



MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR MEDIUM ROOF - LONG CONVERSION VAN

The intent for these specifications is to set-forth the minimum performance for a commercial conversion van. The vehicle shall be a conversion of a standard production van, which will be used to transport elderly and ambulatory disabled persons living in urban and rural areas. This vehicle shall accommodate various seating combinations and will be required to operate on all types of neighborhood streets and rural roads with frequent starts and stops.

All manufacturing modifications, equipment, devices, materials, warranties, miscellaneous items, etc. which the manufacturer customarily and routinely applies to the vehicle shall be included. No advantage shall be taken by the manufacturer in the omission of any part or detail, which goes to make the vehicle complete and ready for service, even though such parts or detail are not mentioned in these specifications. All equipment provided must meet or exceed State and Federal requirements applicable to the equipment. All parts not specifically mentioned which are necessary in order to provide a complete vehicle, shall, at a minimum, conform in strength, quality of material and workmanship to what is provided by the automotive industry generally.

MoDOT reserves the right to conduct in-plant inspections.

The vehicle used for this conversion shall be a new, unused, current production model unibody rear wheel drive passenger wagon, max front GVWR, incorporating the latest engineering change with a GVWR minimum of 9,000 lbs., sufficient to accommodate all modifications and maximum passenger loading. The vehicle shall provide maximum passenger appeal in appearance, comfort, safety and economy of operation.

The Fixing America's Surface Transportation (FAST ACT) increases domestic percentage content requirements for Buy America through incremental increases. By FFY 2020, the Buy America requirement for rolling stock will total 70 percent. The FAST Act also makes important changes to the waiver denial process, requiring FTA to certify the availability and quality of the domestic sources for the product in the denied waiver.

Buy America minimum requirements in each federal fiscal year are identified as follows:

- FFY17 rolling stock must meet the minimum 60% domestic content; final assembly processes and final assembly point in USA.
- FFY18 and 19 rolling stock must meet the minimum 65% domestic content; final assembly processes and final assembly point in USA.
- FFY2020 rolling stock must meet the minimum 70% domestic content; final assembly processes and final assembly point in USA.

Evaluation of the minimum domestic content requirements will be completed prior to award of the next fiscal year rolling stock award.

Bidder will supply a vehicle that meets all Federal Motor Vehicle Safety Standards (FMVSS).

Vehicle Specifications

Air Bags: Shall be equipped with OEM standard driver and front passenger side air bags.

Air conditioning: Shall have the largest OEM available system available for the front and rear compartment.

Alternator: OEM Heavy duty, 220 amp minimum.

Automatic Speed Control: Shall have factory cruise control installed.

Back-Up Warning Device: Shall be equipped with an audible warning device in compliance with SAEJ994b that is activated when the vehicle transmission is engaged in reverse and continues as the vehicle is being backed up. This should be located behind the rear axle of the vehicle and all wires must be enclosed and secured.

Battery: Shall have a dual battery system with a minimum of 1210 cold cranking amps at 0 degrees F. If battery is mounted underbody then van shall have a decal on body to show the battery location.

Body Exterior: Shall have manufacturer's standard items for the grill; grill frame, hubcaps, moldings around windows, doors, lamps, etc. Drip rails shall be installed above all doors to prevent water leakage. Each vehicle will be thoroughly water tested before delivery. OEM drip rails are acceptable. Exterior color shall be standard color at the time purchase orders issued (white plus on other OEM color is acceptable).

Brakes: Power front and rear disc with four-wheel anti-lock.

Chassis: Ford Transit chassis (or equivalent) to meet payload requirements.

Clipboard: Mounted clipboard within reach of driver.

Cooling System: Heavy duty, including heavy duty, extra capacity radiator, and factory installed coolant recovery system.

Dimensions:

- Wheelbase: Minimum of 140 inches.
- Exterior height: Maximum of 100 inches.

- Exterior length: Minimum of 235 inches.
- Exterior width: Minimum of 81 inches.

Door Locks: Shall have power door locks on all entry doors.

Door, Ambulatory Side Entrance: Shall have the standard sliding side door with aluminum running board as defined to help passengers alight vehicle and have a stanchion pole installed in the vehicle behind the factory front passenger seat to help passengers as well.

Drive Shaft: Shall have a drive shaft loop(s) to prevent a broken shaft from touching the ground or contacting the brake lines.

Emergency Exits: Shall have the necessary exits provided to comply with FMVSS 217 and be labeled.

Engine: Shall have a minimum 3.7 Liter V-6 gasoline engine provided by the manufacturer with the maximum horsepower rating.

Fast Idle: Shall provide an engine fast idle control with both manual and automatic controls to increase engine idle RPM to a preset RPM when the transmission is in the PARK position and the parking brake is set. Idle RPM should automatically return to normal when the brake is released or transmission is put into gear.

Floor: All modifications to the OEM floor plan shall be of the highest quality of construction. These modifications to the vehicle floor and frame must provide reinforcement to ensure that the structural integrity of the OEM vehicle is not compromised. All modifications must be properly sealed to prevent the entrance of exhaust fumes, moisture and dust into the vehicle. The exhaust pipes must have the necessary heat shields and the floor must have the proper insulation to prevent the exhaust from making the floor so hot that it is uncomfortable for the passengers. Rust inhibitors other than undercoating shall be applied to all conversion materials that are not stainless steel.

Aluminum Floor System: The vehicle must be installed with a complete aluminum floor system that is made from aluminum extruded sections. The sections will interlock together and are held in place with aluminum pins. Sections of the aluminum extrusion shall be designed so that aluminum L Track can be installed flush mount into the extrusion structure. Some extrusions shall have tapped holes so the L track will be bolted to the extrusion. The extrusions with L-Track shall be made of aluminum; other floor extrusions without L-track can be made of aluminum. Floor sections shall be primed and adhered to the primed vehicle metal floor. The adhesive shall be moisture curing and the appropriate strength necessary for proper installation. Vehicle modifier shall provide documentation of "in-vehicle" testing done on the aluminum floor system that complies with all FMVSS regulations pertaining to Seat installation and Wheelchair securement devices.

Flush Mounted L Track –Wheelchair Vehicles: A minimum of (8) eight sections of flush mount aluminum L-Track shall be installed into the vehicle aluminum floor system. Size M10 bolts spaced no more than 6” apart shall fasten the L-Track into tapped sections of the aluminum floor system. No more than (2) two bolts per L-Track will be bolted through the chassis metal floor. Flush mounted L-Track will be made from aluminum.

Seat Legs – Removable: Seats legs shall be provided to allow the seats to mount into L-Track and be removed without the use of tools. Seats shall have the ability to be moved throughout the cabin or moved back to provide the passenger with increased leg room. Seat legs and Seat shall be “in-vehicle” tested to meet all pertaining FMVSS regulations.

Floor Covering: Shall have a transit grade rubber or vinyl with a minimum 1/8” thickness and shall be color keyed to the interior and seats.

Front and Rear (Limited Slip) Axles: Both axles shall have a load rating equal to or exceeding the GVWR of the vehicle. Rear axle differential shall be limited slip (positraction) unit, standard.

Fuel Tank: Shall have largest OEM standard, minimum 26 gallon.

Heater/Defroster: Shall have the heaviest duty offered by the manufacturer with a rear heating unit from the OEM. All usage controls will be located on the control panel.

Headliner or Ceiling: Shall be full length for driver and passenger area. Manufacturer’s standard.

Insulation: Shall have the factory insulation provided by the OEM to ensure the comfort of the passengers.

Interior Finish: They shall be all manufacturers’ standard items and equipment, plus any additions or substitutions listed. If special option package is required with minor items not specified, include in your bid price. Interior color shall be color keyed to seat color.

Keys: Two (2) keys minimum per vehicle.

License plate brackets: Front and rear.

Lighting, Caution: Shall offer an external rear amber caution light system. Lights shall be LED type. The lights shall activate only when the side entry and/or rear doors are opened.

Lights, Interior: Shall include a minimum of four (4) passenger ceiling mounted courtesy lights and one (1) driver courtesy light. Lights shall be LED type.

Metal and Metal Fasteners: All metal and metal fasteners, including any required nuts and washers, used in the manufacturing process shall be rust and corrosive resistant. Metal and metal coating processes to ensure rust and corrosive resistant properties shall be subject to testing and approval. Metal and metal screws exposed to the outside environment shall be stainless steel or approved equal to the extent possible.

Mirrors: Factory installed power dual outside breakaway mirrors. Shall have an OEM day night type rear view mirror and a maximum 4" X 7" convex rear view mirror center mounted to provide driver full view of the van's interior.

Mud Flaps: Front and rear, securely mounted.

Paint: Van shall be painted the manufacturer's standard solid white.

Paneling and Trim: To be complete on all doors, walls, ends and corners. Doors, walls, ends, and corners will be covered with factory installed trim and panels. Only factory trim is acceptable. The material shall be fire resistant and easily cleaned. There will be a full-length headliner located above driver and passenger compartments.

Radio: Electronic AM/FM stereo with compact disc player and clock radio, OEM installed or equivalent (must meet or exceed factory radio quality), mounted in dash, 4 speakers (2 front & 2 rear), within easy reach of the driver.

Raised Roof: Shall offer an OEM raised medium roof. Roof shall be factory installed by the OEM not a roof modified by the conversion center. Shall install a placard in a location clearly visible to the driver stating the appropriate height restriction of the raised roof dome cap.

Rear View Camera System: An OEM camera system shall be included that has an audible warning signal that alerts the operator to the presence of an obstacle in the monitored zone. The audible signal is designed to intuitively represent the location of an object in the monitored zones. Vendor shall submit description, warranty information and literature information of the product with the bid.

Running Boards: Shall have either a heavy gauge diamond plate aluminum, stainless steel running board or approved equal, on the driver, passenger and ambulatory entrance side.

Safety Equipment - Unit will have all the latest standard safety equipment required by laws and regulations and securely mounted in rear of vehicle. At a minimum, the following shall be included:

Blood Borne Disease Kit – In a durable metal or plastic box including latex gloves, CPR Mask, goggles, apron, disinfectant wipes, absorbent, scoop, I.D. tag, and red plastic bag.

First Aid Kit - A 16-unit or greater kit shall be provided in a durable metal or plastic box.

Fire Extinguisher: A fire extinguisher certified for this type vehicle (minimum 5 lb. 10-BC type).

Reflective Bi-Directional Triangles: Three reflective bi-directional triangles with 3 LED warning lights (Tri Alert or approved equal) shall also be provided.

Seat Belt Cutter: A premium web cutter shall be supplied with each vehicle.

Sealant, Rust proofing, and Undercoating: Shall be fully undercoated with a premium flame retardant undercoating applied, including wheel wells.

Seat Belts: Seat frame must have a 3 point shoulder belt. All seats belts shall meet or exceed FMVSS 209 and 210.

Seat Belt Extensions: Shall provide 3 sets of seat belt extensions.

Seating Capacity: Base vehicle shall have a seating capacity of ten (10) passengers plus the driver (nine single seats, plus factory driver and front passenger seats). Seating diagrams depicting the manufacturer's offerings shall be submitted with each bid and shall include a weight analysis.

Seat, Driver: Shall be a deluxe bucket, OEM high back 6-way power seat with heavy-duty vinyl covering. The upholstery covering color of the driver's seat shall be complimentary to the vehicle's interior color and the other passenger seats. The seat shall include shoulder and lap restraining belt with retractor and the longest extra length seat belt extender that has been safety tested for this application. Seats must have been tested to meet FMVSS 210. There will be an armrest on the right hand side and the back shall be adjustable. The co-pilot's seat can be manually adjustable and vinyl covered.

Seat, Passenger: Passenger seats shall be covered with vinyl or leather and shall meet FMVSS30L. All passenger seats must be the same color as the driver's seat. Seating shall be Freedman GO Seat ES or approved equal. Seats must meet or exceed all applicable Federal Motor Vehicle Safety Standards including FMVSS 207 and 210. Seating system must be tested in vehicle at an A2LA accredited lab to insure compliance to aforementioned standards. Back cushion height shall be "mid hi" and must be minimum 24" from the top of the seat cushion. All passenger seat frames must be convertible to accept Child Restraint System (CRS-225) with LATCH hooks (Rigid & Recliner variations only). All ambulatory seats must be mechanically fastened to the base frame utilizing a U-bolt based system that allows for easy removal/installation. All ambulatory seats shall utilize a UHSS (ultra-high strength steel) leg. Seat bottom covers are to be easily removable from the cushions without removing seats from the base frame. All covers shall use a plastic extruded "arrow in trench" system to fasten covers to the seating system and must not require the use

of any specialized tools or equipment to replace or remove. All seat cushions must be attached to the seat frame through the use of the Lock-N-GO (or equivalent) system to allow for easy removal and replacement. Seats cushions shall also have the option of being mechanically fastened to the seat frame. All foam cushions must meet or exceed FMVSS 302. All foam cushions must be molded polyurethane to ensure maximum individual passenger comfort and durability. All exposed metal parts and surfaces must be chemically cleaned and powder coated black to provide a rugged, long lasting, rust and corrosion resistant finish. All seats shall be FMVSS 225 compliant and shall secure either a passenger or a child safety seat. Minimum hip to knee room on transverse mounted seats shall be 26" unless otherwise approved. Aisle width may vary according to seating configuration with a minimum of 10".

Vehicle will be equipped with one integrated child seat that will accommodate children between 22 and 51 lbs. Freedman ICS, American ICS or approved equal will be acceptable.

Shock Absorbers: Shall be heavy-duty and load rated, capable of controlling the ride when the vehicle is empty, as well as when loaded to the GVWR.

Springs: Heavy-duty with a ground load rating equal to or exceeding the GVWR of the vehicle.

Steering: Shall be equipped with OEM power steering.

Suspension: Shall be the highest GVWR offered by the manufacturer with factory roll stability control and a stabilizer bar shall be provided in the front. Rear suspension must accommodate any increased load capacity of an optional lift.

Tires: Shall be the OEM's premium tubeless all-season radials rated for the size and GVWR to include a manufacturer's spare tire and wheel to be mounted on rim and mounted on a tire carrier (lockable) under the rear of the vehicle.

Transmission: Automatic with a minimum of six (6) forward speeds and one (1) reverse, equipped with auxiliary transmission oil cooler and have a backup alarm controlled by transmission shift control in the reverse position.

Warranty: A Bumper-to-Bumper Warranty shall apply to all vehicles and shall last for three years or 36,000 miles after delivery, whichever occurs first. Vehicles delivered by driving them (not to exceed 1,500.0 miles—see DELIVERY section) will have the warranty begin at the actual vehicle mileage at the time of final delivery at the purchasing agency's location. A properly executed warranty MUST be delivered with each vehicle. POWER TRAIN SHALL HAVE THE OEM MANUFACTURER'S WARRANTY if it exceeds the three year/36,000 miles warranty stated above.

On-Site Repair Calls: After the final acceptance of the delivered vehicle (which includes the thorough inspection and verification of equipment ordered and condition of the

vehicle), and during the 3 year/36,000 miles after delivery bumper-to-bumper warranty period, the purchasing agency is allowed a maximum of two “on-site repair calls” as follows: if warranty work is required that cannot be repaired through normal efforts by a local dealer at the purchasing agency’s location, the purchasing agency will call the vendor, and the vendor must either:

- 1) Send a service agent to the purchasing agency’s location to repair the vehicle on-site, or
- 2) Pick-up the vehicle on-site and take it to the vendor’s location, factory, or other authorized repair location to be repaired and then return it to the purchasing agency’s location.

The warranty work performed under these “on-site repair calls” shall be at no cost to the purchasing agency and must be conducted so as to minimize the vehicle’s out-of-transit service time.

All service called for in the warranty shall apply without exception. An owner’s care book shall also be included with each vehicle. A copy of a detailed maintenance and inspection schedule supplied by the respective manufacturers of the vehicle and its subsystems (e.g. wheelchair lift, etc.) shall be included with each vehicle.

Vendor is responsible for coordinating all warranty work of ALL equipment on the vehicle during the warranty period. All repairs need to minimize the number of days the unit is out of service.

Costs of warranty service trips for vehicles in the first 18,000 miles of the warranty period is at the expense of the vendor. This includes fuel and salary of agency’s driver. Service is to be completed in a timely manner so as to not inconvenience the agency and their clients. This does not include OEM warranty work performed at a local OEM dealership.

Wheelchair Lift Rear Mounted, 800 lb. Capacity: the lift shall be an electrohydraulic type providing power-up, power or gravity down and power automatic fold. The power source shall be the vehicle 12-volt electrical system. The lift will be mounted within the body with access through the right hand side load door or doors. Modifications for the lift installation must not affect the structural integrity of the basic vehicle.

The lift shall have a minimum rated working load capacity of 800 lbs. with an option to include a lift with a capacity of 1,000 lbs.

The design load of a lift must be at least 800 pounds, per MoDOT specifications. Working parts must have a safety factor of at least six Non-working parts shall have a safety factor of at least three [49 CFR Part 38.23(b)(1)]

The lift will have no dirty or greasy surfaces that will contact the wheelchair occupant during normal operation.

The platform surface must be slip resistant with no protrusions over 1/4 inch. [49 CFR Part 38.23(b)(6)]

The lift platform shall be constructed of expanded metal with a minimum usable width of 33" and a minimum depth of 51".

The platform must be at least 28 1/2-inches wide measured at the platform surface and at least 30 inches wide measured from 2 inches above the platform surface to 30 inches above the surface. It must also be at least 48 inches long measured from 2 inches above the surface to 30 inches above the surface. [49 CFR Part 38.23(b)(6)]

Gaps between the platform surface and any barrier can be no more than 5/8 inch. Semi-automatic lifts can have a handhold in the platform that measures no more than 1 1/2 inches by 4 1/2 inches. [49 CFR Part 38.23(b)(7)]

When in the fully raised position, the platform surface must be vertically within 5/8 inch of the finished floor and horizontally within 1/2 inch of the finished floor. [49 CFR Part 38.23(b)(7)]

The platform must not deflect more than 3 degrees in any direction when a 600-pound load is placed on the center of the platform. [49 CFR Part 38.23(b)(9)]

The platform must raise or lower in no more than 6 inches per second. The platform must be stowed or deployed in no more than 12 inches per second. Horizontal acceleration can be no more than 0.3 g. [49 CFR Part 38.23(b)(10)]

Components of a lift must be designed to allow boarding in either direction. [49 CFR Part 38.23(b)(11)]

The lift shall have the following: A manual override to lower, to raise and an emergency platform release for use in the event of power failure. The pump handle will be able to function without interference from interior obstructions.

Lifts must be equipped with an emergency backup system. The emergency backup system shall be capable of being operated both up and down without the platforms "stowing" while occupied. [49 CFR Part 38.23(b)(3)]

Must be designed so that in the event of a power failure, the platform cannot fall faster than 12 inches per second. [49 CFR Part 38.23(b)(4)]

On lift platform operation, the platform shall have a device that will lock in an upward position acting as a curb as the platform is departing ground level and pivots downward upon ground contact, acting as an entry ramp. There will also be a similar safety barrier on the inboard side of the lift platform. Both barriers shall be a minimum of 6" in height.

There shall be a door activated power cutoff device to prevent movement of the lift when vehicle doors are closed.

Two handrails for use by the wheelchair occupant or standee. These rails shall automatically fold up or down with platform movement and shall fold flat against the platform during transport.

Must be equipped with two handrails that move in tandem with the lift platform. Handrails must be 30-38 inches above the platform surface and must have a useable grasping area of at least 8 inches. Handrails must be capable of supporting 100 pounds, must have a cross-sectional diameter of 1 1/4 to 1 1/2 inches, and must have at least 1 1/2 inches of "knuckle clearance." [49 CFR Part 38.23(b)(13)]

Lifts may be marked to identify the preferred standing position. [49 CFR Part 38.23(b)(12)] Note – these standing position markings are not specified by MoDOT, but are acceptable, if provided.

An automatic down pressure cutoff device shall stop downward movement of the platform upon contact with any obstruction or the ground.

The lift shall have automatic controls to perform all functions. The control shall be a hand held, cord mounted console control, with sufficient cord length to allow operator to control the lift from inside or outside the vehicle.

Controls must be interlocked with the brakes, transmission, or door so that the vehicle cannot move unless the interlock is engaged. [49 CFR Part 38.23(b)(2)(i)]

Controls must be "momentary contact type" (meaning they require constant pressure) and must allow the up/down cycle to be reversed without causing the platform to "stow" while occupied. [49 CFR Part 38.23(b)(2)(i)]

Any part of the lift assembly protruding into the body that could be hazardous must be properly padded for passenger protection. This includes the lift end barrier. Manufacturers flexible end barrier meets these requirements.

Must have an inner barrier or inherent design feature to prevent the mobility aid from rolling off the side closest to the vehicle until the platform is in its fully raised position. [49 CFR Part 38.23(b)(5)]

Side barriers must be at least 1 1/2 inches high. [49 CFR Part 38.23(b)(5)]

The "loading-edge" (or outer) barrier shall be sufficient to prevent a power wheelchair from riding over or otherwise defeating it. If this barrier is automatic, it must close when the platform is no more than 3 inches off the ground. If the outer barrier is to be driver operated, it must have an interlock or inherent design that prevents the platform from

being raised until the barrier is closed or other system is engaged. [49 CFR Part 38.23(b)(5)]

The electrohydraulic lift system shall have a monitoring device requiring no tools to allow for fluid level check.

The lift system and mechanisms must be easily accessible for repair and maintenance without dismantling and removal from body. The lift circuit breakers or fuses will be mounted near the second battery and in the battery box.

The (800 lb.) lift will be a S-5510, S2010, series Ricon Classic, Braun Millennium 2 or Century 2, or approved equal. The optional (1,000 lb. - Option 6) will be Ricon Titanium, Braun Century 2, or approved equal.

These lifts will have nine interlocks as defined in FMVSS 403.

The lift must provide either a safety belt occupant restraint system inter-locked to lift operation or an outside end barrier that locks in place before the lift platform leaves the ground more than 4". Both systems are to reduce the chances of a lift passenger falling or rolling off the lift platform during lift operation.

All lifts will meet ADA requirement 49 CFR 38.23

Wheelchair Securement System and Area

Each wheelchair tie down securement area shall be equipped with a minimum of four (4) wheelchair restraint securement belts designed to meet all ADA requirements and 30-mph / 20 g-force impact.

Securement systems must have the following design loads:

- For vehicle with a GVWR of 30,000 pounds or more: 2,000 pounds for each strap/clamp and 4,000 pounds per mobility aid.
- For vehicles with a GVWR of less than 30,000 pounds: 2,500 pounds per clamp/strap and 5,000 pounds per mobility aid. [49 CFR Part 38.23(d)(1)]

Wheelchairs and mobility aids must be oriented as follows:

- For vehicles greater than 22 feet in length, at least one securement position must be forward facing. Other securement areas can be either forward or rear facing. Note – MoDOT only specifies forward facing securement positions.

Securement area must be located as close to the accessible entrance as possible. [49 CFR Part 38.23(d)(2)]

A sign must be provided which indicates that the securement area is to be used by persons who use wheelchairs and mobility aids. Characters on these signs shall have a

width to height ratio between 3:5 and 1:1 and a stroke width to height ratio between 1:5 and 1:10. Minimum character height (using a capital X) shall be 5/8 inch. Wide spacing shall be used (generally the space between letters shall be 1/16 the height of upper case letters). Letters must contrast with the sign's background color. [49 CFR Part 38.27(b), 49 CFR Part 38.27(c)] Note – the sign may be shipped “loose” from the factory but must be properly affixed prior to delivery to the end-user.

A clear floor area of 30 inches wide by 48 inches long must be provided for each securement area. This can include an area up to 6 inches under a seat as long as there is a vertical clearance of at least 9 inches. If flip-seats are utilized, they cannot obstruct the required floor area. The required floor area can overlap the access path (the path of travel from the accessible entrance to the securement area). [49 CFR Part 38.23(d)(2)]

The wheelchair securement tie down belts shall be retractable into a protected steel housing to eliminate the need for belt cleaning and storage. The belt housing and mechanical retractor shall be designed for a minimum five (5) year life. Belts must be WC18 compliant to meet the new WC18 “Best Practices” standard for securing belts to the mobility aid. Include four (4) 16” “quick straps”, or approved equal, for each securement location.

The location of the rear belts shall be positioned to allow the driver to secure the wheelchair frame between the rear wheelchair wheels. The retractable belts shall feature positive locking mechanisms. The belts shall be equipped with a release tab to release tension on the belts when unfastening the wheelchair and to take up the excess belt when securing the wheelchair.

The retractable belts shall feature positive locking mechanisms and be fully automatic. Once the front belts have been attached to the wheelchair frame, a tensioned knob attached to all belt housings shall be applied to bring the wheelchair passenger and chair into a state of securement. All belts shall be designed for a minimum life of five (5) years. All belts may also utilize a flush floor mount L-Track with flanged edges for securement to the floor. The spacing of these tracks shall provide a safe and efficient anchor point for the retractors. Sure-Lok Titan model AL800 or Q'Straint QRT360 tie-downs or an “approved equal” and must be WC18 Compliant to meet the new WC18 “Best Practices” standard.

The wheelchair occupant restraints shall be FMVSS Type II (combination lap and shoulder belt) with an adjustable height shoulder belt featuring a single-point release buckle for quick release at hip point. This system will also be fully retractable. Include on 20” lap belt extension for each wheelchair position.

A seat belt and shoulder harness must be provided for each securement position. The seat belt and shoulder harness must be separate from the securement system for the mobility aid. [49 CFR Part 38.23(d)(7)]

Include one set of the following (or combination of to make one complete occupant restraint set) Sure-Lok AL700842 manual lap belt, FE 200637-020-14 lap belt 20" extension, FE 200732 manual shoulder belt when Sure-Lok equipment is provided and one Q'Straint Q8-6325-AT manual lap/shoulder belt with L Track fitting at top of shoulder belt when Q'Straint equipment is provided (or approved equal).

The restraint system shall be so designed, configured and installed as to accommodate the greatest possible variety of wheelchair designs and sizes. There will be wall-mounted pouches for storing all belts and securement devices.

The securement system must accommodate all common wheelchairs and mobility aids (any mobility aid not exceeding 30 inches in width and 48 inches in length and weighing no more than 600 pounds when occupied) and be operable by someone with average dexterity that is familiar with the system. [49 CFR Part 38.23(d)(3)]

Securement systems must keep mobility aids from moving no more than 2 inches in any direction. [49 CFR Part 38.23(d)(5)]

The securement system must be located to be readily accessed when needed but must not interfere with passenger movement or be a hazard to passengers. It should also be reasonably protected from vandalism. [49 CFR Part 38.23(d)(6)]

Use of the restraint system under normal conditions shall not cause any damage to the mobility aid.

The (2) after and the (2) forward restraints shall be securely anchored to the vehicle seating components or to anchor floor points and all belts shall be retracted back into their cases for storage, organization, and cleanliness when not in use.

All belts and belt anchor points shall be strong enough to comply with FMVSS 210 and FMVSS 222.

All belts shall feature positive locking mechanisms to ensure passenger security.

All wheelchair tie down belts shall have adjustable tensioners.

Easy to secure and release torso pads which encompass both the wheelchair and occupant shall be included for each wheelchair position. All securement devices and lift area designs will meet ADA requirement 49 CFR 38.23.

Wheels: To be a minimum 16", five to be furnished including a spare-tire wheel Spare tire to be mounted on a tire carrier (lockable) under the rear of the vehicle.

Windshield wipers: Intermittent.

Windows: Shall be OEM standard side and rear windows and have power front driver and passenger windows. All glass shall be tinted smoke gray, darkest available from OEM, or no less than 30% light transmitting.

Options:

Seating Layout Option: Vehicle shall have a seating capacity of seven (7) passengers plus the driver (two single seats, two passenger ADA flip seats, plus factory driver and front passenger seats). Seating diagrams depicting the manufacturer's offerings shall be submitted with each bid and shall include a weight analysis.

Single Integrated Child Seat: Shall offer as an option additional integrated child seat that will accommodate children between 22 and 51 lbs. Freedman ICS, American ICS or approved equal will be acceptable.

Wheelchair Lift Rear Mounted: 1000 lb. Capacity

The following must be furnished and included with your bid:

- All bidders must describe and furnish a complete listing of the vehicle, requested drawings, modifications and literature of the equipment to be furnished.
- A detailed drawing, showing interior floor plan, dimensions and seating arrangements shall be included.
- A guarantee that the chassis manufacturer's warranty will be in effect at the time of delivery and acceptance (36 months, 36,000 mile minimum).
- A copy of the warranty on the body air conditioning, heating, wheelchair lift, and alternator. Warranty terms on these components to be a minimum of 2 years, or 24,000 miles.
- Priority seating signs that meet ADA requirement 49 CFR 38.27.
- Detailed literature/specs on lift system.
- Heat and cooling certification.

The bidder must also supply with the bid, the following items:

- An itemized list of domestic produced parts or components used in the manufacturing of the vehicle.
- The estimated cost for each item listed.
- The estimated total percent of domestic components used in manufacturing of the vehicle.
- Final assembly point and activities at that location.
- A statement of FMVSS compliance.
- A statement of FMVSS 210 seat compliance.
- A description of A/C, heating/defrosting system and BTU output.
- Complete Altoona Bus Test report.

To be furnished with each vehicle at time of delivery:

- An operator's manual for the basic chassis, body and other systems.
- A parts book and maintenance manual for add on equipment used in modification.
- MSO and title application will be provided at delivery. MoDOT will be lien holder and end user agency will be owner.
- An as built schematic of any installed wiring must be furnished with each vehicle at the time of delivery.
- A documented leak-free water test performed prior to delivery.
- A documented four-wheel suspension alignment after modification, prior delivery.
- Manuals: In addition to the vehicle OEM owner's manual, a manual prepared by the manufacturer, which contains all pertinent operating, and service instructions shall be provided with each vehicle at delivery.