually Operated Passenger Door	$_____ Each
17	Option 10: Bike Rack	$_____ Each
18	Option 11: Strobe Light	$_____ Each
19	Option 12: Public Address System	$_____ Each
20	Option 13: Radio Delete	$_____ Each
21	Option 14: Baltimore MTA Mobility Option	$_____ Each
22	Option 15: Diagnostic Equipment	

a. Data Transfer Systems (Destination Signs) $_____ Each
b. Engine Diagnostic Readers/Scanners $_____ Each
c. Electronic Vehicle Logic Systems and/or Equipment Multiplex Zone Controllers $_____ Each
d. Laptop Computers $_____ Each
e. Fire Suppression System $_____ Each
f. Other (List) _____ $_____ Each
g. Other (List) _____ $_____ Each

23 Option 16: Training $_____ Each
24 Option 17: Backup Camera System $_____ Each

Additional Options

Seating

25 Single flip seat $_____ Each
26 Double flip seat $_____ Each
27 Double fold flip seat $_____ Each
28 Non-retractable seat belt $_____ Each
29 Extra-long retractable seat belts $_____ Each
30 Cloth fabric on seats per position (also driver's seat) $_____ Each

Exterior Options

31 Lettering on exterior of vehicle - basic (agency name on two sides) $_____ Each
32 Lettering on exterior of vehicle - advanced (agency name and logo on two sides) $_____ Each
33 Full Body Paint (Alternate Color) $_____ Each
34 Stripes – single color 6" stripe $_____ Each

Interior Options

35 Passenger Counter $_____ Each
36 Extra vault for Main M4 Fare box $_____ Each
37 Clever Devices Speakeasy System $_____ Each
38 Hands free microphone $_____ Each

Paratransit

39 Ricon Titanium 'K' Series fully automatic wheelchair lift With Folding Platform $_____ Each
40 Q'straint Fully Automatic tiedown system per position $_____ Each
41 Kinendyne Retracktor tiedown system per position (Fully Automatic) $_____ Each

Miscellaneous

42	Lockable driver's storage compartment	$_____ Each
43	Moryd suspension	$_____ Each
44	Special Tools, Per set	$_____ Each
45	Extended Warranties (If Applicable)	
	A. Axles—Front and Rear	$_____ Each
	B. Body Structure	$_____ Each
	C. Chassis Structure	$_____ Each
	D. Complete Engine Assembly	$_____ Each
	E. Transmission	$_____ Each
	F. Corrosion	$_____ Each
	G. Electronic Destination Sign System	$_____ Each
	H. Climate Control System	$_____ Each
	I. Other (List) _____	$_____ Each
	J. Other (List) _____	$_____ Each

Sub Total for All Options (lines 08 through 45) **$_____**

TOTAL BID PRICE, ALL LINES INCLUSIVE (Lines 1 through 45) **$_____**

_____
Vendor Name

ITEM SIX:

The information issued with this Addendum will become part of the contract awarded to the successful Offeror's. If you have any questions regarding this Addendum, please contact me at 410-767-3591 or by e-mail at kelsey@mta.maryland.gov.

Karen Elsey, Procurement Administrator
MTA Procurement Division

MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

MEMORANDUM

TO: Holders of Contracts Documents

FROM: Karen Elsey, Procurement Administrator
Maryland Transit Administration
Procurement Division
6 Saint Paul Street, 7th Floor
Baltimore, Maryland 21202-1614

SUBJECT: Addendum No. 5
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

DATE: January 8, 2013

This is ADDENDUM No. 5 to the Invitation for Bid (IFB) for Contract No's: T 8000-0368, SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

Issued herewith and effective this date is Addendum No. 5. The Bidder shall include acknowledgement of receipt of this Addendum in the *Bid Form Section, Page 3, Invitation for Bid.*

ITEM ONE:

- **The Technical Proposal and price bid due date are changed as follows:**

  The submission deadline has been ***changed*** from **Thursday, January 31, 2013** no later than 2:00PM to **Thursday, February 28, 2013** no later than 2:00PM.at the **Maryland** Transit Administration, William Donald Schaefer Tower, 6 Saint Paul St. 7th Floor, Baltimore Maryland.

ITEM TWO:

Addendum No. 6 will be issued at a later date.

ITEM THREE:

The information issued with this Addendum will become part of the contract awarded to the successful Offeror's. If you have any questions regarding this Addendum, please contact me at 410-767-3591 or by e-mail at kelsey@mta.maryland.gov

Karen Elsey, Procurement Administrator
MTA Procurement Division

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

MEMORANDUM

TO: Holders of Contracts Documents

FROM: Karen Elsey, Procurement Administrator
Maryland Transit Administration
Procurement Division
6 Saint Paul Street, 7th Floor
Baltimore, Maryland 21202-1614

SUBJECT: Addendum No. 4
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

DATE: December 7, 2012

This is ADDENDUM No. 4 to the Invitation for Bid (IFB) for Contract No's: T 8000-0368, SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

The State's procurement regulations require that you acknowledge receipt of this ADDENDUM No. 4 by submitting with your proposal. Acknowledge receipt by signing and include the attachment form with your proposal.

Failure to acknowledge receipt of this ADDENDUM could cause your proposal to be disqualified from further consideration for this procurement.

ITEM ONE:

- **CHANGE: The due date of the "sealed bids" is ~~Thursday, December 20, 2012~~, THURSDAY, JANUARY 31, 2013, by 2 p.m. The date and location to deliver your Technical Proposal and Financial Bid remains unchanged.**

Addendum No. 4
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ITEM TWO:

ATTACHMENT FORM:

Acknowledgement of receipt of ADDENDUM #3 to Contract No T 8000-0368; Small Buses for Non-Profit Human Services and Locally Operated Transit Systems (LOTS), with your proposal:

A. Consultant's Name:

B. Authorized Representative's Signature:

C. Printed Name of Representation:

D. Title:

E. Date:

Addendum No. 4
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ITEM FOUR:

The information issued with this Addendum will become part of the contract awarded to the successful Offeror's. If you have any questions regarding this Addendum, please contact me at 410-767-3591 or by e-mail at kelsey@mta.maryland.gov

Karen Elsey, Procurement Administrator
MTA Procurement Division

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

MEMORANDUM

TO: Holders of Contracts Documents

FROM: Karen Elsey, Procurement Administrator
Maryland Transit Administration
Procurement Division
6 Saint Paul Street, 7th Floor
Baltimore, Maryland 21202-1614

SUBJECT: Addendum No. 3
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

DATE: December 5, 2012

This is ADDENDUM No. 3 to the Invitation for Bid (IFB) for Contract No's: T 8000-0368, SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

The State's procurement regulations require that you acknowledge receipt of this ADDENDUM No. 3 by submitting with your proposal. Acknowledge receipt by signing and include the attachment form with your proposal.

Failure to acknowledge receipt of this ADDENDUM could cause your proposal to be disqualified from further consideration for this procurement.

ITEM ONE:

- **NO CHANGE: The due date of the "sealed bids" is Thursday, December 20, 2012, by 2 p.m. The date and location to deliver your Technical Proposal and Financial Bid remains unchanged.**

Addendum No. 3
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ITEM TWO: FINAL QUESTIONS WITH RESPONSES

QUESTION:

1. Page 2 of the solicitation instructions, section I., states that the MTA shall make a single award as a result of the IFB. Page 1 of the Unit Price Schedule has a different basis of award listed. Does the MTA wish to award the entire contract to one vendor? If a vendor cannot provide a particular category, I.E. a Single Rear Wheel chassis designed bus, will that vendor's offers not be considered for the other categories of the bid?

RESPONSE:

As stated in the response to Questions in Addendum #2, the award shall be broken into four categories for award as follows:

- Type 1 – 138" wheelbase, SRW, Gas
- Type 2A/2B – 138" wheelbase, DRW, Gas and Diesel
- Type 3A/3B – 158" wheelbase, DRW, Gas and Diesel
- Type 4A/4B – 176" wheelbase, DRW, Gas and Diesel

Section I. on Page 2 will be reworded as follows:

"Basis of Award shall be the low total base vehicle bid amount for all small buses within the Unit Price Schedule including delivery. The MTA reserves the right to make separate awards which will be made based on the low total vehicle base bid for Items 01, 02/03, 04/05 and 06/07 of the Unit Price Schedule."

QUESTION:

2. Page 6 of the solicitation instructions, section Z states that the warranty period shall be five (5) years. Page 35 of 38 in the technical specifications states different warranty periods for different components' of the bus and chassis. Can we clarify the warranty requirements of this IFB?

RESPONSE:

The basic warranty for the vehicle is one year or 50, 000 miles.

Section Z on Page 6 will be reworded as follows:

"... and shall be free from all defects and faulty materials and workmanship for a warranty period of one (1) year or 50,000 miles following acceptance for revenue service, unless specified otherwise in the Technical Specification or Special Provisions."

QUESTION:

3. Page 2 of the solicitation information and instructions section 8, states that each proposal shall include a CD-Rom or DVD of their technical proposal. Will the MTA accept a USB Memory stick of our technical and financial proposals?

RESPONSE:

The MTA requires that the proposals be delivered on a CD-ROM or DVD as stated in the solicitation Instructions.

QUESTION:

4. Page 3 of the solicitation information and instructions, proposal format and organization, section 2 states that the total page count of the proposal shall not exceed 50 pages. Can we remove the limit of 50 pages as the technical requirements that the MTA is asking for will greatly exceed 50 pages. For example, each Altoona test report that is required is a minimum of 85 pages per report.

RESPONSE:

The page count will remain at 50 pages, however, all attachments such as the Altoona Test Report and other reports supporting the proposal will not be included in the page count. The last sentence in section 2 will be reworded as follows:

"Not included in this total page count are the Title Page, Table of Contents, Schematics, Catalogue Cuts, Vehicle Questionnaires and Test Reports, such as the Altoona Test Report"

QUESTION:

5. On page 5 of 38 in the technical specifications the MTA is asking for a Ford E350 chassis for type 1a and 2a. Will the MTA accept a Chevy chassis for these items?

RESPONSE:

A GM chassis is acceptable for these items as long as it meets all the requirements for those respective items for capacities and dimensions. The Technical Specification will be modified accordingly.

QUESTION:

6. The solicitation describes in-plant inspections by MTA officials. Will the MTA assume responsibility for expenses to and from the factory, including flights, hotels and other items? Will this additional cost affect the bid award process?

RESPONSE:

The cost of in-plant inspections is the sole responsibility of the MTA and will not affect the bid award process.

QUESTION:

7. Page 1 of the Unit Price Schedule, paragraph 4. Can the MTA explain this in further detail? For example, if training is no cost for one manufacturer and $2,000.00 for another, the MTA expects either a) a manufacturer to lose 1,000.00, or b) the MTA will pay the other manufacturer $1,000.00 for something that is not a cost?

RESPONSE:

As stated in the Unit Price Schedule, "Option pricing allowed by the contract will be limited to the average pricing calculated for each option. The maximum option pricing allowed will be calculated by totaling the option prices submitted for each option and dividing that total calculated price by the total number of bid prices received for that option."

However, because Training is a service, as opposed to an optional part or system, the cost of Training will not be subjected to averaging, but will be added to the price of the bus to determine the total price of the bus. Given the fact that Training is an option, the cost should not be included in the price of the bus.

QUESTION:

8. Options 27 & 30 are included in the standard specifications of the solicitation. Are we to offer the base price of the bus without the cost of these options?

RESPONSE:

Options 27 & 30 will be deleted as options and should be included in the base price if the bus.

QUESTION:

9. There is an option section for extended warranties. Can the MTA clarify what extended warranties they are looking for?

RESPONSE:

The extended warranties are listed in the Unit Price Schedule. As stated in the specification, "all extended warranties available are to be offered to the extent possible for each major system of the vehicle. This includes, but is not limited to, the engine, the chassis, the transmission, the climate control system and the destination sign system."

Addendum No. 3
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ITEM THREE:

ATTACHMENT FORM:

Acknowledgement of receipt of ADDENDUM #3 to Contract No T 8000-0368; Small Buses for Non-Profit Human Services and Locally Operated Transit Systems (LOTS), with your proposal:

A. Consultant's Name:

B. Authorized Representative's Signature:

C. Printed Name of Representation:

D. Title:

E. Date:

Addendum No. 3
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ITEM FOUR:

The information issued with this Addendum will become part of the contract awarded to the successful Offeror's. If you have any questions regarding this Addendum, please contact me at 410-767-3591 or by e-mail at kelsey@mta.maryland.gov

Karen Elsey, Procurement Administrator
MTA Procurement Division

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

MEMORANDUM

TO: Holders of Contracts Documents

FROM: Karen Elsey, Procurement Administrator
Maryland Transit Administration
Procurement Division
6 Saint Paul Street, 7th Floor
Baltimore, Maryland 21202-1614

SUBJECT: Addendum No. 2
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

DATE: November 9, 2012

This is ADDENDUM No. 2 to the Invitation for Bid (IFB) for Contract No's: T 8000-0368, SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

The State's procurement regulations require that you acknowledge receipt of this ADDENDUM No. 2 by submitting with your proposal. Acknowledge receipt by signing and include the attachment form with your proposal.

Failure to acknowledge receipt of this ADDENDUM could cause your proposal to be disqualified from further consideration for this procurement.

ITEM ONE:

- **The due date of the "sealed bids" remains Thursday, December 20, 2012, by 2 p.m. The date and location to deliver your Technical Proposal and Financial Bid remains unchanged.**

ITEM TWO:

NO CHANGE: Closing Date for Receipt of Approved Equal Requests is Friday, November 16, 2012 by 2 p.m.

ITEM THREE:

NO CHANGE: Deadline to submit Bid Inquiry questions is Tuesday, November 20, 2012, 4 p.m.

ITEM FOUR:

QUESTIONS FROM THE PRE-BID CONFERENCE WITH RESPONSES

#1, QUESTION:

Is it the intention of the MTA to follow back in line with Altoona's and the FTA scrapping of that whole weight increase for the ambulatory and wheelchair positions?

RESPONSE:

At this time, the MTA does not intend to change the requirement. The specification will remain as written with 175# for seated passengers and driver and 400# for a wheelchair passenger. However, there will be no requirement for standees.

#2. QUESTION:

Any vehicles that we purchase under this contract authority: Will this be a MTA State of Maryland purchase under the MTA FIN number?

RESPONSE:

All vehicles will be purchased under the MTA FIN number.

#3. QUESTION:

I think in the Technical Specification, they talk about a Ford chassis with a 255 amp alternator. And, this is one. I don't know if they're looking for the 225 amp alternator rather than the 255 amp alternator. I'm not aware that Ford has a 255. Typically, they're being built with a 225, and I think, speaking on behalf of our manufacturer, that tends to be the standard. Please clarify.

RESPONSE:

The specification requirement has been changed to a 225 amp alternator.

#4. QUESTION:

I'd like to understand better the warranty requirements. Going through the Bid Specification, I found three different places where warranty is called for and where the time periods are listed, and there's some conflict between those time periods. So, I'd like to get some clarification on that if not now, certainly, in the form of an addendum or whatnot. But, if you look on page 6 of the section, General Information, page 6, Section Z, Warranty, there's a requirement in there that lists a time period of five (5) years unlimited miles on the entire vehicle. And then, later on in the Technical Specifications, there's another listing of Warranty and Warranty Requirements. Per system. And then, after that, way back in Section III, there's also another listing of Warranty Requirements and time periods, and they conflict with each other. So, we just like to get a clarification on that.

RESPONSE:

The warranty sections of the solicitation have been clarified. The base warranty for the vehicle is one year or 50,000 miles.

#5. QUESTION:

I'd like to go back and revisit the issue of passenger weight requirements. Our company's, currently, managing a Federal government GSA contract where the weight requirements per passenger were increased over the industry typical standards. Okay. You've done the same thing, and as we've gone through that, it did reduce passenger capacity in some cases for certain sized vehicles because the weight required for each passenger was higher than previous over the years that tradition and, as we worked our way through that, we — we're — the position the federal government took was that we can always increase the industry standard above and beyond what's been acceptable and, I think, that the way that you've handled that is it's important and we should reflect it all this or bigger than we were when standards were written a lot of years, ago. We did find the GSA as a reference did the same thing. They increased the weight standards on various sizes of vehicles.

RESPONSE:

Please see question #1. The requirement will remain as written.

#6. QUESTION:

While we're on passenger weights, it's not referenced in the Technical Specs, but it is referenced in the Bus Vehicle Questionnaire of a standee weight calculation of 175 pounds per one and a half (1 ½) square foot of open floor space. I think if any conjunction, especially, with the increased passenger weights, in order to meet that weight requirement, you're going to, drastically, reduce available capacities in the vehicles. I would request that MTA review that

being a requirement of the bid because I think you're going to get very limited floor plans by continuing that requirement.

Just a follow on with that. When I was at the last meeting with FTA and the folks with Altoona, actually, what ends up happening there is that you can't build a bus on the GM or Ford chassis because the first instinct would be you have to reduce the number of seats because of the passenger waiting, but as soon as you reduce seats —

You created more floor space.

You create more floor space which is more standees, so actually, by reducing the number of seats, you increase the number of standees, and the weight situation is worse. So, unless you put a little tiny box on the back of it, you can't put any passengers in the box or in the bus.

And then, what will end up happening is one of the manufacturers took a couple of buses to Altoona and, started a bit of a firestorm. And, the way that they got around that is that they put in a — I don't know what it was — a 58 inch or 48 inch hip to knee — And they reclined the seats almost all the way back, then they had the aisle width being — I don't know -- 3 inches because they moved the seats 11 inches off the wall so you couldn't get standees there in the two seats themselves in order to make weight. So, when you start playing with these weights to differentiate from what they, currently are, you're opening up Pandora's Box to all these other things that come into play by different agencies whether it be GSA, whether it be the FTA, whether it be MITZA, and what has worked has worked. I agree that people are getting bigger. I agree things should be done. But, if all of a sudden, one agency starts to go off in one direction, and that leaves MITZA and the FTA behind, I guess, the GSA can do what the GSA wants. But, I just ask that you could take that into consideration too with the floor plans. We're, also, actually, a contractor on one of the GSA Schedule. They use 215 pounds for passenger, and in our opinion, it's a fantastic idea. Their average weight, what they basically say is the average GI weights 230 pounds with their 40 pound backer. Whatever they calculate it at, they use 215 pounds per passenger. And, what they do allow us to do, is we have an option for ceiling grab rails. That, actually, requires a standee in the aisle per one and a half (1 ½) square feet of aisle space, and actually say it is aisle space. And, what they do is they allow us only to put the amount of standees that will actually fit based on the GAWR and the GEWR, so when my inspector comes in and inspects my bus, I might have two vehicles out of the same category, but they might have different standees or different numbers of standees in those vehicles based on the options chosen. So, they can take options in the rear of the axle, they could add weight to that rear so what they might say is, 'Okay, well we can move our standees towards the front of the bus or we can spread them out or we can eliminate the number of standees that we have just based off the GAWR and the GEWR. So, really, in our opinion, it's a good thing. We're seeing a lot less failures out in the field that's
for sure.

RESPONSE:

Please see Questions #1. There is no requirement for standees.

#7. QUESTION:

One of the things we've talked a little bit here is about standees, and as soon as you put in the bus that this bus can have two standees, but the exact same bus over here can only have slightly different -- can only have four standees, that puts the MTA in the position to be regulating how many standees are allowed on individual buses for individual agencies.
I'm not sure the MTA, with the type of buses they're buying, want any standees. I don't think these buses are designed for standees. And, so you're starting to go into an area that isn't clearly set out by all the different federal agencies. And, if you want to take the lead role in this, God be with you. I wish you well. And, you are opening up a hornets nest, and you're going to have to make it very clear to the manufacturers and the dealers bidding on this that's exactly what you want, and that it's what you want and that you're going to have to guarantee to us that what we're providing to you, meets all the federal guidelines of all the different federal agencies out there, and I don't think that can be done. But, I wish you well.

See Question #1. There is no requirement for standees.

#8. QUESTION:

I just want to clarify original comments on weight. It has to do with seated, okay. We have the increasing weight standard for seated passengers, and I agree that this class and size of bus is not designed for standees. With no wheelchair lift, at maximum capacity, generally, it's 24 passengers maximum, maybe 25, maybe 27 in some manufacturers, but these smaller buses are not intended to have standees loaded down the center aisle above and beyond the folks that are seated.

RESPONSE:

See Question #1. There is no requirement for standees.

#9. QUESTION:

I've got a couple of questions and they're bounced throughout, so let me address my notes real quick. But, it has to do with some of the requirements that are in the Tech Specs. as it relates to vehicles that are not of this size. And, specifically, I'm talking about the FMVSS214, which is an under 10,000 pound vehicle requirement, not anything over that. You know, I would like to present that I think you're going to have a hard time finding a competitive group of manufacturers that have tested this size of vehicle, actually, physically tested it to 214, you know, because it's not required by over 10,000 pounds.

RESPONSE:

The MTA acknowledges that the requirement is for buses with a GVWR of less than10,000 # and has removed the requirement from the technical specification.

#10. QUESTION:

And, then my second comment has to do with the 21.11 requirement which is the Docket 90 requirement for the internal -- materials — that is a typically a big bus spec requirement, and, there is an FMVSS that addresses that in our vehicle size requirement, and that's FMVSS 302. So, we would request that the bid documents be changed to reflect being -- meeting or exceeding FMVSS 302, not necessarily Docket 90 because the requirements are different.

RESPONSE:

Although the MTA does not agree that the Docket 90 requirements are a big bus requirement, the specification has been changed to meet or exceed the requirements of FMVSS 302.

#11. QUESTION:

Just to touch on what he just said, the Docket 90 and the 302, there is a big difference between it. Docket 90, that's been in place in the small cut-aways that we've had on the Pennsylvania contract for a number of years. You can do the Docket 90 foam seat covering, you can put in capsuling, so it's not a bad idea. The 302 is just a minimum as far as burn rate.

RESPONSE:

See questions #10. The requirement has been changed to FMVSS 302.

#12. QUESTION:

To follow up on Ken's comment, our manufacturers, at this point, are still stating and claiming that the SRW as a chassis in passenger transport is not a safe chassis falls back into that same realm of a raised-top van. You get a higher center of gravity with possible tip over rates. So, you know, we would request that the SRW be removed, completely, from the bid.

RESPONSE:

The MTA has evaluated this request the intended end use of this vehicle type and will keep the 138" SRW chassis in the specification, but only in a gas engine version. The Wheelchair Lift will be moved to the forward position for this vehicle only.

#13. QUESTION:

If you want to do a dual rear-wheel narrow body then to eliminate some passenger capacity to get agencies more comfortable driving that size of vehicle, that's one thing. You're still providing the stability of a dual rear-wheel.

The single tires were in existence there for a while, and I can only speak through history, accurately, is that they've been pulled from the Pennsylvania contract because what they are, and there are issues with the single tire, especially.

I don't agree, at all, with the idea of the single rear-wheel chassis not being a safe chassis. In fact, most of the Metropolitan areas on the East Coast use the single rear-wheel product. Ken

talks about Philadelphia, yet the biggest city in Pennsylvania — or talks about Pennsylvania, but the biggest city in Pennsylvania uses the single rear-wheel chassis. It may have a front lift in it rather than a rear lift. The problem with safety on the single rear-wheel chassis is the overloading of the rear axle, and that's the major concern with the Ford QVM program. They insist on the four quarter weight analysis as well as the axle weight analysis. If you're within the guidelines set up by the chassis manufacturers, they are safe vehicles. If you are overloading the vehicles, they are unsafe. And, I'd say that goes back to a previous comment that was mentioned about the different federal standards and the 214 that some of the manufacturers didn't want to meet. With that being an impact test, if we're talking about safety, I would like to think that impact had something to do with safety rather than talking about dual rear-wheel or single rear-wheel chassis that hasn't been proven to involve safety if it's weighted properly. So, there are many agencies out there using the single rear-wheel product that we're familiar with that we sell to, and safety is not an issue with those. If safety is an issue, the concern with the MTA they've written into the bid specification for an impact test. I think the impact test would follow those safety guidelines. And, so I think these things all have to be taken together as one rather than individual items.

As far as working with a narrow body with a dual rear-wheel chassis, I'm not sure I understand how that makes sense. If you're looking for a dual using a dual rear-wheel chassis, it would make sense to me that you're using the body that fits that chassis rather than a narrower body. I mean, it doesn't make sense to me from an engineering perspective. It may make sense from a sales perspective, but I really don't think it makes
sense from a -- an engineering perspective. So, I think I've addressed the two points in that.

I've got a couple of follow-up comments: We agree that safety is of the utmost concern to the passengers and MTA. What I disagree with is since the 214 requirement was not required by 10,000 pounds and above, we're not saying that we couldn't meet it, we're just saying that it hasn't been crash tested already because it was not required for that class of vehicle.
So, with enough time or if you would, you know, if that — with enough time, sure they could be tested and I don't have any concerns as to whether our manufacturers would meet that requirement. But, up to this point since it's not been required for this class of vehicle, they've not been tested.

And then, to follow up, also, on the single rear-wheel comments, you know, I think a lot of that's going to, also, have to do with what MTA stance becomes of the weight requirements per passenger. On single rear-wheel vehicles, all are very weight sensitive to begin with as Pennsylvania has noted, which is why they've removed them from their contract. If we do not — if MTA takes the stance of not changing the weight requirement back to what is today's current industry standard, you're going to exacerbate an existing problem that has been proven as recently as the past couple of years.

RESPONSE:

As stated the response to Question #13, the 138" SRW with a gas engine will remain in the specification.

#14. QUESTION:

I would request, if you still so choose to have the single tire on the contract after the comments made today, that you will consider breaking the single tires away from the total award, so you would have more people bidding at a better competitive bid.

RESPONSE:

The MTA agrees with this suggestion. The revised bid document will be amended as necessary to indicate that 4 separate contracts will be awarded for the following classes/styles of vehicles: a-138 wheelbase, single rear wheel-gas engine, b-138 wheelbase duel rear wheel-gas and diesel, c-158 wheelbase duel rear wheel-gas and d-diesel 176 wheelbase duel rear wheel-gas and diesel.

#15. QUESTION:

Or as an alternative to that, acknowledge that a dual rear-wheel chassis exceeds the requirement of a single rear-wheel.

RESPONSE:

At this time, the MTA will not accept that alternative.

#16. QUESTION:

Now, is it the intent of the MTA to award as is clearly written all of the categories to one vendor or separate categories to separate vendors based on —

This would be one vendor for all categories.

The way it's written, now?

Yes.

Just, and to continue on there, there was one of the categories, I think on page 5, 1.7.4, they talk about the one 38 inch dual rear-wheel and Type 2A and 2B, and typically, I think, 2A is supposed — the A category is gas and the B category is diesel. And, yet in this category, the A category is gas, and the B category is gas. So, I think we're supposed to have a diesel on that second category.

In the 2B category.

I was going to send an e-mail, but. 1.7.4, page — on page 5.

Of the Tech Specs?

Of the Tech Specs, yeah.

Again, we'll take a look at that and make whatever corrections we believe are necessary.

RESPONSE:

The title of Category 5B has been changed to state 'Diesel', which will match the technical description for that category.

#17 QUESTION:

A question about the request approved equals process. Is the intent that — well, I guess it's a couple part question, but let me just dive into it. The -- if we were to submit requests for approved equals prior to the date, would we receive responses back before the date where we could, then, submit additional requests if necessary or is the intent to submit them all at once, MTA will respond at once?

RESPONSE:

Submit them at once.

#18. QUESTION:

I've got another question with regards to the service and maintenance manuals that are being required with the vehicles. Typically, your manual providers, it takes them anywhere from nine months to a year to produce the manuals for the current model year. The bids are requiring that those manuals be provided with the vehicles at delivery. We're stating that nobody will have produced the manuals yet, so they can't be provided at delivery. So, and we'd like to get MTA to respond as to how they would like us to handle that concern. I mean, your Operator's Manuals, obviously, will come. Your Owner's Manuals will come, but it's, specifically, your servicing and shop manuals that will not be available for that model year.

RESPONSE:

It is not acceptable to the MTA that the service manuals be delivered 9 months to a year after the delivery if the vehicles. There may be maintenance requirements for the components or subsystems that will need to be performed within time frame, which could potentially affect the warranty requirements. However, the MTA will revise the requirement to state that draft manuals are due with the vehicle and final manuals should be delivered within 60 days of vehicle delivery.

#19. QUESTION:

On page 15 of the Technical Specifications, 16.3.4, "The passenger doors shall be interlocked to prevent the vehicle from moving while the doors are open." Can anyone clarify exactly how they would like us to do that?

I would believe that's, um —

I mean, currently, right now, I'm out of ideas unless we get like a big cinder block, and just have a guy chase the bus, and then, throw them out in front of the tires, real quick or something. I'm at a loss. The medium duty chassis with an air brake, you know, that is something that's achievable, but on a light duty chassis with a hydraulic braking system without

— : And, I guess I'm parleying this back off the old medium duty contract where it was stated that driver wants to pull to the stop, have their foot on the brake, they open the door, if they sneeze, jump out of the seat, it doesn't matter. They take their foot off that brake, that bus

does not move. In the light duties, it's not possible unless you put the vehicle in park 'cause then you could use —

Right.

-- the OE Park interlock, too. It would keep them from pulling it out of park.

And then, there is also, I guess, some options, I guess, the MTA option has a manual door that would not be possible, at all, anyway with the manual door.

RESPONSE:

After evaluating this requirement for the light duty chassis, the MTA has deleted the requirement form the specification.

#20. QUESTION:

I have a question on — actually, I just requested on page 28, 31.1.2, you might want to add — that's calling out for the 1,000 pound lift. You might want to add onto that the word "titanium." Otherwise, the way it's reading there, you're going to end up with the 800 pound lift. So, as we go and get pricing to the bus builders, we want to make sure that they get the right pricing. You'll add that right after the word "(unintelligible)" before the "S series," just add the word, "titanium," there, and that calls out the pound lift that's in that specification.

RESPONSE:

The description of the Ricon lift will be revised accordingly.

#21. QUESTION:

If I can jump in on this. Colonial Equipment, Craig Combs. There's a reference to Flex field vehicles on here. As far as I know, only the 5.4 liter is Flex field.

RESPONSE:

The specification will be revised accordingly.

#22. QUESTION:

On page 6, under the 158 Gas Spec, 1.7.5.2, looking for a 6 liter V.8 with 300 horse power, is that — do they make that?

Chevy does.

Chevy does. Okay, because it was under the Ford. I just want to clarify that that's Chevy. Okay.

RESPONSE:

Although the specification is for a 6.0 liter V-8 *as a minimum*, this will be clarified in the specification. A V-10 engine of equal or larger displacement will meet this requirement.

#23. QUESTION:

Also, looking at the height requirements, it's kind of back and forth between page 4, and page 15. Page 4 asks for a passenger door height clearance of 76 inches. Then, on page 15, it asks for a clear head of 80 inches or maybe that's a different measurement. Is that — am I reading this wrong?

What was the second page numbers?

15, 16.3.1, third sentence.

Okay. Alright, we will —

-- But, I don't know if there's a difference between clear opening height and height measured from first depth to door header. Again, I'm, probably, not smart enough to read this thing.

RESPONSE:

The specification has been revised for this requirement to 80" clear opening.

#24. QUESTION:

Also, on page 10, as you go through the explanation of the body frame exterior, 12.4, it says, "Exterior wall panels should be durable, aluminum alloy or MTA approved equal," and then, on page — I should have wrote this down -- on page 12, and 12.19, it says, "Vehicle exterior shall be painted or manufactured from gel code finished fiberglass or pre-primed or pre-painted exterior skins (phonetic)." Could you clarify exterior side walls if you're looking for aluminum or FRP or —

RESPONSE:

The specification language has been clarified for the skin material and finish requirements.

#25. QUESTION:

The Docket 90 that Craig was talking about and Ken was talking about in the bid it seemingly requires that a standard, but then it's in the option sheet. So, if we could clarify it as to whether the MTA wants a Docket 90 requirement as standard under the Seats section or if they want it as an option, would help us.

RESPONSE:

The requirement for Docket 90 has been deleted.

#26. QUESTION:

And, there are a few areas throughout the bid, for example, on page 15, in regards to the wheelchair door, 16.5.2 in the last sentence it says, "The design of the door shall be approved by the MTA." Is that something you want us to provide before we manufacture the bus or are you going to go for pre-inspection and say, 'No, we don't like that door?' And, if so, how do we go about that?

And, there's several areas throughout the bid that asks that, as well. Just so we have an idea of when to provide you the information in regards to the design of what you're asking for on page 20, in Section 21.12, it says, "Interior decals shall be as per ADA regulations, MDOT regulations, and Section 3.32 of the Specification. I had a tough time finding Section 3.32, but maybe you can point it out to me.

MR. MARTIN: It's page 20, 21.12. And, it references Section 3.32. I mean, I know these things are extremely difficult to write. I'm not trying to beat you up. It's just – It probably means to reference Section 32.5.

32.5?

Yeah, that's where it talks about decals.

32.5. Thank you.

On page 31? Is that where we're looking?

RESPONSE:

All approvals required in the specification will be reviewed at the Pre-production meeting. See section 1.2.12. The decal reference has been corrected.

#27. QUESTION:

I don't know if you covered this Jim, I couldn't hear you, but it says page 6, 1.7.5.1, "Chassis shall be beneath 450 cut away chassis, and it shall be a 6 liter V8 with a 300 horse power minimum."

I did, but, I guess, the —

Okay.

response is that it's 6 liters for the Chevy chassis, so.

I know, but it says it must be a Ford or equal 450 cut away.

Or approved equal.

MR. ALTEVOGT: Is the MTA just going to change that to a Chevrolet or are you going to write in a Spec for like a V-10?

It does say, "minimum," so.

Actually, that's, also, in Section 1.7.7.1 and .2. It's on the same page.

RESPONSE:

See questions #22. This has been clarified in the specification.

#28. QUESTION:

There's a Section that references for the warranties that the contractors required to provide pick-up and delivery of the vehicle for warranty purposes. That's — I think, in a lot of instances, that

would be prohibitive. It's one thing if the vehicle is not drivable. You know, but if a customer has a warranty concern like their -- you know, just their air conditioner is not blowing cold and it needs service, I think you're opening a large area of concern for the contractors for who then determines whether the vehicle needs to be picked up or delivered.

I would recommend that we fall back more on, you know, in this case, either Ford or Chevy's determination of what their Roadside Assistance will provide for picking up the vehicle where appropriate and not require the vehicle to be picked up and delivered for non-drivability issues.

RESPONSE:

This requirement has been modified in the specification.

#29. QUESTION:

In Section 23.9, on seat dimensions, you have a minimum seat back measurement. I'm not sure how you're measuring them. But, a low-back is 22 inches and a mid back is 24 inches. I gave Travis drawings if—

And, to, you know, clarify, the MTA's intent is to get a mid-back, not a low-back; is that correct? It's what been in the past.

I think it's in there somewhere. Yeah, mid-high.

Okay. 23.3.

MR. HOWARD: Yeah. That's correct.

RESPONSE:

As discussed in the meeting, it is the intent of the MTA to get mid back seats. The specification has been clarified.

#30. QUESTION

We're seeing in other areas of the country where the end users that will possibly be listed on the title even if the MTA is the lien holder, they're being asked to get their own Ford FIN number. So, I share that as background. Will all vehicles purchased be under the MTA FIN number?

All vehicles will be purchased under the MTA FIN number.

#31. QUESTION:

Is it the intention of the MTA to postpone the acceptance of request for approved equals until the vendors receive responses from the pre bid conference? It would be extremely helpful for us to have these responses prior to approved equal submission and can reduce the overall amount of paperwork to be completed.

RESPONSE:

Please see Addendum #1.

#32. QUESTION:

Clarification: Anticipated revised bus buy quantities are as follows:

Initial 3 year contract: 400 Buses

2 Year Extension: 300 Buses or 150/year

#33. QUESTION:

Thank you, for update on this contract. FSC appreciates the support of FSC. Below are notes from a discussion at Freedman Seating, during pre-bid meeting I mention concern on few things from notes below. Attached is information on those things. Hope they are helpful. Any questions please call or email me.
Attachments:

- Mid –high drawing (this is what is spelled out in spec)
- Low back drawing
- D-90 Vinyl spec sheet
- FW Mid high Rigid spec word doc
- FW Mid High Flip

Notes:
22.1 Driver's seat shall be 6-way power adjustable and the seat back shall be adjustable to multiple positions.

23.3 Forward facing ambulatory passenger seating shall be Freedman Feather Weight Mid-Hi back or approved equal, featuring a black molded, top mounted grab handle and flip-up arm-rests. Structure shall be based on welded stainless steel or powder coated tubing to meet the requirements of FMVSS 210. Installation of the seats shall meet the requirements of FMVSS 207.Seats covering shall be Level 4 D-90 or approved equal, 32 ounce anti-microbial fire block type vinyl upholstery, with heat sealed vertical seams.

23.5 Any flip seat requested as an option shall be equipped with a spring-loaded automatic latching device to prevent the bottom seat cushion from returning to the horizontal position. The seat shall also lock in the seated position. (NO HANDIFLIP)

23.8 The forward most row of seats shall be equipped with DOT/FMVSS approved child seat anchors.

23.9 Seat Dimensions

1. Seat width per person: 17.5 inches minimum
2. Seat depth: 17 inches minimum
3. Seat back: 21 inches minimum
   25 inches minimum, as measured from the top of the seat bottom to the top of the seat back. (I am not sure how they are measuring this.)
4. Seat back angle 10 to 15 degrees
5. Hip to knee room: 27 inches nominal (maximum available)
6. Aisle width: 18* inches minimum

I think the D-90 vinyl and CRS 225 anchors are new. No Handi-flips or FW Low Backs. They are probably measuring the FW mid/high seats with a tape measure along the diagonal slope of the back insert.

RESPONSE:

The seating section of the specification has been clarified. Docket 90 has been deleted and the CRS 225 anchors are a new requirement by the MTA.

***STARTING AT PAGE 18 OF THIS ADDENDUM, PLEASE SEE THE FOLLOWING:**

ITEM FIVE:	**REVISED TECHNICAL SPECIFICATIONS**
ITEM SIX:	**REVISED SPECIAL PROVISIONS**
ITEM SEVEN:	**REVISED VEHICLE QUESTIONAIR**
ITEM EIGHT:	**REVISED UNIT PRICE SCHEDULE**

ATTACHMENT FORM:

Acknowledgement of receipt of ADDENDUM #2 to Contract No T 8000-0368; Small Buses for Non-Profit Human Services and Locally Operated Transit Systems (LOTS), with your proposal:

A. Consultant's Name:

B. Authorized Representative's Signature:

C. Printed Name of Representation:

D. Title:

E. Date:

The information issued with this Addendum will become part of the contract awarded to the successful Offeror's. If you have any questions regarding this Addendum, please contact me at 410-767-3591 or by e-mail at kelsey@mta.maryland.gov

Karen Elsey, Procurement Administrator
MTA Procurement Division

TECHNICAL SPECIFICATIONS
SMALL BUSES FOR LOTS

1.0 GENERAL REQUIREMENTS

1.1 PURPOSE

The purpose of this specification is to provide a transit quality paratransit vehicle manufactured on a standard cutaway chassis with provision for stand-up entry, a wheelchair lift and tie downs as detailed in this specification. All body, floor and roof joints must be tightly sealed to eliminate drafts and water leaks. Vehicle shall exhibit attention to workmanship and detail. Used, shopworn, or prototype vehicles are not acceptable. Vehicles furnished to these specifications must meet or exceed all requirements herein.

ALL VEHICLES DELIVERED IN ACCORDANCE WITH THIS SPECIFICATION MUST MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

1.2 REQUIREMENTS

1.2.1 Vehicles are to be equipped with low emissions gasoline or diesel engines and must provide sufficient power to allow the vehicle to meet acceleration, top speed and gradeability requirements for demand-responsive service.

1.2.2 Vehicles shall provide features essential for safe, efficient and comfortable operation. Driver shall have optimum road and traffic visibility under all driving conditions. The vehicle must be maneuvered easily in normal and heavy traffic. The coaches shall be able to daily operate on all urban, suburban and rural primary and secondary roads within the state of Maryland.

1.2.3 Vehicles shall be designed and manufactured using a heavy-duty, RV/commercial cutaway van chassis of the latest model year available, or approved equal, as specified herein.

1.2.4 Vehicle assembler, converter, or second stage manufacturer whose product is offered, as part of this bid must be formally approved by the chassis manufacturer for the additions made to/upon the chassis.

Bidder shall provide a letter or certificate from the chassis manufacturer verifying full compliance with the manufacturer's transit vehicle quality program and that all warranties offered by the original chassis manufacturer shall be transferred to the Procuring Agency. Failure to provide such certification with the bid will result in rejection of the bid as non-responsive.

1.2.5 Vehicles must comply with all relevant Maryland State Department of Transportation and Department of Motor Vehicle regulations as well as any requirements of the Federal Motor Vehicle Safety Standards.

1.2.6 Vehicles must comply with the accessibility regulations established by the United States Department of Transportation as specified in 49 CFR Parts 27, 37, and 38, as amended.

1.2.7 Vehicles offered under this procurement must comply with vehicle testing requirements of USDOT 49 CFR Part 665, as amended. The bidder shall submit a letter of certification, titled Form CM-3: Certification of Federal Vehicle Testing, with their Technical Proposal stating that the "vehicle proposed has (has not) been tested at the Altoona Bus Research and Testing Center (ABRTC) and is (is not) exempt from testing". If the proposed vehicle is exempt from testing, the bidder shall attach the reasons and a certificate of exemption from the FTA. a) If the vehicle has been tested, the complete report of test results must accompany the Technical Proposal. b) If the proposed vehicle must be tested, a schedule of test dates shall be included with the Technical Proposal. Any vehicle requiring testing will not be

accepted for delivery until it has completed its tests and the test report, with results, has been submitted to, and approved by, the Procuring Agency. Withdrawal of a vehicle from scheduled testing by the manufacturer or failure of the vehicle during testing shall not constitute an "Unavoidable Delay".

1.2.8 The gross vehicle weight rating (GVWR) shall exceed the weight of a fully loaded vehicle. A fully loaded vehicle equals the weight of the vehicle equipped to meet these specifications, verified by a weight ticket, plus the weight of the passengers (175 pounds for each ambulatory placement, 400 pounds for each wheelchair placement). There is no requirement for standees in the calculation.

1.2.9 The successful Bidder shall submit weight calculations with their proposal, ensuring that the chassis manufacturer's requirements concerning weight distribution have been met. These weight calculations shall also be utilized to determine that the proposed vehicle total weight (GVW) remains less than the GVWR.

1.2.10 The price quoted in any bid submitted shall include all items of labor, material, tools, equipment, and other costs necessary to fully complete the manufacture and delivery of the vehicles pursuant to these specifications. ***It is the intent of these specifications to provide and require a complete vehicle of the type prescribed ready for operation including all required equipment such as seats and seatbelts. Paratransit vehicles shall be fully compliant with all ADA requirements including a wheel chair lift.***

1.2.11 This specification reflects the buyer's preference as to dimensions, materials and major components. However, the bidder shall not omit any part or detail, which goes to make the vehicle complete and ready for service, even though such part or detail is not mentioned in these specifications.

1.2.12 A Pre-Production Meeting will be held with the manufacturer prior to the start of production. The location of the meeting is at the discretion of the MTA, but is intended to be held at the manufacturer's facility. The purpose of the meeting is review the final configuration of the vehicles as proposed by the manufacturer and for the MTA to review all approvals listed in this specification. It is the intention to grant all approvals at this meeting.

1.2.13 *The Bidder shall assume sole responsibility for the entire vehicle as to warranty and after-sales parts and service. This includes the pick-up and delivery of the vehicle when it is determined that the vehicle is inoperable and/or cannot be safely operated for any reason.*

1.3 LEGAL REQUIREMENTS

1.3.1 Upon submission of bid, the Bidder shall provide to the MTA specific documentation demonstrating compliance with legal requirements below:

1.3.1.1 Bidder shall submit with the bid, documentation certifying that the proposed vehicle meets all applicable Federal Motor Vehicle Safety Standards (FMVSS) Regulations in effect on the date of manufacture of the bus body. At a minimum the following standards shall be included in the certification.

FMVSS 102	FMVSS 207	FMVSS 217	FMVSS 403
FMVSS 104	FMVSS 208	FMVSS 220	FMVSS 404
FMVSS 119	FMVSS 209	FMVSS 221 (if applicable)	
FMVSS 205	FMVSS 210	FMVSS 302	

1.3.1.2 The Contractor shall comply with all applicable Federal, State and Local regulations including all relevant portions of the Americans with Disabilities Act (ADA). In the event of any conflict between the requirements of this specification and any applicable legal requirement, then the legal requirement shall prevail.

1.4 MATERIALS - INTERCHANGEABILITY, ACCESSORIES, RESPONSIBILITY, STANDARDS

1.4.1 All units and components procured under this contract, whether provided by suppliers or manufactured by the Contractor shall be duplicated in design, manufacture and installation to assure interchangeability among vehicles in each order. This interchangeability shall extend to the individual components as well as to their locations in the vehicles.

1.4.2 Whenever possible, the Contractor shall use standard parts and components. Custom design items shall be avoided when standardized parts and components are available.

1.4.3 Wherever an item, material, apparatus, device, product or process is called for by trade name or catalog reference, or by the name of the patentee, manufacturer or dealer in these specifications, it shall be construed as establishing a minimum standard of quality and not construed as limiting competition. In these instances, a Contractor desiring a substitution shall request an approved equal under the procedures specified in Section x.x: Requests for Exceptions/Approved Equals.

1.4.4 The Contractor shall be responsible for all materials and workmanship in the construction of the vehicle and all accessories used, whether manufactured by the Contractor or purchased from suppliers. This provision excludes any equipment leased or supplied by the Procuring Agency, except insofar as such equipment is damaged by the failure of a part or component for which the Contractor is responsible, or is caused by the Contractor during the manufacture of the vehicles.

1.4.5 The Contractor shall install all externally supplied components as per the specifications of the manufacturer/supplier. Where the contractor does not follow the installation instructions of the manufacturer/supplier, the contractor shall be solely responsible for ensuring that the component performs as designed and to the complete satisfaction of the Procuring Agency.

1.4.6 All materials used in construction of the vehicle and all its parts shall conform in all respects to American Society of Testing Materials, Society of Automotive Engineers or similar association standards. Materials used shall be of first quality and shall be exactly duplicated in manufacture, design and construction on each of the vehicles.

1.4.7 All bolts, nuts, washers, and exposed linkages shall be zinc- or cadmium plated, phosphate-coated or stainless steel to prevent corrosion.

1.4.8 All plywood shall be marine-grade, or approved equal, with sealed waterproof edges, rot resistant and no internal or external voids.

1.4.9 All painted aluminum sheets shall be thoroughly cleaned and coated on the outside with zinc-chromated protective paint, epoxy primer or approved equal, prior to assembly on or in the vehicle.

1.4.10 All joints shall be treated to prevent corrosion; materials and method shall be approved by Procuring Agency prior to assembly.

1.5 WORKMANSHIP

1.5.1 Workmanship shall be of the best grade and shall conform in all respects to the best practice in the industry.

1.5.2 Welding procedures, welding materials and qualifications of operators shall be in accordance with the standards of the ASTM and the American Welding Society. All exposed welds shall be ground smooth after welding to present a smooth appearance. Where metal is welded to metal, the contact surfaces shall be free of scale, grease and paint.

1.5.3 All materials that are not inherently corrosion resistant shall be protected with corrosion-resistant coatings. All joints and connections of dissimilar metals shall be corrosion resistant and shall be

protected from galvanic corrosion. The process to prevent galvanic corrosion shall be approved by the MTA prior to start of production.

1.5.4 All bolts or rods passing through wood shall be cadmium-plated, or approved equal. Where wood and wood are placed together, both shall be coated with powdered aluminum and spar varnish or linseed oil and titanium oxide, or other approved sealing compound.

1.5.5 All exterior surfaces shall be smooth and free of visible fasteners, wrinkles, and dents. Exterior and interior surfaces, to be painted, shall be properly cleaned and primed as appropriate for the paint used, prior to application of paint to assure a proper bond between the basic surface and successive coats of paint for the service life of the vehicle. Paint shall be applied smoothly and evenly with finished surface free of dirt, runs, orange peel and other imperfections.

1.5.6 All exterior light fixtures and window frames shall be fitted to the contour of the vehicle body and adequately sealed to prevent entrance of water.

1.5.7 All rubber seals on ventilator doors and compartment cabinet doors, except vents above windshield, shall be placed in "U" shaped channels designed to hold rubber firmly in place, or captures by a retaining lip around the perimeter of the doors for interior equipment access doors and hatches which include recessed gaskets or the manufacturer shall submit another method for approval.

1.5.8 All burrs and sharp edges shall be dressed to prevent injury to passengers, operators and maintenance personnel.

1.5.9 Special care shall be taken with the outside sheathing, roof, roof bonnets, and the interior finish so that all kinks and buckles are removed before assembly to present a true and smooth finish without excessive grinding off of the material which could tend to weaken the structure.

1.5.10 Drilled holes and cutouts in exterior surfaces shall be made prior to cleaning, priming and painting. The bus shall be completely painted prior to installation of exterior lights, windows, mirrors and other items that are applied to the exterior of the bus.

1.6 GENERAL DIMENSIONS

• Wheelchair Lift: Location (except 138" SRW)	Behind rear axle, curbside
• Wheelchair Lift: Location (138" SRW)	Ahead of rear axle, curbside
• Lifting Capacity	1000 lbs. Minimum
• Static load	2,400 lbs. Minimum
• Wheelchair envelope	30"x 54" Minimum
• Width Overall, excluding mirrors	96", +0", -2"(85" for the SRW)
• Interior Width (Measured 12" above floor)	91.5" Minimum (75" for the SRW)
• Aisle Width	18" Minimum
• Height Overall, including all protrusions	115" Maximum
• Interior Height	78" (75" for the SRW)
• Passenger Door Width – clear opening width	32 Inches Minimum
• Door Height- clear opening height	80 Inches Minimum
• Ground Clearance excluding axles	10" Minimum
• Height of First Step - front door	12" Maximum
• Step Risers	10" Maximum
• Turning Radius (wall-to-wall)	50'2" Maximum
• Service Life	7 years or 200,000 miles

1.7 VEHICLE TYPES

1.7.1 Type 1A - 138" Wheelbase, Single Rear Wheel (SRW) with 4/2 seating, Gas Engine

1.7.1.1 The chassis shall be a Ford E-350 cutaway chassis, or MTA approved equal.

1.7.1.2 The engine shall be a 5.4 Liter V-8 with 255 HP minimum, or MTA approved equal.

1.7.1.3 Capacities

• Seated Passenger Capacity	4 Minimum (not including the driver)
• Wheelchair Positions	2 Minimum
• Front Axle	4,000 lbs., Minimum
• Rear Axle	7,000 lbs., Minimum
• Gross Vehicle Weight Rating	10,050 lbs., Minimum
• Fuel Capacity	30 Gallons

1.7.1.4 Dimensions

• Wheelbase	138" Nominal
• Overall Length (bumper to bumper)	260", Maximum
• Rear Overhang	69" Maximum
• Wheels	16" x 7" Minimum
• Tires	LT245/75R16, Load Range E Minimum

1.7.2 This section deleted in its entirety.

1.7.3 Type 2A - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Gas Engine

1.7.3.1 The chassis shall be a Ford E-350 cutaway chassis, or MTA approved equal.

1.7.3.2 The engine shall be a 5.4 Liter V-8 with 255 HP minimum, or MTA approved equal.

1.7.3.3 Capacities

• Seated Passenger Capacity	8 Minimum (not including the driver)
• Wheelchair Positions	2 Minimum
• Front Axle	4,600 lbs., Minimum
• Rear Axle	7,500 lbs., Minimum
• Gross Vehicle Weight Rating	10,500 lbs., Minimum
• Fuel Capacity	33 Gallons

1.7.3.4 Dimensions

• Wheelbase	138" Nominal
• Overall Length (bumper to bumper)	260", Maximum
• Rear Overhang	69" Maximum
• Wheels	16" x 6" Minimum
• Tires	LT225/75R16, Load Range E Minimum

1.7.4 Type 2B - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Diesel Engine

1.7.4.1 The chassis shall be a Ford E-350 or GM 3500 cutaway chassis, or MTA approved equal.

1.7.4.2 The engine shall be a 6.6 Liter V-8 diesel with 260 HP minimum, or MTA approved equal.

1.7.4.3 Capacities and dimensions shall be the same as Type 2A above.

1.7.5 Type 3A - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Gas Engine

1.7.5.1 The chassis shall be a Ford E-450 cutaway chassis, or MTA approved equal.

1.7.5.2 The engine shall be a 6.0 Liter V-8 or V-10 with 300 HP minimum, or MTA approved equal.

1.7.5.3 Capacities

• Seated Passenger Capacity	12 Minimum (not including the driver)
• Wheelchair Positions	2 Minimum
• Front Axle	5,000 lbs., Minimum
• Rear Axle	10,000 lbs., Minimum
• Gross Vehicle Weight Rating	14,200 lbs., Minimum
• Fuel Capacity	55 Gallons

1.7.5.4 Dimensions

• Wheelbase	158" Nominal
• Overall Length (bumper to bumper)	280", Maximum
• Rear Overhang	79" Maximum
• Wheels	16" x 6" Minimum
• Tires	LT225/75R16, Load Range E Minimum

1.7.6 Type 3B - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Diesel Engine

1.7.6.1 The chassis shall be a Ford E-450 or GM 4500 cutaway chassis, or MTA approved equal.

1.7.6.2 The engine shall be a 6.6 Liter V-8 diesel with 260 HP minimum, or MTA approved equal.

1.7.6.3 Capacities and dimensions shall be the same as Type 3A above.

1.7.7 Type 4A - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Gas Engine

1.7.7.1 The chassis shall be a Ford E-450 or GM 4500 cutaway chassis, or MTA approved equal.

1.7.7.2 The engine shall be a 6.0 Liter V-8 or V-10 with 300 HP minimum, or MTA approved equal.

1.7.7.3 Capacities

• Seated Passenger Capacity	16 Minimum (not including the driver)
• Wheelchair Positions	2 Minimum
• Front Axle	5,000 lbs., Minimum
• Rear Axle	10,000 lbs., Minimum
• Gross Vehicle Weight Rating	14,200 lbs., Minimum
• Fuel Capacity	55 Gallons

1.7.7.4 Dimensions

• Wheelbase	176" Nominal
• Overall Length (bumper to bumper)	260", Maximum
• Rear Overhang	69" Maximum
• Wheels	16" x 6" Minimum
• Tires	LT225/75R16, Load Range E Minimum

1.7.8 Type 4B - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Diesel Engine

1.7.8.1 The chassis shall be a Ford E-450 or GM 4500 cutaway chassis, or MTA approved equal.

1.7.8.2 The engine shall be a 6.6 Liter V-8 diesel with 260 HP minimum, or MTA approved equal.

1.7.8.3 Capacities and dimensions shall be the same as Type 4A above.

1.7.9 The wheelbase and GVWR for each vehicle type shall be selected to carry the driver, seated and standing passenger, wheelchair and bus body loads without exceeding the manufacturers' recommended axle, wheel assembly and tire loads.

2 AXLES

2.1 The front and rear axles shall have a minimum GAWR rating to meet the minimum GVWR and vehicle load requirements for each vehicle type.

2.2 The rear axle ratio shall be appropriate for the GVWR in order to meet performance requirements.

3 SUSPENSION

3.1 The minimum RV/commercial cutaway van chassis Gross Vehicle Weight Rating (GVWR) shall be no less than specified in the vehicle types.

3.2 The vehicle shall be equipped with the manufacturer's heavy duty handling package.

3.3 The vehicle shall be equipped with both front and rear stabilizer bars.

3.4 The heaviest duty springs, shock absorbers, wheel bearings, hubs and spindles available for the GVWR shall be provided.

3.5 Springs shall be heavy-duty type front and rear. Front and rear springs shall have a capacity rating of at least the rating of the axles.

3.6 Shock absorbers shall be double acting heavy-duty front and rear, with minimum 1-3/8 inch diameter and sufficient capacity to stabilize the loaded vehicle.

3.7 The drive shaft shall be guarded to prevent it from striking the floor of the vehicle or the road and shall meet all MDOT requirements.

4 WHEELS AND TIRES

4.1 Vehicles shall be equipped with the chassis manufacturers heaviest duty 8 hole steel disc, Oxford white (inside and out), 16 inch diameter and 6 or 7 inch minimum width, as required.

4.2 Vehicles are to be equipped with tubeless, all-season, steel belted radial tires of minimum size LT 225/75R16E BSW-AS, and a 10-ply rating, or load range E.

4.3 One (1) full size OEM spare tire, mounted on a 8 hole steel disc, Oxford white (inside and out), shall be provided for each vehicle.

4.4 All wheels and tires are to be interchangeable.

4.5 Jack, tools and other such accessories shall be provided but not be included in calculations for 'weight analysis'.

5 ENGINE

5.1 Engine shall be heavy-duty truck-type low emissions gasoline flex-fuel engine, if available, or diesel engine with quality of bearings, pistons and crankshaft designed for sustained full-load operation. The best available valve seats exhaust valves and valve rotators are required. Engine shall be equipped with ETC Electronic Throttle Control and Active Fuel Management.

5.2 The engine displacement shall be as required to meet the performance requirements for each vehicle type. A V-8 configuration is preferred. All gas engines shall be compliant with EPA Clean emission

standards at the time of manufacturer and be approved to operate on E85, a blend of 85% ethanol mixed with gasoline or any combination of the two not to exceed the aforementioned ratio. All diesel engines shall be compliant with EPA Clean emission standards at the time of manufacturer and be approved to operate on Ultra Low Sulfur Diesel (ULSD) or Biodiesel up to B20 or any combination of the two.

5.3 The engine shall be furnished with a large capacity full flow oil filter of the spin-on type. The filter shall be easily reached and replaced without removal of any major component in addition to an auxiliary oil cooler mounted in front of the engine behind the grill to help the engine oil maintain proper operating temperature, preventing oxidation and increasing the oil's lubricating and protecting properties.

5.4 A dry-type air cleaner must be provided.

5.5 The engine compartment shall have an inside hood release/locking device.

5.6 The engine and exhaust system must meet all applicable federal standards for noise level and emissions. The exhaust shall be routed to the left rear corner.

5.7 A sound reduction package from the OEM shall be included with the engine and shall be provided to include dash sound/heat absorption, external engine cover insulator and instrument panel insulation.

5.8 Chassis shall be equipped with the OEM speed control (road speed governor), preset by the chassis OEM to a maximum speed of 65 mph. Third party control units are not acceptable and will not be considered as equal.

5.9 A driver adjustable cruise control shall not substitute for the road speed governor requirement.

5.10 An automatically engaging "engine fast-idle" system with a manual override button shall be installed in the dash area or in a separate panel within easy reach of the seated driver.

5.11 A fuel line water separator and engine block heater shall be proved for the diesel engine option.

5.12 A chassis manufacturer's auxiliary engine oil cooler shall be provided. Aftermarket oil cooler shall not be accepted

5.13 Contractor shall provide pricing for chassis manufacturers hand-held diagnostic data reader kit for reading trouble codes stored in ECM memory and for providing operating information about the engine. The diagnostic data reader shall also be capable of programming changes in operating parameters and of diagnosing the electronically controlled transmission. The kit shall include: instruction manuals with codes, hookup cables and appropriate software to properly diagnose the bus.

6 TRANSMISSION

6.1 The transmission shall be a five or six speed heavy-duty, fully automatic, electronically controlled unit with overdrive.

6.2 The transmission shall be equipped with an auxiliary transmission fluid cooler in order to maintain a safe operating temperature under all operating and load conditions, including stop-and-go driving conditions. Transmission cooler shall be the largest size available. All connections shall be made with threaded fittings and flared stainless steel tubing.

6.3 A transmission over-heat sensor connected to a warning light mounted in the driver's compartment shall be provided. Sensor shall activate at a temperature 5°F below the manufacturer specified maximum safe operating temperature.

6.4 The transmission shift lever shall be interlocked with the starting motor to prevent engagement of the starter in any gear position other than neutral or park.

6.5 The transmission shift lever shall be interlocked to prevent shifting from 'Park' without the brake pedal being pressed.

6.6 The transmission shall be installed such that it is possible to remove the transmission as a unit without disturbing the engine or final drive.

7 STEERING

7.1 Vehicle shall be equipped with factory-installed power steering and an auxiliary power steering fluid cooler. Where possible, all connections shall be made with threaded fittings and flared stainless steel tubing.

7.2 Steering wheel shall be adjustable position tilt type.

8 FUEL AND EXHAUST SYSTEM

8.1 Total usable fuel capacity shall be as specified for each vehicle type.

8.2 Fuel tank(s) shall be constructed of welded steel or hardened plastic, and equipped with a safety blow out plug per I.C.C. regulations and with all protective heat shields. Fuel tank shall meet FMVSS standard 301 and FMCSR 393.67.

8.3 Fuel line shall be equipped with an engine-mounted fuel filter with replaceable elements to remove particles 2 microns and larger in diameter.

8.4 Fuel cap shall be attached to the vehicle body or fuel tank fill tube by means of a tether or chain.

8.5 Exhaust tail pipe shall conduct the exhaust gases from the muffler to an outlet with stainless steel or aluminized deflector directed to the rear street side of the vehicle. The exhaust outlet shall terminate behind the rear wheel and forward of the rear bumper. Exhaust tail pipe shall be properly installed with heat shields on vibration attenuation mounts and not exhaust directly under a window.

9 BRAKES

9.1 Brakes provided must feature a: 4-wheel disc anti-lock braking system, power assisted, heavy-duty hydraulics, self-adjustment and must be rated to correspond to the GVWR of the chassis.

9.2 The braking system shall comply with FMVSS 105 and FMVSS 106.

9.3 Brakes shall conform to all Federal and Maryland Vehicle Safety Standards.

9.4 Parking brake shall be OEM standard mechanical system.

9.5 There shall be a parking brake warning light on the dashboard.

9.6 Routing of brake lines shall be such as to minimize corrosion from road salt, other chemicals and road hazards. Lines shall be sufficiently separated so that simultaneous failure due to accidental damage or debris impact is unlikely to occur.

10 COOLING SYSTEM

10.1 The radiator shall be the heaviest duty available from the chassis manufacturer and shall be equipped with a surge or overflow tank (coolant recovery kit) designed so that the coolant, propylene glycol with SCA's, expelled is saved and restored to the cooling system.

10.2 The cooling system must provide adequate engine cooling at 100°F ambient temperature with air conditioner(s) on.

10.3 Vehicle to be provided with propylene glycol with SCA's, all season coolant, to protect cooling system to -20°F.

11 CRASHWORTHINESS

11.1 The vehicle body and roof structure shall withstand a minimum static load equal to 150 percent of the curb weight evenly distributed on the roof with no more than a 6-inch reduction in any interior dimension. Windows shall remain in place and shall not open under such a load.

11.2 The vehicle, at GVWL and under static conditions, shall not exhibit deformation or deflection that impairs operation of doors, windows, or other mechanical elements. Static conditions include the vehicle at rest with any one wheel on a 6-inch curb or in a 6-inch deep hole.

11.3 All seats and seating shall meet Federal safety standards for: A) Seating system and layout B) Occupant crash protection C) Seat belt assemblies D) Seat belt assembly anchorages

11.4 Deleted.

12 BODY, FRAME AND EXTERIOR

12.1 The design, materials and assembly shall result in a durable vehicle structure able to operate for the expected seven (7) year life span of the vehicle under normal paratransit operating conditions in the Procuring Agency's service environment.

12.2 The highest possible quality of RV/commercial, cutaway van chassis, or approved equal, is required for the vehicle understructure. The body, including the roof, shall be of sufficient strength to support the entire weight of the fully loaded vehicle on its top or side, if overturned when the vehicle is stationary (consistent with Section 11).

12.3 Body and roof support frame shall be a welded, all steel rollover cage, adequately reinforced at all joints or where stress concentrations may occur. Passenger compartment rollover cage must extend over driver's area. Bidders must provide evidence that the bus meets the requirements of Section 11, CRASHWORTHINESS with submission of engineering drawings of internal structure and certified testing laboratory results as outlined in Section 11.4.

12.4 The sidewalls of the vehicle shall be constructed to provide a straight vertical panel from floor to ceiling. Exterior wall panel(s) shall be durable aluminum alloy, fiberglass reinforced panels (FRP) or MTA approved equal. The number of exterior panels shall be kept to a minimum to minimize the number of body panel seams. All exterior panels shall overlap the adjacent panels by a minimum one (1) inch to prevent water or moisture from penetrating the exterior skin of the vehicle. All fixed exterior panels shall be closed end riveted, bonded, welded or securely fastened to the body structural members with a method approved by the MTA. No exposed metal screws shall be permitted.

12.4.1 Where applicable, sidewall structure shall be adequately reinforced to support attachment of wheelchair-related securements, seat belts and shoulder harnesses

12.5 The roof shall be constructed so that there will be a minimum of 78 inches of interior headroom in the entire vehicle. Twisting motion of the vehicle must not cause a separation at the joints of the roof and the side panels of the vehicle. Roof super-structure shall be constructed of a 1-piece seamless construction. Roof panel shall lap side panels by minimum of 1 inch. The overlapping panel construction is to preclude water leakage into the vehicle. Other methods of assembly will be evaluated provided

that the Bidder submits an approved equal, clarification and/or exception form for MTA review and approval. Panels shall be riveted, bonded or welded to the superstructure.

12.6 Minimum OEM chassis corrosion protection warranty shall be five (5) years unlimited mileage. The interior of doors, walls, pillars, windshield framing, headers, headlamp recesses, hood braces, all double panel areas and all their enclosed areas, including the inner surfaces of all tubular construction, must be treated with a rust-proofing process material such as Ashland Oil Tectyl #506G, Quaker-Kote, Bilstein 2000, PPG Corashield 7972 or MTA approved equal. Holes drilled in doorposts and edges, sills, etc. for the application of the material shall be plugged with rubber, neoprene or plastic plugs. A manufacturer's certification shall be provided, stating that all components listed above have been zinc coated prior to finish coating application.

12.7 The entire body frame understructure is to be rust proofed /undercoated at the body manufacturer's site or at a location in close proximity to this factory. Undercoating must be applied in compliance with all supplier and applicable federal standards.

12.8 Front and rear body caps shall be constructed of fiberglass, bonded and sealed to the vehicle body by a minimum of 1 inch overlap to prevent the penetration of moisture into the interior of the vehicle body. Fiberglass caps shall be of the sturdiest construction possible to endure the entire life of the vehicle.

12.9 All bolts and rivets used in the manufacture of the body shall be high strength metal. All bolts shall be equipped with lock washers or other acceptable devices to prevent loosening under vibration. All nuts, bolts, clips washers, clamps, and like parts shall be zinc- or cadmium-plated, phosphate coated, black oxide coated, or stainless steel to prevent corrosion.

12.10 Sheet metal screws of any type shall not be used in the construction of bodies except for attaching electrical wire moldings, exterior molding trim and end caps and or light fixtures, or for interior panels which must be removed to give accessibility to other interior or concealed components.

12.11 All exposed screws and fasteners shall be painted or finished to blend in with the surrounding area.

12.12 Mud flaps shall be provided for all wheels. In the event the tires extend beyond the side of the bus body, splash aprons and fenders shall be provided. Mud flaps shall be constructed from ¼ inch thick black thermoset plastic.

12.13 A flexible, tenacious, high-quality colored caulking compound must be applied to the top of all rub rails, all unwelded metal joints, and to any place which would allow moisture to enter through the joints of the exterior panels. This does not include the fresh air intake of the heater or the drain openings at the bottom of the rub rails. The compound shall be applied in a neat and workmanlike manner without voids or skips. Body shall be thoroughly water tested and made tight to prevent leakage.

12.14 Front and rear bumpers shall be Romeo Rim "Help" energy absorbing type, or approved equal. Bumpers shall be constructed of urethane rubber and uniformly black in color. The rear bumper shall be anti-ride design.

12.16 Two (2) tow eyes are to be provided at the rear of the vehicle under the rear bumper for towing and lifting. Each towing device shall withstand, without permanent deformation, tension loads up to 1.2 times the curb weight of the vehicle within 20 degrees of the longitudinal axis of the vehicle. The rear towing devices shall allow attachment of a rigid tow bar and shall permit lifting of the vehicle, at curb weight, by the towing devices and the tow bar until the rear wheels are clear of the ground. Each towing device shall accommodate a crane hook with a 1-inch throat.

12.17 Rain gutters shall be provided to prevent water from flowing from the roof onto the side windows and passenger doors. An expanded rain gutter, of sufficient size to divert water as displaced from the roof away from the driver's immediate area, shall be provided at the driver's door. When the vehicle decelerates or is operated on a downslope, the gutters shall not drain onto the windshield or the driver's side windows, or into the door boarding areas. Rain gutters shall be fabricated of materials compatible with that portion of the vehicle body to which they are attached, and shall be welded to the vehicle body with a continuous weld or approved equal adhesive system.

12.18 A stepwell shall be provided in which the first step is a maximum of 12 inches above ground level. See Section 14 Floor and Stepwell.

12.19 Vehicle exterior shall be finished in accordance with section 32.1. 12.20 License plate holders for standard size U.S. license plates shall be mounted on the front and rear of the bus at locations to be approved by the Procuring Agency. The license plates shall be either flush-mounted or recessed so that they can be cleaned by automatic bus washing equipment without being caught by the brushes. The license plate mounting shall not allow a toehold or handhold for unauthorized riders. The rear license plate location shall be lighted.

12.21 Vehicle shall be equipped with a driver's side running board.

12.22 **Documentation certifying compliance with FMVSS 220 shall be submitted with bid.**

13 INSULATION AND FIRE SAFETY

13.1 The passenger and engine compartments shall be separated by a bulkhead constructed of fireproof and/or fire retardant materials. The bulkhead shall serve to inhibit the spread of any engine compartment fires into the passenger-occupied section of the vehicle. The bulkhead shall be insulated with a minimum of one (1) inch thick fire-resistant fiberglass material or equivalent to minimize transmission of noise, heat and fumes.

13.2 Materials used for insulation throughout the vehicle shall be fire resistant and have noise-absorbing properties, in addition to insulating qualities. The materials used shall not release flammable or poisonous fumes in the event of fire or exposure to heat. Materials shall be sealed to minimize entry of moisture, shall be non-hygroscopic, and resistant to fungus and the breeding of insects. Vibration compacting or settling during the life of the vehicle shall not affect any of the insulation materials' properties.

13.3 A 1 inch minimum fire resistant fiberglass blanket insulation or equivalent is to be provided between the interior and exterior panels to reduce heat and cold penetration and act as a sound-deadening vibration-reducing material. The insulation shall achieve a minimum R factor 0f 5.

13.4 The complete roof shall be insulated with at least 1-inch thick fire resistant fiberglass insulation or 1½ inch thick rigid Styrofoam insulation.

13.5 Thermal insulation shall allow internal temperatures of the vehicle to be maintained between 65° F. and 80° F. in all operating conditions. The vehicle shall be sealed so that the driver or passengers during normal operation will feel no drafts with the passenger doors closed.

13.6 All materials used in the vehicle shall meet or exceed the flammability and smoke emission requirements specified in FMVSS 302.

14 FLOOR AND STEPWELL

14.1 Plywood shall be a minimum 3/4" thick, 7-ply Marine grade plywood, installed with side "A" facing up, or approved equal, and with all edges sealed. Preservative treated plywood shall utilize a chemical

that contains no EPA listed hazardous compounds and have moisture content at or below fifteen percent. Plywood shall be of a grade that is manufactured with a solid face and back. Plywood prior to any preservative treatment shall be certified at the time of manufacturing by an industry approved third-party inspection agency such as APA-The Engineered Wood Association (formerly the American Plywood Association). The floor, as assembled, including the sealer, attachments and covering shall be waterproof, non-hydroscopic, and resistant to mold growth and impervious to insects. A galvanized steel or aluminum sub-floor [moisture barrier] shall be installed beneath the plywood and shall be suitably sealed and completely undercoated prior to installation, with attention to the rear wheel-wells.

Floor shall be securely attached to underframe through elevator bolts and self-tapping countersunk screws or tapping plates (with a thickness equal to a standard nut). Floor fasteners shall be protected from corrosion for the service life of the bus. The floor deck shall be reinforced as needed to support passenger loads. At GVWR, the floor shall have an elastic deflection of no more than 0.60 inches from the normal plane. The floor shall withstand the application of 2.5 times gross load weight without permanent detrimental deformation. All floor joints shall be sealed with mastic such as Isoclad. 14.2 There shall be no steps in the aisle area, and no passengers shall be required to step up to get to their seat.

14.3Heavy duty, non-slip floor covering, which shall form a visually seamless floor covering contiguous with the sidewalls and bulkheads, shall be installed. The floor covering shall be Altro Transflor Meta 2.2, Gerflor Tarabus Sirius NT, or approved equal. Floor covering shall extend to include entrance/exit areas as well as steps, except the drivers compartment. Floor covering shall comply with all pertinent aspects of the ADA and be constructed of a skid resistant material, minimum 2.2mm thick, and adhered to the sub-flooring. The occurrence of seams shall be minimized. Where seams do occur, they shall be heat welded and waterproof. The floor covering shall be essentially black in color. Materials shall be color matched and subject to approval by the Procuring Agency.

14.4 All joints in floor covering shall be butt-cut type. The pieces shall meet flush in order to avoid water seepage. Floor covering shall be bonded to the floor with waterproof sealer.

14.5 Steps shall be sloped only enough to preclude water accumulation in the stepwell. Step treads and exposed vertical risers shall be of matching colored material, with integrally molded nosing, and be consistent with the passenger area.

14.6 A permanent two (2) inch wide, full width, bright yellow or white band shall mark the edge of each step. The colors shall be permanently blended into the tread covering material. Each tread shall be completely sealed around the edges with a waterproof rubber sealant.

14.7 A stepwell low voltage electric heater pad, such as Ultra Heat SH-267 or Lighthouse Warm Welcome, or approved equal, shall be installed on the first step beneath the floor covering of the initial step to eliminate ice and snow build-up.

14.8 The top surface of any wheelchair securement floor plates shall not constitute a tripping hazard and meet all state and federal guidelines.

14.9 A slide out or fold-away RV style step shall be provided that will lower the initial step height to 10" maximum when deployed.

15 MIRRORS

15.1 Two (2) fully adjustable, Roscoe, Lucerix/Metagal, B&R or approved equal, exterior left side/right side, side view mirrors shall be provided. Each head shall incorporate replaceable mirrors including: a 9 x 7 inch flat mirror (minimum), and a separate 4 x 6 inch (minimum) convex mirror. The convex mirror

shall be located below the flat glass mirror so as to allow for increased driver visibility along both sides of the vehicle. The mirror housing shall be molded and feature one point mounting, so as to provide an undistorted view of the rear corners of the vehicle. The mirrors shall be heated and remote controlled.

15.2 Mirror brackets are to be made from carbon tubing or anodized cast aluminum, black in color. Brackets shall be spring-loaded, feature single point mounting and be designed to fold out of the way without damage to the mirrors or vehicle body upon contact with an obstruction or when met with resistance.

15.3 The left side mirror shall be mounted on the driver's door and be electrically and remotely adjustable. The right side mirror shall be electrically and remotely operated. The right side mirror shall be fender mounted and braced from behind the fender with a stiffening plate, of a material which does not contribute to galvanic corrosion.

15.4 Interior mirror(s) shall be placed so as to allow the driver to observe passengers throughout the vehicle without leaving his/her seat and without shoulder movement. With a full load, the driver shall be able to observe passengers anywhere in the bus, including the rear wheelchair area, rear seats and anywhere in the aisle via a minimum 7" X 16" mirror that shall be mounted in front and over the driver. In addition, a minimum 3"x 9" rectangular rearview mirror, OEM's standard chassis rearview mirror with non-glare day/night feature or approved equal, shall be installed in the middle of and on the front windshield for driver's view of and through bus interior. The location of the interior mirrors shall be approved by the MTA at the PDR and shall be consistent throughout each build.

16 DOORS

16.1 The vehicle shall be equipped with four (4) doors: A passenger entrance door with steps on the curbside front, a driver's entrance door on the roadside front, rear door(s) for use as an emergency exit, and a minimum 42 inch wide wheelchair lift service door on the curbside of the vehicle. If the vehicle is in operation, any unsecured doors shall illuminate a warning lamp on the driver's dashboard panel. Only the driver's door shall be equipped with a key locking mechanism which shall be as provided by the OEM manufacturer.

16.2 Design and operation of all doors, hatches, mechanisms, markings, emergency devices, warning lights and related equipment shall comply with all applicable Maryland State and Federal regulations.

16.3 Front Doors

16.3.1 The front passenger door shall be an outward-folding double leaf design (transit) door and shall be located on the curbside of the vehicle behind the front wheel. The clear door opening between hand rails shall be a minimum of 32 inches in width. The clear door opening shall be a minimum of 80 inches in height measured from the first step to the door header. Each door leaf shall have a minimum 2-1/2 inch rubber outer edge to protect passengers in the event of an inadvertent door closing. The door portal opening shall be structurally reinforced to insure the structural integrity of the vehicle.

16.3.2 The door shall be electrically operated from the driver's position and shall be held in the open or closed position with a passive mechanical interlock or detent. The front doors shall be equipped with an interior safety release mechanism, permitting the doors to be mechanically opened in the case of an emergency.

16.3.3 The driver's entrance door shall be the standard chassis manufacturer's equipment.

16.3.4 Deleted.

16.3.5 The entrance doors shall have an exterior weatherproof programmable numerical keypad that can open and close the doors. The location of the keypad shall be approved by the MTA.

16.4 Emergency Exit Door

16.4.1 Emergency exit door(s) shall be located in the rear of the vehicle. The door shall be of a single leaf design and shall include either a spring loaded hold-door-open system to maintain a clear opening or a latching mechanism, to be approved by the MTA prior to production, in order to facilitate emergency exit operations. Minimum dimensions of the clear door opening shall be 37 inches high by 56 inches wide.

16.4.2 Opening of the rear door(s) shall activate a rear door ajar buzzer and illuminate a red warning lamp on the driver's dash panel, whenever the door is not secure.

16.4.3 The emergency door shall have upper and lower glazing and include one 11" x 14" static cling 'fish eye' wide-angle rear window lens. The lower window shall have a see through mechanism to prevent contact of mobility devices. The door shall be openable from outside the vehicle and shall be non-locking. The structure of the door, mounting equipment, inside and outside trim and any exposed mechanisms shall be of durable, corrosion resistant material that is rigidly reinforced. Positive stops to limit the door travel in both the open and closed positions shall be provided.

16.5 Wheelchair Lift Service Door

16.5.1 The wheelchair lift service door shall be located aft of the rear axle on the curbside of the vehicle and shall have a minimum opening of 42 inches wide by 62 inches high. The actual position shall be determined by maximizing the passenger carrying capacity of the vehicle for at least two (2) wheelchairs and the required number of ambulatory passengers in fixed forward facing positions.

16.5.2 The wheelchair lift service door shall be of a double leaf design, with a non-locking handle. Door shall be held in the open position by means of a gas strut, or approved equal. The design of the door shall be approved by the MTA.

16.5.3 All exposed edges in the doorframe shall be smoothed to remove rough or sharp edges and padded with cushioning material to prevent injuries during passenger loading operations.

16.5.4 Opening of lift door shall illuminate an amber warning lamp on the driver's dash panel. This lamp shall be marked with words 'Door Ajar".

16.6 Emergency Roof Hatch

16.6.1 A Transpec or approved equal roof hatch with exterior hatch release handle shall be provided as an emergency escape exit. Hatch shall be hinged so that the entire lid can be swung away from the opening by passenger operation of a release handle flush-mounted in the interior face of the hatch. The emergency escape hatch shall be permanently attached and shall measure 22-3/4 inches by 22-3/4 inches. Hatch shall also be designed to provide emergency ventilation, ram front, with rear exhaust.

16.6.2 The escape hatch shall be installed towards the rear of the vehicle, with clear emergency escape instructions in English/Spanish.

17 WINDOWS

17.1 All window areas must comply with applicable Maryland State and Federal Motor Vehicle Safety Standards in effect at the time of manufacture of the vehicles.

17.2 Windshield and driver's window shall be standard chassis manufacturer's laminated safety glass with single density tint and shade band.

17.3 The driver's entry door window shall be the standard, manual operation, roller type provided by the chassis manufacturer.

17.4 Passenger's door and rear glass shall be clear tempered glass with 100% light transmission.

17.5 Side windows shall be typical transit vehicle type T-Slider with 1/4 inch thick Lexan glazing or 1/8 inch thick glass and a minimum 6 inch high horizontal ventilation section. The window shall be positioned with a slide open ventilation section mounted in the top portion of the window frame. Windows shall be mounted in extruded black anodized aluminum frames.

17.6 The slide-type unit shall be split into two sections with the forward section fixed and the rear section adjustable.

17.7 Side window glazing shall be a uniform gray tint acrylic, polycarbonate or tempered glass allowing approximately 30% light transmittal. Acrylic shall be gray Lucite SAR; polycarbonate shall be gray Lexan MR5-T, or approved equal.

17.8 At least four (two for the 138" wheelbase) of the panoramic windows shall be emergency exit windows, two per side (one per side for the 138" wheelbase). The emergency windows shall be located so as not to be blocked by the seat backs or folding seats. They shall be hinged at the top of the frame with positive-locking emergency release latches at the bottom or sides. Metal plates imprinted with emergency operating instructions in English/Spanish shall be installed for the push-out sashes.

17.9 All windows shall be fitted with durable, firmly installed weather seals to prevent the entrance of air and water. Materials used for weather seals shall be designed to withstand varying temperature extremes, road splash and salt and other exterior elements without cracking, leaking, loosening or deteriorating.

17.10 There shall a window on either side of the Emergency Door on the rear of the bus. These windows shall be fixed, of the maximum size practical, to allow better visibility for the driver.

17.11 A full window shall be provided in the transition panel between the windshield and the ambulatory passenger door(s) to eliminate the blind spot created by the transition panel and enable the driver to view the curb from the driver's seat. The body panel partition between the transition window and entrance doors shall be as narrow as possible to maximize the driver's view of the area around the entrance doors.

18 WINDSHIELD WIPERS

18.1 Two electric, motor driven windshield wipers, with a minimum of 2 fixed speeds and an intermittent, variable speed mode, shall be provided.

18.2 The windshield washer shall be electrically operated.

18.3 There shall be a minimum reservoir capacity for one gallon of windshield washer fluid.

18.4 The spray tips shall direct a stream of fluid into the path of travel of each windshield wiper blade each time the actuating button is operated. The stream of water must be directed so as to effectively clean the entire path of travel of each wiper blade when the vehicle is traveling at highway speeds.

19 EXTERIOR LIGHTING

19.1 All exterior lights must meet Maryland State Department of Motor Vehicles, Maryland Department of Transportation, United States Department of Transportation and Federal Motor Vehicle Safety Standards requirements. All exterior rear and roof marker bus body lights are to be LED with direct

termination and come with protective lens coating for protection against scratching, UV degradation and a lifetime warranty. All LED lights shall be Dialight or approved equal.

19.2 Headlights shall be the quartz halogen sealed beam type with Daytime Running Lights. The low beam life rating must be 600 hours minimum.

19.3 Reflectors (amber at front and red in rear) shall be installed on each side of the vehicle, as well on the rear of the vehicle.

19.4 Rear lamps shall consist of red LED combination stop/tail lights and separate amber LED turn signal lenses.

19.5 A third red LED brake light shall be mounted in the center of the rear panel above the emergency door as per revised federal automobile regulations. Rear CHMSL to be an 18" LED red strip light, low profile surface mount, or approved equal. Rear exterior light configuration shall be submitted with bid package for approval by the MTA.

19.6 Two bright white LED backup lights shall be provided and shall be supplemented by an audible backup alarm.

19.7 A rear LED license plate light shall be provided.

19.8 There shall be an override switch to permit continuous flashing of the directional signals (hazard warning lamp system).

19.9 An aluminum or stainless steel armored LED turn signal marker light to be mounted either at or near the vehicle beltline slightly in front of the rear axle or above the rear wheel wells and shall be amber Series 15 Dialight or approved equal.

19.10 Two additional flashing LED amber warning lamps, shall be provided to signal passenger loading/unloading operations. They shall operate automatically whenever the passenger loading door, service door, or rear emergency doors are open or when the hazard warning lamps are activated. These two LED lamps shall be located at the extreme outer edges of the roof above the rear doors.

19.11 "Flasher" units for the turn signals and emergency warning lamps shall include an audible indication that these items are in operation. The sound level shall be sufficient to be noticeable above ambient vehicle sound levels at a vehicle speed of 40 mph.

19.12 A heat resistant LED lamp or lamps shall be provided in the engine compartment for night emergency repairs or adjustments. The light(s) shall be controlled by a labeled toggle switch located inside the engine compartment, which illuminates the light(s) or when the engine compartment hood opens to approximately 20% of its full open position and extinguishes them when the engine compartment hood returns to this 20% open position.

19.13 The passenger entrance doorway and the lift doorway shall have outside LED light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the bottom step tread or lowered lift platform outer edge(s). Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers. These lights shall automatically illuminate when the door(s) are opened.

20 INTERIOR LIGHTING

20.1 All interior lights shall be LED and must meet Maryland State Department of Transportation, United States Department of Transportation and Federal Motor Vehicle Safety Standards requirements.

20.2 An individually switched LED dome light shall be provided for the driver in the driver's compartment.

20.3 Interior shall be illuminated with LED low profile strip lighting with a lifetime warranty so as to provide a minimum of 12 foot-candles of illumination measured at 36 inches above the floor. OEM shall supply certification on vehicles built previously.

20.4 Driver courtesy light shall light when driver door is opened. All other interior lights shall operate only when ignition is in "ON" position. Stepwell and exterior front door lights shall operate only when the front passenger door is opened. A driver controlled override rocker switch shall be provided to allow operation of all interior passenger courtesy lights when the passenger front doors are open or closed.

20.5 There shall be LED stepwell lighting which goes on automatically when the passenger door is open. Stepwell lighting shall provide at least two (2) foot candles of illumination measured on the step tread. Lighting shall be shielded so as not to distract the driver and shall be integrated into the sidewalls of the stepwell.

20.6 Separate light switches are to be provided for the driver's compartment, interior lights and exterior lights. All switches shall be made of metal or heavy-duty high impact plastic or approved equal and marked with easily read identifiers.

20.7 Wheelchair lift lights, which illuminate the lift device in a 4-foot radius outside at ground level of the door opening, shall be provided in an LED design. The light shall be wired to light automatically when lift door is opened. Lift lights shall be mounted internally in lift area above the lift in the lift door headlining. All LED ADA and interior lighting to have a lifetime warranty.

20.8 Exterior LED lights at the front and lift door areas shall be provided and shall comply with the Americans with Disabilities Act. These lights will activate only when the doors are open.

21 BODY – INTERIOR

21.1 Sidewall, rear wall and ceiling trim panels shall be melamine, ABS plastic, FRP, smooth fiberglass gel coat, vinyl or the MTA approved equal, applied in one or more sections. Trim molding of stainless steel, anodized aluminum, FRP or ABS plastic shall be used to cover seams. The trim molding shall be continuous except at the door openings, wheel well and fuel intake line covers and run the entire length of each seam covered. All interior panels, materials, and treatments shall be flame retardant in conformance with FMVSS 302 and treated to be easily cleaned.

21.2 Panels shall be supported to prevent, buckles, vibration, drumming or flexing and particular care shall be exercised to keep the body light fixtures from weaving or bouncing when the coach is in service. The ceiling panels shall be supported to prevent sagging. All ceiling and sidewall panels shall be scuff and scratch resistant. All sharp corners, edges and protruding hazardous surfaces shall be eliminated.

Bidders shall submit samples and specifications of the material for approval with their requests for exceptions/approved equals.

21.3 All stanchions and grab rails shall be 1 - 1/4-inch stainless steel. Vertical stanchions shall be secured top and bottom with bolts to ceiling and floor metal framing to prevent twisting. All stanchions shall be mounted at floor and ceiling in to structural metal body member or metal plate.

21.4 There shall be a vertical stanchion, grab rail, and padded modesty panel located at the rear of entrance door. Provision shall be made for grab rails at both sides of door, within easy reach from the

ground, to assist passengers in both boarding and egressing. Grab rails shall be mounted to stanchions and structural metal members or metal plates in the sidewalls.

21.5 There shall be a vertical stanchion, grab rail, and padded modesty panel located behind the driver's seat. There shall be a shatterproof, plexiglass panel filling the area from the ceiling to the grab rail and the stanchion to the wall. The purpose of this panel is to protect the driver from being hit with objects from behind.

21.6 All stanchions and guardrails shall be minimum 1-1/4 inch, thick-wall stainless steel tubing. Fittings shall be stainless steel, cast aluminum, cast zinc, or approved equal corrosion resistant material.

21.7 All grab rails, stanchions, and fittings in or adjacent to the passenger compartment and in the stepwell shall be polyethylene coated Dura-Diamond yellow and must meet or exceed standards required by Maryland State regulations. All energy absorbent materials shall be yellow. Brackets, clamps, screw heads, and other fasteners used on the passenger assists shall be flush with the surface and free of burrs and/or rough edges.

21.8 Driver's compartment including floor, bulkhead, dashboard and modesty panel shall have a matte black non-reflective finish. Instrument panel, switches, controls, fittings, frames and any other items in driver's compartment shall have non-reflective surfaces in order to prevent glare. Extensions shall be provided for the OEM sun visors.

21.9 A large stainless steel driver's coat hook with securing straps for the drivers jacket shall be provided and located directly behind the driver in a convenient location and shall support the weight of a heavy winter jacket. It shall be located so as not to restrict the driver's interior or exterior field of view, or field of view through the interior rear view mirrors when in use.

21.10 There shall be a vertical stanchion, grab rail and modesty panel located between the lift and rear most curbside stationary ambulatory passenger seat. There shall be a shatterproof, plexiglass panel filling the area from the ceiling to the grab rail and the stanchion to the wall.

21.11 All materials used in construction of vehicle interior (except acrylic and plastic window glazing) shall be fire-resistant and meet or exceed the requirements of FMVSS 302.

21.12 Interior decals shall be as per ADA regulations, MDOT regulations, and Section 32.5 of this Specification.

21.13 All modesty panels shall harmonize with interior, both in color and design, and shall not provide a hazard to the passengers.

21.14 Overhead rails required by ADA provisions shall be at height of 71 inches to the top of the handrails from vehicle floor. The rails shall be fastened into structural metal body members or metal plates.

21.15 Overhead handrails shall be provided in all buses that shall be continuous including the wheelchair areas, as required, except for a gap at the rear doorway.

21.16 **Bidder shall submit dimensional scale drawings, both top and elevation views, of the interior of the vehicle, including seats, modesty panels, securement area, driver's area, grabrails, handholds, doors, windows, and other interior details, as part of Bidder's Request for Exceptions/Approved Equals.**

22 DRIVER'S SEAT

22.1 Driver's seat shall be a high-back bucket style seat with right-side armrest, power base and automatically retractable lap and shoulder harness. Upholstery material shall be 32 ounces per square

yard (minimum) transit cloth. Colors shall be selected from manufacturer's standard colors to harmonize with the exterior accent stripe color. The seat shall be 6-way power adjustable and the seat back shall be adjustable to multiple positions. The driver's seat shall be adjustable for driver's ranging in size from a fifth (5^{th}) percentile female to a ninety-fifth (95^{th}) percentile male to be able to easily reach all the necessary controls to operate the bus. There shall be no interference or pinching hazard between any grab rail and/or stanchion or any other part of the bus with the seat in any position.

23 PASSENGER SEATS

23.1 Given the presence of a wheelchair lift mounted in a side door behind the rear axle, the Bidder shall supply the Procuring Agency with diagrams of proposed interior configurations based upon the interior dimensions of their vehicle and the requirements of this Specification as well as the requirements of the Maryland State Department of Transportation regarding aisle widths and wheelchair tie-down standards. **Proposed seating arrangements must be supplied by the deadline for submitting Exceptions/Approved Equals Request Forms**. Proposed seating arrangements will be approved by the Procuring Agency as part of the Approved Equal process.

23.2 The underside of the seats, area between sidewall and seats, and general seat configuration shall be designed to prevent accumulation of debris.

23.3 Forward facing ambulatory passenger seating shall be Freedman Feather Weight Mid-Hi back or approved equal, featuring a black molded, top mounted grab handle and flip-up arm-rests. Structure shall be based on welded stainless steel or powder coated tubing to meet the requirements of FMVSS 210. Installation of the seats shall meet the requirements of FMVSS 207.Seats covering shall be Level 4 or approved equal, 32 ounce anti-microbial fire block type vinyl upholstery, with heat sealed vertical seams. Foam shall be contoured, dense, transit grade polyurethane with a minimum thickness of one and half (1 ½) inches. All fixed forward facing seats shall provide at least 17 inches of seating support. Top of uncompressed seat cushion to floor shall be between 19 inches and 21. Color shall be selected after contract award.

23.4 Seat cover upholstery materials and padding shall meet or exceed the applicable flammability and smoke emission performance requirements specified in FMVSS 302.

23.5 Any flip seat requested as an option shall be equipped with a spring-loaded automatic latching device to prevent the bottom seat cushion from returning to the horizontal position. The locking device shall be constructed to be manually released to avoid accidental return during use. The width of the flip seat in the stored position shall not exceed eleven one half (11 ½) inches. Additionally, flip seats shall be upholstered with the same quality and color material as the standard passenger seats. The design of the flip seat shall complement the standard passenger seats and be from the same manufacturer or approved equal. The seat shall also lock in the seated position. As an option, a non-locking (in the seated position) flip seat shall be offered.

23.6 Each seat position shall be equipped with a self-retracting passenger restraint system, which meets current FMVSS requirements, intended to hold passengers in a secure seated position during normal operations. Seat belts shall be anchored through the floor structure, independent of the seat, or bolted to the seat frame assembly. Each restraint belt and installation shall meet all applicable FMVSS standards including 208, 209 and 210. The installation of the seat belts shall have no twisting, binding or bunching of the seat belt web material. The retractor shall be mounted to the seat frame. Six (6) seat belt extensions shall be provided with each bus.

23.7 All wall-mounted belt securement points must be mounted into a reinforced sidewall. Wall mounting into the standard sidewall is unacceptable. The belt securement system shall feature an integrated restraint tie-down system securing belts not in use.

23.8 The forward most row of seats shall be equipped with DOT/FMVSS approved child seat anchors.

23.9 Seat Dimensions

1. Seat width per person: 17.5 inches minimum
2. Seat depth: 17 inches minimum
3. Seat back: 24 inches minimum

4. Seat back angle 10 to 15 degrees
5. Hip to knee room: 27 inches nominal (maximum available)
6. Aisle width: 18* inches minimum (maximum available)

* To be measured at seated passenger hip height.

24 WIRING

24.1 Original manufacturer's vehicle wiring shall remain unchanged to the greatest extent practicable consistent with the requirements of these specifications. All add-on electrical components controlling the power to the bus body electrical circuits shall be located in a separate electrical junction box. The junction box shall be easily accessible through a hinged lockable door. The junction box shall be suitably sized to allow for ease of maintenance, repair and ten (10) percent additional space for the installation of future electrical components. The junction box shall be located within accessible reach of the driver. All body harnesses shall join on a terminal strip made of a high strength dielectric material. All circuits shall be protected by manual reset circuit breakers, in lieu of fuses. Circuit breakers shall be numbered and sized to provide proper overload protection for each individual circuit.

24.2 Wiring and terminals shall meet or exceed current Federal and State vehicle requirements and be amply sized for both mechanical strength as well as to carry required currents without significant voltage drops.

24.3 All wiring, including chassis manufacturer's, shall be enclosed in non-metallic loom meeting current SAE Standard J762a and be adequately supported by fully insulated "P" clamps with a minimum spacing of every 24 inches and routed for protection from heat, moisture, solvents, corrosion, road debris, abrasion and tension. Tie wrap shall be used minimally in the securement of electrical harnesses and wiring.

24.4 The bend radii of all installed electrical wires and cables shall not exceed the manufacturer's recommended minimum bend radii.

24.5 All parts of the wiring system and electrical components shall be protected from corrosion. All connectors installed on the underside of the vehicle and/or exposed to any outside element and/or have a 20 amp and high circuit breaker within its electrical circuit shall be double insulated.

24.6 There shall be no exposed or loose wiring in the driver or passenger compartment. Any bus body wiring harnesses containing exposed excess lengths shall have the excess length neatly gathered and secured to a rigid bus body or chassis frame member.

24.7 Wiring shall be of sufficient length to permit positioning, as well as replacement of terminals, twice, without excessive tension.

24.8 Protective grommets shall be provided at points where wiring penetrates metal or other material.

24.9 Battery cables shall be heavy duty and adequately sized to carry current output of the electrical system.

24.10 Grounding of components shall be through polarized, shielded terminals wired to main structural ground points. Grounding through hinged doors or covers of any type shall not be acceptable. Ground points shall be bolted to main structure free of paint, oil or rust, coated with silicone grease after fastening.

24.11 All wires shall be color coded or numbered every 6 inches maximum to correspond with the wiring diagram for ease of service and identification.

24.12 Complete wiring diagrams shall be provided with each vehicle.

24.13 Electrical components that may require servicing or replacement shall be readily accessible through access panels or covers. Installation of aftermarket electrical components and systems in the engine compartment shall be eliminated to the greatest extent possible.

24.14 Maximum radio suppression available from chassis manufacturer shall be provided.

24.15 All switches and controls necessary for the operation of the vehicle shall be conveniently located in the driver's area and shall provide for ease of operation and be appropriately marked. All controls and instrumentation necessary for safely operating the vehicle shall be located within easy reach of a fifth (5^{th}) percentile female through to a ninety-fifth (95^{th}) percentile male driver seated in the driver's seat with the driver's seat belt fastened. All bus body switches shall be of a uniform rocker type with illumination or MTA approved equal mounted in convenient groupings.

24.16 An in-line circuit breaker, with manual reset, of adequate capacity for circuit to mobility lift shall be provided in a location approved by the MTA in accordance with the lift manufacturer's recommendations. The circuit breaker shall not be located in the chassis engine compartment. The power wire to the lift shall be securely "P" clamped and protected.

24.17 A master battery control switch shall be provided that shuts off all bus body electrical power. The switch shall be located in a separate compartment within or adjacent to the battery box. The housing and location of the master battery switch shall prevent corrosion from fumes and battery acid. The location of the master battery switch shall be clearly identified on the access panel and be accessible in less than 10 seconds. The master battery switch shall be capable of carrying and interrupting the total circuit load. Opening the master switch with the power plant operating shall not damage any component of the electrical system.

24.18 All accessories and electrical equipment, with the exception of the driver's dome light, horn, headlights, taillights, parking lights, and emergency flashers shall be wired through the vehicle ignition switch. The driver's dome light, horn, headlights, taillights, parking lights, and emergency flashers shall be wired directly to the battery, so as to be operative with individual switches.

25 BATTERIES AND CHARGING SYSTEM

25.1 The vehicle is to be supplied with an alternator powered 12-volt extreme duty electrical system. All components are to be selected and integrated to function in an environment characterized by low engine (alternator) speeds and high amperage draws (due to lights, flashers, heater, and other accessories in constant operation).

25.2 A single OEM alternator of 225 amps rated output at fast engine idle of approximately 2,000 rpm is required. Dual alternators meeting the amperage requirement may be acceptable is approved in advance by the MTA.

25.3 In addition to the OEM chassis battery(s), two (2) heavy-duty 12 volt, with a combined 1150 CCA for gas engines and a combined 1400 CCA minimum for diesel engines. The batteries shall be lead acid premium construction and maintenance free. The positive (+) and negative (-) terminals shall be top post and of different size on the same battery to prevent incorrect cable installation. All battery terminals shall be coated with an anti-corrosion and sealant protector.

25.4 The auxiliary battery shall be located in an easily accessible box mounted on the curbside of the bus unless the Chassis manufacturer requires otherwise. The location of the battery box shall be approved by the MTA. This battery box shall include a slide out tray that securely locks in the stowed position. The slide out tray shall be made of stainless steel. Battery terminals shall be located for access in less than 30 seconds with jumper cables. The locking mechanism shall consist of shear pins on both sides of the battery tray or an equivalent mechanism approved by the MTA. To prevent the shear pins from being misplaced they shall be attached to the battery tray or locking mechanism with a method approved by the MTA.

25.5 Access to the battery tray shall be from outside the bus. The access door to the battery box shall swing up at a minimum 60 degrees to the horizontal plane and shall be non-locking. The mechanism to hold the door in the up position shall also firmly hold the door in the closed position. With the compartment door latch not in the latched position the door shall remain in the closed position when the bus is traveling at any safe speed or making any safe type of turning maneuver. The battery box shall be sealed to prevent road debris, dust, rain, snow or other forms of precipitation from entering the box, but shall not be air tight for safety reasons. The battery box construction shall be submitted to the MTA for approval prior to installation on the vehicle.

25.6 Battery cables shall be heavy duty and adequate to carry current output of the electrical system.

26 INSTRUMENT PANEL AND CONTROLS

26.1 All controls and instruments are to be within a seated driver's arm reach with seat belt fastened. All switches are to be of uniform rocker type, or approve equal, mounted in convenient groupings in a panel near the driver. Controls shall be located so that boarding passengers may not tamper with control settings.

26.2 Instruments and gauges shall be of a non-glare, illuminated type, for easy maintenance and repairs, and clearly visible to the seated driver.

26.3 The following instruments are to be provided:

- speedometer with odometer
- ammeter or voltmeter
- oil pressure gauge
- fuel tank level gauge
- engine temperature gauge and over-heat warning light
- engine hour meter as part of chassis EMC
- headlight-on indicator and headlight high beam indicator; » directional signal and flasher indication light(s) and sound
- "Door Open" warning lights (red for rear doors, and amber for all other doors

26.4 The following controls, in addition to the normal steering, braking and transmission functions, are to be provided:

- column mounted turn signal lever
- emergency flasher control
- auxiliary switches for any clearance or marker lights (switches must all be of uniform type)
- switches and temperature controls for passenger compartment heaters and air conditioners
- separate switch and temperature controls for front heaters, defrosters, and air conditioners
- key start engine starter switch
- engine fast idle system (auxiliary idle control) as controlled via the wheelchair interlock mechanism, per FMVSS 404 shall be provided
- two-speed wiper/washer with variable speed, intermittent operation control
- passenger compartment light switch (es) and/or controls
- passenger door control switch

The layout of the controls and switches shall be approved by the MTA and shall be consistent throughout the build.

27 HEATING, AIR CONDITIONING AND VENTILATION SYSTEM

27.1 The heating system shall consist of both the heaviest duty available factory installed front heating unit from the chassis manufacturer and a rear, hot water type, heating unit. The rear unit shall either be the heaviest duty available factory-installed rear-heating unit from the chassis manufacturer or a unit with a heating capacity in the 29,000 BTU range.

27.2 The front and rear heating units shall be sufficient to maintain a temperature of 60°F at knee level throughout the empty vehicle interior when outside ambient temperature is 0°F and the vehicle is traveling at highway speeds of 55 mph and during stop-and-go operation.

27.3 The rear-heating unit shall be located so as not to interfere with aisle space, wheelchair restraint systems or seating areas (legroom), location to be approved by the Procuring Agency.

27.4 Rear heating unit hot water hoses shall be heavy duty heater hose run under the body, be supported at least every eighteen (18) inches, and be located so they are protected from wear due to friction, road debris and road salt build-up

27.5 The driver's heating unit (front unit) shall operate independently of the passenger area-heating unit (rear unit).

27.6 Supplemental heat to the stepwell must be provided via ducts and an adjustable two speed blower or a low voltage electric heating element located below the flooring cover and shall be of sufficient heat to prevent icing.

27.7 Provisions shall be made for windshield defrosting.

27.8 All controls shall be conveniently mounted for easy operation by a seated driver wearing a seat belt.

27.9 Chassis manufacturers (OEM) In-dash air conditioning, heater, and defroster with maximum OEM available btu/hr rating shall be provided.

27.10 Air conditioning system(s) consist of an OEM supplied driver's area air conditioning system and a passenger area air conditioning system which are completely independent of each other.

27.11. Drivers area and passenger area air conditioning system shall be separately controlled from a control panel at the driver's area. Minimum control functions include off/low/medium/ high fan speed with and a/c, heat, defrost for the OEM supplied in-dash air conditioning system. Minimum control functions for the passenger area air conditioning system shall include a rotary fan speed switch with off/low/medium/high and a rotary thermostat control.

27.12 The passenger air conditioning system fuses, relays, and breakers shall be located in the electronic junction box.

27.13 Refrigerant hose shall be Eaton EZ-Clip, model GH-134, SAEJ2064, double braided Barrier type Goodyear, Aeroquip or approved equal and shall be completely enclosed in loom over the entire length of the vehicle to prevent chaffing. Refrigerant hose shall be supported at a minimum of every twenty four (24) inches with insulated "P" clamps.

27.14 Refrigerant fittings shall be ATCO, Aeroquip or MTA approved equal. These fittings may be "O" ring type.

27.15 All refrigeration/heater lines and wiring shall be routed outside of the passenger area to minimize exposure to passengers in case of leaks.

27.16 Refrigerant hose, heat, and condensate lines that enter the passenger compartment shall be encased in rigid material which harmonizes with the interior of the vehicle.

27.17 Protective grommets shall be provided at points where refrigeration hoses, heater hoses, condensate hoses, and electrical harnesses (wires) penetrate metal or other materials.

27.18 All HVAC system hoses and harnesses (wires) that pass within twelve (12) inches of the exhaust system shall be shielded in a manner to prevent heat damage.

27.19 The air conditioning system shall utilize environmentally friendly R-134A refrigerant. Compressor manufacturers specified refrigerant oil shall be utilized.

27.20 Performance

27.20.1 The air conditioning system shall be able to reduce the vehicle interior temperature from ninety five (95) degrees Fahrenheit to seventy five (75) degrees Fahrenheit within thirty (30) minutes when the ambient temperature outside the vehicle is maintained at ninety five (95) degrees Fahrenheit for at least four (4) hours.

27.20.2 The performance standards shall be met in test conditions with vehicle engine operating between 1,000 and 1,500 RPM's.

27.20.3 HVAC system shall include a heat unit for the passenger area. This unit shall be mounted on the floor of the vehicle and shall have a minimum rating of 60,000 btu/hr. All heater coils shall be heavy duty copper or aluminum. Heavy duty quarter turn shut off valves shall be located in the supply and return lines to the passenger area heater. These valves shall be readily accessible. All heat controls shall be located at the drivers control panel.

27.21 For Vehicles on a 138 inch nominal wheelbase:

27.21.1 A/C system shall be American Cooling Technology (A.C.T.) Model ACT-40 HD, Trans/Air Model TA-712 Super, Carrier or MTA prior approved equal.

27.21.2 For wheelbase of 138 inch nominal, the system shall utilize two (2) engine driven compressors. One (1) is the OEM supplied compressor driven off the vehicle engine which is specific to the OEM in-dash driver's area air conditioning system. The second compressor is for the passenger area air

conditioning system. This compressor is driven off the vehicle engine and is nominal ten (10) cubic inch displacement and is protected by high and low pressure switches.

27.21.3 A/C system shall include a rear ceiling mounted evaporator rated at a minimum output of 45,000 BTU and 800 CFM at ambient conditions of 95 degrees Fahrenheit and 40% relative humidity. The system shall operate independently of the front chassis supplied system.

27.21.4 Evaporator shall be a single slim line unit, A.C.T., Trans/Air, Carrier or MTA approved equal, mounted to the roof frame structure in the top rear of the vehicle in a location that does not interfere with passengers or wheelchair occupants.

27.21.5 Evaporator shall be copper tube, aluminum fin coil or MTA approved equal with expansion valve, low-pressure switch, and concealed drain hoses. The drain hoses shall be protected at points where the hose penetrates metal or other material.

27.21.6 Evaporator shall incorporate a 12 volt DC motor with total minimum airflow of 1300 CFM.

27.21.7 Evaporator cover shall be constructed of fire retardant material, which conforms to FMVSS 302.

27.21.8 System shall utilize an ACT, Trans/Air, Carrier, or the MTA approved equal, skirt mounted 2-fan condenser, rated at a minimum 70,000 BTU, located on the street side of the vehicle, in front of the rear wheels, and installed to minimize collection of road dirt and facilitate maintenance.

27.21.9 Condenser shall be copper tube, aluminum fin coil or MTA approved equal with filter drier and sight glass.

27.21.10 Condenser shall include minimum two (2) 12" fans with sealed 12 volt DC permanent magnet motors with minimum total airflow of 2200 CFM.

27.21.11 Condenser shall be treated with anti-corrosion material to prevent the deterioration of the condenser due to road salt and/or rust. All exposed tubing and fittings shall be coated with anti-corrosion material.

27.22 For vehicles on a wheelbase equal to or greater than 158 inches:

27.22.1 A/C system shall be American Cooling Technology (A.C.T.) Model ACT-532 HD, Trans/Air Model TA-733 Super, Carrier or MTA prior approved equal.

27.22.2 For wheelbase of 158 or more the system shall utilize two (2) engine driven compressors. One (1) is the OEM compressor driven off the vehicle engine which is specific to the OEM driver's area air conditioning system. The second compressor is for the passenger area air conditioning system. This compressor is driven off the vehicle engine and is nominal ten (10) cubic inch displacement and is protected by high and low pressure switches.

27.22.3 A/C system shall include a rear ceiling mounted evaporator rated at a minimum output of 52,000 BTU and 1330 CFM at ambient conditions of 95 degrees Fahrenheit and 40% relative humidity. The system shall operate independently of the front chassis supplied system.

27.22.4 Evaporator shall be a single slim line unit, A.C.T., Trans/Air, Carrier or MTA approved equal, mounted to the roof frame structure in the top rear of the vehicle in a location that does not interfere with passengers or wheelchair occupants.

27.22.5 Evaporator shall be copper tube, aluminum fin coil or MTA approved equal with expansion valve, low pressure switch, and concealed drain hoses. The drain hoses shall be protected at points where the hose penetrates metal or other material.

27.22.6 Evaporator shall incorporate two (2) 12 volt DC motors with total minimum airflow of 1600 CFM.

27.22.7 Evaporator cover shall be constructed of a fire retardant material which conforms to FMVSS 302 specification standards.

27.22.8 System shall utilize an ACT, Trans/Air, Carrier, or the MTA approved equal, skirt mounted 2-fan condenser, rated at a minimum 70,000 BTU, located on the street side of the vehicle, in front of the rear wheels, and installed to minimize collection of road dirt and facilitate maintenance.

27.22.9 Condenser shall be copper tube, aluminum fin coil or MTA approved equal with filter drier and sight glass.

27.22.10 Condenser shall include minimum two (2) 12" fans with sealed 12 volt DC Permanent magnet motors with minimum total airflow of 2400 CFM.

27.22.11 Condenser shall be treated with anti-corrosion materials to prevent the deterioration of the condenser due to road salt and/or rust. All exposed tubing and fittings shall be coated with anti-corrosion materials.

28 RADIO COMMUNICATIONS SYSTEM

28.1 Vehicles shall be equipped to accommodate a radio communications system. The Contractor shall supply and install the antenna bracket, flexible conduit, wiring, and related components.

28.2 Provisions shall be made to simultaneously accommodate an operator supplied radio installed in two interior locations: near the driver's seat at a location to be approved by the Procuring Agency and above the driver's seat in a compartment with a door mounted in header to be approved by the Procuring Agency at the preproduction meeting.

28.3 A sealed connector for an antenna cable shall be installed above the driver's seat of each vehicle. The connector shall be located as close to a structural member as practical in order to provide a mounting base for a radio antenna.

28.4 The Contractor shall supply and install a flexible conduit with pull wire sufficient in size to permit installation of antenna coaxial cable between both radio locations and the antenna location.

28.5 An antenna bracket shall be supplied and installed by the Contractor. Make and model shall be supplied to the successful bidder. A drip loop is required. The Procuring Agency shall approve antenna location and method of mounting.

28.6 Sufficient power supply cable(s) between the chassis manufacturer approved high power radio-connect circuit breaker and both radio locations shall be supplied and installed by Contractor.

29 SAFETY EQUIPMENT

29.1 Heavy-duty OEM dual horns shall be furnished.

29.2 A model 326 Signalstat, Ecco "Smart Alarm" model SA-917, PRECOMATIC model 1040, or approved equal type back-up alarm shall be provided which adjusts the volume of the alarm signal sound to a level of at least 5dB above the background noise level.

29.3 Contractor must provide all safety equipment required by State and Federal regulations. All safety equipment supplied must meet or exceed standards specified by State and Federal regulations.

29.4 All safety equipment shall be located within easy access of the operator, in a secure position or enclosed compartment.

29.5 A twenty-four (24) unit first aid kit, approved by the Maryland Motor Vehicle Administration, shall be provided and securely mounted in an easily accessible location.

29.6 A minimum five (5) pound dry powder type fire extinguisher, with gauge and hose, U.L. approval shall be provided. A bracket to securely hold fire extinguisher inside of vehicle shall be provided. Type of bracket used and location shall be approved by the MTA prior to installation.

29.7 Three (3) triangular emergency road reflectors in a secure storage container shall be mounted near the driver's area.

29.8 Body Fluid Cleanup Kit to include at a minimum:

1. One (1) pair of Latex gloves,
2. One (1) package of absorbent powder,
3. One (1) package of antiseptic BZK towelettes,
4. One (1) bag 24"x 24" Bio-Hazard white w/tie,
5. One (1) bag plastic brown w/tie,
6. Certi-Green surface cleaner towelette,
7. Face mask,
8. Infection control,
9. One (1) SBB-2 scoop bag w/handle scraper,
10. Two (2) towels and
11. Paper crepe.

30 NOISE

30.1 Interior noise level in the vehicle is not to exceed 65 DBA during highway travel at 55 miles per hour.

31 WHEELCHAIR ACCESSIBILITY

31.1 Wheelchair Lift

31.1.1 The wheelchair lift shall be installed in the wheelchair lift service door opening. The installation shall be adequate to withstand the stresses imposed by regular wheelchair operation on a sustained basis. All mounting fasteners shall have a minimum grade rating of eight (8). The manufacturer shall provide documentation with theor proposal to demonstrate that the chassis and suspension has been designed or modified to meet the requirements imposed by the lift and to prevent excessive of the bus when lifting the maximum load of the lift.

31.1.2 The wheelchair lift shall be a Braun Century Fully-Automatic Lift or approved equal with a minimum continuous rated lifting capacity of 1000 pounds, tested to a minimum static load of 2,400 pounds and a vertical drop capability of 48". Lift shall meet all, ADA and FMVSS 403/404 requirements. A Ricon Titanium S-Series Fully-Automatic Lift shall be offered as a no cost option at the end users request. The installation of the lift in the bus shall be certified by the lift manufacturer.

31.1.3 Lift platform usable clearance area for wheelchair positioning shall be at least 34 inches wide. Collapsible yellow powder coated handrails on both sides of the platform shall be provided. The handrails shall not deform under side loads applied when supporting a standee while the lift is in motion nor shall they structurally deform during repeated lift folding operations. Passive restraining belts shall be incorporated into handrails.

31.1.4 The lift shall have a manual "back-up" system, which allows the operator to raise and lower the lift platform in the event of electrical failure.

31.1.5 The construction of the lift frame shall allow a vertical clearance of at least 64 inches measured from the top of the bridge plate to the bottom of the padding on the horizontal cross member of the frame.

31.1.6 The lift shall be equipped with a switch box made of durable ABS plastic and shall be conveniently mounted on the lift frame, allowing safe operation from both the interior and exterior of the vehicle.

31.1.7 The electrical wiring for the lift shall be a separate shielded cable with its own circuit breaker. It shall be supported along the chassis from the main power source to the lift connection.

31.1.8 The wheelchair lift shall be interlocked with the transmission and emergency brake in such a manner as to prevent the vehicle from moving with the wheelchair lift door in the open position and prevent the wheelchair lift from being operated until the transmission is in park and the emergency brake is completely set. A dash mounted, indicator light will come on to show the system is activated.

31.1.9 The wheelchair lift shall be equipped with a mechanical "cycle counter" which will record a full lift cycle. A full lift cycle is defined as lowering the platform to street level and raising the platform to vehicle floor level or vice versa, but not including only unfolding and folding the platform. The counter shall be conveniently located, without a cover, where both the operator and maintenance personnel can easily view it. The wheelchair lift shall be rated for a minimum of 10,000 cycles.

31.1.10 As an option, a lift with a folding platform for better visibility out the lift door shall be offered. This lift shall be a Braun Vista-2 or Ricon K-Series, or approved equal. The lift shall meet all of the requirements listed above.

31.2 Wheelchair Securement

31.2.1 The wheelchair/mobility-device securement system shall be the Q-Straint System (Slide N' Click with Q8300-A1-SC retractable restraints), or approved equal. Systems provided shall be capable of securing wheelchairs and specialized mobility devices such as "Amigos". Alternate systems proposed must include independent wheelchair/mobility-device securements and retractable passenger seatbelt/shoulder-strap restraints.

31.2.2 Wheelchair tie down system shall consist of four (4) floor attachment points per location for the chair. The strap configuration shall consist of a minimum of four (4) fully automatic heavy-duty retractors that can be quickly fastened to the floor attachment points and the wheelchair. The heavy-duty retractors shall be self-locking and self-tensioning. Tie downs shall utilize grade 8 fasteners of the size required by the securement system's OEM. The tie down fastener shall include, as a minimum, SAE grade 8 cap screws, SAE grade 8 hexagon nuts and harden washers.

31.2.3 All floor securement plates shall meet all state and federal guidelines as described in Section 3.8.8. Floor anchorage points shall be Kinedyne Sure-Lok or Q'Straint Heavy Duty 'L' Track or MTA approved equal, utilizing corrosion resistant steel or aluminum and usable for front or rear tie downs or shared by both. All anchorage points shall be recessed and nominally flush with the floor to prevent a tripping hazard. Recessed area shall be sealed prior to anchorage point installation to prevent the intrusion of water.

31.2.4 Occupant and wheelchair securement shall use an integrated system and be securely fastened. Occupant restraint system shall meet ADA requirements and all applicable FMVSS 403 and 404 requirements. Lap belt, included as part of the occupant restraint system, shall be 108 inches.

31.2.5 All wall-mounted belt securement tracks must be mounted into a reinforced sidewall. Wall mounting into the standard sidewall is unacceptable.

31.2.6 The securement configurations proposed and the hardware utilized must comply with all applicable Maryland State and Federal Department of Transportation (ADA) regulations and guidelines.

31.2.7 All proposals shall include a system of storing securement equipment in an efficient, orderly manner so that the equipment is readily available when needed and secured out of the way when not being used. The storage system shall ensure that stored equipment shall remain secured in any type of vehicular accident. Open boxes on the floor are not acceptable. The storage system shall be approved by the MTA.

31.2.8 **The bidder shall submit a proposed plan for providing two (2) wheelchair locations and securement with their Exceptions/Approved Equals requests.** The minimum clear floor space for each wheelchair location shall be 30" x 54".

32 PAINT, LETTERING AND DECALS

32.1 Vehicles not manufactured with exterior panels of gel-coated fiberglass or pre-primed, pre-painted steel skins shall be painted with Dupont Imron 5000, 3.5 VOC; PPG Concept Acrylic Urethane; or approved equal fleet white, to match the OEM cab "White" paint. The exterior 2 mil coat of white finish shall not be required if the exterior skin is pre-finished with an approved process rendering an equivalent "White" finish. Unpainted or exposed surfaces and edges of any approved pre-finished surface exposed as a result of the manufacturing process shall require primed and painted protection. Prior to manufacture of the vehicle the Contractor shall obtain approval from the MTA of the exterior body color via submission of paint plate samples. This paint specification applies to bodies painted at the body manufacturer or any exterior body surfaces painted by a supplier to the body manufacturer as pre-finished metal or parts.

32.2 To assure a proper bond between the surface of the vehicle and successive coats of original paint for the service life of the vehicle, exterior surfaces to be painted shall be properly cleaned and primed as appropriate for the paint used, prior to application of paint. Paint shall be applied smoothly and evenly with the finished surface free of dirt, runs, orange peel, and other imperfections. All exterior finished surfaces shall be finished with a vinyl topcoat, which is impervious to gasoline, and commercial cleaning agents. Finished surfaces shall not be damaged by controlled applications of commonly used graffiti removing chemicals.

32.3 No welded components shall be added to the vehicle after painting.

32.4 The Contractor shall provide all decals mandated by Maryland State and Federal law. In all instances, application procedures and materials used shall comply with the recommended specifications and practices of the material manufacturer. 32.5 These decals shall be installed at locations to be approved by the Procuring Agency after contract award.

32.5 Interior decals shall consist of Emergency Exit Door, No Smoking (International symbol type), emergency window identification and operating instructions and other identification labels required by the various governmental regulatory agencies.

33 OPTIONAL EQUIPMENT ITEMS The Procuring Agency may choose to exercise all, some or none of the following options. Bidders are required to submit bids on all optional equipment items as described below:

33.1 Option 1: Electronic Destination Signs

33.1.1 Twin Vision LED, or MTA approved equal destination signs shall be provided. The front sign shall be the largest practical, or MTA approved equal and mounted in the top center of the front of the bus. The side sign shall be model #906-1408-008, or MTA approved equal, and the rear route sign shall be

model #906-1648-010, or MTA approved equal. Final destination sign locations shall be determined during the pre-production meeting. Defrosting glass shall be provided with the top center destination sign.

33.2 Option 2: Fire Suppression

33.2.1 A fire suppression system shall be provided on each bus, Fogmaker, or MTA approved equal. The fire system shall include four sensors and three nozzles.

33.3 Option 3: Fare Box Accommodation

33.3.1 Accommodation for a fare box shall be made as far forward as practicable and shall not obstruct passenger traffic.

33.3.2 A horizontal passenger assist shall be located across the front of the vehicle and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration.

33.4 Option 4: Farebox

33.4.1 The contractor shall provide and install a Main M-4 Farebox, or approved equal. Location shall be approved by the MTA. A spare vault shall also be provided.

33.5 Option 5: Camera System

33.5.1 The contractor shall provide and install the most recent model GE Security- MobileView Select system Select Color four camera system or approved equal mobile digital video recorder in each bus. Installation of all necessary wiring, ceiling mounting holes for the bus video surveillance system shall be included.

33.5.2 The contractor shall provide a set of Computer Equipment compatible with the GE Security MobileView Select System or any approved equal as delineated under Option #5.

33.5.3 The contractor shall provide a set of spares for the GE Security MobileView Select System or any approved equal as delineated under Option #5.

33.6 Option 6: Public Address System

33.6.1 Vehicles shall be equipped with public address system permitting the driver to announce stops and provide other passenger information.

33.6.2 The vehicle shall be equipped with a minimum of four (4) interior speakers and one (1) exterior weatherproof speaker, which shall provide for clear, audible messages. A separate volume control shall be provided within easy reach of the driver. The system shall be muted when not in use.

33.6.3 The microphone shall be handheld microphone located adjacent to the driver. The handheld microphone shall be secured within the driver's range of vision and easy reach. As an option, the microphone shall be hands free.

33.6.4 Successful Bidder shall submit details of public address system for the MTA's approval at the time of pre-production meeting.

33.6.5 As an option the successful Bidder shall submit details on a Clever Devices Speakeasy Public Address System or MTA approved equal

33.7 Option 7: Passenger Stop Request

33.7.1 Controls shall be provided adjacent to the wheelchair securement locations and seats for requesting stops and which alerts the driver that a passenger wishes to disembark. This shall include both audible (chime) and visual (stop request) system.

33.7.2 For ambulatory passengers, the audible controls shall be mounted at a height easily accessible for the passengers to use. For mobility-impaired passengers, the controls shall be mounted no higher than 48 inches and no lower than 15 inches above the floor.

33.7.3 All controls shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate the controls shall be no greater than 5 foot-pounds.

33.7.4 Bidder shall submit details of stop request system for the MTA's approval at the time of pre-production meeting.

33.8 Option 8: Flat Floor

33.8.1 The interior passenger compartment shall be continuously flat from the vestibule area to the rear wall. When fastening the floor understructure to the bus body understructure, no fasteners shall protrude more than one half (1/2) inch below the underside of the floor structure above the rear tires.

33.9 Option 9: Manual Operated Passenger Door

33.9.1 In lieu of an electrically operated passenger door, the passenger shall be manually operated. The mechanism and supports must be of a heavy duty design.

33.10 Option 10: Bike Rack

33.10.1 The vehicles shall be equipped a Sportworks DL-2 S/S (stainless steel) bike rack with a quick release mounting bracket mounted on the front bumper. The bike rack must be easily removable for towing.

33.11 Option 11: Strobe Light

33.11.1 A roof mounted strobe light shall be installed towards the rear of the bus.

33.12 Option 12: Backup Camera System

33.12.1 A Roscoe backup camera system, or approved equal, shall be installed with a dash mounted monitor.

33.13 Option 13: Radio Delete

33.13.1 The factory installed AM/FM Radio shall be deleted and a complimentary plate be installed in its place.

33.14 Option 14: Baltimore MTA Mobility Option

33.14.1 Chrome diamond plate, twelve (12) inches in height, shall cover the interior sidewalls rising from the floor in the mobility aid securement area.

33.14.2 The contractor shall install all exterior decals as supplied by the MTA.

33.1433.14.3 Goodyear tires shall be installed.

33.14.4 There shall be two additional interior lights.

33.14.5 There shall be an additional LED light above the passenger door.

33.14.6 The brake lights shall have a strobing module installed.

33.14.7 There shall be two antenna mounting plates with interior access hatches.

33.14.8 The interior mirror shall be 6" x 30".

33.14.9 There shall be transition stone guards installed.

33.14.10 There shall be a 'Lift Enable' switch installed in the dash.

33.14.12 'L' track shall be installed on the wall for the restraints.

33.14.11 A Roscoe backup camera system shall be installed with a dash mounted monitor.

33.14.13 The exterior mirrors shall be manually adjustable, with LED turn indicators in the mirror.

33.14.14 All stanchions shall be yellow Duradiamond.

33.14.15 Wall grabs, 6" minimum, shall be installed in the Wheelchair area.

33.14.16 An additional stanchion and modesty panel will be installed at the rear of the bus.

33.14.17 The driver's seat shall be Recaro with a Norco power base.

33.14.18 A Motorola Astro XTL 2500 two-way radio shall be installed on an extra heavy mounting duty mounting system.

33.14.19 A Ranger MDC system shall be installed.

33.14.20 The location of all equipment shall be approved by the MTA at the preproduction meeting.

33.14.21 Each vehicle shall be equipped with two (2) automatic fire extinguishment/suppression systems, Amerex V-13 or approved equal. The first system shall include a temperature sensor and two (2) extinguishment nozzles located in the engine compartment. The second system shall provide for a temperature sensor and extinguishment nozzle located in the battery compartment. Contract shall provide proposed specific configuration and mounting details for the MTA's approval before the vehicles are built.

33.14.22 Ignition and door lock keys for all buses procured shall be identical. Each vehicle is to be delivered with four (4) sets of keys. The keypad for the passenger door shall be deleted.

33.14.23 Each vehicle shall be equipped with a brake retardation system that will maintain 90% effectiveness of braking H.P. through all operating ranges down to two (2) mph. The brake retarder shall be a Telma model CC40, LAD (low amperage draw) or approved equal.

33.14.24 In addition to the one (1) OEM required battery; two (2) Delco 1250 batteries shall be provided to power the bus body systems. The two (2) additional batteries shall have a combined minimum 1400 CCA capacity. Battery negative (-) and (+) terminals shall be top post and of different sizes to prevent incorrect installation.

33.14.25 A roof mounted strobe light shall be installed towards the rear of the bus.

33.15 Option 15: Diagnostic Equipment

33.15.1 Diagnostic equipment shall be offered for all subsystems, in addition to any diagnostic equipment already specified above.

33.16 Option 16: Training

33.16.1 The Contractor shall provide a program to educate, train and teach personnel in all details of the bus, as required, to enable the MTA to safely and satisfactorily operate, service and maintain the buses. One objective of the program shall be to develop within the property the capability to perform similar training under its own training program subsequent to the Contractor's involvement. The training program shall be 40 hours minimum.

33.16.2 The Contractor shall submit a Training Plan with the Technical Proposal in accordance with the specifications requirements. The Training Plan will provide detailed information on the Offeror's training program and the manner in which it proposes to meet the property's training requirements. In addition, the Training Plan shall include the number of classroom and field instruction hours that the Offeror recommends for each system on the bus; the qualifications of the instructors; a list of training aids to be used and furnished; and a brief description of the scope of instruction to be covered.

34 QUALITY ASSURANCE

34.1 The Contractor shall assume all responsibility for maintaining quality of components and equipment supplied on these vehicles.

34.2 The Maryland Transit Administration shall have the right to inspect the vehicles during production and a final point of assembly, prior to delivery.

34.3 The Maryland Transit Administration reserves the right to carry out a quality assurance inspection upon delivery, prior to acceptance, of the vehicle and may refuse delivery should defects be found as determined by the Administration.

34.4 The Maryland Transit Administration may be represented at the Contractor's facility by resident inspector(s). They shall monitor in the plant assembly of small buses built under this procurement. The resident inspector(s) shall be authorized to approve the pre-delivery acceptance tests and to release the coaches for delivery. Upon request to the quality assurance supervisor, the resident inspectors shall have the access to the Contractor's quality assurance files related to this procurement. These files shall include drawings, material standards, parts lists, inspection processing and repairs and records of defects.

34.5 The presence of these resident inspectors in the plant shall not relieve the Bidder of its responsibility to meet all of the requirements of this procurement.

34.6 The Maryland Transit Administration shall conduct a water leak test. All windows and doors, both the chassis manufacturers and those altered or placed on the vehicle by the conversion company, shall be tested by the MTA's quality assurance inspector(s) for leaks. All vehicles shall endure this test prior to acceptance.

34.7 Final quality assurance inspections shall be conducted at the Contractor's location.

34.8 The Bidder shall provide office space for the resident inspectors in close proximity to the final assembly area. This office space shall be equipped with desks, outside telephones, and chairs to accommodate the resident inspector's staff. The office space shall be properly heated and air-conditioned.

34.9 The successful Bidder shall deliver vehicles to the User Agency. As part of delivery, Bidder shall instruct user on vehicle operations including all standard and add on equipment.

35 WARRANTY REQUIREMENTS

35.1 Wheelchair Lift

35.1.1 The lift shall be warranted against defects, parts and labor, for a period of five (5)-years (minimum) from date of acceptance of the vehicle by the User Agency.

35.1.2 Full warranty detail and warranty registration form shall be included with the lift operating instructions at time of delivery.

35.2 Remainder of Vehicle

35.2.1 Bidders shall include, as part of bid, a detailed description of the warranty provisions, providing the following minimum coverage of the proposed vehicle and component equipment:

35.2.2 A minimum of 12 months, 50,000 miles for body including:

- Molded Interior Body Panels
- Fabric Covered Interior Body Panels
- Vinyl Covered Interior Body Panels
- Door Locks, Latches
- Electrical Motors – Heater Fan, Other
- Electrical Wiring
- Glass (Except Damaged)
- Lights (Except Bulbs)
- Mirrors, Brackets
- Seals – Windows and Doors
- Seats – Purchase
- Passenger Seat Belts
- Stanchions
- Any optional equipment/component presented on the Price Quotation Sheet
- Switches – All
- Visors
- Undercoating
- Warning Devices
- Windows and Sliding Windows
- Radio
- Air Conditioning System

35.2.3 A minimum of 24 months, 100,000 miles for body including:

- Door Controls
- Paint Adhesion

35.2.4 Specific subsystems and components which are warranted and guaranteed to be free from defects and related defects for more than 12 months are given in Table A.

TABLE A

ITEM	YEARS	MILEAGE
OEM chassis (as listed below)		
Engine assembly	3	100,000
Transmission	3	Unlimited
Alternator	3	Unlimited
Rear axle	3	Unlimited

Front axle	3	Unlimited
Frame rails/ cross members and engine/transmission mounts	5	Unlimited
Cab or body corrosion/perforation	5	Unlimited
Emissions equipment	5	Unlimited
Exhaust System and Diesel Particulate Filter System	5	300,000 miles
Bus body warranty	5	Unlimited
Air conditioning/heating system	3	Unlimited
Door System	3	150,000 miles
Electronic Destination Sign System	5	Unlimited
Camera System	3	Unlimited
Fire Suppression System	2	100,000 miles
Floor, including wheelwells	7	Unlimited
Floor Covering	7	Unlimited
Wheelchair lift	4	Unlimited

35.3 The Bidder shall provide the location of the vendor providing all warranty repairs listed for each warranted item. The Bidder shall assume full responsibility for all parts, materials, accessories, and equipment – standard, optional, or specialty – used in the vehicle and for their proper installation, whether manufactured or purchased by the successful Bidder from another source.

35.4 If any vehicle is delivered incomplete or contains any defective or damaged parts, said parts shall be removed and new parts shall be furnished. The new parts furnished, including the transportation charges for same, plus the labor for the removal and installation of said parts shall be free of all costs to the Maryland Transit Administration and operating agencies.

35.5 The successful Contractor shall commence warranty related repairs upon verbal or written notification from the User Agency of the vehicle within 72 hours of notification request.

35.6 As an option, all extended warranties available are to be offered to the extent possible for each major system of the vehicle. This includes, but is not limited to, the engine, the chassis, the transmission, the climate control system and the destination sign system. The extended warranties are to price individually for each system.

35.7 The successful contractor shall identify an authorized service center for the vehicle as well as all major components of the bus.

35.8 The contractor shall register all warranties for the end user prior to delivering the vehicles and provide verification of the registration. This registration shall include the chassis and all major subsystems with individual warranties.

36 MANUALS AND PARTS INFORMATION:

36.1 The follow manuals/parts lists shall be provided:

- Two (2) operator's manuals for EACH bus delivered
- One (1) illustrated parts manual for EACH bus delivered, both chassis and body
- One (1) maintenance manual for EACH bus delivered, both chassis and body, including electrical schematics showing location of fuses and components

- One (1) copy of all utilized vendor parts and maintenance manuals for EACH bus delivered
- One (1) CD-ROM containing all of the manuals and parts lists for EACH nus delivered

37 RADIO

37.1 The vehicle shall be equipped with the chassis manufacturer's AM/FM Stereo Radio or AM/FM/CD Stereo Radio, plus six (6) speakers, two (2) in front and four (4) in rear shall be provided. The use of aftermarket radios of equal or superior quality may be used if not available from the OEM, with approval of the MTA.

38 SPECIAL TOOLS

38.1 The Offeror will define in its Technical Proposal a complete listing of all Special Tools, jigs, fixtures, adapters, environmental systems, Programming and Diagnostic and Test Equipment, including all software applications, required for maintenance and repair of the bus and proposed to be supplied.

38.2 As an option, the Contractor shall supply sets of special tools to the end user for each bus build. The sets of special tools, , if ordered, along with instructions and/or training on how to use these special tools, shall be provided within ten (10) days of delivery of the last bus.

39 AMERICANS WITH DISABILITIES ACT REQUIREMENTS

39.1 ***These requirements are in addition to those previously described in these specifications. This section is a synopsis of what is required by the Americans with Disabilities Act in an effort to make buses accessible to persons with disabilities. The successful Bidder is solely responsible for any additions, deletions, omissions or interpretations of the Act as it relates to constructing a vehicle for this contract. All paratransit vehicles are required to be fully compliant with these requirements.***

39.2 Mobility Lifts

39.2.1 Lift-equipped vehicle shall use an interlock between the lift controls and vehicle braking system, transmission or door, or shall provide other appropriate mechanisms or systems, to ensure that the vehicle cannot be moved when the lift is not stowed and the wheelchair lift cannot be used unless the interlocks or alternate systems are engaged.

39.2.2 In the event of a power or equipment failure the lift shall be designed to deploy no faster than 12 inches per second.

39.2.3 Each lift platform shall have a barrier that prevents a wheelchair from rolling off the edge closest to the vehicle until the platform is in its fully raised position. Each side of the lift platform shall have a 1 and 1/2 inch (minimum) barrier. The existing loading edge barriers are sufficient.

39.2.4 Lift platform surfaces shall be free of any protrusions over 1/4 inch high and shall be slip resistant.

39.2.5 Lift platform shall move at a rate that does not exceed 6 inches per second during lowering and lifting and 12 inches per second during deployment and stowage.

39.2.6 Each lift platform shall be equipped with handrails on two sides, which move in tandem with the lift and shall be graspable and provide support to standees throughout the entire lift operation. Handrail specifications are as follows:

39.2.7 A usable component (handle) at least 8 inches long with the lowest portion 30 inches (minimum) above the platform and the highest portion 38 inches (maximum) above the platform.

39.2.8 A grasping surface with a diameter of 1 and 1/4 to 1 and 1/2 inches and corner radii of not less than 1/8 inch.

39.2.9 A minimum of 1 and 1/2 inches knuckle clearance from the nearest adjacent surface shall be provided.

39.2.10 The boarding edge of lift platform shall have a band of color(s) running the full width of the step or edge, which contrasts from the lift surface.

39.3 Securement Devices

39.3.1 Securement devices and their attachments shall restrain a force in the forward longitudinal direction of up to 2,500 pounds per securement leg or clamping mechanism and a minimum of 5,000 pounds for each mobility aid.

39.3.2 The securement system shall be located as near to the accessible entrance as practicable and shall have a clear floor area of 30 inches by 54 inches. Flip seats may be installed in the securement area but shall not obstruct the clear floor area.

39.3.3 Each wheelchair placement shall include a passenger seat belt and shoulder harness.

39.3.4 The wheelchair securement devices shall secure the wheelchair in a forward facing manner.

39.4 General

39.4.1 Floors in wheelchair securement area shall have slip resistant surfaces.

39.4.2 Each vehicle shall contain a sign(s) that indicates that seats in the front of the vehicle are priority seats for persons with disabilities. Each securement location shall have a sign designating it as such. Characters on these signs shall meet the following requirements:

- A width to height ration between 3:5 and 1:1.
- A stroke width to height ratio between 1:5 and 1:10.
- A minimum height of 5/8 inch.
- Spacing between characters of 1/16 the height of the upper case letters.

SECTION III

SPECIAL PROVISIONS

1. DESCRIPTION OF THE WORK:

A. Provide vehicles, accessories and manuals as specified in the Technical Specifications. These specifications reflect the buyer's preference as to dimensions, materials, and major components. However, the bidder shall not omit any part or detail which makes the vehicle complete and ready for service, even though such part or detail is not mentioned in these specifications.

B. All units or parts not specified shall be the manufacturer's best quality and shall conform in materials, design, and workmanship to the best practice known in the industry. All parts shall be new and in no case will used, reconditioned, or obsolete parts be accepted. All vans and/or buses shall be chassis manufacturer's current production model year.

C. Unless stated that an item shall be furnished by a specifically identified source other than the Contractor, the Contractor shall, for the price(s) bid, procure or provide all materials, equipment, labor and other resources needed to supply the vehicles and equipment and perform other requirements on this contract.

2. BIDDING PROCEDURES:

A. The BID/PROPOSAL AFFIDAVIT furnished by the MTA shall be completed and executed by each bidder and enclosed with the sealed Bid.

B. Requests for approved equals, clarifications, and/or exceptions to the specifications shall be received by the Procurement Officer on the form provided (Attachment E) not less than fourteen (14) days (two (2) Calendar Weeks) prior to the date of the scheduled bid opening. Responses will be published on the MTA Website a minimum of fourteen (14) days prior to the bid opening date.

Any request for an approved equal or exception to the specifications shall be fully supported with technical data, test results and any other pertinent information available as evidence that the substitute offered is equal to or better than the Specification Requirement. The MTA may require a bidder offering a substitute to supply additional descriptive material, a sample and/or a demonstration.

Requests for Approved Equals shall be submitted in Microsoft Word format. The Request for Approved Equal form will be provided electronically by the MTA to all prospective bidders.

Unless a request for an MTA approved equal is granted it is understood that the bidder is offering referenced brand names as specified.

Wherever a specific trade or product name is used within this specification the following statement applies, "or approved equal with essentially comparable standards of quality, design and performance."

C. Bidders shall submit descriptive literature of each component (e.g., chassis, wheelchair lift, seats, roof conversion, auxiliary air conditioner, heater, condenser etc.), with the bid.

By submitting a bid in response to this IFB, the Bidder shall be deemed to have accepted all the terms, conditions, and requirements set forth in this IFB. The General Conditions for Purchase Contracts are not negotiable. The selected bidder shall be responsible for all products and services required by this IFB and shall be liable for the completion of the services required hereunder. Subcontractors, if any, except for those used to meet MBE subcontracting goals, must be described and a complete description of their role relative to the bid/proposal must be included. Acts of both omission and commission by the subcontractors shall be the sole responsibility of the primary contractor.

BID PREPARATION

The "Unit Price Schedule Form" must contain all cost information in the format specified. All bids recorded shall be inclusive of the direct and indirect cost (i.e. overhead, hourly rates, general administration, profit, taxes, and fringe benefits, etc) associated with the delivery of the requirements for this contract.

Two Part Submission

A. Offerors shall submit bids in two separate volumes:

- Volume I – TECHNICAL PROPOSAL
- Volume II – UNIT PRICE SCHEDULE FORM (BID PRICE)

Volume I – Technical Proposal, shall be sealed separately from Volume II – Bid Price, but submitted simultaneously to the Procurement Officer. Additionally, on the outside of each sealed package, the Offeror shall include the Contract Number, name and address of the Offeror, the volume number (I or II), and the closing date and time for receipt of the bids. Offerors must address all services identified within the Special Provisions. Offerors, who fail to address all services or provide a bid/no bid designation to items identified on the Bid Form/Price Schedule will have their bid deemed incomplete and non-responsive to the requirements. Technical proposals will be evaluated separately from the price proposals.

Proposal Format and Organization

A. The written proposal shall follow the order of presentation as set forth below. All

language in the Proposal and all other documents shall be prepared in English. All dimensions shall be in the U.S. standard inch/pound units and metric equivalent, if applicable. Proposals that fail to adhere to this format standard may be excluded from consideration. The format specified in this section is designed to ensure the complete submission of information essential to the comprehensive evaluation of the proposals and must be adhered to.

1. The Proposal shall be submitted in a bound booklet format or similar. All text shall be clear of binding and all pages numbered sequentially. Index tabs shall be provided to facilitate referencing of parts and permit ready separation of sections during evaluation.

2. The total page count shall not exceed 50 pages, single-sided. Not included in this total page count are the Title Page, Table of Contents, Schematics, Catalogue Cuts, and Vehicle Questionnaires.

3. The proposal shall contain the items outlined herein. The proposal shall be presented on 81/2 x 11 inch sheets, or on 11 x 17 inch for large-scale drawings. All text documents shall be in a Times New Roman 12 font. All submitted documents and attachments shall be suitable for photocopying. Proposals need neither be elaborate nor contain unnecessary artwork. Product brochures may be used for subsystems if the brochure contains the technical information required for the Proposal. Do not include catalogs that advertise equipment not germane to the proposal.

B. The technical proposal shall not include any references to prices proposed by the Offeror. In addition to the instructions below, the Offerors technical proposals shall be organized and numbered in the same order as provided in this section of the Special Provisions. This will allow for accurate evaluations of the proposal.

C. Title Page

The title page shall include the following:

- Section Name (e.g. Technical Proposal or Price Proposal)
- Contract T-8000-0368
- Small Buses for Non-Profit Human Services and Locally Operated Transit Systems (LOTS)
- The Name of the Prime Contractor
- Date

D. Letter of Transmittal

Submit a letter on official company stationary, with an original signature by an officer or principal of the Prime Contractor, containing the name and title of the individual authorized to commit the Offeror to perform the work. The purpose of this letter is to transmit the proposal and acknowledge the receipt of any addenda. This letter shall also identify all firms participating in the project team and clearly

state that the Proposal is valid for at least one hundred twenty (120) days from the date on which the Administration accepts proposals. The transmittal letter shall specify the name and address of the Offerors representative for receipt of notices under this contract.

E. Table of Contents

Provide a Table of Contents that delineates all of the sections in the technical proposal, including at a minimum:

- Executive Summary
- Statement of Qualifications
- Project Management Plan
- Project Organization
- Detailed Technical Solution
- Development and Implementation
- Documentation
- Warranty

F. Executive Summary

Provide an Executive Summary (not more than two pages long) that summarizes key aspects of the proposal.

G. Statement of Qualifications

In a brief narrative, describe the experience and background of the Offeror and associated firms or joint ventures. Include the number of years the company has been in existence, the size of the organization, and the primary market served. Provide information to demonstrate that the Offeror has the capability in terms of price responsibility, facilities, and personnel required to accomplish the proposed work. The Offeror shall describe its experience in managing and successfully completing systems projects similar to this project in terms of scope and complexity. A description of the Offerors knowledge and experience with transit system maintenance operations, practices, and control system technology should also be included. This narrative is limited to two (2) pages in length.

H. Vehicle Questionnaires

A Vehicle Questionnaire (Appendix B) shall be completed for each vehicle bid. The Vehicle Questionnaire form will be provided electronically by the MTA.

BID EVALUATION CRITERIA

This Section outlines the criteria the MTA will consider in evaluating each Bidder's proposal submitted in response to this solicitation. Therefore, Bidders are strongly advised to organize their Technical Proposal into separate sections that thoroughly address each of the criteria listed

General Considerations are intended to confirm the Bidder's capabilities and response to the

business arrangements contained in this solicitation. Therefore, the MTA will consider the following matters in making the selection decision:

1. Whether the Bidder acknowledges and agrees to comply with the terms and conditions set forth in the solicitation.
2. Whether the Bidder eligible for the award is financially sound and has the technical capability to perform the work in accordance with the requirements of the Technical Specifications and within the times specified. A Pre-Award survey may be conducted as part of the selection and involves an assessment.
3. Verify that that each bidder has supplied a copy of their approval or certification from the FTA concerning their DBE goals.

Specific criteria relate to key characteristics of the solicitation and are established for the purpose of distinguishing one Bidder's response from another. The technical area is of greater importance than the cost/price area. The MTA's evaluation of the Specific Criteria is more important than the General Considerations.

Technical Proposal Evaluation (In order of importance). Each criterion in the Technical Proposal will be evaluated using a pass/fail proposal/performance risk rating as described in the Performance Risk Section The Technical Proposal Evaluation Factors are:

Conformance with Technical Specification: This requirement is based on the following criteria:

1. Equipment Solution. The Bidder shall provide a comprehensive Equipment Solution that, at a minimum, meets the MTA's requirements as set forth in the Technical Specifications.

2. System Support Plan. The Bidder shall provide a comprehensive plan for system support that includes training, documentation and warranty support.

Experience and Past Performance: This factor is defined as the extent of the Bidder's past experience in carrying out similar work as well as the quality of the Bidder's past performance in carrying out the work with reference to such considerations as timeliness and technical success. This standard is met when:

1. The Bidder has performed work similar to that described in this IFB on at least three (3) contracts of comparable size. Two (2) of the three (3) contracts must be non-MTA. Work is similar if the functions, responsibilities, and control exercised by the contractor were essentially the same as required under this IFB. A contract is comparable in size if its size is not less than 80% of the estimated cost of the contract to be awarded as a result of this IFB.

2. The Bidder's past performance on similar contracts was satisfactory or better. In order to be considered satisfactory, the Bidder must have completed the work on time and within budget, and is in accordance with all contract requirements. The individual(s) directly

responsible for overseeing or managing the contract on behalf of the organization for which the work was performed (e.g., Director, Project Manager) shall provide the assessment of the Bidder's performance.

Management Approach: The MTA will consider the overall management approach to be employed by the Bidder in accomplishing the work. It will encompass all periods of the contract (base period and options) and cover all aspects of the operation. This factor includes the overall operational concept; identification of problem areas considered most critical and the Bidder's strategy for resolving problems; organizational plan and how the plan facilitates the accomplishment of the MTA's requirements within the time specified; and the organizational chart identifying all individuals (e.g., project manager, engineer, quality control manager, subcontractors) with direct or indirect involvement in the proposed plan.

Cost/Price Evaluation: Pricing proposals will only be opened and evaluated for those Bidders whose technical offers have been determined to be technically acceptable. Any offer that is materially unbalanced may be rejected. An unbalanced offer is one that is based on prices that are significantly overstated for some items and understated for other items. Apparent low cost will be evaluated for reasonableness, realism, and completeness, which are of equal importance.

Reasonableness. The MTA will evaluate cost for reasonableness by performing a price analysis if adequate price competition exist, and if adequate price competition does not exist ascertain if quoted price is fair and reasonable market value.
Realism. The MTA will evaluate the compatibility of Bidder's proposed costs and labor skills with the Bidder's technical proposal.
Completeness. The MTA will evaluate completeness of the Bidder's cost data for all IFB requirements.

3. EXPLANATIONS:

Any explanation desired by a prospective bidder regarding any of the Bid Documents and their intent, or other request, shall be in writing stating the Contract Number and Name and shall be directed to the Maryland Transit Administration, Procurement Operations, Attention: Procurement Officer, 6 St. Paul Street, 7th Floor, Baltimore, Maryland 21202-1614. Oral explanations or instructions shall not be binding.

4. UNIT PRICES:

Unit prices shall be shown for the basic vehicle unit and for the optional equipment indicated. Options shown pertain specifically to the vehicles requested and will not be awarded separately.

5. PRICE ADJUSTMENTS:

a. GENERAL – The unit prices and the total price stated in this contract shall be re-

evaluated in accordance with this clause, except that the prices for vehicles ordered before the first effective date of any price changes shall remain fixed.

b. PRICE RE-DETERMINATION PERIODS – For the purpose of price and performance of this contract, the Producer Price Index for the subject year shall be used to compute the pricing for the option renewal years. All vehicles ordered during each calendar year shall be based on price adjustments computed using specified index value for the month of July of that calendar year.

c. COMPUTATION OF PRICES – Adjustment of prices shall be based on the US Department of Labor, Bureau of Labor Statistics Producer Price Index as published in the monthly periodical "Producer Price Indexes" for commodity code 1413 Truck and Bus Bodies. The index base shall be taken from the latest version of Producer Price Index available and published for the month prior to the renewal date. Price change calculations shall be performed using the latest version of the Producer Price Index for the month using the simple percentage method. Price adjustment shall be on a per unit basis as follows:

PPI for month of Price re-determination request
Base Price X (PPI for July of subject year) = Adjusted Price

However, the Adjusted Price shall not exceed the previous year's price by more than 4%.

The price adjustment shall apply to all vehicles ordered in the specified calendar year regardless of actual delivery.

6. PRICE ADJUSTMENT FOR REGULATORY CHANGES:

If the cost of the vehicle changes either upwards or downwards due to mandates of federal or state legislation or regulation that are promulgated and that take effect after contract award and impact the price of the vehicle during the contract period, the Procuring Agency and the Contractor will negotiate the change in the unit price of the vehicle. The Procuring Agency will require documentation of the legislation and/or regulations, the required design changes of the vehicle and the requested change in price before negotiations can begin.

7. ECONOMIC ADJUSTMENT CLAUSE

In the event the cost of the base OEM chassis should increase during the period of time in which the contract is in effect, the vendor shall, upon submission of written proof of such increase to the State and approval by the contracts division, be entitled to adjust the price by an amount sufficient to compensate the vendor completely and precisely for such increase. The claim for the adjustment must include a certification from the manufacturer verifying vendor's cost at the time of the bid award or last increase and at the time of the requested increase. The increase will only be allowed on the cost of the base OEM

chassis to the vendor. The state reserves the right to ask for invoices, published price lists, or any other evidence establishing vendor's costs to support the increase.

In all cases, the vendor must file a claim and receive approval for such adjustments prior to accepting a release or purchase order for delivery of the vehicles. If the vendor has excessive complaints filed against him for non-delivery, his request may be denied, until such time as all past complaints are resolved to the satisfaction of the Contracts Division. In any event, the claim for such adjustment will not apply to orders dated prior to the date the contracts division received the required documentation necessary to justify the increase.

In the event the cost of the base OEM chassis should decrease during the period of the time in which the contract is in effect, the State reserves the right to adjust the price downward to compensate it completely and precisely for such decrease. It is the vendor's responsibility to notify the contracts division of any such decrease.

All economic adjustment claims shall be submitted in writing and sent via first class or overnight mail or confirmed fax to:

Leonard Howard
Office of Local Transit Support
Maryland Transit Administration
6 St. Paul Street, 9th Floor
Baltimore, Maryland 21202
Fax: 410-333-4810

8. AWARD OF CONTRACTS:

Basis of Award of this contract shall be lowest responsive and responsible bid provided by vendor(s) having been found providing acceptable technical proposals and within the structure outlined on the Unit Price Schedule.

10. PERFORMANCE BOND:

A Performance Bond of 20% of total contract shall be required of successful bidder. The Performance Bond shall be provided in the form supplied by the MTA (Attachment S).

11. MANUALS:

A. The Contractor shall provide one (1) current maintenance manual, one (1) current repair/shop manual, one (1) current parts catalog and two (2) standard operator's manuals for <u>each</u> vehicle as part of this contract. All manuals shall be supplied upon delivery of vehicles along with one CD-Rom or DVD containing all of the manuals and parts catalogs for <u>each</u> vehicle delivered.

B. Draft parts, repair/shop (if applicable) and maintenance manuals for

each add on item (i.e., wheelchair lift, auxiliary air conditioner and condenser etc.) shall also be supplied for each vehicle as part of this contract. The draft manuals shall be supplied upon delivery of vehicles. The final manuals shall be delivered no later than 60 days after the delivery of the vehicles along with one CD-Rom or DVD containing all of the manuals and parts catalogs for each vehicle delivered.

12. DELIVERY/ACCEPTANCE:

A. Final delivery and acceptance of the vehicles, equipped as specified, included in the first confirmed order within the contract period and equipped as specified, shall be completed within the time frame detailed as follows:

210 days from Order Date

Final delivery and acceptance of vehicles, equipped as specified, included in all subsequent confirmed orders after the initial order for the contract period shall be completed within:

180 days from the Order Date

Vehicles ready for delivery to the end user agency shall be presented for inspection and delivery approval at the Contractor's Service Center prior to delivery to the user agency location. The Contractor's Service Center must be located within 150 miles of the MTA facility located at 1515 Washington Boulevard. The presentation rate shall not exceed three (3) buses per day. If more than ten (10) vehicles are presented for inspection in one (1) week period the maximum inspection period will be increased to two (2) weeks

B. Final inspection and acceptance of the vehicle shall occur at user agency location. At the time of delivery a complete demonstration of the vehicle and all sub-components (e.g. wheelchair lift, air conditioning and etc.) shall be conducted by the Contractor for the user agency. The vehicle shall also be inspected for damage that may have occurred during delivery. The vehicles shall be delivered at no more than three (3) per day. From time of receipt of the vehicle the user agency has two (2) working days to accept/reject the vehicle. If the user agency rejects the vehicle, the user agency must immediately notify the contractor and the MTA Project Manager of the reason(s) for rejection.

C. All certificates of origin and invoices shall be sent to Travis Johnson, Project Manager, MTA Office of Local Transit Support , 9th Floor, 6 St. Paul Street, Baltimore, Maryland 21202-1614. Certain vehicles shall indicate the Maryland Transit Administration as a "Security Lien" on the vehicle.

D. Delivery of the specified number of maintenance, parts and operator's manuals,

warranties, etc. shall be made with vehicle.

13. LIQUIDATED DAMAGES:

All vehicles shall be delivered and accepted within the delivery schedule described in Section III, Paragraph 12. Failure to comply shall result in liquidated damages of $100.00 per calendar day, per vehicle, until delivery and acceptance has been completed.

14. SAFETY REQUIREMENTS:

A. The vehicle shall meet all applicable FMVSS Regulations in effect on the date of manufacture. The Contractor shall provide a certificate stating that they meet all of the FMVSS requirements.

B. The Contractor shall comply with all applicable Federal, State, and Local regulations. In the event of any conflict between the requirements of this specification and any applicable legal requirement, then the legal requirement shall prevail.

15. RIGHT OF INSPECTION

The MTA reserves the right and shall be at liberty to inspect, with the cooperation of the Contractor, all materials and workmanship during the manufacturing process and shall have the right to reject all materials and workmanship which do not conform to the specifications. The MTA is under no obligation to make such inspection and if such inspection is, or is not, made, the contractor shall not be relieved of any obligation to furnish materials and workmanship in strict compliance with these specifications. Any inspection visit shall be conducted during normal business hours. Any reports generated from such visit shall be submitted to the Contractor.

16. WARRANTY:

Warranties in this document are in addition to any statutory remedies or warranties imposed on the Contractor. A description of the Contractor warranty process shall be included in the proposal package including information on how warranty issues are tracked. The proposal package shall also have a description of the distributor's facilities and services provided at their facilities. The contactor shall assume sole responsibility for the entire vehicle relating to any and all warranty issues and after-sales parts and service. This includes arrangements for scheduling pick-up and delivery of vehicle for warranty repairs.

The vehicle is warranted and guaranteed to be free from defects for a minimum of twelve (12) months or fifty thousand (50,000) miles, whichever comes first, beginning on the date of User Agency acceptance of each vehicle. During this warranty period the vehicle shall maintain its structural and functional integrity. The warranty is based on normal operations in the environmental conditions prevailing in the User Agencies' locale.

Specific subsystems and components are warranted and guaranteed to be free from defects and related defects for more than 12 months are given in Table A.

TABLE A

ITEM	YEARS	MILEAGE
OEM chassis (as listed below)		
Engine assembly	3	100,000
Transmission	3	Unlimited
Alternator	3	Unlimited
Rear axle	3	Unlimited
Front axle	3	Unlimited
Frame rails/ cross members and engine/transmission mounts	5	Unlimited
Cab corrosion/perforation	5	Unlimited
Emissions equipment	5	Unlimited
Exhaust System and Diesel Particulate Filter System	5	300,000 miles
Bus body warranty	5	Unlimited
Air conditioning/heating system	3	Unlimited
Door System	3	150,000 miles
Electronic Destination Sign System	5	Unlimited
Camera System	3	Unlimited
Fire Suppression System	2	100,000 miles
Floor	7	Unlimited
Floor Covering	7	Unlimited
Wheelchair lift	4	Unlimited

The warranty shall not apply to any part or component of the vehicle that has been subject to misuse, negligence, accident or has been repaired or altered in any way so as to affect adversely its performance or reliability, except insofar as such repairs were in accordance with the Contract's maintenance manuals and the workmanship was in accordance with recognized standards of the industry. The warranty shall be void if the User Agency fails to conduct normal inspections and scheduled preventive maintenance procedures as recommended in the Contractor's maintenance manuals.

The warranty shall not apply to scheduled maintenance items and items such as tires, fluids, lamp replacement, etc, nor user agency supplied equipment, such as radios and other auxiliary equipment, except insofar as all such equipment may be damaged by the failure of a part or component for which the Contractor is responsible.

When the User Agency representative detects a defect within the warranty periods as described in Table A they shall promptly notify the Contractor. Within two (2) working days after receipt of notification, the Contractor and User Agency shall agree whether or not the defect is covered under warranty.

When warranty repairs are required, the Contractor is responsible for obtaining and completing all vehicle warranty work and shall agree within fivethree (3) working days after notification on the most appropriate course for the repairs and the exact scope of the repairs to be performed under warranty. If no agreement is obtained within the three (3) working day period, the User Agency reserves the right to commence the warranty repairs within the agency repair facility or at a third party facility authorized to perform warranty work. The Contractor shall be responsible for reimbursement to the user agency of all third party charges incurred due to the Contractor's inability to schedule the warranty work within his facility.

The Contractor shall begin the warranty work necessary to effect repairs within three (3) working days after receiving notification of a defect from the User Agency. The User Agency shall make the vehicle available to complete repairs within a mutually agreed upon time schedule. The Contractor shall provide at its own expense all spare parts, tools and space required to complete repairs within the Contractor's service facility.

If the User Agency performs the warranty-covered repairs, it shall correct or repair the defect and any related defects using contractor-specified spare parts supplied by the Contractor specifically for the repair. Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this warranty shall be submitted to the Contractor and copied to MTA by the User Agencies for reimbursement or replacement of parts. The Contractor shall provide forms for these reports.

New parts for warranty-covered repairs performed by the User Agency shall be shipped prepaid to the User Agency from any source selected by the Contractor, the "next business day" from receipt of the request for said parts. If the Contractor requests the return of the parts being replaced under warranty, the total cost for this action shall be paid by the Contractor.

The User Agency shall be reimbursed by the Contractor for labor and parts. The labor costs shall be determined by multiplying the number of man-hours actually required to correct the defect by a fixed rate of $70 per hour, plus the cost of towing the vehicle if such action was necessary. The User Agency shall not accept parts credit as payment of warranty labor claims. The contractor shall also be responsible for the cost of towing the bus to a repair facility, if necessary.

If any component, unit, or subsystem is repaired, rebuilt, or replaced by the Contractor or User Agency, with the concurrence of the Contractor, the subsystem shall be covered by the unexpired warranty period of the original subsystem or a new subsystem warranty, whichever is longer.

A Fleet Defect is defined as cumulative failures of twenty-five (25) percent of the same components in the same or similar application in a minimum order size of twelve (12) or more buses, regardless of the end user, where such items are covered by warranty. A Fleet Defect shall apply only to the base warranty period in sections entitled "Complete Bus," "Propulsion System" and "Major Subsystems." When a Fleet Defect is declared,

the remaining warranty on that item/component stops. The warranty period does not restart until the Fleet Defect is corrected.

For the purpose of Fleet Defects, each option order shall be treated as a separate bus fleet. In addition, should there be a change in a major component within either the base order or an option order; the buses containing the new major component shall become a separate bus fleet for the purposes of Fleet Defects.

The Contractor shall correct a Fleet Defect under the warranty provisions defined in "Repair Procedures." After correcting the Defect, the Agency and the Contractor shall mutually agree to and the Contractor shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same Defect in all other buses and spare parts purchased under this Contract. Where the specific Defect can be solely attributed to particular identifiable part(s), the work program shall include redesign and/or replacement of only the defectively designed and/or manufactured part(s). In all other cases, the work program shall include inspection and/or correction of all of the buses in the fleet via a mutually agreed-to arrangement. The Contractor shall update, as necessary, technical support information (parts, service and operator's manuals) due to changes resulting from warranty repairs. The Agency may immediately declare a Defect in design resulting in a safety hazard to be a Fleet Defect. The Contractor shall be responsible to furnish, install and replace all defective units.

The Fleet Defect warranty provisions shall not apply to Agency-supplied items, such as radios, fare collection equipment, communication systems and tires. In addition, Fleet Defects shall not apply to interior and exterior finishes, hoses, fittings and fabric.

17. PAYMENT:

Article 27 of the General Provisions for Purchase Contracts is supplemented by the following additions:

A. Contractor's invoice shall be submitted to:

Leonard Howard
Project Manager
Office of Local Transit Support
6 St. Paul Street, 9th Floor
Baltimore, Maryland 21202-1614.

B. Each invoice shall include:

-Contract No.
-Bid Item Number Invoiced
-Number of spare parts/equipment involved, if applicable
-Model and serial number of vehicle invoiced, if applicable
-Unit and total prices by Bid Item Number
-Total invoice amount

-User Agency name

C. Payment for the vehicle shall not be made until all specified manuals have been delivered and vehicles accepted by the MTA.

19. PRE-AWARD AUDIT

A. The MTA shall conduct a Pre-Award Audit of the apparent low-bidder to determine if bid proposal meets specifications and will comply with Buy America regulations.

B. The apparent low bidder shall submit **original** documentation to the MTA, prior to bid award, certifying the manufacturer's compliance with Federal Transit Administration (FTA) Pre-Award Buy America Audit requirements. The document submitted shall be **original**, **not copies**, and include the following information for each major component and sub-component used on vehicle bid.

- Name and Address of each supplier.

- Cost of each major component and sub-component. In order to protect proprietary information, the document may reflect the percentage of total cost each item represents instead of the actual cost.

- Country of origin of each major component and sub-component.

- Name and Address of company where final assembly occurs.

- Signed by authorized representative of vehicle manufacturer.

C. Once the steps outlined in A and B above have been successfully completed and all MTA approvals have been given the MTA shall award the contract.

20. PRE-PRODUCTION MEETING

A. After the contract has been awarded, the MTA shall conduct a Pre-Production Meeting, at the bidder's location, to determine that the vehicle ordered meets all specifications prior to actual production.

21. IN-PLANT INSPECTIONS

A. The MTA shall conduct in-plant inspections, at the vehicle assembly plant, to ensure that each vehicle meets specifications. Any deviations from the specifications shall be corrected by the manufacturer, at the manufacturer's expense, prior to the vehicle completing the production process.

The presence of a resident inspector in the plant shall not relieve the manufacturer of the responsibility to meet the requirements of this procurement. Deviations from the specifications, not brought to the attention of the Manufacturer by the inspector, do not absolve the Contractor of the responsibility to meet, entirely, the requirements of the contract.

The first in-plant inspection shall occur with the production of the first group of buses ready for delivery to the Contractor's facility. Depending on the number and quality of the vehicles being produced, the MTA may conduct multiple in-plant inspections.

Any disputes arising from this process shall be resolved by the MTA, the MTA inspector and Manufacturer/Contractor based on the contract requirements.

22. POST DELIVERY AUDIT

A. The MTA shall conduct a Post Delivery Audit of the vehicle(s), at the contractor's service center and/or manufacturing plant, to determine that the completed vehicle(s) meets specifications and have fully complied with Buy America regulations.

B. The apparent low bidder shall submit **original** documentation to the MTA, prior to final acceptance of the vehicles, certifying the manufacturer's compliance with Federal Transit Administration (FTA) Post Delivery Buy America Audit requirements. The document submitted shall be **original**, **not copies**, and include the following information for each major component and sub-component used on vehicle bid.

- Name and Address of each supplier.

- Cost of each major component and sub-component. In order to protect proprietary information, the document may reflect the percentage of total cost each item represents instead of the actual cost.

- Country of origin of each major component and sub-component.

- Name and Address of company where final assembly occurs.

- Signed by authorized representative of vehicle manufacturer.

C. Once this process has been satisfactorily completed, the vehicle(s) shall be considered acceptable.

23. ALTOONA TESTING REQUIREMENTS

If the Federal Transit Administration requires testing at the Altoona Bus Testing Facility

for the category of vehicle being purchased, documentation certifying that said testing has been completed and a copy of the test results shall be forwarded to the MTA Procurement operations prior to contract award.

24. FTA DBE REQUIREMENTS

The Federal Transit Administration requires that each bidder supply a copy of their approval or certification from the FTA concerning their DBE goals.

25. RIDER CLAUSE

Pursuant to Article 41, Section 18-201 of the Annotated Code of Maryland, except as provided in (B) the following entities may purchase materials, supplies and equipment under this contract:

1. A county or Baltimore City
2. A municipal corporation
3. A government agency in the State of Maryland
4. A public or quasi-public agency that receives State money and is exempt from taxation under Section 501 (C) (3) of the Internal Revenue Code.
5. A private element or secondary school that either has been issued a certificate or approval from the State Board of Education or is accredited by the Association of Independent Schools and/or
6. A nonpublic institution of higher education under Section 17-106 of the Education Article

The contractor shall extend to any or all of the transit systems, or non-profit agencies operating human service transportation in the State of Maryland the right to directly purchase buses from the Contractor in accordance with the rates and terms of this contract with the consent of the MTA.

1. Any participating transit system in the State of Maryland that utilizes this Rider Clause will place their orders directly with the Contractor, however, there shall be no obligation on the part of any participating transit system to utilize this rider clause.

2. It is the Contractor's responsibility to notify the participating transit systems of the availability of the contract rates and terms that are available through this rider clause.

3. Each participating jurisdiction has the option of executing a separate contract with the Contractor. Contracts entered into with the participating transit systems may contain terms and conditions unique to the jurisdiction including, by way of illustration, and not limitation, clauses covering areas such as minority participation, non-discrimination, etc. If, when preparing such a contract, the general terms and conditions of a jurisdiction are unacceptable to the Contractor, the Contractor may withdraw its extension of the contract to that jurisdiction.

4. All purchases under this contract by any such entity which is not a unit or agency of the State of Maryland for which the State of Maryland and the MTA may be held liable in the contract (1) shall constitute a purchase or contract between the contractor and that entity only, (2) shall not constitute a purchase or contract of the State of Maryland or the MTA, (3) shall not be binding or enforceable against the state of Maryland or any of its units or agencies and (4) may be subject to other terms and conditions agreed to by the contractor and the purchaser. The contractor bears the risk of determining whether or not any entity from which the contract receives and order under contract is a unit or agency of the State of Maryland such that the contract may be enforced against the State of Maryland.

5. The right to purchase under this section shall be in addition to, but not in substitution for, the applicable purchasing power granted to any of the listed entities pursuant to any statutory provision or charter provision.

6. The number of buses available will be at the discretion of the MTA for option quantities not purchased by the MTA up to the total quantity of the contract.

26. ASSIGNMENT CLAUSE

The Contractor shall extend to any or all of the transit systems, non-profit agencies operating human service transportation in the State of Maryland, or FTA grant recipient the right to directly purchase buses from the Contractor in accordance with the rates and terms of this Contract with consent from the MTA.

(A) Any participating transit system in the State of Maryland or FTA grant recipient that utilizes this Assignment Clause will place their orders directly with the Contractor, however, there shall be no obligation on the part of any participating transit system to utilize this Assignment Clause.

(B) It is the Contractor's responsibility to notify the participating transit systems of the availability of the contract rates and terms that are available through this Assignment Clause.

(C) Each participating jurisdiction has the option of executing a separate contract with the Contractor. Contracts entered into with participating transit systems may contain terms and conditions unique to the jurisdiction including, by way of illustration, and not limitation, clauses covering areas such as minority participation, non-discrimination, etc. If when preparing such a Contract, the general terms and conditions of a jurisdiction are unacceptable to the Contractor, the Contractor may withdraw its extension of the Contract to that jurisdiction.

(D) The MTA shall not be held liable for any costs or damage incurred by a jurisdiction transit system as a result of any contract activities extended by the Contractor to the jurisdiction under this Assignment Clause.

(E) The number of buses available will be at the discretion of the MTA for option quantities not purchased by the MTA up to the total quantity of the contract.

END SECTION III

Vehicle Questionnaire

This form must be completed for each bus type that the bidder is proposing and be included in the Technical Proposal.

GENERAL BUS DATA SHEET:

[INSERT BUS TYPE (I.E. 138" SRW GAS)]

Bus Manufacturer: _____

Bus Model Number: _____

Basic Body Construction Type: _____

Chassis Manufacturer: _____

Chassis Model Number: _____

General Dimensions

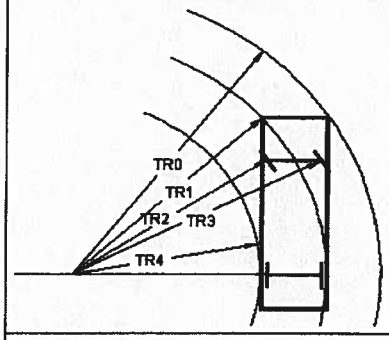
Overall length	Over bumpers		feet		inches
Overall width	Over body excluding mirrors and lights		feet		inches
	Over body including mirrors		feet		inches
	Over tires		feet		inches
Overall height (maximum)			feet		inches

Angle of approach		degrees
Angle of departure		degrees
Breakover angle 1		degrees

Doorway clear opening (at widest point)		inches

	Width with grab handles		**Width** without grab handles		**Height**	
Front door		inches		inches		inches
Rear emergency door		inches		inches		inches
Wheelchair Lift access door		inches		inches		inches

Step height from ground (measured at center of doorway)		inches
Step Risers		inches
Depth of steps		inches

Interior head room (floor to ceiling at center of aisle)						
First axle location		inches				
Rear axle location		inches				
Flat floor option		inches				
Interior width						
Minimum width (Measured 12" above the floor)		inches				
Aisle width						
Minimum width on floor between front axle wheel housings		inches				
Minimum width on floor between rear axle wheel housings		inches				
Minimum width between seats		inches				
Minimum ground clearance						
Outside axles zones		inches				
Inside axles zones		inches				
Horizontal turning envelope(see diagram below)						
Outside body turning radius, TR0 (including bumper)		feet		inches		
Inside Body Turning Radius innermost point, TR4 (including bumper)		feet		inches		
						
Wheel base						
Front axle to rear axle		inches				
Stretched Chassis		Yes		No		
Overhang, centerline of axle over bumper						
Front		inches				
Rear		inches				
Floor						

Maximum interior floor slope (from horizontal)		degrees	
Floor Material Type/Manufacturer			
Floor Covering Type/Manufacturer			
Capacity			
Seated Passenger Capacity (w/o driver)			
Number if wheelchair positions			
Passenger seating manufacturer/model number			
Minimum hip to knee space		inches	
Maximum hip to knee space		inches	
Seat width per passenger		inches	
Seat depth		inches	
Seat back height		inches	
Seat back angle		inches	
Restraint system type and model number			
Bus weight			

	Curb weight		Curb weight plus seated load*		GVWR	
First axle		lbs		lbs		lbs
Rear axle		lbs		lbs		lbs
Total		lbs		lbs		lbs

* Including operator and passengers at 175lbs per person

Steering Axles	
Manufacturer	
Type and weight rating	
Model number	
Drive axle	
Manufacturer	
Type and weight rating	
Model number	
Differential ratio	
Electrical	
Primary interior lighting system	
Manufacturer	
Type	
Model number	

Number of lights				
Primary exterior lighting system				
Manufacturer				
Type				
Model numbers				
Alternator(s)				
Manufacturer				
Type				
Model number				
Output at idle		amps		
Voltage regulator				
Manufacturer				
Model number				
Energy storage				
Batteries –Chassis				
Manufacturer				
Type/number				
Model number				
Cold cranking amps				
Batteries–Auxiliary				
Manufacturer				
Type/number				
Model number				
Cold cranking amps				
Engine				
Manufacturer				
Model number/displacement				
Horsepower/torque rating				
Fire Suppression/Methane Detection System				
Manufacturer				
Model number				
Number of detectors		fire		methane
Type of detector	☐ Thermal ☐ Optical			

Battery backup	☐ Yes ☐ No				
Bumpers					
Front Bumper					
Manufacturer					
Type					
Rear Bumper					
Manufacturer					
Type					
Fuel and Exhaust System					
Fuel type					
Operating range					
Fuel tanks (liquid fuels)					
Manufacturer					
Capacity (total and usable)		Gallons	/		Gallons
Construction material					
Transmission					
Manufacturer					
Type					
Model number					
Number of forward speeds					
Wheels					
Manufacturer					
Type					
Size					
Mounting type					
Bolt circle diameter					
Tires					
Manufacturer					
Type					
Size					
Load range/air pressure					

Door System		
Door panels	**Manufacturer**	**Type**
Front door		
Rear emergency door		
Wheelchair lift access door		

Front Door Actuating mechanism (electric)	
Manufacturer	
Model Number	
Hold open devices	
Rear emergency door	
Wheelchair lift access door	

Heating and Ventilating Equipment		
Heating system capacity		Btu
Air conditioning system capacity		Btu
Ventilating capacity		CFM per passenger

A/C System				
Compressor				
Manufacturer and model				
Refrigerant type				
Evaporator				
Manufacturer and model				
Output		BTU		CFM
Location				
Condenser				
Manufacturer and model				
Location				
Rating		BTU		
Number of Fans/Airflow				CFM
Rear heater				
Manufacturer				
Type				
Model number				

Capacity					
Passenger Loading System					
Manufacturer					
Type (hydraulic, electric or both)					
Model number					
Capacity (lbs.)					
Dimensions					
Width of platform		inches			
Length of platform		inches			
Cycle times	**Normal idle**		**Fast idle**		
Stowed to ground		seconds		seconds	
Ground to stow		seconds		seconds	
Electronics					
Video system manufacturer					
Video system model number					
Number of cameras					
Destination sign manufacturer					
Destination sign model number					
Coach Body Fittings					
Passenger windows					
Manufacturer					
Model number/Type					
Size/Tint					
Glazing type					
Rear Windows size					
Exterior mirrors					
Size					
Manufacturer					
Model number					
Manufacturer part numbers					
Interior mirrors					
Size					

Manufacturer	
Model number	
Manufacturer part numbers	
Bicycle rack	
Manufacturer	
Model number	
Paint system	
Manufacturer	
Type	

UNIT PRICE SCHEDULE
SMALL BUS PROCUREMENT
Contract T8000-0368

Note: All vehicles will be supplied complete with all standard equipment provided on a vehicle of the type specified and must include air conditioning, heat, roof hatches, safety equipment, overhead hand rails, driver's seat, seating, wheelchair lift etc. in accordance with the specification requirements of the base vehicle on the MTA contract.

Basis of Award shall be the low total base vehicle bid amount for all medium buses within the Unit Price Schedule including delivery. Separate awards may be made based on the low total vehicle base bid for Items 01 thru 04 of the Unit Price Schedule.

The quantity of buses identified on this price schedule are for bidding purposes only and represent the likely mix of buses to be procured. The MTA reserves the right to change the quantity and mix of buses at their discretion.

Option pricing will not be factored into the Basis for Award. Option pricing allowed by the contract will be limited to the average pricing calculated for each option. The maximum option pricing allowed will be calculated by totaling the option prices submitted for each option and dividing that total calculated price by the total number of bid prices received for that option.

OEM supplied option pricing must be supported by OEM dealer discount price lists or OEM invoicing to the contractor and submitted to the MTA.

The MTA reserves the right to award the entire contract to a single vendor providing the lowest responsive bid price.

SMALL BUS

Item	Description	Quantity	Unit Base Price Per Vehicle
01	Type 1A - 138" Wheelbase, Single Rear Wheel (SRW) with 4/2 seating, Gas Engine	10-20	$_____
02	Type 2A - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Gas Engine	40-50	$_____
03	Type 2B - 138" Wheelbase, Dual Rear Wheel (DRW) with 8/2 seating, Diesel Engine	40-50	$_____
04	Type 3A - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Gas Engine	130-150	$_____
05	Type 3B - 158" Wheelbase, Dual Rear Wheel (DRW) with 12/2 seating, Diesel Engine	40-50	$_____

06	Type 4A - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Gas Engine	40-50	$_____
07	Type 4B - 176" Wheelbase, Dual Rear Wheel (DRW) with 16/2 seating, Diesel Engine	40-50	$_____

TOTAL (LINES 1 - 08) $_____

Options List

08	Option 1: Electronic Destination Signs	$_____ Each
09	Option 2: Fire Suppression	$_____ Each
10	Option 3: Farebox Accommodation	$_____ Each
11	Option 4: Farebox	$_____ Each
12	Option 5: Camera System	$_____ Each
13	Option 6: Public Address System	$_____ Each
14	Option 7: Passenger Stop Request	$_____ Each
15	Option 8: Flat Floor	$_____ Each
16	Option 9: Manually Operated Passenger Door	$_____ Each
17	Option 10: Bike Rack	$_____ Each
18	Option 11: Strobe Light	$_____ Each
19	Option 12: Backup Camera System	$_____ Each
20	Option 13: Radio Delete	$_____ Each
21	Option 14: Baltimore MTA Mobility Option	$_____ Each
22	Option 15: Diagnostic Equipment	
	a. Data Transfer Systems (Destination Signs)	$_____ Each
	b. Engine Diagnostic Readers/Scanners	$_____ Each
	c. Electronic Vehicle Logic Systems and/or Equipment Multiplex Zone Controllers	$_____ Each
	d. Laptop Computers	$_____ Each
	e. Fire Suppression System	$_____ Each
	f. Other (List) _____	$_____ Each
	g. Other (List) _____	$_____ Each
23	Option 16: Training	$_____ Each

Additional Options

Seating

24	Single flip seat	$_____ Each
25	Double flip seat	$_____ Each
26	Double fold flip seat	$_____ Each
27	Padded grab handles per passenger	$_____ Each
28	Non-retractable seat belt	$_____ Each
29	Extra-long retractable seat belts	$_____ Each

30 Flip-up arm rests per seat - black rubber style $_____ Each
31 Cloth fabric on seats per position (also driver's seat) $_____ Each

Exterior Options

32 Lettering on exterior of vehicle - basic (agency name on two sides) $_____ Each
33 Lettering on exterior of vehicle - advanced (agency name and logo on two sides) $_____ Each
34 Full Body Paint (Alternate Color) $_____ Each
35 Stripes – single color 6" stripe $_____ Each

Interior Options

36 Passenger Counter $_____ Each
37 Extra vault for Main M4 Fare box $_____ Each
38 Clever Devices Speakeasy System $_____ Each
39 Hands free microphone $_____ Each

Paratransit

40 Braun Vista-2 Series fully automatic wheelchair lift With Folding Platform $_____ Each
41 Ricon 'K' Series fully automatic wheelchair lift with Folding Platform $_____ Each
42 Q'straint Fully Automatic tiedown system per position $_____ Each
43 Kinendyne Retracktor tiedown system per position (Fully Automatic) $_____ Each

Miscellaneous

44 Lockable driver's storage compartment $_____ Each
45 Moryd suspension $_____ Each
46 Special Tools, Per set $_____ Each
47 Extended Warranties (If Applicable)
- A. Axles—Front and Rear $_____ Each
- B. Body Structure $_____ Each
- C. Chassis Structure $_____ Each
- D. Complete Engine Assembly $_____ Each
- E. Transmission $_____ Each
- F. Corrosion $_____ Each
- G. Electronic Destination Sign System $_____ Each
- H. Climate Control System $_____ Each
- I. Other (List) _____ $_____ Each

J. Other (List) _____ $_____ Each

Sub Total Options (lines 09 through 50) **$_____**

TOTAL BID PRICE, ALL LINES INCLUSIVE (Lines 1 through 50) **$_____**

_____

Vendor Name

Vehicle Questionnaire

This form must be completed for each bus type that the bidder is proposing and be included in the Technical Proposal.

GENERAL BUS DATA SHEET:

[INSERT BUS TYPE (I.E. 138" SRW GAS)]

Bus Manufacturer: _____

Bus Model Number: _____

Basic Body Construction Type: _____

Chassis Manufacturer: _____

Chassis Model Number: _____

General Dimensions

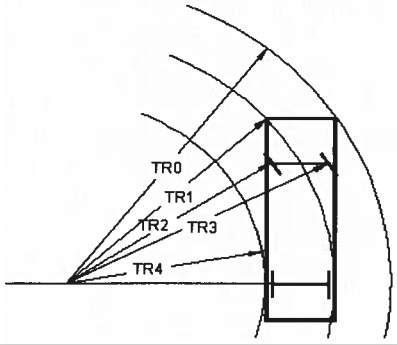
Overall length	Over bumpers		feet		inches
Overall width	Over body excluding mirrors and lights		feet		inches
	Over body including mirrors		feet		inches
	Over tires		feet		inches
Overall height (maximum)			feet		inches

Angle of approach		degrees
Angle of departure		degrees
Breakover angle 1		degrees

Doorway clear opening (at widest point)		inches

	Width with grab handles		**Width** without grab handles		**Height**	
Front door		inches		inches		inches
Rear emergency door		inches		inches		inches
Wheelchair Lift access door		inches		inches		inches

Step height from ground (measured at center of doorway)		inches
Step Risers		inches
Depth of steps		inches

Interior head room (floor to ceiling at center of aisle)					
First axle location		inches			
Rear axle location		inches			
Flat floor option		inches			
Interior width					
Minimum width (Measured 12" above the floor)		inches			
Aisle width					
Minimum width on floor between front axle wheel housings		inches			
Minimum width on floor between rear axle wheel housings		inches			
Minimum width between seats		inches			
Minimum ground clearance					
Outside axles zones		inches			
Inside axles zones		inches			
Horizontal turning envelope (see diagram below)					
Outside body turning radius, TR0 (including bumper)		feet		inches	
Inside Body Turning Radius innermost point, TR4 (including bumper)		feet		inches	
					
Wheel base					
Front axle to rear axle		inches			
Stretched Chassis		Yes		No	
Overhang, centerline of axle over bumper					
Front		inches			
Rear		inches			
Floor					

Maximum interior floor slope (from horizontal)		degrees					
Floor Material Type/Manufacturer							
Floor Covering Type/Manufacturer							
Capacity							
Seated Passenger Capacity (w/o driver)							
Number if wheelchair positions							
Passenger seating manufacturer/model number							
Minimum hip to knee space		inches					
Maximum hip to knee space		inches					
Seat width per passenger		inches					
Seat depth		inches					
Seat back height		inches					
Seat back angle		inches					
Restraint system type and model number							
Bus weight							
	Curb weight		**Curb weight plus seated load***		**GVWR**		
First axle		lbs		lbs		lbs	
Rear axle		lbs		lbs		lbs	
Total		lbs		lbs		lbs	
* Including operator and passengers at 175 lbs per person							
Steering Axles							
Manufacturer							
Type and weight rating							
Model number							
Drive axle							
Manufacturer							
Type and weight rating							
Model number							
Differential ratio							
Electrical							
Primary interior lighting system							
Manufacturer							
Type							
Model number							

Number of lights				
Primary exterior lighting system				
Manufacturer				
Type				
Model numbers				
Alternator(s)				
Manufacturer				
Type				
Model number				
Output at idle		amps		
Voltage regulator				
Manufacturer				
Model number				
Energy storage				
Batteries – Chassis				
Manufacturer				
Type/number				
Model number				
Cold cranking amps				
Batteries– Auxiliary				
Manufacturer				
Type/number				
Model number				
Cold cranking amps				
Engine				
Manufacturer				
Model number/displacement				
Horsepower/torque rating				
Fire Suppression/Methane Detection System				
Manufacturer				
Model number				
Number of detectors		fire		methane
Type of detector	☐ Thermal ☐ Optical			

Battery backup	☐ Yes ☐ No				
Bumpers					
Front Bumper					
Manufacturer					
Type					
Rear Bumper					
Manufacturer					
Type					
Fuel and Exhaust System					
Fuel type					
Operating range					
Fuel tanks (liquid fuels)					
Manufacturer					
Capacity (total and usable)		Gallons	/		Gallons
Construction material					
Transmission					
Manufacturer					
Type					
Model number					
Number of forward speeds					
Wheels					
Manufacturer					
Type					
Size					
Mounting type					
Bolt circle diameter					
Tires					
Manufacturer					
Type					
Size					
Load range/air pressure					

Door System		
Door panels	**Manufacturer**	**Type**
Front door		
Rear emergency door		
Wheelchair lift access door		

Front Door Actuating mechanism (electric)	
Manufacturer	
Model Number	
Hold open devices	
Rear emergency door	
Wheelchair lift access door	

Heating and Ventilating Equipment		
Heating system capacity		Btu
Air conditioning system capacity		Btu
Ventilating capacity		CFM per passenger

A/C System				
Compressor				
Manufacturer and model				
Refrigerant type				
Evaporator				
Manufacturer and model				
Output		BTU		CFM
Location				
Condenser				
Manufacturer and model				
Location				
Rating		BTU		
Number of Fans/Airflow				CFM
Rear heater				
Manufacturer				
Type				
Model number				

Capacity					
Passenger Loading System					
Manufacturer					
Type (hydraulic, electric or both)					
Model number					
Capacity (lbs.)					
Dimensions					
Width of platform		inches			
Length of platform		inches			
Cycle times	**Normal idle**		**Fast idle**		
Stowed to ground		seconds		seconds	
Ground to stow		seconds		seconds	
Electronics					
Video system manufacturer					
Video system model number					
Number of cameras					
Destination sign manufacturer					
Destination sign model number					
Coach Body Fittings					
Passenger windows					
Manufacturer					
Model number/Type					
Size/Tint					
Glazing type					
Rear Windows size					
Exterior mirrors					
Size					
Manufacturer					
Model number					
Manufacturer part numbers					
Interior mirrors					
Size					

Manufacturer	
Model number	
Manufacturer part numbers	
Bicycle rack	
Manufacturer	
Model number	
Paint system	
Manufacturer	
Type	

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

MEMORANDUM

TO: Holders of Contracts Documents

FROM: Karen Elsey, Procurement Administrator
Maryland Transit Administration
Procurement Division
6 Saint Paul Street, 7th Floor
Baltimore, Maryland 21202-1614

SUBJECT: Addendum No. 1
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

DATE: October 16, 2012

This is ADDENDUM No. 1 to the Invitation for Bid (IFB) for Contract No's: T 8000-0368, SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

The State's procurement regulations require that you acknowledge receipt of this ADDENDUM No. 1 by submitting with your proposal. Acknowledge receipt by signing and include the attachment form with your proposal.

Failure to acknowledge receipt of this ADDENDUM could cause your proposal to be disqualified from further consideration for this procurement.

ITEM ONE:

- **The due date of the "sealed bids" is Thursday, December 20, 2012, by 2 p.m. The location to deliver your Technical Proposal and Financial Bid remains unchanged.**

Addendum No. 1
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ITEM TWO:

CHANGE: Closing Date for Receipt of Approved Equal Requests is Friday, November 16, 2012 by 2 p.m.

ITEM THREE:

CHANGE: Deadline to submit Bid Inquiry questions is Tuesday, November 20, 2012, 4 p.m.

ITEM FOUR:

Minutes from the Pre-Bid Conference will be sent out no later than Thursday, November 1, 2012.

An Addendum with the questions and responses will be sent out no later than Thursday, November 1, 2012.

Addendum No. 1
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

ATTACHMENT FORM:

Acknowledgement of receipt of ADDENDUM #1 to Contract No T 8000-0368; Small Buses for Non-Profit Human Services and Locally Operated Transit Systems (LOTS), with your proposal:

A. Consultant's Name:

B. Authorized Representative's Signature:

C. Printed Name of Representation:

D. Title:

E. Date:

Addendum No. 1
Invitation for Bid (IFB) for
Contract No.: T 8000-0368,
SMALL BUSES FOR NON-PROFIT HUMAN SERVICES AND LOCALLY OPERATED TRANSIT SYSTEMS (LOTS)

The information issued with this Addendum will become part of the contract awarded to the successful Offeror's. If you have any questions regarding this Addendum, please contact me at 410-767-3591 or by e-mail at kelsey@mta.maryland.gov

Karen Elsey, Procurement Administrator
MTA Procurement Division