

# 2019 State Price Agreement

## Base Vehicle Specifications

### Category C – Medium Size Medium Duty

**1. Specifications for Base Vehicle in Category C Low Floor Medium Size, Medium Duty Vehicle**

This specification describes a steel cage, low floor, commercial vehicle designed for Commercial or Transit applications that meets all the requirements of ADA and the FMVSS Safety Standards in effect at the time of manufacture. The purpose of these specifications is to describe a Mid-size vehicle suitable for transporting both ambulatory and non-ambulatory passengers in both rural and urban areas. The vehicle shall be of the Low Floor type with air suspension or equivalent both front and rear.

The Medium Duty Vehicle must have been submitted to the Altoona Vehicle Test Center for a 7 yr./200,000 mile Surface Transportation and Uniform Relocation Assistance Act (STURAA) test. Testing must have been completed on current body style being converted.

**1.1 DIMENSIONS**

The overall <b>minimum</b> length of vehicle, bumper to bumper, must be <b>no less than 25'</b>
Minimum body width must be 96" exterior <b>(not including mirrors)</b>
The Passenger door must be dual panel, electrically operated and have two windows. The entry door must be configured for ease of access for wheelchair loading and unloading. The entry door must have a minimum clear opening of 35" with entry assist handles. Assist handles must be powder coated yellow. Passenger door must be electrically actuated at the driver console and come with an exterior weatherproof door switch or key lock.
Entry doors must incorporate gaskets and/or seals that provide a barrier against intrusion by wind, water and dust around the perimeter. The seal at the center of the door must be by means of full height overlapping rubber seals, and must include a barrier or sweep at the bottom of both doors. For emergency situations, a manual door release control must be installed over the top of the door, and shall be designed to permit simple operations to override the electric door operation.
The minimum interior height must be 77 inches at center aisle and may vary depending on the floor layout.
Minimum aisle width is 16 inches; 12 inches minimum is permissible in wheelchair area; 15 inch minimum is permissible adjacent to forward facing fold-away seats and meet all ADA requirements.
Minimum of 27 inches knee-to-hip spacing between passenger seats.
Gross Vehicle Weight Rating (GVWR) of the completed vehicle must not exceed the GVW of the chassis and be appropriate for application described, a full tank of fuel, driver, the number of passengers and wheelchairs described. Any exceptions to this requirement, seating capacity, or any other specification must be noted. Certified weight of completed vehicle as ordered must be conducted before delivery and a weight slip included. The GVW must be affixed to the completed vehicle.

## 1.2 CHASSIS

<p><b>Standard Engine must be gasoline.</b> Drive train must be adequate for GVWR and must maintain 70 mph, except when a lesser speed is recommended by manufacturer. Must be equipped with fast idle.</p>
<p><b>Per 49 CFR § 393.89,</b> <b><u>Any driveshaft extending lengthways under the floor of the passenger compartment of a bus shall be protected by means of at least one guard or bracket at that end of the shaft which is provided with a sliding connection (spline or other such device) to prevent the whipping of the shaft in the event of failure thereof or of any of its component parts. A shaft contained within a torque tube shall not require any such device.</u></b></p>
<p>Cooling System must have heavy duty capacity to OEM standard specifications and have the maximum freeze protection allowed with the OEM coolant at the OEM recommended mixture.</p>
<p>Automatic Transmission to be equipped with a starter interlock, as set forth in FMVSS #102, to prevent starting the engine unless transmission is in neutral or park. Original equipment manufactured and factory installed.</p>
<p>Fuel tank must be a minimum <b>40</b> gallons Fuel filler mechanism must be of an approved design, in compliance with applicable safety regulations. The volume capacity of the neck and fill must match standard fill rates and vent capacity for refueling.</p>
<p><b>Easily accessible</b> Fuel pump access panel</p>
<p>Brakes - hydraulic brakes required for vehicle up to 26,000 pounds GVWR. Use largest OEM available and extended life brake linings, if available. Air brakes, if available, may be offered to the Authorized Purchaser upon request.</p>
<p>The front end must be aligned, per manufacturers guidelines (toe-in, caster, camber, etc.), and the front wheels balanced after completion of body on chassis. All 4 wheels must be aligned at the manufacturer prior to delivery and a computerized alignment printout shall be supplied with vehicle at delivery.</p>
<p>Chassis must be equipped with a 4-Corner Air Spring Suspension System powered by an engine driven or electric single twin cylinder 3.5 CFM compressor or equivalent. The pump must pressurize air and store it in a tank for use in the air springs while the vehicle is operational. If the vehicle is not operated for an extended period of time, the springs must gradually decrease pressure as the compressed air escapes to the atmosphere. Once the vehicle is powered up the suspension controller must level the vehicle automatically. The system must be equipped with a factory programmable controller. The vehicle must not react to load or road inputs for a minimum of 20 seconds. System must be equipped with a status light as part of the kneel switch which must flash to indicate an error in the system. When stopping for non-wheelchair passengers, operators may choose to maintain the vehicle at its normal ride height.</p> <p>Contractor may offer other suspension systems as alternative to the standard air system. Details and costs of each system may be offered during the RFQ process.</p>
<p>Dual rear wheels are required. Dual (4 total) rear wheels must be installed on a single rear axle. Rear wheels must have tire valve extensions.</p>
<p>Windshield must be darkest available OEM tint allowed by Oregon law.</p>
<p>Power steering, tilt, steering wheel and speed control</p>
<p>Vehicle must have a minimum of one power point in driver's control center.</p>
<p>Gauges - full <b>OEM</b> gauge <b>and warning light</b> package including fuel, oil pressure, water temperature, ammeter or voltmeter. <b>Warning lights are acceptable only when gauges are not provided by OEM.</b></p>

Driver's door running board that is a minimum <b>11"</b> wide and runs the full length of driver's door fastened to the frame of vehicle.
Vehicle must be equipped with fully automatic lift interlock system with self-diagnostic capability and Inter-motive - ILIS w/integral fast idle or approved equal. Interlock system must comply with Americans with Disabilities Act (ADA) requirements, as set forth in ADA 49CFR 38.23(b), and protected from the weather.
All vehicles must have the exhaust pipe routed out the rear corner <b>or top</b> of the vehicle in conformance with Federal Motor Carrier Safety Regulations, Part 393.83. Exhaust hangers must be standard equipment and must be welded to the frame. Exhaust U-bolts must be used in connections with thread orientation must be directed upwards.
Exhaust system must be OEM pipes and muffler with proper heat shielding and baffles. Exhaust pipe extensions must also be <b>OEM</b> steel pipe.

### 1.3 ELECTRICAL

12 Volt system minimum, dual batteries with minimum 1200 CCA's (gas) and 1500 CCA's (diesel) total at 0 degrees (F).
Minimum dual 110/190 Amp alternators or 200 Amp single alternator.
Auxiliary Batteries must be mounted in a battery box with access door. Box must not extend below entrance door step and must have a sliding stainless steel or composite tray w/stainless steel bearing slides capable of supporting 2 batteries. Battery compartments must be constructed to prevent entrance of debris (if metal, all seams to be continuously welded) and to allow adequate ventilation of vapors. Battery cables must be size appropriate to electrical system and run the full length with no splices.
Electrical wiring must be sized appropriate to load requirements, coded for easy identification and must meet requirements of SAE J1127 & J1128, types GXL, SXL and SGX. Wire harnesses must be protected by plastic convoluted slit looms or equivalent. Harness connectors must be weather resistant "AMP-type" or equivalent plug-in connectors. Circuit breakers (no fuses) must be clearly marked and securely mounted in a panel or fuse block and "plug in" to manufactured socket(s). Supplemental wiring must be included in the wiring harness to accommodate additional post-delivery options. Junction panels must be located within a compartment with all circuit breakers easily accessible. All electrical components must be shielded from interference from electromagnetic interference from outside sources.
When routing wiring under vehicle all wiring must be encased in a loom and attached to the frame and sub-floor structure with proper fasteners and must not be bundled with hoses. The harness must run in straight lines as close to chassis frame rails as possible. Any harness that goes over the rear suspension must be encased in a conduit fixture securely fastened to the sub-floor rails or routed inside the frame rails.
The vehicle must be equipped with a disconnect switch that removes 12V battery power from all bodybuilder loads while not interfering with OEM chassis electrical circuits
Manufacturer shall install a redundant ground between chassis and power unit at a separate location.
A legend shall be installed on the circuit panel door that displays circuit fusing and identification information.

### 1.4 BODY CONSTRUCTION

<p>Body Structure - Frame and body structures must meet Federal FMVSS #220 standard. Purpose Built Medium/Heavy Duty vehicles must meet APTA Standard Vehicle Procurement Guidelines, Section 5.4.1.2-Crashworthiness.</p>
<p>Vehicle must meet FMVSS #217 Federal escape standards. Emergency side exits must include a minimum of one window per side, equipped with a safety release latch and swing out capability, in conformance with the operating characteristics of FMVSS #217. Each emergency exit must have the designation "Emergency Exit" permanently affixed in a manner that must not loosen in normal vehicle operation.</p>
<p>Prior to final assembly, all <b>non stainless steel</b> metal parts must be treated with multiple stage anti-corrosion treatment. All <b>non stainless steel</b> nuts, bolts, clips, washers, clamps, rivets and like parts must be zinc or cadmium plated, or phosphate coated, to prevent corrosion. Use stainless steel where practical.</p>
<p>Wherever threaded fasteners are attached into interior panels only, a reinforcing nut or panel must be installed for added strength and fastener retention.</p>
<p>Welding procedures used throughout the vehicle including materials, methods and personnel must be in accordance with ASTM and American Welding Society Standards.</p>
<p>All handrails, stanchions and auxiliary air conditioners, where attached to wall or ceiling, must be secured directly to the metal frame structure or to reinforcement plates which are secured directly to the frame or embedded securely in the body panels.</p>
<p>Exterior body panels must be galvanized steel, aluminum, composite or fiberglass with a white finish. Dissimilar metals must be isolated to prevent galvanic action. With the exception of stainless steel, all metal must be pre-treated, primed, and painted to resist corrosion for the life of the vehicle.</p>
<p>Interior must be made of FRP or ABS panels or equivalent. Interior finish must be white, grey or light tone, color coordinated with seats, floor and exterior.</p>
<p>Body must be thoroughly water tested to ensure no leakage. The roofs, windows, windshields, and all seams and joints must be tested as follows:</p> <ul style="list-style-type: none"> <li>(a) The water test shall consist of a series of nozzles, which are located around the perimeter of the vehicle so as to spray water over the entire surface of the vehicle.</li> <li>(b) The nozzles shall eject a volume of water no less than 2.0 gal/min under a pressure of no less than 40 psi measured at the nozzle tip.</li> <li>(c) Each vehicle shall be water tested as prescribed above for no less than 15 minutes to determine whether there are any body leaks.</li> <li>(d) Corrective action and retesting shall be performed for all vehicles that fails to pass.</li> <li>(e) Documentation shall be furnished for each vehicle delivered under this agreement demonstrating the vehicle has passed the requirements listed above.</li> </ul>
<p>Insulation - With unloaded vehicle, driver's area noise level must not exceed 83 decibels at a constant speed of 55 mph.</p>
<p>Floor - The floor must be marine grade plywood, 5/8" thick minimum, coated with sealed edges. The floor covering must be covered (or approved equal), slip-resistant transit-floor rubber (minimum 20%SBR), gray marble color with ribbed section in aisle and a two(2) inch wide band of yellow contrasting color on step edge and aisle threshold directly behind driver. Floor covering must meet FMVSS 302 and ADA requirements.</p>
<p>Windows must be the largest available transit type passenger windows on each side with an upper T-slider window. Windows must have 31% tint unless otherwise specified.</p>
<p>Driver's side must have a sun visor.</p>
<p>Driver's storage compartment with door, lock and latch, must be installed in driver area.</p>

Entire body must be undercoated and use a non-hardening and non-chipping material except as limited by exhaust requirements. Chassis must be rustproofed to OEM standard. No warranties must be reduced or limited by the application of undercoating.
Rubber or molded fender splashguards must be installed on rear wheel openings with clearance for standard chains.
Mud flaps must be installed on front and rear (large enough to cover duals).
Front and rear bumpers must be an OEM Heavy-duty bumper as standard. Bumper height must be industry standard to provide protection against automobile and vehicle damage. Bumpers must be fastened directly to the vehicle frame.
Towing -Contractor must identify procedures for safely towing a completed vehicle according to chassis manufacturer's recommendation. This procedure shall be supplied to each Authorized Purchaser ordering a vehicle as part of the delivery package/instructions.

### 1.5 VEHICLE FEATURES

Seating - Standard floor plan is required with the RFP Price Proposal. Detailed floor plans are required with vehicle orders. Exceptions to capacity required to meet other specifications must be noted.
Base vehicle must accommodate 20 ambulatory passengers in fixed seats and 2 front mounted wheelchair stations.
Passenger Seats - Forward-facing mid-high back double seats secured to the vehicle floor and sidewall in accordance with FMVSS# 207. Seats must have a minimum of 17 inch cushion width and depth per person. All vehicles to have track type seat anchorages, to allow users to easily rearrange seating configurations.
Aisle side armrests, molded plastic, are required to be installed
Aisle side grab handles, molded plastic, are required to be installed
Seat Belts - Must meet FMVSS #209 and #210. The driver's seat must be equipped with a retracting seat belt. All standard passenger seats must be equipped with under seat mounted retracting adult seat belts (USR or equivalent), except seats against rear of vehicle, which must have non-retracting seat belts.
Seat materials - All seat materials must meet FMVSS #302. Level-3 vinyl upholstery is standard with color to be selected by purchaser from several available colors or patterns.
Driver's seat must be a fully adjustable high-back bucket seat (USSC G2ELPQR or equivalent), with right side arm rest, adjustable tilt back and lumbar support with OEM standard pedestal and trim. The seat must be ergonomically designed to help reduce day to day driver fatigue and stress. The seat cover with black transit cloth fabric. An Air suspension seat is preferred and must be included as standard if available.
Priority seating signs and all other ADA required signage must be in place and installed per lift manufacturer and ADA standards.
Ramp - ADA approved, must meet or exceed FMVSS #403 & #404 requirements and all State, Federal, ICC, and ADA requirements. The entry ramp must be designed to let wheelchair and ambulatory passengers enter the vehicle once the ramp is fully deployed. Steps are not allowed and all passengers enter by way of passenger door. Entry ramp must be 62 inches minimum and a 1:6 angle when deployed to the ground. The ramp must be rated at 1000 lbs.
Wheelchair Securement Devices must be automatic, self-tensioning with tensioning knob and self-locking and must comply with all ADA, ANSI/RESNA WC18 and ISO 10542 performance and installation requirements. Wheelchair securement must be flush mount aluminum "L" track of the highest quality. Wheelchair securement devices and the installation thereof, performance pursuant to this specification,

<p>must meet or surpass the minimum standards per ADA, ANSI/RESNA WC18 and ISO 10542 requirements, including all shoulder harness mounting hardware. Shoulder harness must have an adjustable height adjuster to compensate for variations in the size of the mobility device or passenger. At no time must the position of the wheelchair securement device or area, 30 inches wide per ADA, ANSI/RESNA WC18 and ISO 10542 specifications when used with a surrogate wheelchair per ADA, SAE and ISO, reduce clear aisle space to less than the dimension authorized by ADA requirements. Wheelchair securement devices must be universal in application for ease of use or approved equal. Minimum wheelchair position must be 30" x 52" for all vehicles sold under this contract.</p> <p>Contractor may make available fixed floor pocket, Slide N Click, InQline Integrated Winch/Retractor System or approved equal based on desired configuration of the Authorized Purchaser at time of purchase.</p>
<p>Floor track must be flange mount "L" track 6351 aluminum grade or approved equal and shall be installed lengthwise in relationship to the vehicle. Length of floor track must be appropriate to the number of wheelchair stations ordered and the desired configuration. Floor track must be mounted with the cadmium plated bolts for corrosion resistance. Wall Track must be surface mount "L" track 6351 grade aluminum or approved equal. Contractor shall provide hands-on training of the tie-down system and include manufacturer's maintenance / training information at delivery.</p>
<p>Dual; front and rear heating system able to maintain a range of 65 to 70 degrees, measured about 12 inches off the floor with an ambient temperature of 0 degree. Each heater must be fused and switched separately.</p>
<p>Front and rear air conditioning system able to maintain a range of 65 to 70 degrees, measured about 12 inches off the floor with an ambient temperature of 90 degrees. Air Conditioning System must use Quick Click Hose system or equivalent. Include winter protection cover for skirt mounted condenser.</p>
<p>A spare tire and wheel matching the OEM tires must be included and shipped loose in the vehicle at delivery</p>

**1.6 VEHICLE LIGHTING**

<p>Day-time Running Lights are required</p>
<p>LED Interior Lighting – Eight (8) overhead lights minimum, to go on automatically when passenger door is opened and switched at driver's console. Overhead driver switched lights must be mounted above driver's door.</p>
<p>Passenger doorway must be illuminated according to CFR 49 Part 38.31 (ADA) and must be illuminated whenever the door is open.</p>
<p>The ramp area must be equipped with (1) exterior overhead door light and (2) LED Stepwell Lights to illuminate the entry floor/ramp platform meeting ADA specs. These lights must activate when the door is opened and or the ramp is deployed and turn off when the ramp is stowed or the door closed.</p>
<p>Engine compartment must include at least one (1) 10 foot-candle light, conveniently located.</p>
<p>All exterior lights and reflectors to meet Federal Motor Carrier Safety Regulation 393.11. LED lighting package Consisting of: Running/marker Lights, Triple ID Lights, rear Turn Signals, Back-up Lights, Brake Lights (including Center Brake Light), license plate Lights and Tail Lights.</p>
<p>Flashing directional signals, self-canceling, must be installed on the front, side (armored) <b>or flush mounted</b> and rear of the coach, and must permit continuous flashing of all directional lights</p>

Separate Brake Lights independent of rear hazards.

## 1.7 MIRRORS AND STANCHIONS

Mirrors - Heated & remote control mirrors std. Exterior mirror heads must be stainless or ABS non-corrosive material, approximately 6" wide by 9.5" high. Mirrors must have breakaway mounts, brackets must be powder-coated or made of stainless steel. Interior OEM rear-view mirror to allow driver to see entire interior of vehicle. A separate rear view mirror must be mounted to the drivers' overhead with a minimum 6" x 16" viewing space for passenger viewing.

Emergency exit window must be installed. **Rear window or rear view camera system must be installed** to permit the driver to view behind the rear bumper area.

**If room allows, install an** Extra vision window(s) in transition panel between chassis fender and front right side passenger loading area.

Vertical stanchion and cross rail, with modesty panel, between entry door/ramp and front row of seats. Vertical stanchion must be mounted to floor and ceiling.

Vertical stanchion and cross rail, with modesty panel, behind driver.

Grab rail must be securely attached to the ceiling the length of the vehicle except for the wheelchair securement area. The ends of the grab rails must be upturned towards the ceiling.

All stanchions must be 1 1/4" stainless steel with no sharp edges.

Angled full-length grab rail right and left of entrance door must be installed with stanchions on both sides **and modesty panel on left side of entry.**

Fire extinguisher - minimum five (5) pound rechargeable, mounted per customer request

First Aid Kit - 24 unit First Aid Kit must be state DOT compliant and in a dustproof container labeled "FIRST AID". Kit shall be mounted in an easily accessible location.

Three emergency warning triangles shall be installed. Both faces of each triangle must consist of red reflective and orange fluorescent material. Each of the three sides of the triangular device must be 17" to 22" long and 2" to 3" wide. Triangles shall be installed in a protective container secured to the vehicle in a location to be determined by the customer.

Backup Alarm must be an electric alarm, activated by reverse transmission setting, with 97 minimum decibels.

OEM, or equivalent, AM/FM/CD **or Aux mode,** Digital Clock Radio with 4 speakers mounted in the passenger compartment.

A triangle shaped yield sign must be affixed to the rear of the vehicle on the driver side, wired to the left turn signal, with a momentary switch to auto cancel when the turn signal is disengaged.

(1) OEM driver seat belt extender must be included and shipped loose in the vehicle at delivery

(2) 12" minimum passenger seat belt extenders must be included and shipped loose in the vehicle at delivery

(1) Seat belt extender and belt extender to match securement system for wheelchair occupant must be included and shipped loose in the vehicle at delivery

Seat belt cutter, capable of cutting supplied wheelchair securement straps without exposed cutting edge and not usable as a weapon. Mounted to driver dash in reach of driver while seated.

Pre-Wire for 2 way Radio – wires to terminate to right of doghouse

Usable driver's cup holder in doghouse **within driver's reach**

The vehicle must come equipped with a 5 camera surveillance system with a minimum 1tb hard drive or equivalent. One camera facing out the front, one camera facing front to back, one camera facing back to front, one camera facing the wheelchair door/securement area and one exterior camera mounted to the rear facing back. There must be a dash mounted rear view monitor, activating when the vehicle placed in reverse that allows the driver to see the rear facing camera. One spare hard drive and a hard driver reader shall also be supplied. Interior signage – <i>Video camera in use</i> – in both English and Spanish shall be installed at location determined by Authorized Purchaser.
Interior and exterior selectable PA system with hand held microphone
Yellow pull cord dual chime passenger signal system with touch tape at wheelchair stations and lighted stop request sign mounted above driver.
LED front and side destination signs with driver controls on dash, <b><u>or other approved location</u></b> shall be installed
A farebox and stanchion capable accepting a minimum of \$200 (mixed) monies with 12V DC night light to allow for easy viewing in dim and dark conditions shall be installed. The farebox must come with two vaults and a 3-lock, high security system.
A stainless steel bike rack capable of carrying up to 3 bicycles on the front of the transit vehicle including all mounting hardware shall be installed.
One set of chassis and body manuals including service and electrical manuals to be delivered with the vehicle at time of delivery. This must include a complete set of as-built wiring diagrams.

### 1.8 SERVICE, WARRANTIES AND DELIVERY

DESIGNED TO TRANSPORT - The final stage manufacturer shall determine the original seating capacity of each vehicle. The manufacturer's certification label must indicate the original seating capacity of the vehicle and must be affixed to the vehicle in a location protected from wear. The label must state the "Original Seating Capacity - Design To Transport" (number of passengers, including driver) and Gross Vehicle Weight Rating (GVWR) of vehicle.
Maintenance and Inspection Schedule - a single comprehensive maintenance and inspection schedule for each vehicle shall be supplied when delivering the vehicle to Authorized Purchaser. Maintenance and Inspection schedules must include, but are not limited to, the required maintenance and inspection of body, chassis, tires, wheelchair ramp and other equipment and sub-systems, as prescribed by the respective manufacturers.
Quality - body manufacturer must meet chassis manufacturer's quality assurance program, if available. Certification from chassis manufacturer must be submitted during RFQ process for each chassis.
Tires must be covered by O.E.M warranty.
Wheelchair lift system must be covered by O.E.M warranty.
Vehicle chassis must be covered by O.E.M. warranty.
Body structure materials and workmanship must be covered by O.E.M. warranty.
Installation, labor and workmanship (including electrical) performed by the body manufacturer, final stage manufacturer or Contractor (if Contractor installs components or otherwise completes vehicle) must be covered by O.E.M. warranty.
All other components and accessory equipment must be covered by a warranty of at least one (1) year/12,000 miles, unless covered by an applicable manufacturer's warranty exceeding this. The Contractor shall assist as needed in coordinating repairs within the warranty period for each component and applicable warranty.



Contractor shall provide a report of all warranties and excluded warranties associated with each vehicle.
During established warranty periods, the Contractor and respective manufacturer shall furnish all warranty parts at no cost to Authorize Purchaser.
Contractor shall allow the recipient, or a designated representative of the recipient, the opportunity to inspect the vehicle for compliance with these specifications and applicable motor vehicle regulations. The inspection(s) must be completed prior to the delivery and acceptance of the vehicle.
Prior to releasing the vehicle to the recipient, Contractor shall provide hands on instructions, by a qualified and experienced employee, in the proper and safe operation of all mechanical, electrical and hydraulic components in the vehicle. Towing procedures must be included in the instruction. The recipient's driver/designee shall conduct an operational familiarization test drive with Contractor's employee.

**1.9 OPTIONAL EQUIPMENT**

Attached to Contractor's RFP proposal was a comprehensive listing of optional equipment that is incorporated into the Price Agreement. Authorized Purchasers ordering under this Price Agreement shall be able to select optional equipment from this listing without incurring cost for additional engineering hours for any changes in optional equipment.

**2. Specifications for Base Vehicle in Category C High Floor Medium Size, Medium Duty Vehicle**

This specification describes a steel cage, high floor, commercial vehicle designed for Commercial or Transit applications that meets all the requirements of ADA and the FMVSS Safety Standards in effect at the time of manufacture. The purpose of these specifications is to describe a Medium-Duty, Mid-size vehicle suitable for transporting both ambulatory and non-ambulatory passengers in both rural and urban areas. The Medium Duty Vehicle must have been submitted to the Altoona Vehicle Test Center for a 7 yr. /200,000 mile Surface Transportation and Uniform Relocation Assistance Act (STURAA) test. Testing must have been completed on current body style being converted.

**2.1 DIMENSIONS**

The overall <u>minimum</u> length of vehicle, bumper to bumper, must be <u>no less than 25'</u>
Body width is 96" exterior minimum ( <u>not including mirrors</u> )
Maximum height from ground to top surface of first step of 11.5 (+/-1") inches, and the rise on the remaining steps a maximum of 9.0 inches. Step tread must be a minimum of 9.0 inches deep and a minimum of 30 inches wide and meet all ADA requirements.
Passenger door must have a minimum height of 77 inches and the door entrance area must have a clear width opening of at least 30 inches. Passenger door must be electrically actuated at the driver console and come with an exterior weatherproof door switch or key lock.
For emergency situations, a manual door release control must be installed over the top of the door, and must be designed to permit simple operations to override the electric door operation.
The minimum interior height must be 77 inches at center aisle with a standard floor. A "flat" floor may be made available upon request from the Authorized Purchaser.

Base vehicle must be a front lift (lift behind entry door). If a flat floor is necessary to accommodate 20 fixed seats and 2 wc stations in tandem behind the driver, it shall be installed and Contractor shall specify if the flat floor extends to the doghouse or ends behind the driver seat.
Minimum aisle width is 16 inches; 12 inches minimum is permissible in wheelchair area; 15 inch minimum is permissible adjacent to forward facing fold-away seats and meet all ADA requirements.
Minimum of 27 inches knee-to-hip spacing between passenger seats.
Gross Vehicle Weight Rating (GVWR) of the completed vehicle must be adequate and appropriate for application described, a full tank of fuel, the number of passengers and wheelchairs described. Any exceptions to this requirement, seating capacity, or any other specification must be noted. Certified weight of completed vehicle as ordered must be affixed to the completed vehicle.
Base unit must have a minimum GVWR of 17,000#.

## 2.2 CHASSIS

Standard Engine must be gasoline. Drive train must be adequate for GVWR and must maintain 70 mph, except when a lesser speed is recommended by manufacturer. Must be equipped with fast idle. Other fuels may be offered to the Authorized Purchaser upon request.
<b><u>Per 49 CFR § 393.89,</u></b> <b><u>Any driveshaft extending lengthways under the floor of the passenger compartment of a bus shall be protected by means of at least one guard or bracket at that end of the shaft which is provided with a sliding connection (spline or other such device) to prevent the whipping of the shaft in the event of failure thereof or of any of its component parts. A shaft contained within a torque tube shall not require any such device.</u></b>
Vehicle must be equipped with brake or transmission interlock per Americans with Disabilities Act (ADA) requirements, as set forth in ADA 49CFR 38.23(b), and protected from the weather.
Cooling System must have heavy duty capacity to OEM standard specifications and have the maximum freeze protection allowed with the OEM coolant at the OEM recommended mixture.
Automatic Transmission to be equipped with a starter interlock, as set forth in FMVSS #102, to prevent starting the engine unless transmission is in neutral or park. Original equipment manufactured and factory installed.
Fuel tank must be a minimum <b>40</b> gallons Fuel filler mechanism must be of an approved design, in compliance with applicable safety regulations. The volume capacity of the neck and fill must match standard fill rates and vent capacity for refueling.
Fuel pump access panel
Brakes - hydraulic brakes required for vehicle up to 26,000 pounds GVWR. Use largest OEM available and extended life brake linings, if available. Air brakes, if available, may be offered to the Authorized Purchaser upon request.
The front end must be aligned, per manufacturers guidelines (toe-in, caster, camber, etc.), and the front wheels balanced after completion of body on chassis. All 4 wheels must be aligned at the manufacturer prior to delivery and a computerized alignment printout shall be supplied with vehicle at delivery.
Suspension - matched to GVWR. To maintain the smoothest ride possible, each vehicle must be modified by the addition of a supplemental suspension system (i.e. MOR/ryde RL, E-Z Ride, Liquid Spring or approved equal). An additional leaf spring, spring spacer, or approved equal must be added to the W/C lift side of the vehicle.
Dual rear wheels are required. Dual (4 total) rear wheels shall be installed on a single rear axle. Rear wheels must have tire valve extensions.

Tires must be radials with size appropriate to GVWR requirements and compatible with the warranty requirements of this Price Agreement.
Windshield must be darkest available OEM tint allowed by Oregon law.
Power steering, tilt, steering wheel and speed control
Vehicle must have a minimum of one power point in driver's control center.
Gauges - full <b>OEM gauge and warning light</b> package including fuel, oil pressure, water temperature, ammeter or voltmeter. <b>Warning lights are acceptable only when gauges are not provided by OEM.</b>
Heavy duty driver's door running board that is a minimum <b>11"</b> wide and runs the full length of driver's door fastened to the frame of vehicle – OEM supplied step is acceptable if it meets the intent of the specification.
Vehicle must be equipped with fully automatic lift interlock system with self-diagnostic capability and Inter motive - ILIS w/integral fast idle or approved equal. Interlock system must comply with Americans with Disabilities Act (ADA) requirements, as set forth in ADA 49CFR 38.23(b), and protected from the weather.
All vehicles must have the exhaust pipe routed out the driver side rear corner of the vehicle in conformance with Federal Motor Carrier Safety Regulations, Part 393.83. Exhaust pipe must not extend beyond the vehicle body or interfere with any tow hooks or other equipment.
Exhaust system must be OEM pipes and muffler with proper heat shielding and baffles. Exhaust pipe extensions must be <b>OEM</b> steel pipe.

### 2.3 ELECTRICAL

12 Volt system minimum, dual batteries with minimum 1200 CCA's (gas) and 1500 CCA's (diesel) total at 0 degrees (F).
Minimum dual 110/190 Amp alternators or 200 Amp single alternator.
Auxiliary Batteries must be mounted in a battery box with access door. Box must not extend below entrance door step and must have a sliding stainless steel or composite tray w/stainless steel bearing slides capable of supporting 2 batteries. Battery compartments must be constructed to prevent entrance of debris (if metal, all seams to be continuously welded) and to allow adequate ventilation of vapors. Battery cables must be size appropriate to electrical system and run the full length with no splices.
Electrical wiring must be sized appropriate to load requirements, coded for easy identification and must meet requirements of SAE J1127 & J1128, types GXL, SXL and SGX. Wire harnesses must be protected by plastic convoluted slit looms or equivalent. Harness connectors must be weather resistant "AMP-type" or equivalent plug-in connectors. Circuit breakers (no fuses) must be clearly marked and securely mounted in a panel or fuse block and "plug in" to manufactured socket(s). Supplemental wiring must be included in the wiring harness to accommodate additional post-delivery options. Junction panels must be located within a compartment with all circuit breakers easily accessible. All electrical components must be shielded from interference from electromagnetic interference from outside sources.
When routing wiring under vehicle all wiring must be encased in a loom and attached to the frame and sub-floor structure with proper fasteners and must not be bundled with hoses. The harness must run in straight lines as close to chassis frame rails as possible. Any harness that goes over the rear suspension

must be encased in a conduit fixture securely fastened to the sub-floor rails or routed inside the frame rails.
The vehicle must be equipped with a disconnect switch that removes 12V battery power from all bodybuilder loads while not interfering with OEM chassis electrical circuits
Manufacturer shall install a redundant ground between chassis and power unit at a separate location.
A legend shall be installed on the circuit panel door that displays circuit fusing and identification information.

## 2.4 BODY CONSTRUCTION

Body Structure - Frame and body structures must meet Federal FMVSS #220 standard. In lieu of FMVSS #220, Purpose Built Medium/Heavy Duty vehicles must meet APTA Standard Vehicle Procurement Guidelines, Section 5.4.1.2-Crashworthiness.
Vehicle must meet FMVSS #217 Federal escape standards. Emergency side exits must include a minimum of one window per side, equipped with a safety release latch and swing out capability, in conformance with the operating characteristics of FMVSS #217. Each emergency exit must have the designation "Emergency Exit" permanently affixed in a manner that must not loosen in normal vehicle operation.
Prior to final assembly, all <b>non stainless steel</b> metal parts must be treated with multiple stage anti-corrosion treatment. All <b>non stainless steel</b> nuts, bolts, clips, washers, clamps, rivets and like parts must be zinc or cadmium plated, or phosphate coated, to prevent corrosion. Use stainless steel where practical.
Wherever threaded fasteners are attached into interior panels only, a reinforcing nut or panel must be installed for added strength and fastener retention.
Welding procedures used throughout the vehicle including materials, methods and personnel must be in accordance with ASTM and American Welding Society Standards.
All handrails, stanchions and auxiliary air conditioners, where attached to wall or ceiling, must be secured directly to the metal frame structure or to reinforcement plates which are secured directly to the frame or embedded securely in the body panels.
Exterior body panels must be galvanized steel, aluminum, composite or fiberglass with a white finish. Dissimilar metals must be isolated to prevent galvanic action. With the exception of stainless steel, all metal must be pre-treated, primed, and painted to resist corrosion for the life of the vehicle.
Interior must be made of FRP or ABS panels or equivalent. Interior finish must be white, grey or light tone, color coordinated with seats, floor and exterior.
Body must be thoroughly water tested to ensure no leakage. The roofs, windows, windshields, and all seams and joints must be tested as follows: <ul style="list-style-type: none"> <li>(a) The water test shall consist of a series of nozzles, which are located around the perimeter of the vehicle so as to spray water over the entire surface of the vehicle.</li> <li>(b) The nozzles shall eject a volume of water no less than 2.0 gal/min under a pressure of no less than 40 psi measured at the nozzle tip.</li> <li>(c) Each vehicle must be water tested as prescribed above for no less than 15 minutes to determine whether there are any body leaks.</li> <li>(d) Corrective action and retesting shall be performed for all vehicles that fails to pass.</li> <li>(e) Documentation shall be furnished for each vehicle delivered under this agreement demonstrating the vehicle has passed the requirements listed above.</li> </ul>
Lift Door - Vertically hinged, horizontal swing, double doors - with windows, must be installed for the installation of a wheelchair lift device meeting ADA standards. The location of this door must be on the right side of the vehicle. The height of the lift door must be in compliance with CFR 49 Part 38.25 (ADA)

and can accommodate 34" lift platform. The doors must be equipped with gas struts to prevent unintentional closure while operating W/C lift.
Lift doors for Base vehicle must be in a front lift location (behind the entry door)
Insulation - With unloaded vehicle, driver's area noise level must not exceed 83 decibels at a constant speed of 55 mph.
Floor - The floor must be marine grade plywood, 5/8" thick minimum, coated with sealed edges. The floor covering must be covered (or approved equal), slip-resistant transit-floor rubber (minimum 20%SBR), gray marble color with ribbed step treads and ribbed section in aisle and a two(2) inch wide band of yellow contrasting color on step edges and aisle threshold directly behind driver. Floor covering must meet FMVSS 302 and ADA requirements.
Windows must be the largest available transit type passenger windows on each side with an upper T-slider window. Windows must have 31% tint unless otherwise specified.
Driver's side must have a sun visor or sun shade.
Driver's storage compartment with door, lock and latch, <del>totaling 3 cubic feet minimum</del> must be installed in driver area.
Entire body must be undercoated and use a non-hardening and non-chipping material except as limited by exhaust requirements. Chassis must be rustproofed to OEM standard. No warranties must be reduced or limited by the application of undercoating.
Rubber or molded fender splashguards must be installed on rear wheel openings with clearance for standard chains.
Mud flaps must be installed on front and rear (large enough to cover duals).
Front and rear bumpers must be an OEM Heavy-duty bumper as standard. Bumper height must be industry standard to provide protection against automobile and vehicle damage. Bumpers must be fastened directly to the vehicle frame.
Towing - Contractor must identify procedures for safely towing a completed vehicle according to chassis manufacturer's recommendation. This procedure must be supplied to each Authorized Purchaser ordering a vehicle as part of the delivery package/instructions.

## 2.5 VEHICLE FEATURES

Seating - Standard floor plan is required with the RFP Cost Proposal. Detailed floor plans are required with vehicle orders. Exceptions to capacity required to meet other specifications must be noted.
Base vehicle must accommodate 20 ambulatory passengers in fixed seats and 2 front mounted wheelchair stations with full length track.
Passenger Seats - Forward-facing mid-high back double seats secured to the vehicle floor and sidewall in accordance with FMVSS# 207. Seats must have a minimum of 17 inch cushion width and depth per person. All vehicles to have track type seat anchorages, to allow users to easily rearrange seating configurations. Perimeter seating allowed on purpose built transit vehicles.
Aisle side armrests, molded plastic, are required to be installed
Aisle side grab handles, molded plastic, are required to be installed

<p>Seat Belts - Must meet FMVSS #209 and #210. The driver's seat must be equipped with a retracting seat belt. All standard passenger seats must be equipped with under seat mounted retracting adult seat belts (USR or equivalent), except seats against rear of vehicle, which must have non-retracting seat belts.</p>
<p>Seat materials - All seat materials must meet FMVSS #302. Level-3 vinyl upholstery is standard with color to be selected by purchaser from several available colors or patterns.</p>
<p>Driver's seat must be a fully adjustable high-back bucket seat, with right side arm rest, adjustable tilt back and lumbar support with OEM standard pedestal and trim. The seat must be ergonomically designed to help reduce day to day driver fatigue and stress. The seat must covered with black transit cloth fabric. Air ride seat is required if available.</p>
<p>Priority seating signs and all other ADA required signage must be in place and installed per lift manufacturer and ADA standards.</p>
<p>Lift - ADA approved, must meet or exceed FMVSS #403 &amp; #404 requirements and all State, Federal, ICC, and ADA requirements. Fluid used must be Hydraulic Fluid (Texaco #15, Exxon Univis HVI or Mobil Aero HFA or equivalent). Minimum clear dimensions for platform are 34" wide X 51" length. The standard location for the lift is on the curbside, behind the entry door. The standard lift for base vehicle must be rated for 1000#.</p>
<p>Wheelchair Securement Devices must be automatic, self-tensioning with tensioning knob and self-locking and must comply with all ADA, ANSI/RESNA WC18 and ISO 10542 performance and installation requirements. Wheelchair securement must be flush mount aluminum "L" track of the highest quality. Wheelchair securement devices installed and the installation thereof, performance pursuant to this specification, must meet or surpass the minimum standards per ADA, ANSI/RESNA WC18 and ISO 10542 requirements, including all shoulder harness mounting hardware. Shoulder harness must have an adjustable height adjuster to compensate for variations in the size of the mobility device or passenger. At no time must the position of the wheelchair securement device or area, 30 inches wide per ADA, ANSI/RESNA WC18 and ISO 10542 specifications when used with a surrogate wheelchair per ADA, SAE and ISO, reduce clear aisle space to less than the dimension allowed by ADA requirements. Wheelchair securement devices must be universal in application for ease of use or approved equal. Minimum wheelchair position must be 30" x 52" for all vehicles sold under this contract.</p> <p>Contractor may make available fixed floor pocket, Slide N Click, InQline Integrated Winch/Retractor System or approved equal based on desired configuration of the Authorized Purchaser at time of purchase.</p>
<p>Floor track must be flange mount "L" track 6351 aluminum grade or approved equal and must be installed lengthwise in relationship to the vehicle. Length of floor track must be appropriate to the number of wheelchair stations ordered and the desired configuration. Floor track must be mounted with the cadmium plated bolts for corrosion resistance. Wall Track must be surface mount "L" track 6351 grade aluminum or approved equal.</p> <p>Contractor shall provide hands-on training of the tie-down system and include manufacturer's maintenance / training information at delivery.</p>
<p>Dual; front and rear heating system able to maintain a range of 65 to 70 degrees, measured about 12 inches off the floor with an ambient temperature of 0 degree. Each heater must be fused and switched separately.</p>
<p>Front and rear air conditioning system able to maintain a range of 65 to 70 degrees, measured about 12 inches off the floor with an ambient temperature of 90 degrees. Air Conditioning System must use Quick Click Hose system or equivalent. Include winter protection cover for skirt mounted condenser.</p>
<p>A spare tire and wheel matching the OEM tires must be included and shipped loose in the vehicle at delivery</p>

## 2.6 VEHICLE LIGHTING

Day-time Running Lights are required
LED Interior Lighting – Eight (8) overhead lights minimum, to go on automatically when passenger door is opened and switched at driver's console. Overhead driver switched lights must be mounted above driver's door.
Passenger and lift doorways must be illuminated according to CFR 49 Part 38.31 (ADA) and must be illuminated whenever respective door is open.
Engine compartment must include at least one (1) 10 foot-candle light, conveniently located. Interior dome light installed above entry door stepwell must illuminate steps and landing area. Must turn on/off with entry door when opened and closed.
All exterior lights and reflectors to meet Federal Motor Carrier Safety Regulation 393.11. LED lighting package Consisting of: Running/marker Lights, Triple ID Lights, rear Turn Signals, Back-up Lights, Brake Lights (including Center Brake Light), license plate Lights and Tail Lights.
Flashing directional signals, self-canceling, must be installed on the front, side (armored) <b>or flush mounted</b> and rear of coach, and must permit continuous flashing of all directional lights for emergency parking, even with the brakes applied (brake lights independent of rear hazards).
Separate Brake Lights independent of rear hazards.

## 2.7 MIRRORS AND STANCHIONS

Mirrors - Heated & remote control mirrors std. Exterior mirror heads must be stainless or ABS non-corrosive material, approximately 6" wide by 9.5" high. Mirrors must have breakaway mounts, brackets must be powder-coated or made of stainless steel. Interior OEM rear-view mirror to allow driver to see entire interior of vehicle. A separate rear view mirror must be mounted to the drivers' overhead with a minimum 6" x 16" viewing space for passenger viewing.
Rear emergency exit window must be installed in the back of the vehicle to permit the driver to view behind the rear bumper area.
Extra vision window(s) in transition panel between chassis fender and front right side passenger loading area.
Vertical stanchion and cross rail, with modesty panel, between entry door and front row of seats. Vertical stanchion must be mounted to floor and ceiling.
Vertical stanchion and cross rail, with modesty panel, behind driver. A smoked plexi-glass shield from top edge of modesty panel extending to ceiling must be installed
Grab rails – must be securely attached to the ceiling the length of the vehicle except for the wheelchair securement area. The end of the grab rails must be upturned towards the ceiling.
Vertical stanchion and cross rail, with modesty panel floor to ceiling, behind front mounted lift.
All stanchions must be 1 1/4" stainless steel with no sharp edges.
Angled full-length grab rail right and left of entrance door shall be installed with stanchions.
Fire extinguisher - minimum five (5) pound rechargeable, mounted per customer request

First Aid Kit - 24 unit First Aid Kit must be state DOT compliant and in a dustproof container labeled "FIRST AID". Kit shall be mounted in an easily accessible location.
Three emergency warning triangles shall be installed. Both faces of each triangle must consist of red reflective and orange fluorescent material. Each of the three sides of the triangular device must be 17" to 22" long and 2" to 3" wide. Triangles shall be installed in a protective container secured to the vehicle in a location to be determined by the customer.
Backup Alarm must be an electric alarm, activated by reverse transmission setting, with 97 minimum decibels.
OEM, or equivalent, AM/FM/CD <b>or Aux mode</b> Digital Clock Radio with 4 speakers mounted in the passenger compartment.
A triangle shaped yield sign shall be affixed to the rear of the vehicle on the driver side, wired to the left turn signal, with a momentary switch to auto cancel when the turn signal is disengaged.
(1) OEM driver seat belt extender shall be included and shipped loose in the vehicle at delivery
(2) 12" minimum passenger seat belt extenders must be included and shipped loose in the vehicle at delivery
(1) Seat belt extender and belt extender to match securement system for wheelchair occupant must be included and shipped loose in the vehicle at delivery
Seat belt cutter, capable of cutting supplied wheelchair securement straps without exposed cutting edge and not usable as a weapon. Mounted to driver dash in reach of driver while seated.
Pre-Wire for 2 way Radio – wires to terminate to right of doghouse
Usable driver's cup holder <b><u>within driver's reach</u></b>
The vehicle must come equipped with a 5 camera surveillance system with a minimum 1tb hard drive or equivalent. One camera facing out the front, one camera facing front to back, one camera facing back to front, one camera facing the wheelchair door/securement area and one exterior camera mounted to the rear facing back. There must be a dash mounted rear view monitor, activated when the vehicle placed in reverse that allows the driver to see the rear facing camera. One spare hard drive and a hard driver reader shall also be supplied. Please indicate which manufacturer of surveillance equipment must be supplied in the base unit. Interior signage – <i>Video camera in use</i> – in both English and Spanish shall be installed at location approved by Authorized Purchaser.
Interior and exterior selectable PA system with hand held microphone
Yellow pull cord dual chime passenger signal system with touch tape at wheelchair stations and lighted stop request sign mounted above driver.
LED front and side destination signs with driver controls on dash <b><u>or other approved location</u></b> shall be installed
A farebox and stanchion capable accepting a minimum of \$200 (mixed) monies with 12V DC night light to allow for easy viewing in dim and dark conditions shall be installed. The farebox must come with two vaults and a 3-lock, high security system.
A stainless steel bike rack capable of carrying up to 3 bicycles on the front of the transit vehicle including all mounting hardware shall be installed.
One set of chassis and body manuals including service and electrical manuals to be delivered with the vehicle at time of delivery. This must include a complete set of as-built wiring diagrams.

## 2.8 SERVICE, WARRANTIES AND DELIVERY



DESIGNED TO TRANSPORT - The final stage manufacturer shall determine the original seating capacity of each vehicle. The manufacturer's certification label must indicate the original seating capacity of the vehicle and must be affixed to the vehicle in a location protected from wear. The label must state the "Original Seating Capacity - Design To Transport" (number of passengers, including driver) and Gross Vehicle Weight Rating (GVWR) of vehicle.
Maintenance and Inspection Schedule - a single comprehensive maintenance and inspection schedule for each vehicle shall be supplied when delivering the vehicle to the Authorized Purchaser. Maintenance and Inspection schedules must include, but are not limited to, the required maintenance and inspection of body, chassis, tires, wheelchair ramp and other equipment and sub-systems, as prescribed by the respective manufacturers.
Quality - body manufacturer must meet chassis manufacturer's quality assurance program, if available. Certification from chassis manufacturer must be submitted during RFQ process for each chassis.
Tires must be covered by O.E.M warranty.
Wheelchair lift system must be covered by O.E.M warranty.
Vehicle chassis must be covered by O.E.M. warranty.
Body structure materials and workmanship must be covered by O.E.M. warranty.
Installation, labor and workmanship (including electrical) performed by the body manufacturer, final stage manufacturer or Contractor (if Contractor installs components or otherwise completes vehicle) must be covered by O.E.M. warranty.
All other components and accessory equipment must be covered by a warranty of at least one (1) year/12,000 miles, unless covered by an applicable manufacturer's warranty exceeding this. The Contractor shall assist as needed in coordinating repairs within the warranty period for each component and applicable warranty.
Contractor shall include a report of all warranties and excluded warranties associated with each vehicle.
During established warranty periods, the Contractor and respective manufacturer shall furnish all warranty parts at no cost to Authorize Purchaser.
Contractor shall allow the recipient, or a designated representative of the recipient, the opportunity to inspect the vehicle for compliance with these specifications and applicable motor vehicle regulations. The inspection(s) must be completed prior to the delivery and acceptance of the vehicle.
Prior to releasing the vehicle to the recipient, Contractor shall provide hands on instructions, by a qualified and experienced employee, in the proper and safe operation of all mechanical, electrical and hydraulic components in the vehicle. Towing procedures must be included in the instruction. The recipient's driver/designee shall conduct an operational familiarization test drive with Contractor's employee.

## 2.9 OPTIONAL EQUIPMENT

Attached to Contractor's RFP proposal was a comprehensive listing of optional equipment that is incorporated into the Price Agreement. Authorized Purchasers ordering under this Price Agreement shall be able to select optional equipment from this listing without incurring cost for additional engineering hours for any changes in optional equipment.