

**TECHNICAL SPECIFICATIONS
TRANSIT WAGON WITH WHEELCHAIR LIFT**

1. GENERAL INFORMATION

This **converted window van with wheelchair lift** shall have a high roof for standing adults with a low doorstep, and a high quality interior trim and seating package. The converted window van should be on a Ford **Transit Wagon Mid Roof long wheelbase one ton chassis**, or approved equal, and shall be available with all possible options which make the van suited to stop start duty cycles. **Vendor shall provide a complete Floor Plan and mechanical description of vehicle, its construction and equipment including model year, model and manufacturer of vehicle being bid. The bid shall be submitted in a binder form with each section properly labeled with the required information attached to each section.**

Vendor shall provide pricing for vehicles with 6 ambulatory passengers and one (1) wheelchair position located at the rear of the van or 8 ambulatory passengers and no wheelchair.

Quantity: **1-16 (sixteen)** vehicles to be purchased. In addition, KPTA/RTEC has the right to assign a portion of the contract awarded, to allow other transit agencies to purchase any remaining options.

2. GENERAL DIMENSIONS

Length Overall	238" Minimum
Interior Headroom	67" Minimum
Interior Width	65" Minimum
Interior Length	142" Minimum
Width of Aisle	10" Minimum
Gross Vehicle Weight (GVW)	9000 lbs. Minimum
Wheel Base, minimum	148"
Seating, minimum	6 ambulatory passengers plus one (1) wheelchair position or 8 ambulatory passengers and no wheelchair.

3. APPLICABLE SPECIFICATIONS AND STANDARDS

- 3.1 Federal - EPA Standards.
- 3.2 Federal - Motor Vehicles Safety Standards U.S. Department of Transportation.
- 3.3 Federal -U.S. Department of Transportation's Americans with Disabilities Requirements under 49 CFR Part 38. **Including wheelchair tiedown anchorages and wheelchair rider occupant restraint system that has been tested in the vehicle.**

4. REQUIREMENTS

- 4.1 **Components, Materials, Workmanship, and Completeness:** These specifications reflect the Transit Agency's preference as to dimensions, materials,

and major components. However, the vendor shall not omit any part or detail which goes to make the vehicle complete and ready for service, even though such part or detail is not mentioned in these specifications.

- 4.2 All units and parts shall be vendor's best quality and shall conform in material, design and workmanship to the best practice known in the automotive industry. All parts shall be new and in no case shall used, reconditioned or obsolete parts be accepted. The parts on all vehicles provided by the same vendor shall be interchangeable.
- 4.3 The price quoted in any proposal submitted shall include all items of labor, material, tools, equipment, and other costs necessary to fully complete the manufacture and delivery of the van pursuant to these specifications. It is the intent of these specifications to provide and require a complete vehicle of the type prescribed ready for operation. The vendor shall assume sole responsibility for the entire vehicle as to warranty and after sales parts and service.
- 4.4 The warranty must become effective on the first day, after the date of final acceptance, of each vehicle.
- 4.5 The exterior vehicle paint shall be oxford white unless, Agency specifies another color.

5. ENGINE

- 5.1 V-6 3.7 liter engine with a minimum 300 HP and 400 ft. lb. torque. Vendor shall submit description, warranty information and literature information of product with bid.
- 5.2 Air Cleaner - Paper type.
- 5.3 Oil Filter - Replaceable type.
- 5.4 High Idle System- A high idle system, intended to maintain battery charging under heavy demand when the vehicle is stationary and the emergency brake is applied shall be provided. The fast idle switch will automatically disengage when the vehicle is placed in forward or reverse gear. Vendor shall submit description, warranty information and literature information of product with bid.

6. COOLING SYSTEM

Radiator surge or overflow tank shall be provided. Vehicle shall be equipped with radiator and fan of the maximum capacity available.

7. FUEL SYSTEM

- 7.1 Fuel tank shall be a capless fuel fill minimum 25 U.S. gallon capacity.
- 7.2 An engine mounted fuel filter is required with replaceable type elements.

8. EXHAUST SYSTEM

The vehicle shall be equipped with an exhaust system which meets U.S. Government noise level and exhaust emissions requirements. The vehicle shall be equipped with an exhaust system, which directs emissions towards the street side of the vehicle.

9. TRANSMISSION

- 9.1 Transmission shall be fully automatic, power shift, hydraulic drive type. The transmission shall be installed such that removal as a unit without disturbing engine or final drive is possible with a minimum of 6 forward speeds. Vendor shall submit description, warranty information and literature information of product with bid.
- 9.2 Transmission shift lever shall be interlocked with starting motor to prevent engagement of starter in any gear other than neutral or park.
- 9.3 Backup buzzer: A backup buzzer shall be provided that is audible outside the vehicle when transmission is in reverse.
- 9.4 Drive shaft shall be equipped with a guard to prevent it from striking the floor or ground when broken.

10. FRONT SUSPENSION

- 10.1 Axle capacity shall be a minimum of 4,130 lbs. **Vendor shall submit description, warranty information and literature information of product with bid.**
- 10.2 The heaviest available gas filled shock absorbers shall be provided. Shock absorbers and suspension shall be matched to the vehicle's gross weight.

11. REAR AXLE AND FINAL DRIVE

- 11.1 Axle capacity shall be a minimum of 5,070 lbs.
- 11.2 **Leaf springs and heavy duty** gas filled shock absorbers shall be provided. Shock absorbers and suspension shall be matched to the vehicle's gross weight.

12. STEERING, TILT WHEEL & CRUISE

Power steering with tilt wheel and automatic cruise is required.

13. BRAKES

- 13.1 All Wheel Anti Lock Brakes (ABS type) power disk brakes minimum.
- 13.2 Parking brake shall be capable of stopping vehicle at a deceleration rate equivalent to a stop within 50 feet from a speed of 20 mph on dry pavement with a fully seated load. Brakes shall be capable of holding a fully loaded bus on a 20 percent grade.

14. WHEELS

Vehicles shall be equipped with the heaviest duty available ventilated pressed steel wheels, single **front and rear**. All wheels shall be interchangeable. Extra heavy duty wheel bearings shall be required. Wheels shall be matched to the vehicle's gross weight including spare.

15. **TIRES**

15.1 Vehicles shall be equipped with seven (six regular and one full size spare) steel belted radial tires, load range E (Equal to 10 ply rating). Tires shall be supplied with the vehicle from the factory. Tire treads shall be all weather type. Tires shall be matched to the vehicle's gross weight and be adequately inflated prior to delivery. Vendor shall submit description, warranty information and literature information of product with bid.

15.2 Full size spare wheel and tire shall be under carriage mounted.

16. **ELECTRICAL SYSTEM**

16.1 An alternator of at least **220** Ampere minimum or highest OEM ampere rating. Vendor shall submit description, warranty information and literature information of product with bid.

16.2 The supplemental wiring harnesses, junctions, fuses and circuit breakers shall be coded and grouped together and accessible from a lockable access box mounted near the driver's seat.

16.3 The electrical system shall have dual batteries with a total capacity of at least 650 CCA each. Battery shall be installed in an easily accessible location under the vehicle hood and one on the body frame.

16.4 A dual heavy duty, 12 volt horn shall be provided. Installation of horn shall be such as to afford protection from wheel wash.

16.5 The electrical system shall incorporate a warning light and audible buzzer, to indicate a door not fully closed.

17. **INSTRUMENTS AND CONTROLS**

17.1 The following instruments shall be provided:

- AM/FM stereo, digital clock, audio input jack w/6 speakers
- Speedometer with recording odometer
- Ammeter or voltammeter gauge
- Low charge warning light
- Oil pressure gauge
- Fuel tank level gauge(s)
- Engine temperature gauge
- Headlight on indication and headlight high beam indicator
- Directional signal and flasher action light

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

- Master exterior light switch, and auxiliary switches for any clearance or marker lights.
- Separate switches and temperature controls for rear passenger compartment heater air conditioner.
- Separate switch and temperature controls for driver's heater, defroster and air conditioner.
- Two speed wiper control.
- Passenger compartment lights.
- Intermittent Wipers

17.3 All controls shall be within the driver's arm reach when his seat belt is fastened.

18. BODY STRUCTURE RAISED ROOF and STEPS

18.1 All body structure shall be supplied by the OEM chassis manufacturer

18.2 Full length rear side curtain airbags shall be included with the chassis

18.3 Exterior assist steps shall be included for the driver and for the curb side passenger entry doorway. The assist steps shall be manufactured with a galvanized expanded steel surface. They shall be a minimum nine inches wide and extend the length of each doorway.

18.4 The curbside interior step well shall be OEM supplied but finished with flooring material matching the interior floor. The floor edge at the step well shall be trimmed with yellow non slip traction tape.

18.5 Splashguards shall be provided on each vehicle and be made of not less than ¼ inch fiber reinforced rubber and shall be mounted at the rear of each wheel housing.

18.6 The vehicle shall be fully warranted against corrosion by the chassis manufacturer

19. WINDOWS

19.1 Glass shall be safety glass with privacy tint, with all latch mechanisms recessed

19.2 Windshield shall be fixed type, glazed with safety laminated glass, tinted above eye level (Gradutint).

19.3 Passenger windows shall be OEM's and approximately 40" x 30" in size.

19.4 An electric rear window defogger supplied by the chassis manufacturer shall be included.

20. HEATING AND VENTILATION AND AIR CONDITIONING

The heating and ventilating system shall consist of the heaviest duty dual front and rear air conditioning and heater systems supplied by the chassis manufacturer. When measured at a point 6" from the ceiling at the center of the interior, the system shall be capable of lowering the interior temperature from 105 degrees to 75 degrees within 15 minutes of starting the vehicle when at idle.

21. INTERIOR LIGHTING

21.1 Interior shall be illuminated so as to provide a minimum of twelve (12)' candles of illumination measured at thirty six (36) inches above the floor over each two passenger cross seat. Lights shall operate with or without engine running. An entry door L.E.D. step well light shall be mounted and wired to light when the entry door is open so stairwell and immediate outside area is illuminated.

21.2 A wheelchair lift light which illuminates the lift device and the area outside the vehicle, in front and to the side of the lift shall be provided and shall operate automatically when the lift is powered.

22. EXTERIOR LIGHTING

All exterior lights shall meet State and United States Department of Transportation requirements.

Headlights shall be daytime running.

23. INTERIOR

Vendor shall submit description, warranty information and literature information of product with bid.

23.1 All flooring shall be Altro Transit Flooring or Approved Equal. **Floor covering to be gray marble** and shall contrast with pewter gray vinyl seat cover color unless Agency specifies a different color. Entrance area shall be covered with floor covering matching the interior floor. The subfloor shall be ¾" plywood. All step edges to be marked in yellow and accordance with FTA/ADA requirements.

23.2 All interior panels shall be of ABS plastic supplied by the Chassis manufacturer

23.3 Passenger assists shall be constructed of stainless steel tubular stock having an outside diameter of 1.25 inches. The diameter or width of the padded gripping surface of assists and stanchions shall be 1.25 inches to 1.50 inches. A padded stanchion pole shall be provided in the entry area, within reach from the ground, to assist passengers in both boarding and exiting. .

23.4 All sharp edges, protruding fasteners, brackets, etc., that can cause injury to the passenger or catch on clothing shall be eliminated.

24. SEATING

Vendor shall submit description, warranty information and literature information of product with bid. Proposed seating configurations are to be supplied with bid submittal.

24.1 Passenger seats shall be all forward facing. All fixed seats shall be provided by the chassis manufacturer and utilize chassis manufacturer OEM retractable three point occupant restraints. Seat covering shall be Pewter grey vinyl unless Agency specifies a different color.

24.2 A forward facing fold down 2 passenger seat shall be provided in the wheelchair area. This seat must be tested to applicable FMVSS standards by using in vehicle test procedures. Seating material shall match chassis manufacturer vinyl seating as closely as possible. Acceptable model; Freedman GO-ES or approved equal.

Each vehicle shall be equipped with two (2) seat belt extenders.

24.3 Driver's seat and front passenger side seat shall be an OEM Chassis Manufacturer high back bucket type with standard seat belt. Seat shall be adjustable forward and backward. A fold up armrest will be provided on the right side of the seat. Vendor shall submit description, warranty information and literature information of product with bid. The power seat can be body chassis manufacturer.

25. EMERGENCY/SAFETY EQUIPMENT

25.1 First Aid Kit - First-Aid Kit shall comply with Federal Motor Vehicle Carrier Safety Regulations with a minimum of 16 units. First-aid kits shall be mounted so as to provide for easy access in the event of an accident, away from foot traffic.

25.2 Fire Extinguisher - A 5 lb. dry chemical fire extinguisher with a minimum of a 20-A:180-B:C rating shall be provided in vehicle and shall be mounted in an access compartment with a hinged door or on a vehicular type quick access bracket away from foot traffic.

25.3 Reflectors - Three bi-directional emergency reflective triangles conforming to requirements of FMVSS shall be secured in the rear of the vehicle.

25.4 Bloodborne Pathogen Protection Kit - A 10 unit (minimum) kit housed in a metal box and mounted.

25.5 Wheel Jack & Lug Wrench secured in a location approved by the Division of Public Transit.

25.6 Seat Belt Cutter shall be secured in the storage compartment of the vehicle.

25.7 Rear window van eye or wide angle lens 11" x 14" minimum shall be provided.

25.8 INTELLIGENT AUDIBLE ALARM warning signal that alerts the driver to the presence of an obstacle in the monitored zone shall be installed. Echovision,

Chassis Manufacturer or approved equal. **An OEM chassis supplied backup camera shall be provided.**

Vendor shall submit description, warranty information and literature information of product with bid.

26. MIRRORS

Mirrors shall be supplied by the chassis manufacturer. Mirrors shall be power operated and electrically heated.

27. WHEELCHAIR SECUREMENT SYSTEM -Vendor shall submit description, warranty information and literature information of product with bid.

Wheelchair securement areas and systems shall fully comply with all applicable U.S. Department of Transportation's Americans with Disabilities Requirements **.Securement anchorages shall be in vehicle tested to all applicable FMVSS standards.**

27.1 Vehicle shall be equipped with one (1) wheelchair positions. At each required wheelchair position a wheelchair securement system shall be provided to securely hold the wheelchair in the wheelchair position.

27.2 Provisions shall be made, in the wheelchair position area, to stow the straps and buckles off the floor when they are not in use. The stored straps shall not interfere with passenger movement or sitting space. **Vendor shall submit description and location of product with bid.**

27.3 The vendor shall provide with each vehicle upon delivery a pamphlet, brochure or similar literature describing and instructing the use of the wheelchair securement system and shall **demonstrate** to the recipient the proper method of using the system. Demonstration of the securement system **must** be performed to insure correct use of the system.

27.4 Each wheelchair station shall have a securement system fully complying with ADA requirements and capable of securing most common wheelchairs and other mobility aid devices. Each wheelchair space shall have at least 3-5" in between each space for easy access of driver.

28. WHEELCHAIR OCCUPANT RESTRAINT SYSTEM

A restraint system shall be provided for the occupant of the wheelchair at each wheelchair position. The restraint system shall be a seat belt assembly permanently attached to the floor or side of the vehicle or to the wheelchair lock supports. The restraint system shall be capable of securing a passenger in all types of wheelchairs or Scooters, while the chairs are locked in position. The seat belt shall be at least eighty (80) inches long and shall be easily fastened and unfastened by the wheelchair occupant. Each seat belt shall be equipped with a retractor or other device, which keeps the seat belt webbing or strap off the floor when the seat belt is not in use. **Vendor shall submit description, warranty information and literature information of product with bid.**

The system shall be a Q-Straint fully automatic QRT deluxe retractor (dual knobs) mounted onto L track fitting or approved equal. This system must be fully retractable with metal housing. Ratchet type tie-downs are not acceptable.

Vendor shall submit description, warranty information and literature information of product with bid.

29. **LIFT:** The lift shall meet or exceed all the U.S. Department of Transportation's minimum Americans with Disabilities Act (ADA) requirements.
- 29.1 Vehicle shall be equipped with one (1) fully automatic wheelchair lift, Braun Ability Lift, or approved equal, mounted on the rear interior of the vehicle. Heavy duty suspension is required. The wheelchair door shall be located in the rear of the vehicle. The wheelchair door shall be the chassis OEM doorway at least 64" (minimum) in height. Lift door shall be equipped with a safety device to hold door securely in full open position when lift is in operation. Lift door shall be equipped with a locking door handle using the chassis OEM lock and key.
- 29.2 The lift shall have a self-cleaning, see-through, non-skid platform which can be folded and unfolded by one person. The controls shall be placed adjacent to the lift in such a position to enable the attendant or the disabled person, once the person is on the platform, to operate the lift. In the fully lowered position the platform shall measure at least thirty three (33) inches wide and have an effective length of at least forty eight (48) inches. A safety barrier shall be the full length of the curb side edge of the platform and shall be a moveable hinged surface to provide a barrier to prevent the wheelchair from rolling off the lift during operation. A two (2) inch high barrier shall also be provided on each side of the platform to prevent wheelchairs from rolling over the edge. Two (2) automatic fold handrails shall be provided one on each side of the platform.
- 29.3 Power unit shall be twelve (12) volt electro-hydraulic operated. Power unit shall be readily accessible for service. A manual hand crank shall be installed for lift operation in the event of power failure.
- 29.4 Lift shall be capable of being used from curb level or ground. The lift should be capable of safely lifting a minimum static load of eight hundred (800) pounds. The lift platform should be capable of being raised or lowered with a load in no more than twelve (12) seconds. All power units, operating joints, linkage, and mounting points to the body shall be certified by the manufacturer as being adequate for the loading. The operation of the unit shall provide a smooth, jerk-free ride in both up and down directions.
- 29.5 Systems control valve shall be solenoid controlled and shall be externally mounted for easy maintenance.
- 29.6 All sliding surfaces and load bearing pivot points shall be free of exposed grease and constructed with ball and roller bearings. All electrical and hydraulic lines and units, all control mechanisms and cables shall be securely fastened and placed so as not to interfere with passenger ingress and egress, or with any moving parts. All moving parts shall be shielded from contact with passengers and operator.

- 29.7 Platform shall fold into door area for storing while not in use. Platform in stored position shall not intrude into vehicle body more than 14 inches. Lift shall be adequately restrained in stored position to prevent lift from coming adrift while vehicle is in motion. The lift in its stored position shall not rattle.
- 29.8 Lift control switch shall be completely weather proof and labeled as to function.
- 29.9 It is the vendor's responsibility to provide instructions on the use of securement system to meet the specified performance standards, and on the safe operation, maintenance and service of the lift, as well as warranty information. **An instructional video explaining the lift operations and lift maintenance shall be provided with each vehicle.**
- 29.10 Lift controls shall be interlocked with the vehicle brakes and transmission and door, or other approved means, to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlock mechanism(s) are engaged. The lift must not be able to be deployed without engaging the interlock system and the interlock must prevent the vehicle from being moved until the lift is stowed. Any interlock which can be disengaged prior to lift stowage will cause the vehicle not to be accepted.

30. MANUALS

The vendor shall furnish each vehicle with complete driver, parts and maintenance manuals, including wiring schematics of auxiliary circuits, air line diagrams and all other necessary prints for the maintenance of the wheelchair lift, auxiliary air conditioning unit and any other optional items added by the vendor during conversion.

31. STROBE LIGHT (Optional)

A protected or guarded strobe light shall be installed on the top of the vehicle to the rear. **Vendor shall submit description, warranty information and literature information of product with bid.**

OPTIONS

Vehicle Bid Price		\$ _____
OPTION B – Add Strobe light	+	\$ _____
OPTION C–Armrest, Flip –up on Passenger Seats	+	\$ _____