

2017  
KANSAS COORDINATED TRANSIT DISTRICT COUNCIL  
SPECIFICATIONS  
FOR  
SMALL TRANSIT METAL BUS  
(20 Passenger)  
(74" Headroom)

The following specifications shall apply to the purchase of Small Transit Bus vehicles by the transit providers receiving State of Kansas and/or Federal Transit Administration (FTA) funds. Purchases of such vehicles will be funded at 80% participation with federal and/or state funds. This dual rear wheel vehicle will accommodate 20 ambulatory, or a minimum of 12 ambulatory with 2 wheelchair positions, depending on the vehicle configuration selected. The Kansas Coordinated Transit District Council (KCTDC) reserves the right to waive minor technicalities under these specifications.

The Small Transit Bus must comply with all Federal (to include the Americans with Disabilities Act of 1990) and applicable Kansas laws for passenger vehicles of this type.

Vehicles must be of the latest model year in standard production and, of which, parts are stocked and warranty service is available at one or more points in Kansas or a border city (defined for this purpose as within 1 hour of the Kansas border). Lack of such parts and service may be cause for rejection of the bid. If the current year is not available, then the next future model year shall be supplied at the same price.warranty

Vehicles must comply with all applicable Federal Motor Vehicle Safety Standards (FMVSS) for this type of vehicle. **A written certification that the vehicle to be supplied through this proposal will be in compliance with FMVSS must accompany this bid, as well as any additional pre-award bid certifications.** Bidders must comply with all certifications regarding remanufacture or two-stage manufacture of vehicles under this bid. **Each vehicle delivered will also need to have an "as built" Buy America Certification provided with the vehicle at the time of delivery. This needs to include the domestic part content and the final assembly location.**

The bidder agrees, if their proposal is accepted by the KCTDC, to guarantee that the design, materials and workmanship throughout the vehicle will conform to the highest standards of the vehicle bid according to the standard factory warranty, a copy of which must be furnished with the bid, and the bidder shall furnish a properly executed service and warranty policy with each vehicle delivered. See WARRANTY section for additional details and requirements. The bidder also agrees to provide upon request all information required by **FTA** to implement the various programs.

Please review each item and initial on the line next to each item indicating that product being supplied meets or exceeds the specification. If items do not meet the specification, please list any exceptions on the lines provided below each item.

ESTIMATED QUANTITY TO BE PURCHASED: 0-50

**Unless otherwise specified, all items listed below as OEM parts or equipment means that those items were made by the Chassis Manufacturer, not the conversion company.**

A requirement of this bid is that the bidder must be licensed to do business in the State of Kansas. A copy of that license **MUST** be included with the bid.

**GENERAL**

\_\_\_\_\_ **ACCESSORIES:** To be equipped with self-canceling turn indicators, flasher lights which signal front (in parking lights) and rear (in dual tail lights), with odometer, speedometer, oil filter, , dual electric two speed intermittent windshield wipers, windshield washers, dual sun visors (driver side and passenger side-aftermarket visor is acceptable for passenger side), coolant temperature indicator, horn, three sets of keys for all locks, oil pressure indicator, volts indicator, and spare wheel and inflated tire (to be inside at the rear of the unit). Vehicle shall be equipped with front and rear bumpers, high output or super-capacity outside ventilating type hot water heater, defroster, and all regularly furnished tools and equipment.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **AIR BAG:** Driver's side, Generation II.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **BRAKES:** Shall be as follows:

**Exceptions:** \_\_\_\_\_

1. Shall be equipped with 4 wheel disc. Anti-lock brakes. The braking system shall be heaviest duty available for the GVWR of the vehicle.
2. Brakes must be capable of stopping a fully loaded vehicle at a deceleration rate equivalent to a 22 foot stop from a speed of 20 miles per hour. They must be capable of this type of stop 3 times in a rapid succession from a speed of 20 miles per hour without brake fade.
3. Braking system shall comply with FMVSS-121 or FMVSS-105 as applicable.
4. Parking brake shall be manually operated, must be located to the left of the driver, and activate the rear wheel brakes. The parking brake shall be capable of holding a fully loaded vehicle on a 15% incline. The system shall incorporate a warning light on the instrument panel to indicate to the driver when the parking brake is on.

**Exceptions:** \_\_\_\_\_

**CRUISE CONTROL:** OEM, to be furnished as standard.

**Exceptions:** \_\_\_\_\_

**DIMENSIONS:**

1. HEIGHT (OVERALL VEHICLE EXTERIOR): Minimum 110", interior floor to ceiling height – minimum 74" at center aisle.
2. LENGTH (OVERALL VEHICLE EXTERIOR): (From outside edge of front bumper to outside edge of rear bumper) Minimum 264", Maximum 285", PASSENGER COMPARTMENT LENGTH: (From driver's seat to emergency exit) Minimum 148".
3. WIDTH (OVERALL VEHICLE EXTERIOR): Maximum 96", interior width at floor. WIDTH (OVERALL VEHICLE INTERIOR): Minimum 90", interior width at seat level.

The bidding manufacturer or dealer shall supply, in writing, the overall length of the vehicle, measured from the outside edge of the front bumper to the outside edge of the rear bumper, to the Kansas 'CTD' Council along with its submitted courtesy bid.

**Exceptions:** \_\_\_\_\_

**G.V.W.R.:** Minimum of 14,500 pounds or higher if required to support the loaded weight of the completed vehicle including any optional equipment selected. It is the bidding manufacturer's or dealer's responsibility to calculate the actual loaded weight and to provide a heavier tire, wheel, spring, and axle combination if required.

**Exceptions:** \_\_\_\_\_

**LABELING:** Shall be as follows:

1. International disabled-symbol vinyl decal 6" x 6" minimum placed on the outside bottom of the wheelchair lift door (lift equipped vehicles).
2. International disabled-symbol vinyl decal(s) 4" x 4" minimum, placed on the interior window(s), or on the wall above the window(s) to designate each wheelchair securement location (lift equipped vehicles).
3. One set of seats shall be designated as priority seats for persons with disabilities (all vehicles).
4. Characters on signs required by paragraphs 1, 2, and 3 above 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, with a minimum character height (using an upper case "X") of 5/8 inch, with "wide" spacing (generally, the space between letters shall be 1/16 the height of upper

case letters), and shall contrast with the background either light-on-dark or dark-on-light.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **TILT STEERING:** OEM, standard.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **WHEELBASE:** Minimum 158".

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **WIRING SCHEMATICS:** Detailed schematic for vehicle as well as the bus body shall be provided to each agency at the time of delivery. The wiring shall be as follows:

1. All general purpose wires shall be vinyl insulated, and shall be of OEM quality and gauge or equivalent. All wiring shall meet SAE standards, and shall be color coded and number coded at least every eighteen (18) inches and permanently labeled to identify their function. Battery cables shall be 2/0 gauge with minimum of 0.075" wall plastic insulation. All wiring shall be of sufficient size to carry the required currents without excessive voltage drop. If possible, all wiring shall be run inside the body in a protected area. If necessary, a small amount (no more than 15%) may be run underneath the body in a protected location on the inside of the chassis frame. This wiring shall be enclosed in weatherproof covering and all exterior connections shall be weatherproof. All wiring shall be in a loom and securely clipped for maximum protection. Clips shall be rubber or plastic-coated to prevent them from cutting the wiring insulation. Any electrical connections exposed to the elements must be of a waterproof design. Convoluted (black plastic loom type) tubing may be used but must not be considered waterproof.
2. All fuses and relays (other than chassis OEM) shall be placed in a single circuit box which is easily accessible. The circuit box shall be conveniently mounted and have a secure cover. Inside the circuit box cover shall be a legend identifying each circuit and wire by color, number, function, and location. This legend shall be permanently mounted.

Additional wiring shall be installed in the ceiling of the front of the bus for future installation purposes of a two way radio system. Circuits shall include a ground plane, and shall consist of one fused 20 amp positive lead and one negative lead. Positive circuit shall have power only when the OEM ignition key is in the ON or ACCESSORY position. Wiring shall be covered in a manner to protect the wiring.

**Exceptions:** \_\_\_\_\_

**CHASSIS**

\_\_\_\_\_ **ALTERNATOR:** 225 OEM Amp. minimum (gas engine).

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **BATTERY:** Dual batteries of properly ventilated, enclosed, skirt mounted compartment with a 1/4 turn thumb latch (or equivalent) access door. The ventilation shall be designed in a manner to prevent debris from entering the battery compartment. Safety catch shall be provided to prevent battery tray from sliding against battery door while bus is in motion. Batteries shall be accessible by a stainless steel pull out battery tray with non-corrosive zinc coated bearing slides. A door keeper to hold the door in place when battery tray door is open shall be provided. Manufacturer shall provide adequate cable length to allow battery tray to fully extend and allow easy access to both batteries.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **CHASSIS:** Ford E-450 chassis or higher GVWR (or equivalent) to meet payload requirements.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **DRIVESHAFT:** Must be properly supported, balanced and guaranteed not to vibrate. A metal driveshaft loop or loops must surround it to protect the vehicle in case of universal joint or other driveshaft failure.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **FRONT AND REAR (LIMITED SLIP) AXLES:** Capacity of front axles will be heavy duty to be not less than 5,000 pounds and rear axle will be heavy duty to be not less than 9,000 pounds. The rear axle is to be equipped with dual rear wheels. Rear axle differential shall be limited slip (positraction) unit, standard. springs

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **FRONT SUSPENSION:** Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. It must be fully adjustable for full range of possible necessary changes in camber, caster, and toe-in at time of front end alignment. A report printed after the alignment has been completed shall be provided with the delivered vehicle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **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.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **SPRINGS:** Front springs to be heavy duty with a capacity of not less than 5,000 pounds, rear springs to be heavy duty, minimum of 9,000 pounds. Springs must be adequate enough to prevent leaning or sagging, especially on the wheelchair lift side of the rear axle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **STEERING:** To be equipped with OEM power steering.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **TIRES:** Seven (7) BSW all-season radials to meet the GVWR of the vehicle. Spare tire to be mounted on rim and provided loose in vehicle. The weight distribution of the vehicle with maximum load shall not load the tires beyond their rated capacity. Tires shall be the best tires available from the OEM and shall carry the full manufacturer's warranty or a minimum warranty of 40,000 miles..

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **WHEELS:** To be a minimum 16", seven to be furnished including dual wheels at the rear axle, and a spare-tire wheel. Wheels are to be painted to match the predominate color of the vehicle (both sides of the rim).

**Exceptions:** \_\_\_\_\_

## **BODY**

\_\_\_\_\_ **AIR CONDITIONING:** Cooling equipment shall conform to the following:

1. Dual under hood compressors (Minimum of 10 CI each) – shall be standard equipment.
2. Dash Unit – OEM factory installed.
3. Auxiliary heavy-duty air conditioning: 68,000 BTU minimum (combined front & rear cooling) (Such as the ACT 50HD, or equivalent) with 225 (minimum) amp alternator. Air conditioning equipment installed shall be capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The delivery system shall provide reasonably constant temperature throughout the vehicle. The system shall be capable of maintaining a temperature of 75 degrees Fahrenheit and 50 percent

humidity inside the vehicle at 90 degrees Fahrenheit outside temperatures and extremely high humidity conditions.

4. The bidder shall provide complete details on the compressor, condenser, and evaporator units and shall state exactly the amperage required to operate the auxiliary condenser fans.
5. The air conditioning equipment shall be installed in a manner that will not affect the seating capacity of the vehicle. All controls will be located to allow convenient access from the operator's seat. All wiring, tubing and fittings shall be encased to provide protection from the weather and secured in critical areas to provide maximum protection against accidental damage. All tubing and fittings aft of the firewall shall be secured every foot. A 'winter cover' for the outside skirt-mounted unit must be provided along with instructions on how to install this cover.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **BODY:** The body shall be a steel cage manufactured out of a minimum of 16 gauge metal integrally mounted to the chassis and conform structurally to FMVSS. The outside layer of the body shell shall be of a metal construction (not fiberglass). All doors shall be fitted with tinted safety glass windows to provide maximum visibility to the driver. The initial entry step at the passenger door shall not exceed 10 inches in height from the ground. Less than 10" is preferable.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **BODY INSULATION:** Shall consist of a polystyrene composite placed in the ceiling and side walls with a minimum R Value of 5 and shall be nontoxic. A polyurethane-foam insulation material or 1" honeycomb resin is also acceptable if providing the same R Value as stated above. **Batt insulation is not acceptable.**

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **BUMPERS:** Shall be provided at both front and rear of the vehicle. Rear bumper shall wrap around the body sufficiently to give protection against impact at the body corners. The finish may be anodized aluminum, steel chrome plated, or painted.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **COLOR:** Solid white color with contrasting trim stripe/decals. Trim stripe/decals color to be specified at order. **A color chart of available colors must be provided prior to bid award.** Paint shall be applied in a clean and professional manner with no blatant evidence of overspray or painting over of decals or vehicle emblems.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **DOORS:** Shall be as follows:

1. All external doors, except for the front passenger entrance door, shall be capable of being locked from the outside of the vehicle. The entrance door must be: an electric two-piece school bus type split-leaf with curb vision windows and overlapping rubber seals with a manual override. Shall include an electric exterior key switch for entry door, such as a Kubota brand (or equivalent). The entrance door opening shall be a 26" clear opening measured between the handrails.
2. Wheelchair lift door shall be a double out-door design with windows. It shall be capable of being locked from the outside. Lift shall be mounted on the curbside of the vehicle, behind the rear wheel. Pneumatic cylinders for opening and closing the doors shall be installed. These cylinders shall be capable of holding the doors in the fully open position when the lift is in use. The door latch shall control the upper and lower slam type or 3 point latching system to insure a positive latching and sealing around the door's periphery. The doorframe shall be constructed of aluminum, steel or stainless steel with sufficient weight and strength to support the wheelchair lift door and the wheelchair lift. The wheelchair lift doors shall have outside latches or "T" catches to keep the doors open in high winds.

**Emergency Exit Doors (Standard for all vehicles).** The vehicle shall have a single emergency exit door in the rear with upper and lower tempered safety glass, which can be opened from either the inside or outside. The door shall be plainly marked "**Emergency Exit**" in contrasting letters at least 2" high on the inside. The door shall be marked "**Emergency Exit**" in at least 2" high letters on the door exterior. The door shall have a buzzer that will warn the driver if the door is ajar. There must also be a starter interrupt installed that prevents the engine from starting if the emergency exit door is locked. The inside-operating handle shall be clearly marked to indicate location and operation, and this handle must be padded for occupant protection. The handle shall "turn-up" to open to prevent someone from accidentally bumping the handle and the door opening. Vehicles must comply with FMVSS 217 concerning provision of emergency exits. Rear seat shall be modified to allow use of the emergency door by having a minimum of a 14" aisle between the rear seat to allow exit through the door(s). The emergency door height must be a minimum 47" from the top of the floor. A cushioned door header pad shall be provided on the inside of the rear emergency door. This pad shall be vinyl covered and compliment the interior color scheme.

**There shall be a grab handle installed on the rear of the vehicle outside the Emergency Exit Door. It shall be a minimum of 10 inches in length and a minimum of 1 inch in diameter. It shall be accessible for entry and exiting of the vehicle.**

**Arrangement of seats shall be designed to provide maximum seating capacity.** The following dimensions shall be used:

- 14" minimum aisle
- 17" minimum rump room
- 29" minimum center to center seat row spacing

A black plastic armrest must be provided at the aisle end of each passenger seat. All material used in the upholstery of the seats shall meet FMVSS30L. All passenger seats must be the same color as the driver's seat. **A detailed diagram of the proposed seating plan to be used in the bid MUST be included with bid package.** The proposed seating plan is to be considered standard equipment and its cost must be included in the base bid. Seating Plan for use with wheelchair lift and restraint systems will be treated as an optional item and any additional cost must be bid with the options. **Each wheelchair location shall provide for forward facing of wheelchair. All wheelchair locations will be in the rear of the vehicle.** See Padded Stanchions and Handrails for additional seat information. Rear seat shall be modified to allow for use of the emergency exit as detailed in DOORS, Emergency Exit Doors.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **DRIVER'S SHIELD:** Standard. A clear plexiglass barrier shall be erected behind the driver and extend from the stanchion crossbar behind the driver up to the ceiling. This shield should start at the wall on the driver's left side (close enough to prevent a passenger from reaching through to the driver) and should extend 3 inches past the right side of the driver's seat., but shall not obstruct the view from the rear view mirror. This barrier shall consist of clear plexiglass and shall be least ¼ inch thick. A 1½ inch clearance between the stanchion and barrier should be provided to allow a hand hold on the right side. This shield shall be installed with the appropriate hardware to prevent the shield from becoming loose or cracking.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **DRIVER'S SIDE DOOR ENTRANCE STEP:** At driver's side door, an entrance step shall be provided having an effective tread area of at least 10" by 15", measured from the design line of the vehicle. This step shall be provided in addition to any existing OEM step already on the vehicle. This step shall be of metal construction and have a non-slip tread. It shall be securely attached to the vehicle and protected from splashing by the wheels.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **EMERGENCY EQUIPMENT:** The vehicle shall be provided with the following:

- \_\_\_\_\_ One (1) UL-approved, five (5) lb. 1A10B:C rated dry chemical fire extinguisher, with mounting bracket secured to metal (if not possible, please contact the purchasing agency to discuss the location in which to mount it)

\_\_\_\_\_ E-Vac-Aid (or equivalent) type of heavy-duty drag blanket with built-in handles to assist in the removal of mobility impaired passengers.

\_\_\_\_\_ First-aid kit- The required first-aid kit shall be an all in one First Aid-CPR-Clean Up kit equivalent to the Honeywell First Aid kit 35-TP195,. This first aid kit shall be contained in a metal or plastic box designed to seal out dirt and moisture, and shall have a carrying handle and mounting bracket.

\_\_\_\_\_ Webbing cutter and reflective fluorescent triangle set as specified by FMVSS 125.

\_\_\_\_\_ Blood-borne pathogen kit - The required blood-borne pathogen kit shall be an OSHA approved Blood-borne Pathogen Standard Safety kit.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **FLOOR:** The seating area of the vehicle shall be covered with a single sheet (not 2 thinner sheets adhered together) of a minimum 3/4" thick marine AC grade plywood or 3/4" exterior grade plywood with polyethylene underbelly covering which meets FMVSS 302. The floor must be fire retardant and securely fastened to the vehicle sub-floor. The entire body frame understructure of the vehicle shall be fully undercoated with a nonflammable material, polyoleum or approved equivalent, applied at the time of manufacture. Passenger compartment floor is to be covered with a silicon carbide and pure vinyl slip resistant floor covering. Surface to be minimum 2.2 mm thickness and provide 12 year warranty, such as the Altro Transflor Chroma Cayman or the Tarabus Helios, or equivalent. The floor shall be a light multi-color to match or complement the seats (**black is not acceptable**). Floor covering shall be cemented to the floor to prevent bubbles and blisters which could create a safety hazard. All seams are to be heat welded and a professional finish. Coving material is to be installed to support floor when rolling floor covering up the sidewall of the vehicle. No cross-joints in the flooring will be allowed. The exposed edges of the plywood and vinyl at all entrances shall be trimmed with metal-edge trim securely fastened. All step edges, thresholds and the bearing edge shall have a band of color (Yellow), running the full width of the step or edge which contrasts from the step tread and riser. Step tread and riser are to be a one continuous piece construction eliminating the seam at the back of the step. Tread to be supported at the upward bend at the back of the step and up the riser by coving material.

Floor area designated for wheel-chair occupancy will be free of obstacles (i.e. – heater).

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **FRAME:** Shall be constructed of a material of sufficient weight and strength to support the maximum GVWR specified by the manufacturer.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **HEATER/DEFROSTER:** Heating equipment shall conform to the following:

**Exceptions:** \_\_\_\_\_

1. Dash Unit – OEM standard factory heater/defroster to be furnished.
2. Auxiliary Heater – The vehicle shall be equipped with a hot-water, forced air re-circulating heater of 42,000 BTU rating (minimum) located in the rear half of the passenger area. All heaters shall bear a name plate which shall indicate the heater rating in accordance with the standard code for testing and rating automotive bus hot water heating and ventilating equipment. Said plate is to be affixed by the heater manufacturer which shall constitute certification that the heater performance is as shown on the plate.
3. Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or sharp edges and shall not interfere with or restrict the operation of any engine function. A coolant shut-off valve and hoses that allow the hot coolant flow to the rear heater coil to be shut off will be installed and may be placed underneath and outside of the vehicle, but the shutoff valve must be placed in an easily accessible position and the valve and hoses must be well secured in a protected environment. If outside, a sticker indicating the location of the shutoff valve shall be placed on the body of the vehicle directly above its' location and properly marked "coolant shutoff valve". This valve shall be a lever actuated ball valve. Heater hose shall conform to standard SAE J20c. Heater lines inside the passenger compartment shall be guarded to prevent accidental contact by driver or passengers.
4. Defrosting equipment, OEM or equivalent, shall keep the windshield and the window to the left of the operator clear of fog, frost and snow. Defroster ducts, if used, shall be designed to prevent the placing of objects which might obstruct the flow of air. Portable heaters may not be used.

\_\_\_\_\_ **INSTRUMENTS:** The following instruments shall be located in the dash, in clear view of the driver: amp. indicator, coolant temperature, oil pressure & fuel. The instrument panel shall be properly illuminated for nighttime viewing.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **INTERIOR:** Shall have full trim including full length one-piece or sectional headliner, side and rear lower panels and window molding. Metal, ABS plastic, or fiberglass wall panels and headliner will be acceptable; cloth or carpet covered wall panels and headliner will not be acceptable. All interior panels shall be flame retardant, nontoxic, and meet FMVSS 302.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **LIGHTS:** Shall be as follows:

1. All none OEM lighting shall be LED.
2. Adequate lighting shall be located inside the vehicle to provide for passenger and driver convenience and safety. All lighting controls shall be located within easy reach of the driver's seat. Exterior lighting shall conform to federal and state statutes covering vehicle lighting.
3. Any step well or doorway immediately adjacent to the driver shall have, when the door is open, at least 2 foot-candles of illumination measured on the step tread.
4. Other step wells and doorways, including doorways in which lifts are installed, shall have, at all times, at least 2 foot candles of illumination measured on the step tread, or lift, when deployed at the vehicle floor level.
5. The vehicle doorways, including doorways in which lifts are installed (excluding the rear emergency door), shall have outside light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the bottom step tread outer edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and existing passengers.
6. A rear center high mounted stop light (brake light) shall be provided as standard equipment.
7. Armored mid-ship side turn/marker lights shall be provided on both sides of the vehicle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **MIRRORS:** Shall be as follows:

1. Right and left outside rear-view dual flat and convex mirrors to be the Rosco Euro style or the Velvac 2020XG (or equivalent) that is approximately 8" X13" overall with a minimum of 90 square inches of combined surface for the flat and convex mirror. These mirrors shall be a minimum of 12 volt and be heated/remote mirrors. Mirrors must be securely mounted on the vehicle with the appropriate hardware to prevent the mirrors from becoming loose. Price Bid must be for a set of 2 (right side and left side) mirrors.
2. Van Guard Lens to be installed on the rear window of the vehicle to assist in visibility of objects directly behind vehicle. Minimum size 8" x 10".

3. Rear View Mirror attached to windshield.
4. One interior convex mirror shall be located above the windshield and shall be large enough to provide the driver with a full view of the vehicle interior (passenger compartment).

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **MUD FLAPS:** Front and rear, securely mounted to a bracket that goes behind the flap to secure them and minimize movement.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **OVERHEAD HAND RAILS:** Each bus shall be equipped with overhead hand rails. These must be of proper size and location to meet all ADA requirements.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **PADDED STANCHIONS (YELLOW), HANDRAILS AND MODESTY PANEL:** All stanchions and handrails shall be of 1 1/4 inches (minimum) diameter metal tubing and covered with bright yellow colored (to assist the visually impaired), impact-absorbing material at least 3/8" thick. Handrails shall be installed at the locations listed below.

1. Handrails shall have a cross-sectional diameter between 1 1/4 inches and 1 1/2 inches or shall provide an equivalent grasping surface, and have eased edges with corner radii of not less than 1/8 inch. Handrails shall be placed to provide a minimum 1 1/2 inches knuckle clearance from the nearest adjacent surface.
2. Handrails and stanchions shall be sufficient to permit safe boarding, onboard circulation, seating and standing assistance, and alighting by persons with disabilities.
3. Interior handrails and stanchions shall permit sufficient turning and maneuvering space for wheelchairs and other mobility aids to reach a securement location from the lift or ramp.
4. Handrails and stanchions shall be provided in the entrance to the vehicle running parallel to the steps in a configuration which allows persons with disabilities to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding process. (Including handrails provided at the right and left of the entrance door, handrail mounted on the modesty panel, handrail at the top of the entrance steps on the right side and continuing throughout the boarding process). If a manual door is installed on the vehicle, then the handrail

needs to be located in a manner to provide sufficient assistance to the passenger boarding. The location shall not interfere with the operation of the manual door.

5. Entrance handrails shall not be padded.
6. All stanchions and handrails extending from the vehicle walls to the stanchions must be covered with impact absorbing material at least 3/8" thick.
7. A stanchion from the floor to roof shall be installed on the interior left side of the front passenger door approximately 14 inches inside the vehicle. A horizontal handrail shall be installed between the stanchion and the right wall approximately 30 inches above the floor.
8. A stanchion shall be located in the rear of the driver's seat at the edge of the aisle and a handrail shall extend from the stanchion to the side wall of the vehicle behind the driver's seat. The stanchion shall not interfere with rearward travel of driver's seat adjustment.
9. A handrail shall be provided along the top of all passenger seats located on the aisle, to assist passengers while walking down the aisle and for exiting the passenger seating. Accompanying seat(s) must have the handrail along the top of the seat.
10. A modesty panel shall be positioned at the rear edge of the step well. This will be made up of a vertical stanchion at the inner rear corner of the step well with a rail running from that stanchion to the wall at windowsill height, and the modesty panel installed therein. Panel shall have no less than 1 1/2" between the bottom of the panel and the floor to facilitate cleaning of the floor. Fastening of the panel shall be by bolts or rivets; **screws will not be acceptable.**
11. All stanchions and handrails shall be securely attached to a structural support member where possible, other wise to the vehicle floor, ceiling, and/or wall. Attachment to the floor is to be with bolts, washers, and nuts treated or coated so as to be rustproof. The use of screws to anchor the stanchions to the floor is not acceptable. Additional stanchions and handrails may be added as deemed necessary for safety and mobility purposes. The location of stanchions and handrails shall be shown on the proposed seating plan.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **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.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **ROOF:** Shall be constructed of metal, with sufficient roof bows and longitudinal stringers to support the roof and interior liner. Roof shall be of sufficient height to provide at least 74" headroom for the full width of the vehicle body. The roof shall meet or exceed static load tests for this type of vehicle. The vehicle must comply with the FMVSS 220. All roof seams need to be properly sealed to prevent leakage.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **ROOF HATCH:** The vehicle shall be equipped with one roof escape hatch. Hatch shall be a full pop-up, such as the Specialty Manufacturing Co. ProLo Model 9245 (or equivalent) with a height no more than one (1) inch above the bus roof. Roof hatch shall be installed by OEM using manufacturer's suggested installation procedures. The hatch shall have a minimum opening of 23" by 23" and shall meet all FMVSS 217 requirements.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **SEATING:** The driver's seat shall be a deluxe bucket, OEM high back 6-way power seat with heavy-duty cloth covering. The upholstery covering color of the driver's seat shall be complimentary to the vehicle's interior color and the other passenger seats (i.e. blue seat with blue interior and blue 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. The driver's seat must be fully adjustable its entire travel distance and not be stopped by the stanchion at the rear of the driver's seat or the passenger area floor behind the driver's seat. Passenger seats shall be track seating that are mid back seats with external 3 point seat belt (shoulder and lap). Contoured seat and back cushion for comfort and support which includes standard top mount grab rail, such as the Freedman GOSEAT-ES, or equivalent. Seats must have been tested to meet FMVSS 210. Fold-up seats shall be mid back seats with lap belt. Passenger seats shall be covered with performance fabrics that have a water repellant surface, waterproof barrier backcoating, and that are antimicrobial, such as the CMI nano protected fabrics (or equivalent). Color options need to be available for agencies to choose from.

**Arrangement of seats shall be designed to provide maximum seating capacity.** The following dimensions shall be used:

- 14" minimum aisle
- 17" minimum rump room
- 29" minimum hip to back row spacing

A black plastic armrest must be provided at the aisle end of each passenger seat. All material used in the upholstery of the seats shall meet FMVSS30L. All passenger seats must be the same color as the driver's seat. **A detailed diagram of the proposed seating plan to be used in the bid MUST be included with bid**

**package.** The proposed seating plan is to be considered standard equipment and its cost must be included in the base bid. Seating Plan for use with wheelchair lift and restraint systems will be treated as an optional item and any additional cost must be bid with the options. **Each wheelchair location shall provide for forward facing of wheelchair. All wheelchair locations will be in the rear of the vehicle.** See **Padded Stanchions and Handrails** for additional seat information. Rear seat shall be modified to allow for use of the emergency exit as detailed in **DOORS, Emergency Exit Doors.**

**Exceptions:** \_\_\_\_\_

**STEPS:** The main passenger entrance step well shall be modified to have two or more interior steps below the floor level. Each step shall be a minimum of 30" wide and have a minimum tread depth of 9". Risers shall be equal with a maximum height of 9" (less if possible) and covered with Altro flooring (or equivalent). The steps shall be capable of supporting 500 lbs. of evenly distributed load in the center 10 sq. inches of each step. The steps shall be constructed of steel, adequately braced to prevent deflection and shall be an integral part of the basic vehicle structure. All step edges shall have a band of yellow vinyl, such as the Altro yellow safety vinyl (or equivalent), running the full width of the step or edge, which contrast, from the step tread and riser. Edging is to be heat welded to the main floor and step tread to provide for a long lasting seam. The exposed edges of the plywood and vinyl at all entrances shall be trimmed with metal-edge trim securely fastened. Step tread and riser are to be a one continuous piece construction eliminating the seam at the back of the step. Tread to be supported at the upward bend at the back of the step and up the riser by coving material. Flooring shall be installed using manufacturer's application and there shall be minimal lip or overhang, on the edge where the riser meets the tread that would create a "toe-catching" condition. The first step into the vehicle shall not be more than 10" (lower if possible) from the ground.

**Exceptions:** \_\_\_\_\_

**STORAGE AREA:** Shall be a minimum of 15" L x 12" H x 4" D and shall be placed in a location that shall not interfere with the rearward movement of the driver's seat. The storage shall be enclosed and include a cover door with a latch.

**Exceptions:** \_\_\_\_\_

**WINDOWS:**

Passenger compartment windows provided the full length of the vehicle will be 24" wide by 30" (minimum) smoked tempered safety glass. One egress window will be provided per side equipped with emergency release latches to provide emergency exits. Release instructions will be provided at or near the release handles.

1. The rear emergency door window will have smoke, tinted tempered safety glass and will have a Van Guard Lens affixed.
2. Factory tinted windows must be used instead of after-market add-on film. The total light transmission of all passenger compartment windows, including the rear window, shall not be more than 35% when a sun screening device is used in conjunction with safety glazing materials or other existing screening devices. (This means that a minimum of 35% of the light shall be transmitted through to the passenger compartment of the vehicle, with a maximum of 65% of the light being reflected back to the exterior of the vehicle.)
3. All side windows shall be easily replaceable without disturbing adjacent windows and will be mounted so that flexing or vibration from engine operation or normal road noise is not apparent. All side and rear passenger windows shall have black anodized aluminum frames.
4. There shall be a one or two-piece window placed at the front of the right hand side entry door to allow for additional viewing of the right side curb and street.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **WINDSHIELD:** Laminated, tinted and in conformity with Federal safety requirements. The windshield will permit a driver's field of view as referenced in SAE recommended practice J1050. The driver's side window shall open sufficiently to permit the seated driver to easily adjust the left outside rear-view mirror.

**Exceptions:** \_\_\_\_\_

**POWER GROUP**

\_\_\_\_\_ **BACK-UP WARNING DEVICE:** The vehicle shall be equipped with an audible warning device in compliance with SAEJ994b (with respect to acoustical performance for Type B device) 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.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **ENGINE:** Shall be minimum of 6.8L V10 (gasoline), and will include an oil filter, air cleaner, and the heaviest duty cooling system capable of providing sufficient cooling capacity for the operation of all the air conditioning equipment contained in these specifications.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **ENGINE-BLOCK HEATER:** A 750 watt (minimum) OEM equipment engine heater shall be provided to assist cold weather starting. It shall be mounted in a manner that the wiring will not contact hot engine parts. The exterior plug must have a cover to prevent the entry of water. The plug-in must be accessible from outside the vehicle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **EXHAUST SYSTEM:** The exhaust system shall be as follows:

1. A heavy duty, corrosion resistant exhaust system which meets or exceeds FMVSS and EPA noise level and exhaust emissions (smoke and noxious gas) requirements.
2. The tailpipe shall terminate behind the left rear wheel, exiting in the corner of the vehicle, and shall be directed away from the curb. The exhaust pipe shall be deflected down toward the street.
3. Exhaust shall be securely attached to the chassis frame. Where clamps are used, they must be side faced, not facing down.
4. The exhaust system shall be properly insulated from the fuel tank and any connections thereof. At any point 4" or less from the tank or connections, a shield shall be provided on the exhaust system.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **FAST IDLE:** A fast idle system shall be installed which will automatically increase the engine speed to approximately 1200 RPMs. This fast speed idle shall engage when the vehicle is in 'Park'.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **FUEL TANK:** 55 gallon (minimum) installed fuel tank, which meets EPA and CARB standards.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **REVERSE SENSING SYSTEM:** 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. Echovision EBD0225 (or equivalent). Vendor shall submit description, warranty information and literature information of the product with the bid.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **TRANSMISSION:** The transmission shall be a heavy-duty automatic including overdrive, compatible with the engine specified.

**Exceptions:** \_\_\_\_\_

## **DOCUMENTATION**

\_\_\_\_\_ **ALTOONA TEST REQUIREMENT:** A requirement of the bid is that a copy of the Altoona, Penn. Bus Testing and Research Center Report must be submitted for each vehicle you bid on as well as the appropriate certification form.

\_\_\_\_\_ **BUILD SPECIFICATION:** A requirement of the bid is that a copy of the Technical Build Specifications be submitted for each vehicle type you bid. This must be included in your bid package submittal.

\_\_\_\_\_ **DELIVERY: FIRST VEHICLE** - The vehicle shall be delivered F.O.B. to the destination designated by the Kansas Department of Transportation (KDOT) at the time the orders are placed, and must be fully equipped in accordance with the specifications and proposal. The delivery shall be made between the hours of 9:00 a.m. to 12:00 noon or 1:00 p.m. to 4:00 p.m., Monday through Friday, except for holidays. The first unit of every type requires that **prior notice of intent to deliver the vehicle must be given, at least 10 business days in advance, to the proper State employee (Kelly Broxterman) at 785-291-3030, and the purchasing organization during normal business hours.** Failure to follow prescribed delivery procedures may result in at least a 2-week delay in payment from KDOT. The intent is to have the first vehicle delivered to one of our maintenance facilities and have the KCTDC do the inspection.

\_\_\_\_\_ **SUBSEQUENT VEHICLES** – All remaining ordered vehicles shall be delivered F.O.B. the destination shown on the purchase order, fully equipped in accordance with the specifications and proposal. All deliveries shall be made between the hours of 9:00 a.m. to 12:00 noon or 1:00 p.m. to 4:00 p.m., Monday through Friday, except for holidays. **These vehicles require that prior notice of intent to deliver vehicles must be given, at least 5 days in advance, to the proper State employee (Kelly Broxterman) at 785-291-3030, and the purchasing organization during normal business hours.** Failure to follow prescribed delivery procedures may result in at least a 2-week delay in payment from the Kansas Department of Transportation.

**The following applies to ALL delivered vehicles:**

**Certificates of Origin and invoices must be sent to the organization named on the purchase order before delivery is made or must be delivered with the vehicle; receipt of these after delivery is not acceptable. Certificate of Origin must show “Secretary of Transportation of the State of Kansas, Public Trans. Office, 700 SW Harrison, Topeka KS 66603” as the lien holder on the vehicle.** The vehicles are to be delivered having been properly serviced, including all lubricants

(grease and oil) and fluids filled to the proper level. Properly serviced shall mean the doors shall have been checked and properly adjusted, fittings are all accounted for, and all other mechanical adjustments made, so that the vehicle is in the condition in which the transit bus would be offered to any section of the trade.

Factory pre-delivery service, or any other delivery service, is acceptable only when equivalent to that offered by the dealer to his regular retail customers. After the vehicle has been serviced, the dealer may make delivery by driving or truck transport delivery (see below). Delivery by any method other than detailed below is not acceptable.

Vehicles may be driven up to 1,500 miles (not to exceed 1,500.0 miles on the new vehicle's odometer) from the factory or dealership to the final delivery point at the purchasing agency's location, provided that the original factory warranty and any other applicable new vehicle warranties begin at the actual vehicle mileage at the time of final delivery at the purchasing agency's location.

Any deliveries exceeding 1,500.0 miles must be transported to the final delivery point at the purchasing agency's location by truck (not driven). Deliveries over 1,500.0 miles by any other method are not acceptable. When making truck transport delivery the dealer or his authorized representative (which may be the truck transport delivery driver) must be present and able to sign receipts, supervise unloading, and deliver the vehicle (complete with warranty) to the address shown on the purchase order.

The truck transport delivery driver or other authorized representative present at the time of delivery must be able to educate the purchasing agency on the vehicle's features and must be able to demonstrate the vehicle's subsystems and equipment.

At time of delivery the gasoline tank must be at least one-fourth (1/4) full as indicated on the fuel gauge. If dual gasoline tanks are used, the vehicle must have at least one-fourth (1/4) tank in each tank or one-half (1/2) in one of the two tanks. All vehicles shall be delivered with adequate radiator protection to at least -20F degrees below zero.

Schedule requirement for deliveries:

ALL vehicles ordered by 06/30/17 MUST be delivered prior to 12/31/17.

ALL vehicles ordered between 07/01/17 - 09/30/17 MUST be delivered by 01/31/18.

All vehicles ordered between 10/01/17 - 12/31/17 MUST be delivered by 03/31/18.

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#### **MISCELLANEOUS TECHNICAL SPECIFICATIONS:**

There shall be no sharp corners on the unit. All corners shall be slightly rounded and filed smooth.

1. All welds shall have 100% penetration. All welds shall be free of slag inclusions and undercut. Filled weld sizes shall be equal to the thickness of the least of the joined plates.
2. All material installed shall be new and free of rust.
3. No wires shall be visible on the exterior or interior of the vehicle. All under-carriage wiring shall be contained in adequate housing so as to prevent damage from the elements, especially mud, snow and salt.

**Exceptions:** \_\_\_\_\_

**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. This bumper to bumper warranty is to cover all parts/components of the vehicle for three years or 36,000 miles after delivery unless an item has a different specific warranty called out in that section of the specification. If a part/components is not covered by the OEM, then the vendor is responsible for all repairs and expenses associated with them. **POWER TRAIN SHALL HAVE THE OEM MANUFACTURER’S WARRANTY if it exceeds the three year/36,000 miles warranty stated above.** Disclaimers of Warranty coverage such as claims of driver error, acts of god, debris, etc. will not be considered. The price of the vehicle bid should include this warranty and must be provided to the agency with the new vehicle(s). The vendor will be responsible for working with the agency to fill out ALL of the vehicle and sub-componenet warranty information and the vendor will be responsible for registering all of the products and provide proof of registration of each item to the agency. This includes all items on the vehicle (tires, AC, Reverse Sensing System, etc.). This warranty does not include schedule maintenance items listed in the OEM owner’s manual.

**Exceptions:** \_\_\_\_\_

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.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **WEIGHT ANALYSIS:** A weight analysis shall be completed for each vehicle ordered from the successful bidder. The vendor shall review this analysis and the floor plan with the transit agency and get their written approval **PRIOR** to starting production of the vehicle. A signed copy of the approved weight analysis and floor plans must be submitted by the vendor to KDOT prior to production starting.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ A 60-day Temporary Tag must be delivered with each vehicle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **SUPPORT BID DOCUMENTATION:** The following materials **MUST** accompany each bid. The omission of any of these materials may result in rejection of the bid.

1. Seating plan - including the placement of stanchions and handrails.
  - a. Delineating maximum seating arrangements (to scale and labeled) and placement of stanchions and handrails.

- b. Wheelchair placement and seating arrangements (to scale and labeled) and placement of stanchions and handrails. Provide plan for two, and three wheelchair placements.
2. Signed copies of all applicable pre-award certifications.
3. Listing of all exceptions (and reasons of exceptions) to bid specifications.

\_\_\_\_\_ **ADDITIONAL SUPPORT BID DOCUMENTATION:** The following materials **MUST** be submitted prior to bid award. The omission of any of these materials may result in rejection of the bid.

1. Warranty for vehicle and its subsystems. Registrations of ALL warranties to be completed by vendor and supplied to purchasing agency within 30 days of vehicle delivery.
2. Copy of license to do business in the State of Kansas
3. Color chart.

\_\_\_\_\_ **SUPPORT DELIVERY DOCUMENTATION:** The following materials **MUST** accompany each delivered vehicle. The omission of any of these materials may result in the vehicle not being accepted.

1. Warranty for vehicle and its subsystems.
2. Owner's Manual.
3. A copy of a detailed maintenance and inspection schedule for the vehicle and subsystems.
4. List of warranty stations available.
5. A label placed on the inside of the glove compartment or driver storage area of the vehicle giving a telephone number for the owner to call when they have any questions regarding the vehicle (ideally, the number should be toll-free).
6. Details on the as-supplied specifications for the alternator, rear heater unit, rear air conditioning unit, and both batteries (listed individually). Make sure to include the make, model and BTUs for the rear heater and AC unit.
7. Written or video instructions on the use of the wheelchair restraint system.
8. Written instructions on how to engage wheelchair lift with the interlock system.
9. Written or video instructions on how to use the roof ventilator.

- 10. "As built" electrical manual.
- 11. "As built" parts manual.
- 12. 60 day Temporary Tag.
- 13. Alignment Report.

**SPECIFICATIONS  
FOR  
OPTIONAL ITEMS  
ON THE  
SMALL TRANSIT METAL BUS  
(20 Passenger)**

**OPTIONAL ITEMS:**

\_\_\_\_\_ **1. FOLD-UP SEATS:** Forward facing fold-up seats that can be folded up against the interior side walls of the vehicle. Each of these seats must provide seating positions for 2 passengers. A black plastic armrest must be provided at the aisle end of each seat. All material used in the upholstery of the seats shall be of fire retardant material. Fold-up seats shall be covered with performance fabrics that have a water repellent surface, waterproof barrier backcoating, and that are antimicrobial, such as the CMI nano protected fabrics (or equivalent). Color options need to be available for agencies to choose from. All passenger seats must coordinate with the driver's seat. A handrail will be provided along the top of each seat. Price bid must be for each 2-person fold-up seat. Fold-up seats shall be mid back seats with lap belt.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **2. ENTRANCE DOOR (MANUAL):** Manual two-piece school type split-leaf with curb vision windows and overlapping rubber seals. The entrance door must be a minimum of 29" by 76". Door must be capable of being locked.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **3. WHEELCHAIR LIFT AND LIFT DOOR:** An electro-hydraulic or electro-mechanical powered wheelchair lift shall be mounted on the curbside of the vehicle behind the rear wheel and be accessible via access doors. The lift shall have a platform, which can be raised and lowered, to a fully cantilevered position, and platform is to be of **sufficient strength** to support a 1000-pound load. The floor of the vehicle must be properly reinforced to support the weight in the lift area. The lift shall be mounted on the vehicles in such a manner that cutting of structural members is not required, and also the lift shall be constructed so as to clear the

side of the vehicle without extensive, if any, structural body modifications. The lift platform shall have a provision for mechanically (interior & exterior roll stop barriers) holding the wheelchairs in place as they are raised or lowered. The lift must meet all ADA requirements as delineated in the Federal Register, Part IV, Department of Transportation, 49 CFR Parts 27, 37, and 38, Transportation for Individuals with Disabilities; Final Rule, Friday, September 6, 1991, and the FMVSS regulations as delineated in the Federal Register, Part IV, Department of Transportation, 49 CFR Part 571, Federal Motor Safety Standards; Platform Lifts Systems for Accessible Motor Vehicles, Platform Lift Installation on Motor Vehicles; Final Rule, Friday, December 27, 2002. Platform shall have a usable minimum width of 34 inches and a minimum depth of 48 inches. WARNING: Failure of the lift to meet the ADA and FMVSS requirements will be cause for the vehicle to be rejected. Power unit shall be 12-volt electro-hydraulic operated. Power unit shall be capable of operation in temperatures to -20F degrees and shall be readily accessible for maintenance. The lift shall be equipped with a hand pump for powering lift up and down in the event of power failure. Throughout the range of lift operation, all edges of the platform surface and the visible edge of the vehicle floor or bridging device must be outlined in a minimum of 1 inch wide outlines that contrast greatly with the background color (e.g., bright yellow outlines on a black platform surface).

Installation of the wheelchair assembly shall not cause excessive unbalanced loading of the vehicle. The installed lift shall be free from rattles and other objectionable noises in the stowed position when the vehicle is operated over rough roads. The design and installation shall minimize metal-to-metal contact points. If necessary the bidder shall supply additional restraints or padding to ensure the quiet riding of the lift in the stowed position.

The controls shall be interlocked with the vehicle brakes, transmission, or door, or shall provide other appropriate mechanisms or systems to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.

Wheelchair lift door shall be a double out-door design, capable of being locked from the outside. The door handle shall be heavy duty and mounted with a stop to prevent the locking mechanism from over rotating. Lift shall be mounted on the curbside of the vehicle, behind the rear wheel. Pneumatic cylinders for opening and closing the doors shall be installed. These cylinders shall be capable of holding the doors in the fully open position when the lift is in use. The door latch shall control the upper and lower slam type or 3 point latching system to insure a positive latching and sealing around the door's periphery. The doorframe shall be constructed of aluminum, steel or stainless steel with sufficient weight and strength to support the wheelchair lift door and the wheelchair lift. The wheelchair lift doors shall have outside latches or "T" catches to keep the doors fully open in high winds.

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **4. RETRACTABLE WHEELCHAIR SECUREMENT SYSTEM:** A four point, heavy duty tie-down system that is permanently in place and retracts the belts to be out of the way when not in use. Should be self-tensioning, fully automatic retractable tie-down system, with J-hook attachments, and an auto-release. This tie-down system must meet WC18 standards and is compatible with WC19 Wheelchairs such as the Q'Straint QRT 360 retractable system or the Sure-Lok Titan 800 retractable system (or equivalent). Track Sections must be recessed below the surface of the floor to minimize the tripping hazards. The edges shall be trimmed with metal edge trim to provide a neat, clean appearance, and shall run the full width of the vehicle and extend towards the front of the vehicle to the last row of passenger seats in front of the securement location. A flanged L-track may be used if it provides the same clean, neat appearance and has no sharp edges. **Belt/track equipment must meet FMVSS 208, 209, and 210.**

Securement device shall remain in the locked (latched & secured) position under all normal and crash conditions.

Each wheelchair location shall be equipped with retractable pelvic-high, lap-type safety belt and retractable shoulder belt to secure the passenger in wheelchair. The safety belts shall conform to FMVSS No. 210. **Each wheelchair location shall provide for forward facing of wheelchairs. All wheelchair locations shall be in the rear of the vehicle. Vendor will supply written or video instructions on the use of the restraint system.**

Wheelchair positions and optional fold-up seats must be interchangeable with maximum ease and safety to both ambulatory and non-ambulatory riders.

One set of storage bags shall be provided per set of tie downs. The storage bags shall be mounted in a convenient location within the restraining area.

Price bid must be for each wheelchair position.

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **5. WALKER SECUREMENT:** A Securement system to safely secure any walker to the inside of a transit vehicle, such as the Q'Straint Walker Securement (or equivalent).

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **6. EXTRA LENGTH SEAT BELTS:** Inboard positions to be equipped with seat belts of a length to fit around large adults. Shall include extender-type (adapters) belts so as to lengthen the standard type lap belts. Price bid must be for each seating position.

If you are providing the Freedman 3 pt seats, there is an 8 inch extra length seatbelt extender available that has been safety tested. The part number is 73080 and these can be ordered from Freedman at the time the seats are ordered. If you are providing a seat from another manufacturer, please contact them to find out the availability and the product information.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **7. LABELING:** Vehicles to be labeled on both sides with minimum 5" high contrasting upper-case vinyl letters, GENERAL PUBLIC TRANSPORTATION and include a 4" high contrasting ten digit telephone number with two dashes (example: 785-296-0963). Labeling shall be centered on vehicle sides below the windows if possible. Price bid must be for labeling on both sides of the vehicle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **8. CHILD RESTRAINT SEAT:** C. E. White Integrated Child Restraint School Bus Seat, 36" (or equivalent). Price bid will be for a double child restraint seat. A lap belt must still be provided in all positions where an integrated child restraint seat is placed. This will allow the use of the seat by another passenger (adult or larger child) when the child restraint is not being used. This belt must be an under the seat retractable type. A handrail will be provided along the top of each seat.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **9. DRIVER SIDE VINYL SEAT:** The seat for the driver shall be covered with a performance fabric that has a water repellant surface, waterproof barrier backcoating, and that is antimicrobial, such as the CMI nano protected fabrics (or equivalent). Color options need to be available for agencies to choose from and should coordinate with the passenger seat colors.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **10. ENERGY ABSORBING BUMPER:** The front and/or rear bumper shall be energy absorbing type so as to protect the vehicle in the event of a low speed backing or front end collision. Both bumpers must be Romeo Rim or equivalent. The rear bumper shall have an OEM built-in step such as on the Romeo Rim (Part #B00580201AXA).

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **11. FLAT FLOOR:** Shall be equipped with the floor of passenger compartment located above the wheel well. The riser to a flat floor vehicle must be designed in such a way that there is not "foot catching" conditions that would cause a boarding rider to trip and/or fall. Likewise, the floor shall be installed in such a

manner that it does not have any additional steps or breaks in the flooring at the entrance that would cause passengers to trip or to stub their toes. If needed, the flat floor optional item shall include a 4-step entry that eliminates an additional step as you turn to board the vehicle.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **12. REAR SUSPENSION:** Shall be equipped with a rubber shear spring suspension system, such as the MOR/ryde "RL" suspension system (or equivalent), that will offer improved ride quality and vehicle handling, and low maintenance.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **13. PUBLIC ADDRESS SYSTEM:** Each bus shall be equipped with a transit P.A. amplifier and hand-held microphone with two (2) interior speakers and one (1) exterior speaker. This system shall be equipped with a volume control.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **14. PULL CORD SYSTEM AND STOP REQUEST SIGN:** Each bus shall be equipped with a buzzer mounted overhead of the driver in the ceiling. This buzzer shall be activated by pull cord switches mounted on each side of the bus that are accessible to all passenger and that meet all ADA regulations. Touch tape switches must also be provided at each wheelchair position. These may be vertical or horizontal but be at least 18 inches long and shall be installed in a location easily accessible to passengers and must meet all ADA regulations. The buzzer shall have a minimum decibel of 50 to allow drivers to easily hear it. The cord shall be plastic coated, .125" diameter stranded wire cable supported by chrome plated brass cable eyelets on 30" centers. Each bus shall be equipped with a back lighted stop request sign mounted overhead on the front ceiling closure. The sign shall be designed to remain illuminated when activated by the passenger pull cord signal until it is extinguished by opening the front door.

**Exceptions:** \_\_\_\_\_

\_\_\_\_\_ **15. ROUTE DESTINATION SIGNS:** Each bus shall be equipped with two (2) LED Electronic Destination Signs. One shall be mounted in the upper windshield and one shall be mounted in the upper section of the side window behind the entry door. The signs shall allow agencies to have route messages of at least 6" tall for the upper windshield sign and 3.3" for the side window. Route Destination signs shall consist of amber colored LED lights and be rated for 100,000-hours such as the Hanover Amber Display Signs (or equivalent). Software, manuals and instructions on the programming and use of the signs must be included with the vehicle. Arrangement for placement of signs needs to be worked out with the agency ordering but must meet all ADA requirements. A

full pixel test is required at the time of delivery. Vendor is responsible for coordinating all repairs and any shipping and repair costs during the warranty period. All repairs need to minimize the number of days the unit is out of service. These signs are to come with a 10-year warranty.

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **16. FARE BOX: Each bus shall be equipped with a fare box with a secured vault.** The fare box shall be stainless steel and aluminum construction with machined welded joints, such as the Diamond Manufacturing, Inc. XV model, or equivalent. The fare box shall be pole mounted on a stainless steel passenger assist stanchion with a key lock mount. The fare box shall be illuminated and in easy reach of the driver. The windows on the box shall be made of a product that is scratch and break resistant. All fare boxes shall have high quality locks and shall only require one key that provides access to all boxes for that agency. The lever mechanism shall function in a manner to allow all money, including bills, to easily fall in the vault. Fare box location to be determined by purchasing agency at time of order.

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **17. STANDEE LINE:** Each bus must have a line marked across the bus aisle to designate the forward area that passengers may not occupy when the bus is moving. A sign must also be included that designates the area. Must meet all ADA requirements.

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **18. REAR FLASHING LIGHTS:** Each bus shall be equipped with 7” LED rear lights. These lights shall be activated with the OEM flasher lights are activated. A switch to activate the rear lights and OEM flashers shall be installed on the console for easy access to the driver and shall be an illuminated switch.

**Exceptions:** \_\_\_\_\_

- \_\_\_\_\_ **19. OXYGEN CYLINDER HOLDER:** Designed with tightening and release knob with visual lock indicator. Shall have two-anti-slip straps to contain cylinder. Shall be made of high grade anodized aluminum and shall fit in track installed in vehicle. Shall be compact in size for ease of transportation and storage, such as the SURE-LOK GO2 (or equivalent). Shall be quick release for easy height adjustment to accommodate a single O2 cylinder from size M2 to E (Americas). Must meet all applicable safety standards and regulations.

- \_\_\_\_\_ **20. TRANSIT BIKE RACK** A bike rack made of stainless steel shall be properly secured to the front of the vehicle without any drilling into the bumper. It should be a quick-release rack that can easily be removed. The rack shall be a 2

position model that can carry up to 250 pounds. This will allow transportation of 2 bikes. The rack shall not extend past the width of the vehicle's bumper on either side and should be capable of transporting bikes that have wheel diameters that range in size from a minimum of 16" to a maximum of 29". The rack shall be powder coated and shall not make contact with any part of a bicycle except for the wheels. The rack and installation must meet all FMVSS safety standards. The lifting weight to operate the rack must be less than 30 pounds to meets OSHA and NIOSH limits.

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**Form of Bid  
Small Transit Metal Bus  
(20 Passenger)  
(74" Headroom)**

<u>ESTIMATED QUANTITY</u>	<u>BASE VEHICLE</u>	<u>ESTIMATED PER UNIT COST</u>	<u>TOTAL COST</u>
_____	Small Transit Bus (gas engine)	\$_____/ea.	\$_____

Specify Overall Vehicle Length (outside of bumper to outside of bumper): \_\_\_\_\_

Specify Alternator Amps: \_\_\_\_\_

**OPTIONAL ITEMS**

_____ 1.	Fold-Up Seats	\$_____/ea.	\$_____
_____ 2.	Entrance Door (Manual)	\$_____/ea.	\$_____
_____ 3.	Wheelchair Lift (34" x 48") & Lift Door (specify model of lift:_____)	\$_____/ea.	\$_____
_____ 4.	Retractable Wheelchair Securement System (per WC position)	\$_____/ea. pos.	\$_____
_____ 5.	Walker Securement	\$_____/ea. pos.	\$_____
_____ 6.	Extra Length Seat Belts	\$_____/ea. pos.	\$_____
_____ 7.	Labeling (General Public Transportation & telephone number)	\$_____/vehicle	\$_____
_____ 8.	C. E. White Integrated Child Restraint School Bus Seat, 36" (double child restraint seat)	\$_____/ea.	\$_____
_____ 9.	Driver Vinyl Seat	\$_____/ea.	\$_____

_____ 10.	Energy Absorbing Bumper		
	a. Front Bumper	\$_____/ea.	\$_____
	b. Rear Bumper	\$_____/ea.	\$_____
_____ 11.	Flat Floor	\$_____/vehicle	\$_____
_____ 12.	Rear Suspension (MOR-ryde or equivalent)	\$_____/vehicle	\$_____
_____ 13.	Public Address System	\$_____/vehicle	\$_____
_____ 14.	Pull Cord System/Stop Request Sign	\$_____/vehicle	\$_____
_____ 15.	Route Destination Signs	\$_____/vehicle	\$_____
_____ 16.	Fare Box	\$_____/vehicle	\$_____
_____ 17.	Standee Line	\$_____/vehicle	\$_____
_____ 18.	Rear Flashing Lights	\$_____/vehicle	\$_____
_____ 19.	Oxygen Cylinder Holder	\$_____/vehicle	\$_____
_____ 20.	Transit Bike Rack	\$_____/vehicle	\$_____
TOTAL ESTIMATED COST			\$_____

NOTE: The vehicle(s) bid on this Contract Proposal must meet the attached specifications titled 'Small Transit Metal Bus'.

Specify Make and Model of Vehicle Offered:

Specify Approximate Delivery Date:

**BID EXCEPTIONS:**

Please list any and all bid exceptions next to each item in the specification.