

Bus, Class A Transit, Accessible, Low Floor, Mid-Size, Gasoline, ADA Fixed Route

Bus, accessible, 14 passenger, gasoline-fueled, meeting all Federal requirements for ADA Fixed Route, new and of the current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair (*exclusive of driver*): _____

Ambulatory seating capacity **with two** wheelchairs (*exclusive of driver*): _____

Scope:

The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A, steel cage, low floor, commercial bus designed for use in transit applications, meeting FTA (Federal Transit Administration) and ADA (Americans with Disabilities Act) standards and regulations, capable of seating a minimum of 14 ambulatory forward-facing passengers (Ten (10) fixed seats and Two (2) double foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 14,200 pounds. The vehicle shall be equipped to accommodate two wheelchair positions. The vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania, according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environment protection and safety in operations as are in effect on the date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable FMVSS (Federal Motor Vehicle Safety Standards) as established by the U.S. Department of Transportation.

Non-Restrictive

Clause:

Any use of the brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

SPECIFICATIONS

Van Cut-Away Chassis

Wheelbase: 165" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine:

The engine furnished shall be at minimum 6.0L, gasoline-fueled, electric fuel injection. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or low lead gasoline.

Horsepower – 342 at 5,400 RPM, minimum
Torque – 373 at 4,400 RPM, minimum

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission shall be heavy-duty 6-speed automatic with auxiliary cooler. The transmission shall be the heaviest duty truck-type model provided by the manufacturer valued to the engine horsepower and GVWR of the vehicle. Gear ratios shall provide “near even splits” for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles and
Suspensions: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation. The vehicle shall be designed to carry a maximum transit load (GVWR), which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers’ weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on the ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

The front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with a full load on a level surface (mechanical governor not acceptable). Driveshaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Two (2) heavy-duty shock absorbers shall be provided on the front axle, one on each end of the front axle. Two (2) heavy-duty shock absorbers shall be provided on the rear axle, one on each end of the rear axle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

- a. Front axle rating – 4,600 lbs. (minimum)
- b. Rear-axle rating – 9,600 lbs. (minimum)
- c. GVWR weight – 14,200 lbs. (minimum)
- d. Standard axle ratio – 4.10 (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be heavy duty, leak proof, and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler. Exhaust system must meet or exceed FMVSS and EPA (Environmental Protection Agency) noise level and exhaust emission requirements.

Exhaust hangers shall be OEM standard equipment and welded to the frame. Exhaust U-bolts shall be used in connections with thread orientation directed upward. The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy-gauge steel, treated to prevent rusting throughout the life of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a heavy-duty 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 160 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size and capacity, having a combined total minimum 1,540 CCA. One or both batteries shall be mounted in a pull-out tray. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle.

All cable in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SXL/GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers. Entire harness system and mating electrical components shall be plug-connected with lock tab connectors; all terminals are machine crimped; all harnesses shall be covered in high temp conduit and all exterior under body/under hood connectors are IP67 rated sealed connectors.

All body wiring shall be run inside the body in a protected area. All wiring shall be in a loom and secured for maximum protection. Clamps shall be rubber or plastic coated to prevent them from cutting the wiring insulation.

When routing wiring under vehicle all wiring shall be encased in a loom and attached to the frame and sub-floor structure with proper fasteners and shall not be bundled with hoses. The harness shall run in straight lines as close to chassis frame rails as possible. Any harness that goes over the rear suspension shall be encased in a conduit fixture securely fastened to the sub-floor rails or routed inside the frame rails.

All fuses and relays (other than chassis OEM) shall be placed in an Electrical Panel. The panel shall be accessible through a non-locking door. Connection to OEM electrical system shall be accomplished through connectors supplied by chassis manufacturer using locking mating connectors.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, and door buzzer.

The vehicle shall be equipped with a disconnect switch that removes 12V battery power from all bodybuilder loads while not interfering with OEM chassis electrical circuits.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and
Control Switches:

A separate instrument panel shall be conveniently located in front of the driver. It shall include, at a minimum, the following instruments:

- a. Reliable road speed indicator with odometer
- b. Oil pressure gauge
- c. Ammeter or voltmeter gauge
- d. Fuel gauge
- e. Headlights high beam indicator light
- f. Engine temperature (hot engine) gauge

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration.

Comply Yes/No: _____

Brakes: Brakes shall be heavy-duty disc with four-wheel anti-lock system, complying with the latest motor vehicle standards in effect. Wearable brake parts (drum shoes, linings, pads, etc.) shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted (if possible) to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width (excluding mirrors) – 95" minimum, 102" maximum
Overall height – 115" maximum (excluding roof hatch and/or roof-mounted air conditioning units)
Rear overhang – less than 33% of the overall bus length

Length: _____ Width: _____ Height: _____

Rear overhang: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment:
Width – 90" minimum
Height – 72" minimum
Center aisle width – 15" minimum
Hip-to-knee space – 27" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing: Wheel housing shall be constructed of 16-gauge (minimum) one-piece steel, adequately reinforced to prevent deflection. Wheel housing construction shall provide ample clearance of front wheels while steering, and of all tires under full load, whether operating on smooth or rough terrain. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion and sound with undercoating.

Comply Yes/No: _____

Bumper and
Tow Hooks: Standard OEM front and rear bumpers shall be provided.

A minimum of two (2) rear tow hooks shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction. The passenger compartment shall be a full steel cage structure. The proposed vehicle shall have met both, FMVSS 214 Side Impact Crash Testing and FMVSS 301 Fuel System Integrity Crash Testing.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

Structure shall include the following or engineer-certified equivalent:

- One (1) 1 ½" x 2 ½" horizontal 16-gauge steel tube at the top forming the edge of wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube below window line
- One (1) row of 1 ½" x 2 ½" horizontal 16-gauge steel tube at floor level
- One (1) row of 14-gauge c-channel at top of side wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube at bottom forming edge of wall
- Vertical steel ribs shall consist of 1 ½" x 2" 16-gauge steel tubes located at sides of each window
- One (1) 1 ½" x 1 ½" 16-gauge steel tube shall be welded vertically at the midpoint of each window with a width greater than 24", connecting the horizontal tubes below window and the horizontal tube welded at the floor line
- Two (2) 1 ½" x 1 ½" 16-gauge steel tubes at the front of the sidewall to form the front and rear of the door opening
- Rear walls shall have 14-gauge plates with holes to allow the wall to be fastened to the sidewalls

- Roof bows shall be 1 ½" x 1 ½" 16-gauge tubes, bent to the radius of the roof. Traditional roof bows with or without capped top covers are not acceptable.
- Two (2) roof bows welded together at front of roof structure
- All roof cross members shall be a minimum of 16-gauge steel
- One (1) row of 1 ½" x 1 ½" 16-gauge steel tubing shall be installed to form the center longitudinal members, front-to-rear of roof structure
- One (1) 1 ½" x 1 ½" 16-gauge steel tube installed at bottom of roof bow on each side of roof structure

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or a single-piece FRP skin laminated to the substrate and roof steel with urethane adhesive. The bus body shall be constructed of welded walls, subfloors, roof framing and rear steel structure, forming an integrated steel cage around the passenger compartment.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. Exterior FRP composite of roof shall be secured to side walls with seam being covered by a rain gutter. Exterior seams are allowed only at the junction of the front cap and rear cap. Other seams on the exterior of the roof are not acceptable. The body and roof shall be thoroughly water-tested and made tight to prevent leakage.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire resistant.

Comply Yes/No: _____

Floor Structure and

Floor/ Ramp Covering: Steel subfloor structure shall be isolated from chassis with OEM rubber isolation mounts and bolted through these mounts to chassis frame rails. Steel sub floor cross members shall be 2" x 2" 14-gauge steel tubing. Sides of subfloor shall be 14-gauge c-channel that will overlap the 1.5" x 2.5" 16-gauge floor line tubing in the side walls. Floor decking shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Underside of floor decking shall be sprayed with an undercoating prior to installation to the subfloors. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Cab flooring shall be OEM insulated floor covering.

Ramp area, interior flooring, and lower walls shall be seamless, sprayed with protective coating. A sealant shall be used in body-to-floor corners to provide a water-resistant seal. All interior floor coverings, ceilings, and walls shall be color coordinated with the interior color scheme.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling,
Dash and Instrument
Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and
Grab Rails:

Stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchion shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of entry ramp with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door.

A modesty panel shall be installed in front of the right passenger seat.

A partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Chassis shall include driver door, but passenger door shall be omitted. Passenger compartment shall include front entry door on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door shall have a minimum horizontal opening of 39", a minimum height of 56" from highest point of entry ramp to top of door opening, and must be operated through the use of an electric door mechanism. Clear horizontal opening with handles shall be a minimum of 35". If removed from driver's area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed. For emergency situations, a manual door release control shall be provided over the top of the door, and shall be designed to permit simple operations to override the electric door operator.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the entry ramp. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door

Horizontal opening width: _____

Vertical opening width: _____

Clear horizontal opening width (with handles): _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows: Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

Passenger side windows shall be of transit design. School bus type windows will not be accepted. Passenger side windows shall be sealed-type. Each side window shall be glazed with 1/8" minimum tempered safety glass.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 660 square inches, minimum.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting
System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (35,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

The heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

Comply Yes/No: _____

**Air Conditioning and
Ventilation:**

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 85,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: Standard OEM lighting shall be provided in the instrument panels and overhead in the driver's area.

The entry ramp shall be adequately illuminated by an overhead door light and lights along each side of the ramp to illuminate the entry floor/ramp according to ADA standards. The entry lighting should automatically engage when entrance doors are opened and turned off when doors are closed.

Adequate lighting shall be provided to illuminate the center aisle. Interior lighting shall activate when entrance doors are opened and turned off when doors are closed. Controls shall be provided in the operator area for manual activation of interior lights with or without ignition activation.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

- a. Sealed beam headlights with high and low beam
- b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
- c. Two (2) white or clear backup lights in the rear of the vehicle
- d. Rear-mounted red combination braking and tail lights

- e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
- f. Single white rear license plate light
- g. Front and rear clearance lights
- h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
- i. Front and rear identification markers, amber front and red rear
- j. All marker and clearance lights shall have armor or protective material

Brake, tail, rear signal, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seating: Driver-only seating in the cab portion of the chassis. All passenger seating is to be within the passenger compartment.

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of ten (10) forward facing fixed passenger seats shall be provided. Two (2) double foldout seat with seatbelt shall be provided as additional ambulatory passenger seating in the wheelchair securement area. Each double foldaway seat shall cover a single wheelchair position. Seating shall be mid-back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4" thick at the front edge, tapering to a minimum of 3" at the rear of the cushion. The seat back foam will be a minimum of 2" thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35" wide, single seats shall not be less than 17.5" wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾". Seat suspension shall be 'no-sag' or 'flex-o-lator' type system.

Seats shall be track mounted with the track welded to the vehicle frame, or bolted directly to the floor/steel structure to provide clean floor surfaces without breaks in floor seal. Seat pedestal shall be offset a minimum of 5" inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer's recommendation.

All passenger seats shall be mounted with a minimum of 27" hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transportation grade vinyl. Seat frame and pedestal are to be covered with non-reflective paint. Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Double foldout seat:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors: Heated, remote controlled, fully adjustable exterior rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by vehicle washing equipment.

In addition to the standard OEM interior rear view mirror, a rectangular rear mirror shall be installed for the driver's view of the bus interior.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Comply Yes/No: _____

**Accessories and
Equipment:**

All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

12-volt DC power receptacles, minimum of two (2)

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

- a. One 5 lb. fire extinguisher
- b. One seat belt cutter
- c. One 25-unit first aid kit
- d. Three triangle safety reflectors
- e. Body fluid clean-up kit
- f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, viral towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use.

Backup and side view camera system – This system shall be complete with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision, one heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds, and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements

Comply Yes/No: _____

Exterior Finish and
Color:

Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo:

A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable.

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed
Route Accessibility:

Bus shall comply with all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38.

Comply Yes/No: _____

Passenger Entry
Ramp:

Passenger entry ramp shall be a power ramp that is designed for use by both wheelchair and ambulatory passengers. Entry steps are not to be installed on this vehicle. Ramp surface shall be continuous and slip resistant with a contrasting band of color running along the full perimeter of the ramp. The ramp shall have side barriers at least 2" high. Ramp shall have a minimum load capacity of 600 lbs. and a minimum clear width of 30". Ramp angle shall meet ADA slope regulation of 1:6.

During transit, ramp must be stowed in such a way as to not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop or jolt.

Passenger Entry Ramp:

Manufacturer: _____ Model: _____

Description: _____

Length: _____ Width: _____

Capacity: _____ Slope: _____

Comply Yes/No: _____

Wheelchair/Restraint
System Lock-Down:

Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Retractable Type with L track; or approved equal. Storage shall be provided when wheelchair securement/occupant restraint systems are not in use.

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Fare Box: A transit-type fare box shall be installed, and shall readily handle paper currency as well as coins. Fare box shall include an extra vault.

Fare Box Manufacturer: _____ Model: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two inside and one outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local
Dealer:

Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

Acknowledge Yes/No: _____

Workmanship:

Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society of Testing Materials and the American Welding Society. All welds visible to the public shall be ground smooth after the welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts:

A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle
Standards:

The manufacturer shall certify that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer shall certify that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

- a. Focusing lights
- b. Tuning engine
- c. Adjusting accessories
- d. Checking electrical, braking, and suspension systems
- e. Charging battery(s)
- f. Inflating tires
- g. Balancing all wheels, including spare
- h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
- i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
- j. Servicing windshield washer with fluid and approved additives
- k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty: Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. "Caravan" or "driveway" deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided "as built" for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

- a. Operator's manual
- b. Service/maintenance manual
- c. Parts book
- d. Parts interchange manual
- e. Wiring schematic diagram
- f. Schematics/drawings for all accessories and equipment not listed in operator's manual

Acknowledge Yes/No: _____

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NOTE:

Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: <https://www.mmvc.ms.gov/>

Acknowledge Yes/No: _____

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Vehicle Title or

Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application:**

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:

Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____