

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 08/24/20
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

THE CONTRACT PERIOD IS:

APRIL 01, 2020 THROUGH MARCH 31, 2021

THIS CONTRACT HAS BEEN AMENDED PER THE FOLLOWING INFORMATION:

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2020 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2020 through March 31, 2021. The contract may be renewed for one (1) additional one (1) year period when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the third renewal of the contract as amended. (mel 02/24/20)

Amendment Four (4) as Attached (mh 8/21/20)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	2020 OR CURRENT PRODUCTION YEAR SMALL TRANSIT 12+2 BUS FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 54 BUS MANUFACTURER: GLAVAL PRODUCTION YEAR 2020 DELIVERY ARO: 120-160 DAYS THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED. OPTIONS:	200.0000	EA	69,077.0000

Christina T. Kelly 08.25.20
BUYER
9/3/2020
MATERIEL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 08/24/20
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS (S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	200.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEELCHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTEGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	200.0000	EA	990.0000
9	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	200.0000	EA	36.0000

clk

BUYER INITIALS

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3	ORDER DATE 08/24/20
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000
11	ONE DOUBLE INTEGRATED CHILD SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS	200.0000	EA	2,230.0000

ck
BUYER INITIALS

AMENDMENT FOUR
 Contract 14755 OC
 2019 or Current Production Year Small Transit Buses 12+2
 For the State of Nebraska
 Between
 The State of Nebraska and Masters Transportation, Inc.

This Amendment (the "Amendment") is made by the State of Nebraska and Masters Transportation, Inc., parties to Contract 14755 OC (the "Contract"), and upon mutual agreement and other valuable consideration, the parties agree to and hereby amend the contract Upon Execution of Both Parties as follows:

- Contract line 1 is hereby superseded and replaced by:

Line	Description	Unit of Measure	Unit Price
1	2020 OR CURRENT PRODUCTION YEAR SMALL TRANSIT 12+2 BUS FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 54 BUS MANUFACTURER: GLAVAL PRODUCTION YEAR 2020 DELIVERY ARO: 120-160 DAYS THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.	EA	\$ 69,077.0000

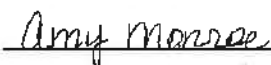
This Amendment and any attachments hereto will become part of the Contract. Except as set forth in this Amendment, the Contract is unaffected and shall continue in full force and effect in accordance with its terms. If there is conflict between this Amendment and the Contract or any earlier amendment, the terms of this Amendment will prevail.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date of execution by both parties below.

State of Nebraska

Contractor: Masters Transportation, Inc.

Signature: 

Signature: 

Name: Doug Carlson

Name: Amy Monroe

Title: Material Administrator

Title: Executive Assistant

Date: 9/3/2020

Date: 8/21/2020

2020 C/FMVSS Compliance Summary



This document gives a brief summary of how Glaval Bus meets all applicable federal regulations.

NOTICE: All required testing is on file and available upon request.

Regulation	Regulation Description	Compliance Summary
C/FMVSS 101	Controls and displays	Compliance deferred to chassis manufacturer.
C/FMVSS 102	Transmission shift lever sequence, starter interlock & transmission braking effect	Compliance deferred to chassis manufacturer.
C/FMVSS 103	Windshield defrosting & defogging systems	Compliance deferred to chassis manufacturer.
C/FMVSS 104	Windshield wiping & washing systems	Compliance deferred to chassis manufacturer.
C/FMVSS 105	Hydraulic brake systems	Stretched units meet test requirements, for non-stretched units compliance deferred to chassis manufacturer.
C/FMVSS 106	Brake hoses	Stretched units use OEM compliant hoses, for non-stretched compliance deferred to chassis manufacturer.
C/FMVSS 108	Lamps, reflective devices & associated equipment	All lighting and reflective devices are present and installed to this standard. OEM lighting compliance deferred to chassis manufacturer.
CMVSS 108.1	Alternative requirements for headlights	Glaval does not alter any headlight component. Headlights meet regulation by manufacturer.
C/FMVSS 111	Rear view mirrors	Glaval installs aftermarket compliant mirrors. OEM mirror compliance deferred to chassis manufacturer.
C/FMVSS 113	Hood latch systems	Compliance deferred to chassis manufacturer.
C/FMVSS 114	Theft protection	Compliance deferred to chassis manufacturer.
C/FMVSS 115	Vehicle identification number	Compliance deferred to chassis manufacturer.
C/FMVSS 116	Hydraulic brake fluids	Compliance deferred to chassis manufacturer.
C/FMVSS 118	Power operated window, partition, and roof panel systems (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 120	Tire selection and rim for motor vehicles with a GVWR of 4,536kg/10,000 lbs. or more	Compliance deferred to chassis manufacturer. Tire/weight label also applied by Glaval.
C/FMVSS 121	Air brake systems	Stretched units use OEM compliant parts, for non-stretched compliance deferred to chassis manufacturer.
C/FMVSS 124	Accelerator control systems	Compliance deferred to chassis manufacturer.
C/FMVSS 125	Warning devices	All vehicles are shipped with a compliant triangle safety kit.
C/FMVSS 201	Occupant protection in interior impact (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 202	Head restraints (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 203	Impact protection for the driver from the steering control system (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 204	Steering control rearward displacement	Compliance deferred to chassis manufacturer.
C/FMVSS 205	Glazing materials	Cab compliance deferred to chassis manufacturer, additional glazing materials meet standard.
C/FMVSS 206	Door locks and door retention devices (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 207	Seating system	Glaval exceeds testing and standard requirements; cab seats meet OEM testing requirements.
C/FMVSS 208	Occupant crash protection	Glaval follows OEM guidelines; compliance deferred to chassis manufacturer.
C/FMVSS 209	Seat belt assemblies	Glaval follows OEM guidelines; compliance deferred to chassis manufacturer. Added belts meet 209.
C/FMVSS 210	Seat belt assembly anchorage	Glaval exceeds testing and standard requirements; cab seats meet OEM testing requirements.
CMVSS 210.1	User-ready tether anchorages for restraint systems and booster seats (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
CMVSS 210.2	Lower universal anchorage systems for restraint systems and booster cushions (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 212	Windshield mounting (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 213	Child restraint systems	Glaval does offer integrated child seats that have been tested to meet 213.
C/FMVSS 216	Roof crush resistance (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 217	Bus window retention and release	Glaval exceeds testing and standard requirements.
C/FMVSS 219	Windshield zone intrusion (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.

2020

C/FMVSS Compliance Summary



This document gives a brief summary of how Glaval Bus meets all applicable federal regulations.

NOTICE: All required testing is on file and available upon request.

Regulation	Regulation Description	Compliance Summary
C/FMVSS 220	School bus rollover testing	Glaval offers units built to this standard (when requested) which exceeds testing requirements.
C/FMVSS 221	School bus body joint strength	Glaval exceeds testing requirements to meet this standard. **NOTE: Must use FRP skin option.**
FMVSS 225	Child restraint anchorage systems (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 301	Fuel system integrity (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 302	Flammability of interior materials	Glaval exceeds testing requirements to meet this standard, cab materials defer to chassis manufacturer.
C/FMVSS 303	Fuel system integrity of compressed natural gas systems (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 304	Compressed natural gas fuel container integrity (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 305	Electrolyte spillage and electrical shock protection (under 10,000 lbs.)	Glaval does not build on units under 10K, regulation does not apply.
C/FMVSS 403	Platform lift system for motor vehicles	Compliance deferred to lift manufacturer.
C/FMVSS 404	Platform lift installation on motor vehicles	Glaval installs lifts according to lift manufacturer's instructions for compliance to this standard.
CMVSS 1106	Noise emissions	Glaval follows OEM guidelines and has additional testing performed to meet this standard.

Signed:

Date: 1/02/2020

Title: Compliance and Customer Service Manager

Glaval Bus

Pre-Award BUY AMERICA CERTIFICATION

This certifies compliance with FTA Buy America Regulations set forth in 49 C.F.R. § 661.11 for each component that more than 70% of the subcomponents, by cost, are of U.S. origin/manufacture and is manufactured in the U.S. Manufacturer attests that the U.S. content of subcomponents, by cost is as indicated below.

COMPONENT NAME	MANUFACTURER NAME		% U.S. CONTENT	%FOREIGN CONTENT
UNIVERSAL 22' 158"WB ON FORD E450	Glaval Bus		<u>73.13%</u>	<u>26.87%</u>
SUBCOMPONENT NAME	MANUFACTURER NAME	MFG LOCATION	% OF TOTAL	
Chassis	Ford Motor Co.	U.S.	49.40%	
Air Conditioning	Trans Air	U.S.	6.18%	
Heater	ProAir	U.S.	0.41%	
WheelChair and/or Rear Door	Challenger Door	U.S.	1.16%	
Wheelchair Lift	Braun	U.S.	5.12%	
Wheelchair Securements	Q'Strait	U.S.	1.75%	
Exterior Mirrors	ROSCO	U.S.	0.70%	
Seating	Freedman Seating	U.S.	4.90%	
Roof Hatch	Transpec	U.S.	0.32%	
Driver Seat	USSC	U.S.	2.06%	
Rear Suspension	MorRyde	U.S.	1.14%	

MAJOR ACTIVITIES UNDERTAKEN AT THE FINAL ASSEMBLY LOCATION

All purchasing of raw and assembled materials including the chassis, fabrication and welding of the frame, prime paint, installation of all wood, fabric, FRP, aluminum and/or other body panel and/or trim materials, installation of doors and windows, HVAC components and systems, electrical systems, installation of any required options such as wheel chair lifts, tie down kits, seats, radios and optional electronic items, if any, complete undercoat, exterior paint and/or graphics if ordered, full road test, rain booth test and all other final quality functions as needed to ensure compliance with the contract.

FINAL ASSEMBLY LOCATION: 2367 CENTURY DRIVE, GOSHEN, IN 46528

BODY V.I.N. OF UNITS DELIVERED UNDER POST DELIVERY BUY AMERICA:

TBD

FINAL ASSEMBLY % OF TOTAL COST NOT INCLUDED IN THE MATERIAL COSTS ABOVE: 4.63%
FINAL ASSEMBLY \$\$ NOT INCLUDED IN THE COSTS ABOVE \$2,456.27


 AUTHORIZED SIGNATURE

Government Bids
 TITLE

4/15/2020
 DATE

Scott Defrees
 PRINT NAME

FEDERAL TRANSIT BUS TEST

**Performed for the Federal Transit Administration U.S. DOT
In accordance with 49 CFR, Part 665**

**Manufacturer: EIDorado National-Kansas, Inc.
Model: Advantage**

**Tested in
7 Year / 200,000 Mile Partial Test**

March 2020

Report Number: LTI-BT-R1914-P

**The Thomas D. Larson
Pennsylvania Transportation Institute
201 Transportation Research Building
The Pennsylvania State University
University Park, PA 16802
(814) 865-1891**

**Bus Testing and Research Center
2237 Plank Road
Duncansville, PA 16635
(814) 695-3404**



PennState
College of Engineering

**LTI BUS RESEARCH
AND TESTING CENTER**

FEDERAL TRANSIT BUS TEST

Performed for the Federal Transit Administration, U.S. DOT
1200 New Jersey Avenue, SE
Washington, DC 20590

In accordance with 49 CFR Part, 665

Manufacturer: EIDorado National-Kansas, Inc.
Manufacturer's address: 1655 Wall Street
Salina, KS 67401

Model: Advantage

Tested in
7 Year / 200,000 Mile Partial Test

Report Number: LTI-BT-R1914-P





Quality Authorization

Director, Bus Research
and Testing Center

Title

3/27/2020

Date

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	4
ABBREVIATIONS AND ACRONYMS	5
BUS CHECK-IN	6
1. MAINTAINABILITY	
1.1 ACCESSIBILITY OF COMPONENTS AND SUBSYSTEMS	19
1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS	22
4. PERFORMANCE	25
6. FUEL ECONOMY	29
7. NOISE	
7.1 INTERIOR NOISE AND VIBRATION TESTS	37
7.2 EXTERIOR NOISE TESTS	42
8. EMISSIONS	48

EXECUTIVE SUMMARY

TEST HIGHLIGHTS

The information in this report pertains only to this specific bus, as received from the manufacturer for testing.

The Check-In section of the report provides a description of the bus and specifies its major components. The following table gives the salient specifications.

Manufacturer	EIDorado National-Kansas, Inc.
Model	Advantage
Chassis Make/Model	Ford / E450
Chassis Modified	Yes
Length	27 Foot 9 Inches
Fuel	Gasoline
Service Life	7 Year / 200,000 Mile Partial Test
Number of Seats (including driver)	19 + 2 wheelchairs
Manufacturer-Designated Standing Passenger Capacity	No standees per manufacturer
Gross Vehicle Weight used for testing	14,460
Gross Vehicle Weight Rating	14,500
Mileage at Delivery	382.9
Test Start Date	November 21, 2019
Test Completion Date	January 17, 2020

The measured curb weight was 4,290 lb. for the front axle and 6,120 lb. for the rear axle. These combined weights provided a total measured curb weight of 10,410 lb. There are 19 seats including the driver plus 2 wheelchair positions. There is enough free floor space for 13 standing passengers. However, no standees are permitted according to the manufacturer's placard. Therefore, the gross load represents seated passengers only, for a total of 19 passengers and 2 wheelchair positions. At full declared capacity, gross load is calculated as $(19 \times 150) + (2 \times 600) = 4,050$ lb. The measured gross vehicle weight is 14,460 lb. There is a potential to overload this bus with the available floor space for standing passengers.

The FTA determined that this bus be tested for Accessibility, Selected Maintainability, Performance, Fuel Economy, Interior and Exterior Noise, and Emissions; the baseline full Bus Testing report for this test is LTI-BT-R1214.

ABBREVIATIONS AND ACRONYMS

- ABS - anti-skid braking system
- ABTC - Altoona Bus Test Center
- A/C - air conditioner, or air conditioning
- AC - alternating current
- ADA - American Disability Act
- CDCTS - chassis dynamometer test control system
- CVS - constant volume sampling
- CW - curb weight (bus weight including maximum fuel, oil, and coolant; but without passengers or driver)
- dB(A) - decibels with reference to 0.0002 microbar as measured on the "A" scale
- DC - direct current
- DIR - test director
- DR - bus driver
- EPA - Environmental Protection Agency
- GAWR - gross axle weight rating
- GVL - gross vehicle load (150 lb. for every designed passenger seating position, for the driver, and for each 1.5 sq. ft of free floor space)
- GVW - gross vehicle weight (curb weight plus gross vehicle load)
- GVWR - gross vehicle weight rating
- HD-UDDS - Heavy Duty-Urban Dynamometer Driving Schedule
- LTI - Larson Transportation Institute
- mpg - miles per gallon
- mph - miles per hour
- PM - Preventive maintenance
- PSTT - Penn State Test Track
- rpm - revolutions per minute
- SAE - Society of Automotive Engineers
- SCF - Standard cubic foot
- SCH - test scheduler
- SA - staff assistant
- SLW - seated load weight (curb weight plus 150 lb. for every designed passenger seating position and for the driver)
- TD - test driver
- TECH - test technician
- TM - track manager
- TP - test personnel
- Wh - Watt hour

TEST BUS CHECK-IN

I. OBJECTIVE

The objective of this task is to log in the test bus, assign a bus number, complete the vehicle data form, and perform a safety check.

II. TEST DESCRIPTION

The test consisted of assigning a bus test number to the bus, cleaning the bus, completing the vehicle data form, obtaining any special information and tools from the manufacturer, determining a testing schedule, performing an initial safety check, and performing the manufacturer's recommended preventive maintenance. The bus manufacturer certified that the bus meets all Federal regulations.

III. DISCUSSION

The check-in procedure is used to identify in detail the major components and configuration of the bus.

The test bus consisted of an EIDorado National-Kansas, Inc., model Advantage. The bus has a front driver's and passenger door located just behind the front axle, and an ADA handicap accessible fold out lift in the rear of the bus. Power is provided by a gasoline-fueled, Ford Motor Company 7.3 L engine coupled to a Ford Motor Company TorqueShift 6 transmission.

The measured curb weight was 4,290 lb. for the front axle and 6,120 lb. for the rear axle. These combined weights provided a total measured curb weight of 10,410 lb. There are 19 seats including the driver plus 2 wheelchair positions. There is enough free floor space for 13 standing passengers. However, no standees are permitted according to the manufacturer's placard. Therefore, the gross load represents seated passengers only, for a total of 19 passengers and 2 wheelchair positions. At full declared capacity, gross load is calculated as $(19 \times 150) + (2 \times 600) = 4,050$ lb. The measured gross vehicle weight is 14,460 lb. There is a potential to overload this bus with the available floor space for standing passengers.

The FTA determined that this bus be tested for Accessibility, Selected Maintainability, Performance, Fuel Economy, Interior and Exterior Noise, and Emissions; the baseline full Bus Testing report for this test is LTI-BT-R1214.

VEHICLE DATA FORM

Page 1 of 7

Bus Number: 1914-P	Date of Check-In: 11/21/19
Bus Manufacturer: Eldorado National-Kansas, Inc.	Vehicle Identification Number (VIN): 1FDXE4FN2MDC00012
Model Number: Advantage	Chassis Mfr./Mod.#: Ford / E450
Personnel: T.S. & E.L.	Starting Odometer Reading: 382.9

WEIGHT:

Individual Wheel Reactions:

Weights (lb.)	Front Axle		Middle Axle		Rear Axle	
	Curb	Street	Curb	Street	Curb	Street
CW	2,150	2,140	N/A	N/A	3,430	2,690
SLW	2,400	2,480	N/A	N/A	5,140	4,440
GVW	2,400	2,480	N/A	N/A	5,140	4,440

Total Weight Details:

Weight (lb.)	CW	SLW	GVW	GAWR
Front Axle	4,290	4,880	4,880	5,000
Middle Axle	N/A	N/A	N/A	N/A
Rear Axle	6,120	9,580	9,580	9,600
Total	10,410	14,460	14,460	GVWR: 14,500 Specified by Manufacturer

Dimensions:

Length (ft/in)	27 / 9
Width (in)	96
Height (in)	114
Front Overhang (in)	35.50
Rear Overhang (in)	89
Wheel Base (in)	208.50
Wheel Track (in)	Front: 68.5
	Middle: N/A
	Rear: 78.0

VEHICLE DATA FORM

Page 2 of 7

Bus Number: 1914-P	Date: 11/21/19
--------------------	----------------

CLEARANCES:

Lowest Point Outside Front Axle	Location: Bumper	Clearance(in): 8.25
Lowest Point Outside Rear Axle	Location: Fuel Tank	Clearance(in): 11.5
Lowest Point between Axles	Location: Passenger Door Frame	Clearance(in): 7
Ground Clearance at the center (in)	8.25	
Front Approach Angle (deg)*	13.0	
Rear Approach Angle (deg)*	Rear Bumper- 11.7 Tail Pipe- 7.7	
Ramp Clearance Angle (deg)	4.5	
Aisle Width (in)	18	
Inside Standing Height at Center Aisle (in)	80	

*measurements used to calculate approach and departure angles are taken from the center-line of the axles.

BODY DETAILS:

Body Structural Type	Integral		
Frame Material	Steel		
Body Material	Fiberglass / Composite		
Floor Material	Plywood		
Roof Material	Fiberglass / Composite		
Windows Type	<input checked="" type="checkbox"/> Fixed	<input type="checkbox"/> Movable	
Window Mfg./Model No.	Safety / AS-3 DOT-399		
Number of Doors	<u>2</u> Front	<u>2</u> Main Passenger	
Mfr. / Model No.	Passenger Entry Door- A & M Systems-B313016 Driver's Door- Ford-OEM Rear Door-EIDorado Bus / 3400002K 32x62 Wheelchair Door- Challenger / #2-273339		
Dimension of Each Door (in)	Passenger Entry Door- 33.25 x 79.875 Driver's Door-31.625 x 54 Rear Door-46.75 x 73.25 Wheelchair Door-30.25 x 60		
Passenger Seat Type	<input type="checkbox"/> Cantilever	<input checked="" type="checkbox"/> Pedestal	<input type="checkbox"/> Other
Driver Seat Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other
Mfr. / Model No.	FoMoCo / OEM		
Number of Seats (including Driver)	19 + 2 wheelchair positions		

VEHICLE DATA FORM

Page 3 of 7

Bus Number: 1914-P	Date: 11/22/19
--------------------	----------------

BODY DETAILS (Contd.)

Free Floor Space (ft ²)	20.6
Height of Each Step at Normal Position (in)	Front 1. <u>10.75</u> 2. <u>8.25</u> 3. <u>8.125</u> 4. <u>N/A</u>
	Middle 1. <u>N/A</u> 2. <u>N/A</u> 3. <u>N/A</u> 4. <u>N/A</u>
	Rear 1. <u>N/A</u> 2. <u>N/A</u> 3. <u>N/A</u> 4. <u>N/A</u>
Step Elevation Change - Kneeling (in)	N/A

ENGINE

Type	<input type="checkbox"/> C.I.	<input type="checkbox"/> Alternate Fuel	
	<input checked="" type="checkbox"/> S.I.	<input type="checkbox"/> Other (explain)	
Mfr. / Model No.	Ford Motor Co. / 7.3 L Gasoline		
Location	<input checked="" type="checkbox"/> Front	<input type="checkbox"/> Rear	<input type="checkbox"/> Other (explain)
Fuel Type	<input checked="" type="checkbox"/> Gasoline	<input type="checkbox"/> CNG	<input type="checkbox"/> Methanol
	<input type="checkbox"/> Diesel	<input type="checkbox"/> LNG	<input type="checkbox"/> Other (explain)
Alternator (Generator) Mfr./Model No.	Ford Motor Co. / GL8980		
Maximum Rated Output (Volts / Amps)	12 / 240		
Air Compressor Mfr. / Model No.	N/A		
Maximum Capacity (ft ³ / min)	N/A		
Starter Type	<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> Pneumatic	<input type="checkbox"/> Other (explain)
Starter Mfr. / Model No.	FoMoCo / TN438000-475 12v		

VEHICLE DATA FORM

Page 4 of 7

Bus Number: 1914-P	Date: 11/22/19
--------------------	----------------

TRANSMISSION

Transmission Type	<input type="checkbox"/> Manual	<input checked="" type="checkbox"/> Automatic	<input type="checkbox"/> Load Sensing Adaptive
Mfr. / Model No.	FoMoCo / TorqueShift 6		
Control Type	<input checked="" type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Other
Integral Retarder Mfr. / Model No.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

SUSPENSION

Number of Axles	2		
Front Axle Type	<input checked="" type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	FoMoCo / OEM		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	2		
Mfr. / Model No.	FoMoCo / 8C24-18045-D4		
Middle Axle Type	N/A	<input type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle
Mfr. / Model No.	N/A		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input checked="" type="checkbox"/> N/A
No. of Shock Absorbers	N/A		
Mfr. / Model No.	N/A		
Rear Axle Type	<input type="checkbox"/> Independent	<input checked="" type="checkbox"/> Beam Axle	
Mfr. / Model No.	Dana / M70HD		
Axle Ratio (if driven)	4.56		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	2		
Mfr. / Model No.	FoMoCo / 8C24-18080-DC		

VEHICLE DATA FORM

Page 5 of 7

Bus Number: 1914-P	Date: 11/21/19
--------------------	----------------

WHEELS & TIRES

Front	Wheel Mfr./ Model No.	Ford / 16 x 6.0 K
	Tire Mfr./ Model No.	Hankook DynaPro HT 225 / 75R16
Rear	Wheel Mfr./ Model No.	Ford / 16 x 6.0 K
	Tire Mfr./ Model No.	Hankook DynaPro HT 225 / 75R16

BRAKES

Front Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	FoMoCo / OEM		
Middle Axle Brakes Type	<input type="checkbox"/> Cam	<input type="checkbox"/> Disc	<input checked="" type="checkbox"/> N/A
Mfr. / Model No.	N/A		
Rear Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	FoMoCo / OEM		

HVAC

Heating System Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Other
Capacity (Btu/hr.)	65,000		
Mfr. / Model No.	FoMoCo / OEM ProAir 465LP		
Air Conditioner	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Location	Front & Rear		
Capacity (Btu/hr.)	55,000		
A/C Compressor Mfr. / Model No.	Front-FoMoCo / 1330 Rear-ProAir / 465LP		

STEERING

Steering Gear Box Type	Hydraulic Gear		
Mfr. / Model No.	Ford / OEM		
Steering Wheel Diameter	15.75		
Number of turns (lock to lock)	4		
Control Type	<input type="checkbox"/> Electric	<input checked="" type="checkbox"/> Hydraulic	<input type="checkbox"/> Other (explain)

VEHICLE DATA FORM

Page 6 of 7

Bus Number: 1914-P	Date: 11/21/19
--------------------	----------------

OTHERS

Wheelchair Ramps	Location: N/A	Type: N/A
Wheelchair Lifts	Location: Rear	Type: Fold out platform
Mfr. / Model No.	BraunAbility / NCL917FIB3454-2	
Emergency Exit	Location: Window Roof Hatch Doors	Number: 3 1 2

CAPACITIES

Fuel Tank Capacity (gallons)	39.9
Engine Crankcase Capacity (quarts)	8
Transmission Capacity (quarts)	17.4
Differential Capacity (quarts)	4.86
Cooling System Capacity (quarts)	20.3
Power Steering Fluid Capacity (quarts)	Fill to line (recommended by manufacturer)

COMPONENT/SUBSYSTEM INSPECTION FORM

Page 1 of 1

Bus Number: 1914-P	Date: 11/21/19
--------------------	----------------

Subsystem	Checked	Initials	Comments
Air Conditioning Heating and Ventilation	✓	T.S.	
Body and Sheet Metal	✓	T.S.	
Frame	✓	T.S.	
Steering	✓	T.S.	
Suspension	✓	T.S.	
Interior/Seating	✓	T.S.	
Axles	✓	T.S.	
Brakes	✓	T.S.	
Tires/Wheels	✓	T.S.	
Exhaust	✓	T.S.	
Fuel System	✓	T.S.	
Power Plant	✓	T.S.	
Accessories	✓	T.S.	
ADA Accessible Lift System	✓	T.S.	Platform Wheelchair Lift
ADA Accessible Ramp System	N/A	T.S.	
Interior Fasteners	✓	T.S.	
Batteries	✓	T.S.	

CHECK - IN



**ELDORADO NATIONAL-KANSAS, INC.
ADVANTAGE**



CHECK - IN CONT.

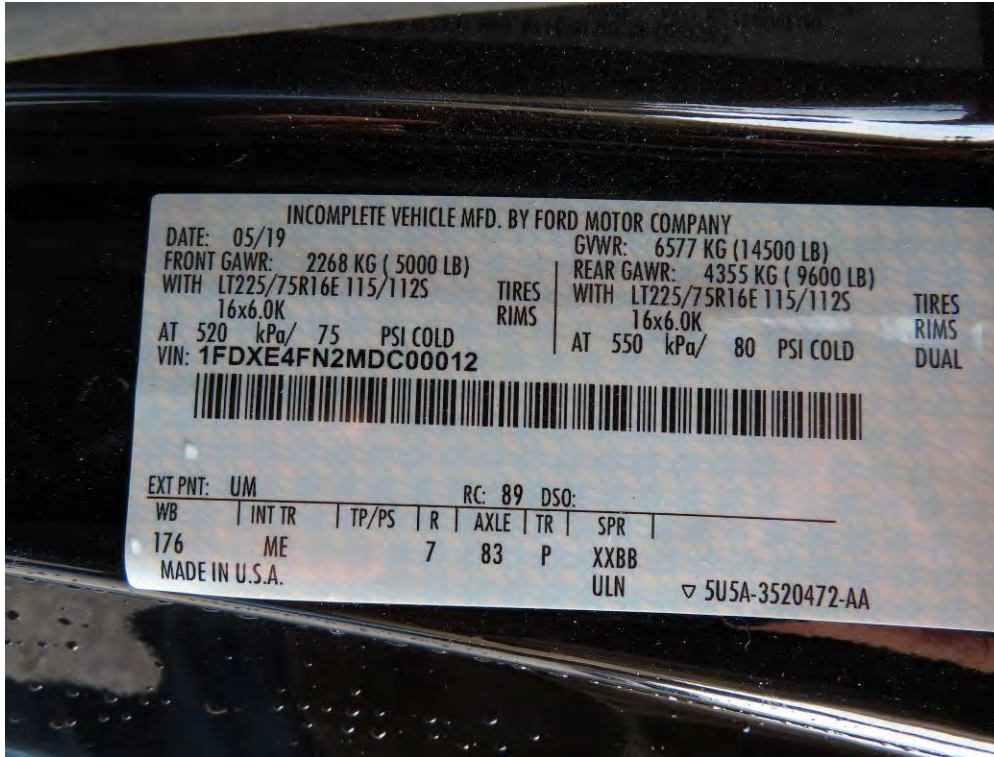


OPERATOR'S AREA



INTERIOR FROM FRONT

CHECK - IN CONT.

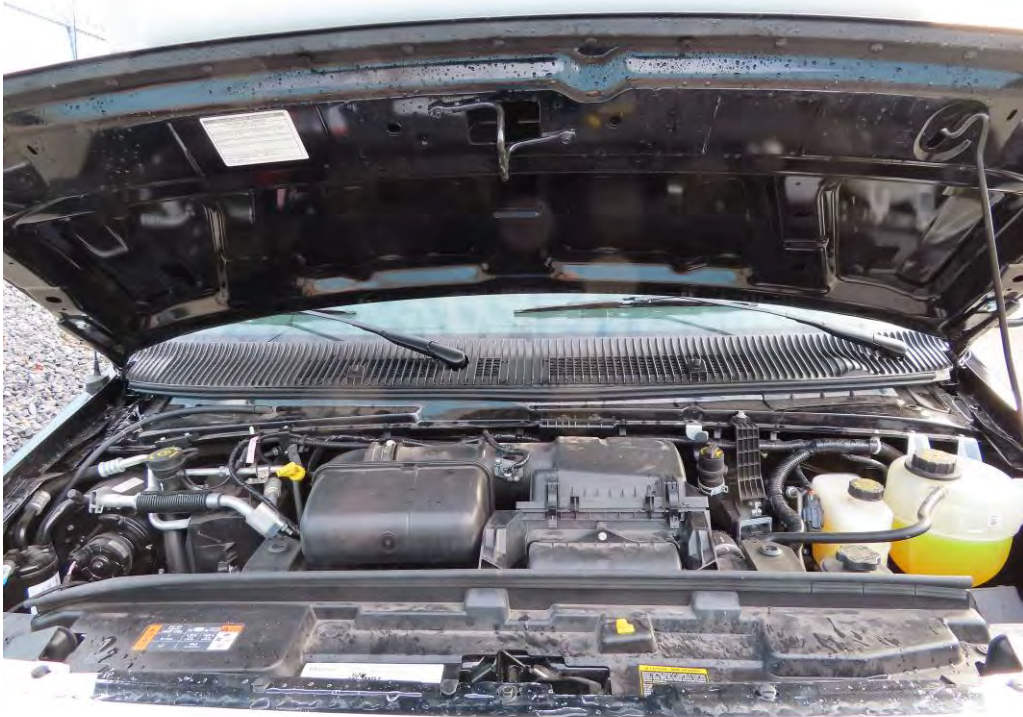


VIN TAG



PLACARD STATING NO STANDING PASSENGERS

CHECK - IN CONT.



ENGINE COMPARTMENT

1. MAINTAINABILITY

1.1 ACCESSIBILITY OF COMPONENTS AND SUBSYSTEMS

1.1-I. TEST OBJECTIVE

The objective of this test is to check the accessibility of components and subsystems.

1.1-II. TEST DESCRIPTION

Accessibility of components and subsystems was checked, and where accessibility was restricted the subsystem was noted along with the reason for the restriction.

1.1-III. DISCUSSION

Accessibility, in general, was adequate. Components covered in Section 1.3 (repair and/or replacement of selected subsystems), along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

ACCESSIBILITY DATA FORM

Page 1 of 2

Bus Number: 1914-P	Date: 01/07/2020
--------------------	------------------

Component	Checked	Comments
ENGINE:		
Oil Dipstick	✓	None noted
Oil Filler Hole	✓	None noted
Oil Drain Plug	✓	None noted
Oil Filter	✓	None noted
Fuel Filter	✓	In fuel tank
Air Filter	✓	None noted
Belts	✓	If accessing from under hood, air filter housing must be removed.
Coolant Level	✓	None noted
Coolant Filler Hole	✓	None noted
Coolant Drain	✓	None noted
Spark / Glow Plugs	✓	None noted
Alternator	✓	None noted
Diagnostic Interface Connector	✓	None noted
TRANSMISSION:		
Fluid Dipstick	✓	None noted
Filler Hole	✓	Filler hole is dip stick tube
Drain Plug	N/A	Not equipped
SUSPENSION:		
Bushings	✓	None noted
Shock Absorbers	✓	None noted
Air Springs	N/A	Not equipped
Leveling Valves	N/A	Not equipped
Grease Fittings	✓	None noted

ACCESSIBILITY DATA FORM

Page 2 of 2

Bus Number: 1914-P	Date: 01/07/2020
--------------------	------------------

Component	Checked	Comments
HVAC:		
A/C Compressor	✓	None noted
Filters	✓	None noted
Fans	✓	None noted
ELECTRICAL SYSTEM:		
Fuses	✓	None noted
Batteries	✓	None noted
Voltage regulator	✓	Not equipped
Voltage Converters	✓	Not equipped
Lighting	✓	None noted
MISCELLANEOUS:		
Brakes	✓	None noted
ADA Accessible Lifts/Ramps	✓	Handicap Lift
Instruments	✓	None noted
Axles	✓	None noted
Exhaust	✓	None noted
Fuel System	✓	None noted
OTHERS:		None noted

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS

1.3-I. TEST OBJECTIVE

The objective of this test is to establish the time required to replace and/or repair selected subsystems.

1.3-II. TEST DESCRIPTION

The test involved components that may be expected to fail or require replacement during the service life of the bus. In addition, any component that failed during testing of the bus was added to this list. Components to be included are:

1. Transmission
2. Alternator
3. Starter
4. Batteries
5. Windshield wiper motor

1.3-III. DISCUSSION

At the end of the test, the items on the list were removed and replaced. The transmission assembly took 6.00 labor-hours (2 persons @ 3.00 hrs.) to remove and replace. The time required for repair/replacement of the other four components is given on the following Repair and/or Replacement Form.

REPLACEMENT AND/OR REPAIR FORM

Subsystem	Replacement Time
Transmission	6.00 labor hours
Wiper Motor	1.00 labor hour
Starter	1.00 labor hour
Alternator	1.50 labor hours
Batteries	0.50 labor hour

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS



**TRANSMISSION REMOVAL AND REPLACEMENT
(6.00 LABOR HOURS)**



**WIPER MOTOR REMOVAL AND REPLACEMENT
(1.00 LABOR HOUR)**

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS CONT.



**STARTER REMOVAL AND REPLACEMENT
(1.00 LABOR HOUR)**



**ALTERNATOR REMOVAL AND REPLACEMENT
(1.50 LABOR HOURS)**

4. PERFORMANCE - AN ACCELERATION, GRADEABILITY, AND TOP SPEED TEST

4-I. TEST OBJECTIVE

The objective of this test is to determine the acceleration, gradeability, and top speed capabilities of the bus.

4-II. TEST DESCRIPTION

In this test, the bus was operated at SLW on a chassis dynamometer. The procedure dictates that the test bus be accelerated to a maximum “power-limited”/“governed” or maximum “safe” speed not exceeding 80 mph. The maximum power-limited/governed speed, if applicable, is the top speed as limited by the engine control system. The maximum safe speed is defined as the maximum speed that the dynamometer, the tires or other bus components are limited to. The test vehicle speed was measured using a speed encoder built in the chassis dynamometer. The time intervals between 10 mph increments were recorded using a Data Acquisitions System. Time-speed data and the top speed attained were recorded on the Performance Data Form. The recorded data was used to generate a percent grade versus speed table and a speed versus time curve. All the above are available in the following pages.

4-III. DISCUSSION

This test consisted of three runs from standstill to full throttle on the chassis dynamometer. Speed versus time data was obtained for each run and results are averaged to minimize test variability. The test was performed up to a maximum safe speed of 79.4 mph. The calculated gradeability results are attached. The average time to reach 30 mph was 6.5 seconds. The maximum gradeability at 10 mph was 42.33% and at 40 mph was 11.15%.

PERFORMANCE DATA FORM

Page 1 of 1

Bus Number: 1914-P		Date: 01/10/2020	
Personnel: S.I. / F.T.			
Temperature (°F): 77		Humidity (%): 31	
Barometric Pressure (inHg): 29.1			
		INITIALS:	
Air Conditioning - OFF	✓Checked	F.T.	
Ventilation fans - ON HIGH	✓ Checked	F.T.	
Defroster - OFF	✓ Checked	F.T.	
Exterior and interior lights - ON	✓ Checked	F.T.	
Windows and doors - CLOSED	✓ Checked	F.T.	
ACCELERATION, GRADEABILITY, TOP SPEED			
Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	1.7	1.8	1.7
20 mph	3.7	3.8	3.8
30 mph	6.3	6.6	6.6
40 mph	10.2	10.6	10.7
50 mph	14.9	15.6	15.7
60 mph	21.9	22.8	23.1
70 mph	35.9	39.1	39.8

Maximum Speed (mph): 79.4 (maximum safe dynamometer speed reached)

PERFORMANCE SUMMARY SHEET

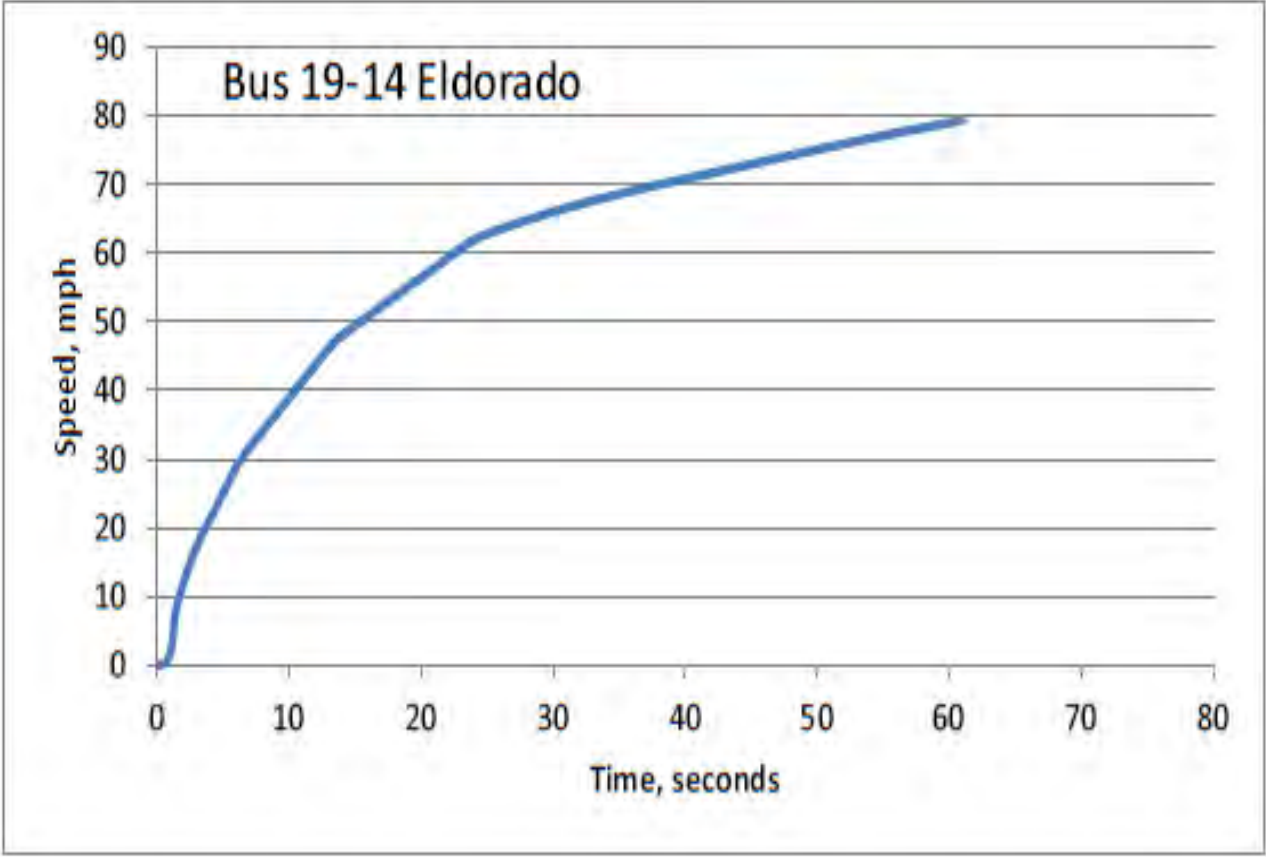
Bus Number: 1914-P	Date: 01/10/2020
Personnel: S.I. & F.T.	

Test Conditions:

Temperature (°F): 77	Humidity (%): 31
Barometric Pressure (inHg): 29.1	

Test Results:

Vehicle Speed (MPH)	Time (SEC)	Acceleration (FT/SEC^2)	Max. Grade (%)
1.0	0.9	10.77	33.45
5.0	1.3	13.95	43.32
10.0	1.7	13.63	42.33
15.0	2.6	7.49	23.26
20.0	3.7	5.6	17.39
25.0	5	5.7	17.70
30.0	6.5	4.09	12.70
35.0	8.5	3.5	10.87
40.0	10.5	3.59	11.15
45.0	12.6	3.48	10.81
50.0	15.4	2.04	6.34
55.0	19	2	6.21
60.0	22.6	2.11	6.55
65.0	28.3	0.92	2.86
70.0	38	0.64	1.99
75.0	49.8	0.61	1.89
79.4	61	0.25	0.78



FUEL ECONOMY TEST - A FUEL CONSUMPTION TEST USING AN APPROPRIATE OPERATING CYCLE

6-I. TEST OBJECTIVE

The objective of this test is to provide accurate comparable fuel consumption data on transit buses produced by different manufacturers. This fuel economy test bears no relation to the calculations done by the Environmental Protection Agency (EPA) to determine levels for the Corporate Average Fuel Economy Program. EPA's calculations are based on tests conducted under laboratory conditions intended to simulate city and highway driving. This fuel economy test, as designated here, is a measurement of the fuel expended by a vehicle traveling a specified test operating profile, under specified operating conditions that are typical of transit bus operation. The results of this test may not represent actual mileage in transit service but will provide data that can be used by FTA Grantees to compare the efficiency of buses tested using this procedure.

6-II. TEST DESCRIPTION

This test was performed in the emissions bay of the LTI Vehicle Testing Laboratory. The Laboratory is equipped with a Schenk Pegasus 300 HP, large-roll (72 inch diameter) chassis dynamometer suitable for heavy-vehicle emissions testing. The driving cycles are the Manhattan cycle, a low average speed, highly transient urban cycle (Figure 1), the Orange County Bus Cycle, a medium average speed transient urban cycle (Figure 2), and the EPA HD-UDDS Cycle, which consists of urban and highway driving segments (Figure 3). A fuel economy test was comprised of two runs for the three different driving cycles, and the average value was reported.

The test procedure for liquid-fueled buses such as this one uses a calibrated flowmeter system and/or a calibrated fuel weighing scale. The flowmeter system utilizes a precise four-piston positive displacement flow meter. The weighing scale system includes heat exchangers to maintain temperature in diesel and common-rail injection systems. A weighing scale was used for this test.

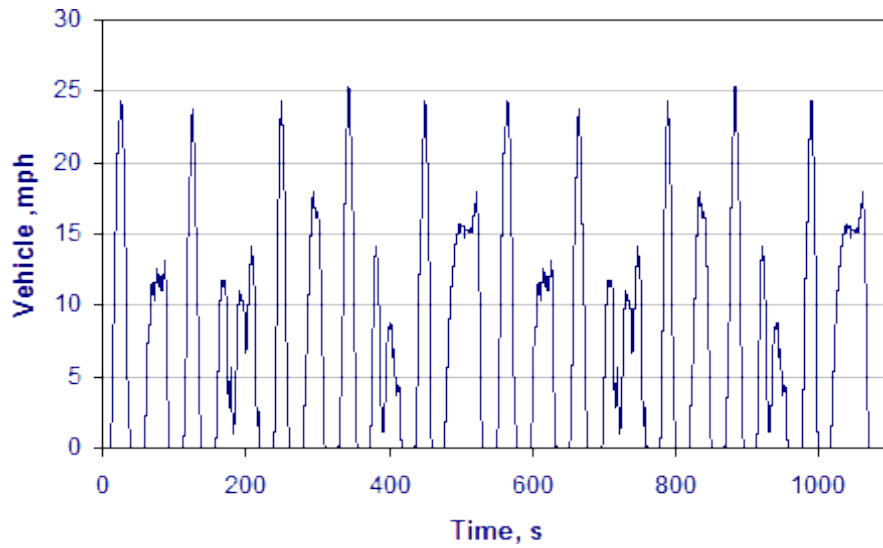


Figure 1. Manhattan Driving Cycle (duration 1089 sec, Maximum speed 25.4 mph, average speed 6.8 mph)

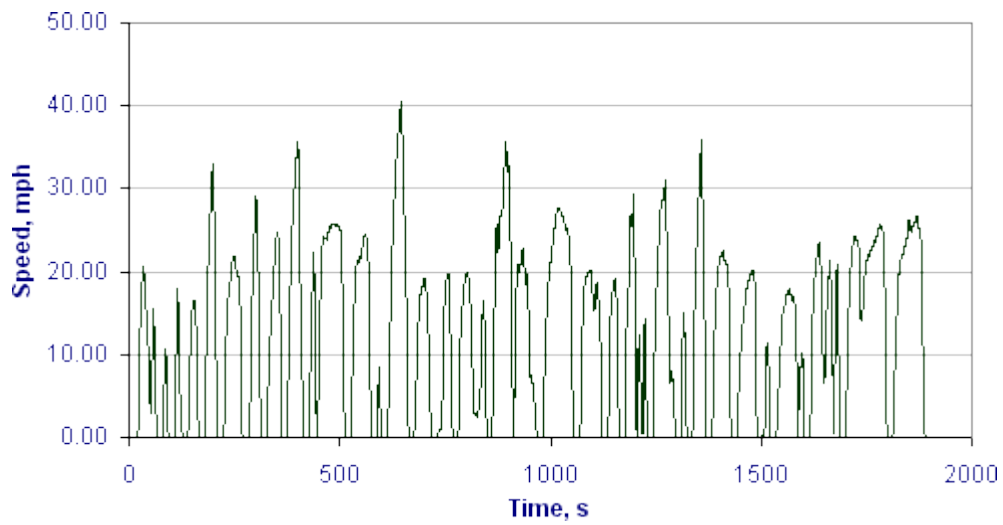


Figure 2. Orange County Bus Cycle (Duration 1909 Sec, Maximum Speed 41 mph, Average Speed 12 mph).

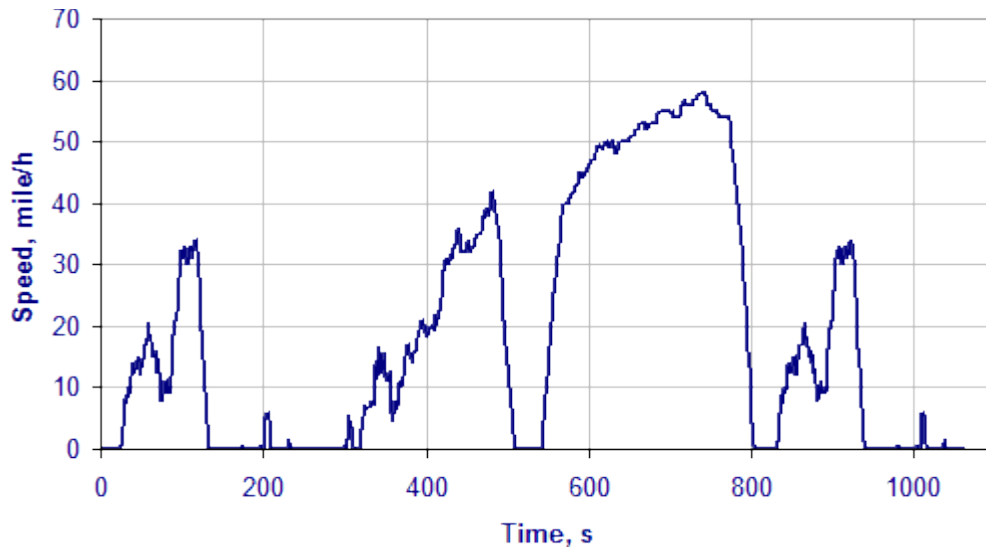


Figure 3. HD-UDDS Cycle (duration 1060 seconds, Maximum Speed 58 mph, Average Speed 18.86 mph).

6-III. DISCUSSION

The driving cycle consists of three simulated transit driving cycles: Manhattan, Orange County Bus Cycle and the HD-UDDS, as described in 6-II. The fuel consumption for each driving cycle and idle was measured.

An extensive pretest maintenance check was made including the replacement of all lubrication fluids. The details of the pretest maintenance are given in the first three Pretest Maintenance Forms. The fourth sheet shows the Pretest Inspection Form. Finally, the summary sheet provides the average fuel consumption for the three test cycles and for a 20 minute idle. **The average fuel consumption for the Manhattan, OCBC and the HD-UDDS were 4.46 mpg, 6.0 mpg and 7.27 mpg respectively. For idle, the fuel consumption was 1.3 gal/hr.**

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Page 1 of 3

Bus Number: 1914-P	Date: 01/07/2020	SLW (lb.): 14,460
Personnel: T.S., S.R., E.D., E.L. & T.G.		

FUEL SYSTEM	OK
Install fuel measurement system	✓
Replace fuel filter- mileage under manufacturer specs for changing filters.	✓
Check for fuel leaks	✓
Specify fuel type (gasoline)	✓
Remarks: Mileage under manufacturer service specs for filter change. 470 miles on odometer.	
BRAKES/TIRES	OK
Inspect hoses	✓
Inspect brakes	✓
Check tire inflation pressures (mfg. specs.)	✓
Check tire wear (less than 50%)	✓
Remarks: None noted	
COOLING SYSTEM	OK
Check hoses and connections	✓
Check system for coolant leaks	✓
Remarks: None noted	

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Page 2 of 3

Bus Number: 1914-P	Date: 01/07/2020
Personnel: T.S., S.R., E.D., E.L. & T.G.	
ELECTRICAL SYSTEMS	OK
Check battery	✓
Inspect wiring	✓
Inspect terminals	✓
Check lighting	✓
Remarks: None noted	
DRIVE SYSTEM	OK
Drain transmission fluid- mileage under manufacturer specs for service.	✓
Replace filter/gasket- mileage under manufacturer specs for changing filters.	✓
Check hoses and connections	✓
Replace transmission fluid- mileage under manufacturer specs for service.	✓
Check for fluid leaks	✓
Remarks: Mileage under manufacturer service specs. 470 miles on odometer.	
LUBRICATION	OK
Drain crankcase oil- mileage under manufacturer specs for service.	✓
Replace filters- mileage under manufacturer specs for changing filters.	✓
Replace crankcase oil- mileage under manufacturer specs for service.	✓
Check for oil leaks	✓
Check oil level	✓
Lube all chassis grease fittings- mileage under manufacturer specs for service.	✓
Lube universal joints- mileage under manufacturer specs for service.	✓
Replace differential lube including axles- mileage under manufacturer specs for service.	✓
Remarks: 470 miles on odometer- no service needed per manufacturer service specs.	

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Page 3 of 3

Bus Number: 1914-P	Date: 01/07/2020
Personnel: T.S., S.R., E.D., E.L. & T.G.	
EXHAUST/EMISSION SYSTEM	OK
Check for exhaust leaks	✓
Remarks: Welded 2 leaks on factory exhaust so bus could be placed on dynamometer.	
ENGINE	OK
Replace air filter- mileage under manufacturer specs for service.	✓
Inspect air compressor and air system	N/A
Inspect vacuum system, if applicable	N/A
Check and adjust all drive belts	✓
Check cold start assist, if applicable	✓
Remarks: None noted	
STEERING SYSTEM	OK
Check power steering hoses and connectors	✓
Service fluid level	✓
Check power steering operation	✓
Remarks: None noted	
	OK
Ballast bus to seated load weight	✓
TEST DRIVE	OK
Check brake operation	✓
Check transmission operation	✓
Remarks: None noted	

FUEL ECONOMY PRE-TEST INSPECTION FORM

Page 1 of 1

Bus Number: 1914-P	Date: 01/07/2020
Personnel: T.S., S.R., E.D., E.L. & T.G.	
PRE-WARM-UP	If OK, Initial
Cold tire pressure (psi): Front <u>75</u> Middle <u>N/A</u> Rear <u>80</u>	E.D.
Engine oil level	E.D.
Engine coolant level	T.S.
Interior and exterior lights on, evaporator fan on	E.D.
Fuel economy instrumentation installed and working properly.	T.S.
Fuel line -- no leaks or kinks	T.S.
Bus is loaded to SLW during coast down	T.S.
WARM-UP	If OK, Initial
Bus driven for at least one hour warm-up	F.T.

FUEL ECONOMY DATA FORM (Gaseous and Liquid fuels)

Page 1 of 1

Bus Number: 1914-P	Manufacturer: EIDorado	Date: 01/10/2020
Fuel Type: Gasoline	Personnel: S.I. / F.T.	
Temperature (°F): 77	Humidity (%):31	Barometric Pressure (inHg): 29.1
SLW (lb.):14,460		

Cycle	Manhattan	Orange County	HD-UDDS	Idle
Fuel Consumption mpg	4.46	6.0	7.27	1.3 gallon/hr.

Comments: None noted

7. NOISE

7.1 INTERIOR NOISE AND VIBRATION TESTS

7.1-I. TEST OBJECTIVE

The objective of these tests is to measure and record interior noise levels and check for audible vibration under various operating conditions.

7.1-II. TEST DESCRIPTION

During this series of tests, the interior noise level was measured at several locations with the bus operating under the following three conditions:

1. With the bus stationary, a white noise generating system provided a uniform sound pressure level equal to 80 dB(A) on the left, exterior side of the bus. The engine and all accessories were switched off and all openings including doors and windows were closed. This test was performed at the LTI Test Track Facility.
2. The bus was accelerated at full throttle from a standing start to 35 mph on a level pavement. All openings were closed and all accessories were operating during the test. This test was performed on the track at the LTI Test Track Facility.
3. The bus was operated at various speeds from 0 to 55 mph with and without the air conditioning and accessories on. Any audible vibration or rattles were noted. This test was performed on the test segment between the LTI Test Track and the Bus Testing Center.

All tests were performed in an area free from extraneous sound-making sources or reflecting surfaces. The ambient sound level as well as the surrounding weather conditions were recorded in the test data.

7.1-III. DISCUSSION

For the first part, the overall average of the six measurements was 45.3 dB(A); ranging from 44.3 dB(A) at the driver's seat to 47.1 dB(A) in line with the front speaker. The interior ambient noise level for this test was 32.0 dB(A).

For the second part, the interior noise level ranged from 73.6 dB(A) at the middle passenger seats to 75.8 dB(A) at the front passenger seats. The overall average was 74.8 dB(A). The interior ambient noise level for this test was less than 30 dB(A).

No vibrations or rattles were noted during the third part of this test.

INTERIOR NOISE TEST DATA FORM
Test Condition 1: 80 dB(A) Stationary White Noise

Page 1 of 3

Bus Number: 1914-P	Date: 01/14/2020
Personnel: S.R., E.D. & E.L.	
Temperature (°F): 33	Humidity (%): 95
Wind Speed (mph): Calm	Wind Direction: SE
Barometric Pressure (inHg): 30.22	
Interior Ambient Noise Level dB(A): 32.0	Exterior Ambient Noise Level dB(A): 48.5
Microphone Height During Testing (in): 47.5	

Reading Location	Measured Sound Level dB(A)
Driver's Seat	44.3
Front Passenger Seats	44.5
In Line with Front Speaker	47.1
In Line with Middle Speaker	44.6
In Line with Rear Speaker	45.9
Rear Passenger Seats	45.4

Comments: None noted

INTERIOR NOISE TEST DATA FORM
Test Condition 2: 0 to 35 mph Acceleration Test

Page 2 of 3

Bus Number: 1914-P	Date: 12/11/19
Personnel: S.R., E.L. & F.T.	
Temperature (°F): 30	Humidity (%): 47
Wind Speed (mph): 4-5	Wind Direction: SSW
Barometric Pressure (inHg): 30.64	
Interior Ambient Noise Level dB(A): Less than 30	Exterior Ambient Noise Level dB(A): 45.2
Microphone Height During Testing (in): 47.5	

Reading Location	Measured Sound Level dB(A)
Driver's Seat	75.0
Front Passenger Seats	75.8
Middle Passenger Seats	73.6
Rear Passenger Seats	74.9

Comments: None noted

INTERIOR NOISE TEST DATA FORM
Test Condition 3: Audible Vibration Test

Page 3 of 3

Bus Number: 1914-P	Date: 12/11/19
Personnel: S.R. & F.T.	
Temperature (°F): 30	

Describe the following possible sources of noise and give the relative location on the bus.

Source of Noise	Location	Description of Noise
Engine and Accessories	N/A	None noted
Windows and Doors	N/A	None noted
Seats and Wheelchair lifts	N/A	None noted
Other	N/A	None noted

Comment on any other vibration or noise source which may have occurred
that is not described above: None noted
Comments: None noted

7.1 INTERIOR NOISE TEST



**TEST BUS SET-UP FOR 80 dB(A)
INTERIOR NOISE TEST**

7.2 EXTERIOR NOISE TESTS

7.2-I. TEST OBJECTIVE

The objective of this test is to record exterior noise levels when a bus is operated under various conditions.

7.2-II. TEST DESCRIPTION

In the exterior noise tests, the bus was operated at a SLW in three different conditions using a smooth, straight and level roadway:

1. Accelerating at full throttle from a constant speed starting from 35 mph.
2. Accelerating at full throttle from standstill.
3. Stationary, with the engine at low idle, high idle, and wide open throttle, where applicable. In addition, the bus was tested with and without the air conditioning operating.

The test site is at the Larson Transportation Institute Test Track and the test procedures were performed in accordance with SAE Standards SAE J366b, Exterior Sound Level for Heavy Trucks and Buses. The test site is an open space free of large reflecting surfaces. A noise meter placed at a specified location outside the bus was used to measure the noise level.

During the test, special attention was paid to:

1. The test site characteristics regarding parked vehicles, signboards, buildings, or other sound-reflecting surfaces
2. Proper usage of all test equipment including set-up and calibration
3. The ambient sound level

7.2-III. DISCUSSION

The Exterior Noise Test determines the noise level generated by the vehicle under different driving conditions and at stationary low and high idle, with and without air conditioning and accessories operating. The test site is a large, level, bituminous paved area with no reflecting surfaces nearby.

With an outside ambient noise level of 44.1 dB(A), the average of the two highest readings obtained while accelerating from a constant speed was 76.5 dB(A) on the right side and 78.9 dB(A) on the left side.

When accelerating from a standstill with an exterior ambient noise level of 43.7 dB(A), the average of the two highest readings obtained were 76.3 dB(A) on the right side and 79.6 dB(A) on the left side.

With the vehicle stationary and the engine, accessories, and air conditioning on, the measurements averaged 64.0 dB(A) at low idle and 68.8 dB(A) at wide open throttle. With the accessories and air conditioning off, the readings averaged 48.4 dB(A) at low idle and 67.5 dB(A) at wide open throttle. The exterior ambient noise level measured during this test was 40.8 dB(A).

EXTERIOR NOISE TEST DATA FORM

Accelerating from Constant Speed

Page 1 of 3

Bus Number: 1914-P		Date: 12/12/19	
Personnel: S.R., E.L. & F.T.			
Temperature (°F): 30		Humidity (%): 48	
Wind Speed (mph): 5		Wind Direction: SSW	
Barometric Pressure (inHg): 30.61			
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: <input checked="" type="checkbox"/>			
Initial Sound Level Meter Calibration: 94.0 dB(A)			
Exterior Ambient Noise Level: 44.1 dB(A)			
Accelerating from Constant Speed Curb (Right) Side		Accelerating from Constant Speed Street (Left) Side	
Run #	Measured Noise Level dB(A)	Run #	Measured Noise Level dB(A)
1	76.8	1	78.3
2	76.2	2	78.1
3	76.2	3	78.8
4	75.9	4	78.4
5	76.0	5	78.9
6	N/A	6	N/A
7	N/A	7	N/A
8	N/A	8	N/A
9	N/A	9	N/A
10	N/A	10	N/A
Average of two highest actual noise levels = 76.5 dB(A)		Average of two highest actual noise levels = 78.9 dB(A)	
Final Sound Level Meter Calibration Check: 94.0 dB(A)			
Comments: None noted			

EXTERIOR NOISE TEST DATA FORM

Accelerating from Standstill

Page 2 of 3

Bus Number: 1914-P		Date: 12/12/19	
Personnel: S.R., E.L. & F.T.			
Temperature (°F): 30		Humidity (%): 48	
Wind Speed (mph): 5		Wind Direction: SW	
Barometric Pressure (inHg): 30.61			
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■			
Initial Sound Level Meter Calibration: 94.0 dB(A)			
Exterior Ambient Noise Level: 43.7 dB(A)			
Accelerating from Standstill Curb (Right) Side		Accelerating from Standstill Street (Left) Side	
Run #	Measured Noise Level dB(A)	Run #	Measured Noise Level dB(A)
1	74.7	1	79.8
2	75.6	2	78.8
3	76.5	3	79.3
4	75.2	4	78.6
5	76.1	5	79.2
6	N/A	6	N/A
7	N/A	7	N/A
8	N/A	8	N/A
9	N/A	9	N/A
10	N/A	10	N/A
Average of two highest actual noise levels = 76.3 dB(A)		Average of two highest actual noise levels = 79.6 dB(A)	
Final Sound Level Meter Calibration Check: 94.0 dB(A)			
Comments: None noted			

EXTERIOR NOISE TEST DATA FORM

Stationary

Page 3 of 3

Bus Number: 1914-P		Date: 12/12/19	
Personnel: S.R., E.L. & F.T.			
Temperature (°F): 30		Humidity (%): 48	
Wind Speed (mph): 4		Wind Direction: SW	
Barometric Pressure (inHg): 30.61			
Initial Sound Level Meter Calibration: 94.0 dB(A)			
Exterior Ambient Noise Level: 40.8 dB(A)			
Air Conditioning ON			
Throttle Position	Engine RPM	Curb (Right) Side dB(A)	Street (Left) Side db(A)
		Measured	Measured
Low Idle	600	59.8	68.1
High Idle	N/A	N/A	N/A
Wide Open Throttle	3000	67.2	70.3
Air Conditioning OFF			
Throttle Position	Engine RPM	Curb (Right) Side dB(A)	Street (Left) Side db(A)
		Measured	Measured
Low Idle	600	48.8	48.0
High Idle	N/A	N/A	N/A
Wide Open Throttle	3000	66.8	68.1
Final Sound Level Meter Calibration Check: 94.0 dB(A)			
Comments: No high idle switch or setting could be used / found for this test vehicle.			

7.2 EXTERIOR NOISE TESTS



TEST BUS UNDERGOING EXTERIOR NOISE TESTING

8.0 EMISSIONS TEST – DYNAMOMETER-BASED EMISSIONS TEST USING TRANSIT DRIVING CYCLES

8-I. TEST OBJECTIVE

The objective of this test is to provide comparable emissions data on transit buses produced by different manufacturers. This chassis-based emissions test bears no relation to engine certification testing performed for compliance with the Environmental Protection Agency (EPA) regulation. EPA's certification tests are performed on an engine by itself on a dynamometer operating under the Federal Test Protocol.

The Bus Testing Center emissions test is a measurement of the gaseous engine emissions CO, CO₂, NO_x, HC and particulates (diesel vehicles) produced by a complete vehicle operating on a large-roll chassis dynamometer. The test is performed for three differed driving cycles intended to simulate a range of transit operating environments. The test is performed under laboratory conditions in compliance with EPA 1065 and SAE J2711. The results of this test may not represent actual in-service vehicle emissions but will provide data that can be used by recipients to compare the emissions of buses tested under a range of consistent operating conditions.

8-II. TEST DESCRIPTION

This test was performed in the emissions bay of the LTI Vehicle Testing Laboratory. The Laboratory is equipped with a Schenk Pegasus 300 HP, large-roll (72 inch diameter) chassis dynamometer suitable for heavy-vehicle emissions testing. The emissions laboratory provides capability for testing heavy-duty diesel, gasoline, and alternative-fueled buses for a variety of tailpipe emissions including particulate matter, oxides of nitrogen, carbon monoxide, carbon dioxide, and hydrocarbons. It is equipped with a Horiba full-scale dilution tunnel and a constant volume sampling (CVS) emissions measurement system. The system includes Horiba Mexa 7400 Series gas analyzers and a Horiba HF47 Particulate Sampling System. Test operation is automated using Horiba CDTCS software. The computer controlled dynamometer is capable of simulating over-the-road operation for a variety of vehicles and driving cycles.

The driving cycles are the Manhattan cycle, a low average speed, highly transient urban cycle (Figure 1), the Orange County Bus Cycle, a medium average speed transient urban cycle (Figure 2), and the EPA HD-UDDS Cycle, which consists of urban and highway driving segments (Figure 3). An emissions test was comprised of two runs for each of the three different driving cycles, and the average values were reported. Test results reported include the average grams per mile value for each of the gaseous emissions of carbon dioxide,

carbon monoxide, oxides of nitrogen, total hydrocarbons and non-methane hydrocarbons. In addition, emissions of particulate matter will also be reported for diesel fuel buses. Testing is performed in accordance with EPA CFR49, Part 1065 and SAE J2711 as practically determined by the FTA Emissions Testing Protocol developed by West Virginia University and Penn State University.

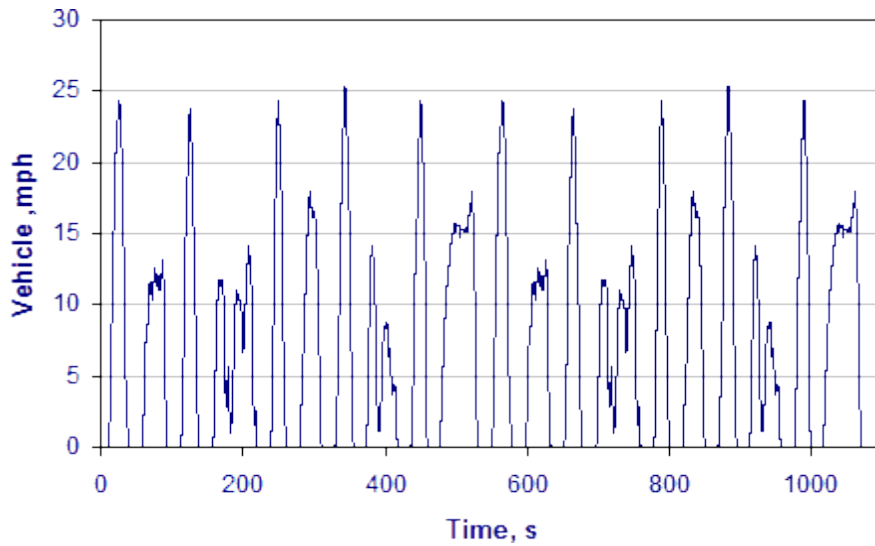


Figure 8.1. Manhattan Driving Cycle (Duration 1089 sec, Maximum Speed 25.4 mph, Average Speed 6.8 mph)

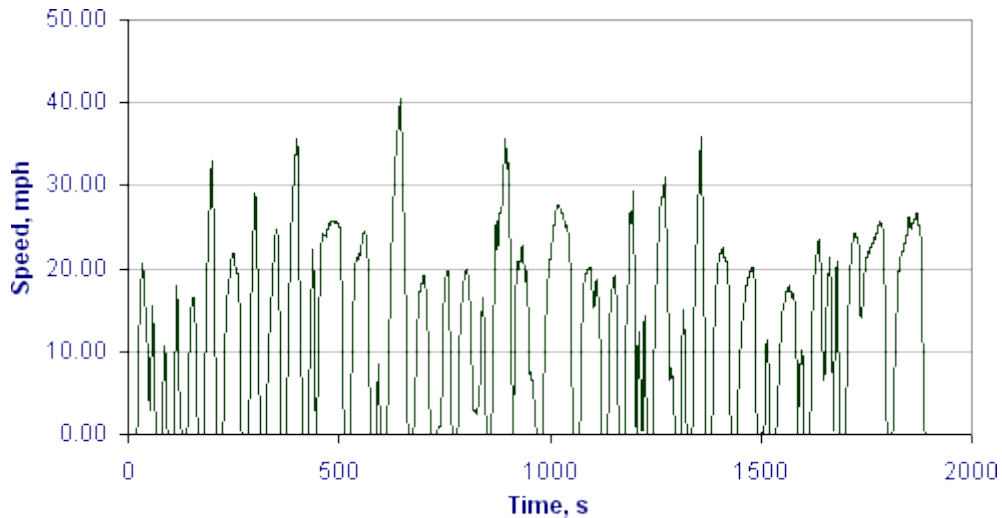


Figure 8.2. Orange County Bus Cycle (Duration 1909 Sec, Maximum Speed 41 mph, Average Speed 12 mph)

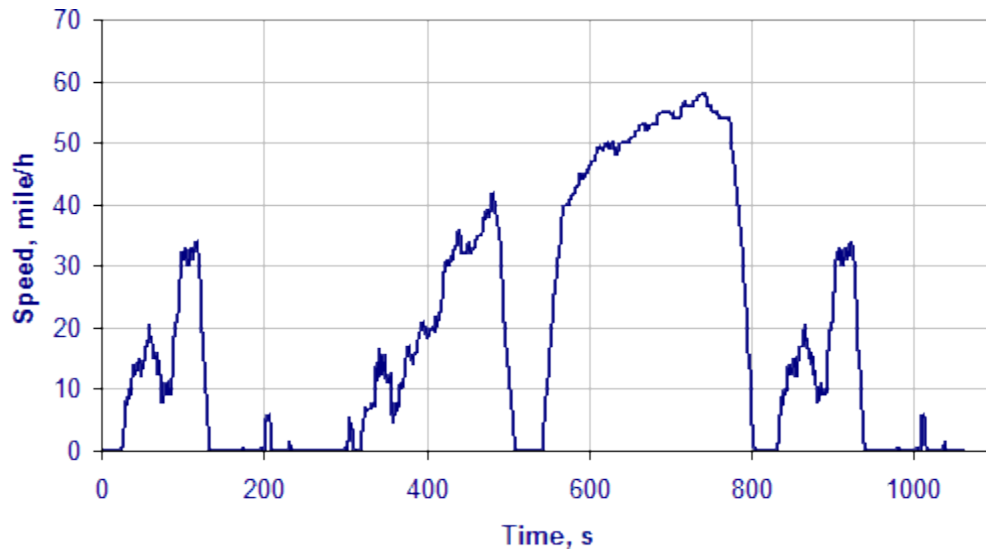


Figure 8.3. HD-UDDS Cycle (Duration 1060 seconds, Maximum Speed 58 mph, Average Speed 18.86 mph)

8-III. TEST ARTICLE

The test article is an EIDorado National-Kansas, Inc., Advantage model transit bus equipped with a gasoline fueled Ford Motor Company 7.3 L motor. The bus was tested on 01/17/2020 with the odometer reading 689 miles.

8-IV. TEST EQUIPMENT

Testing was performed in the LTI Vehicle Testing Laboratory emissions testing bay. The test bay is equipped with a Schenk Pegasus 72-inch, large-roll chassis dynamometer. The dynamometer is electronically controlled to account for vehicle road-load characteristics and for simulating the inertia characteristics of the vehicle. Power to the roller is supplied and absorbed through an electronically controlled 3-phase ac motor. Absorbed power is returned to the electrical grid.

Vehicle exhaust is collected by a Horiba CVS, full-flow dilution tunnel. The system has separate tunnels for diesel and gasoline/natural gas fueled vehicles. In the case of diesel vehicles, particulate emissions are measured gravimetrically using 47mm Teflon filters. These filters are housed in a Horiba HF47 particulate sampler, per EPA 1065 test procedures. Heated gaseous emissions of hydrocarbons and NOx are sampled by Horiba heated oven analyzers.

Gaseous emissions for CO, CO2 and cold NOx are measured using a Horiba Mexa 7400 series gas analyzer. System operation, including the operation of the chassis dynamometer, and all calculations are controlled by a Dell workstation

running Horiba CDCTS test control software. Particulate Filters are weighed in a glove box using a Sartorius microbalance accurate to 1 microgram.

8-V. TEST PREPARATION AND PROCEDURES

The test bus was prepared for emissions testing in accordance with the Fuel Economy Pre-Test Maintenance Form. (In the event that fuel economy test was performed immediately prior to emissions testing this step does not have to be repeated) This is done to ensure that the bus is tested in optimum operating condition. The manufacturer-specified preventive maintenance shall be performed before this test. The ABS system is disabled for operation on the chassis dynamometer. Any manufacturer-recommended changes to the pre-test maintenance procedure must be noted on the revision sheet. The Fuel Economy Pre-Test Inspection Form will also be completed before performing the Emissions test. Both the Fuel Economy Pre-Test Maintenance Form and the Fuel Economy Pre-Test Inspection Form are found in section 6, Fuel Economy Test.

Prior to performing the emissions test, each bus is evaluated to determine its road-load characteristics using coast-down techniques in accordance with SAE J1263. This data is used to program the chassis dynamometer to accurately simulate over-the-road operation of the bus.

Warm-up consisted of driving the bus for 20 minutes at approximately 40 mph on the chassis dynamometer. During emissions testing, the test driver followed the prescribed driving cycle by watching the speed trace and instructions on the Horiba Drivers-Aid monitor which is placed in front of the windshield. The CDCTS computer monitored the test and collected data for calculation of emissions at the end of the test.

This bus was tested for emissions at seated load weight. The emissions data was obtained at the following conditions:

1. Air conditioning off
2. Heater off
3. Defroster off
4. Exterior and interior lights on
5. Windows and Doors closed
6. Seated load weight

The test tanks or the bus fuel tank(s) were filled prior to the fuel economy test with the gasoline fuel.

8-VI DISCUSSION

Table 8.1 provides the emissions testing results on a grams per mile basis for each of the exhaust constituents measured and for each driving cycle performed.

TABLE 8.1 Emissions Test Results

Test Completed at SLW: 14,460 lb.			
Driving Cycle	Manhattan	Orange County Bus	UDDS
CO₂, gm/mi	2039	1353	1183
CO, gm/mi	1.32	0.56	1.97
THC, gm/mi	0.25	0.20	0.21
NMHC, gm/mi	0.07	0.06	0.06
NO_x, gm/mi	0.02	0.00	0.01

8. EMISSIONS TEST



BUS TESTED ON CHASSIS DYNAMOMETER FOR EMISSIONS AND FUEL ECONOMY



U.S. Department
of Transportation
**Federal Transit
Administration**

1200 New Jersey Avenue SE
Washington, D.C. 20590

May 6, 2019

Larry Hall
StarCraft Bus, Division
Forest River, Inc. A Berkshire Hathaway Company
2367 Century Drive
Goshen In.46528
(via email: lhall@forestriverinc.com)

Dear Mr. Hall:

This is in response to your email with attached letter, model comparison chart, and drawings dated April 19, 2019. Your submission asked the Federal Transit Administration (FTA) to determine whether the Bus Testing Regulation (49 CFR Part 665) requires additional testing for the StarCraft Allstar, StarTrans Senator II, and Glaval Universal bus models manufactured by Forest River. Taken together, your submissions state that:

- Forest River has consolidated three of its bus divisions, StarCraft, StarTrans, and Glaval. These divisions manufacture bus models called the Allstar, Senator II, and Universal, respectively.
- The StarCraft Allstar completed FTA Bus Testing in the 7-year/200,000-mile service life category, resulting in Bus Testing Report number PTI-BT-R0518.
- All three divisions build these bus models on mass-produced chassis, and the bus bodies are mounted to the chassis using the same process and materials.
- All three bus bodies use the same gauge of steel.
- Differences between the models are limited to:
 - Cosmetic differences in the front and rear fiberglass caps and body lines.
 - Spray-primed coating on the steel structure of the StarCraft, and aluminized coating on the steel structure of the StarTrans and Glaval.
 - Hand-hugged exterior skin on the StarCraft, and Pinched-laminated exterior skin on the StarTrans and Glaval.

Your submission included a sampling of drawings for each bus model to illustrate the similarities.

FTA has reviewed your request and accompanying documentation and has determined that no additional testing will be required for the StarTrans Senator II and Glaval Universal bus models built by Forest River divisions. Our rationale for this determination is as follows:

- The StarCraft Allstar completed full testing in the 7-year/200,000-mile service life category at the Altoona Bus Testing Center (Report # PTI-BT-R0518). The Allstar test unit had a gross vehicle weight rating (GVWR) of 14,050 pounds, and a wheelbase of 190 inches. Consequently, variants of the Allstar, such as the StarTrans Senator II and Glaval Universal, are eligible for Partial Testing procedures; only those tests in which we would expect to obtain significantly different data would need to be repeated.
- The Glaval and StarTrans models feature the use of aluminized steel in their construction compared with an epoxy spray coating on the StarCraft model. The coatings are not expected to affect the results of the Structural Durability and Reliability tests directly, corrosion resistance is not specifically evaluated under the Bus Testing Program, and corrosion rarely occurs to any significant degree during FTA Bus Testing.
- The StarCraft Allstar and StarTrans Senator II appear to have identical fiberglass endcaps. The Glaval Universal appears to have cosmetic differences in the fiberglass end caps compared with the other two models. FTA has typically treated cosmetic shape changes to fiberglass end caps as minor changes and we do not expect significantly different data in the Durability and Reliability tests.
- The lamination process of the Glaval and StarTrans models is “Pinched-laminated,” compared with the “hand-hugged” lamination of the exterior skin panels on the StarCraft. These processes would be expected to produce a similar quality of lamination of the exterior panels and would not be expected to produce significantly different results in the Durability and Reliability tests.
- The three subject bus models have buses have similar (though not identical) structures. The previously-tested StarCraft Allstar uses wall bows with a modified C-channel cross section, while the StarTrans Senator II and Glaval Universal use closed rectangular tubing. We would anticipate that the open modified C-channel may be less rigid than the closed tubes, and would therefore be a “worse case” for structural integrity. Since the Allstar is considered a worse case structurally, and no structural failures were documented during testing of the Allstar (Report PTI-BT-R0518), we would not expect additional testing of the Senator II or Universal to produce significantly different results in the Durability and Reliability tests.
- The StarCraft, StarTrans, and Glaval bus models are all similar or identical in size shape and weight and as such would not be expected to produce significantly different results in the Performance, Noise, Fuel Economy, Safety, and Emissions tests.

Bus Testing Report PTI-BT-R0518 on the StarCraft Allstar bus model satisfies Bus Testing requirements for the closely-related gasoline-powered StarTrans Senator II and Glaval Universal bus models without additional testing, provided that they do not significantly exceed the tested unit’s key specifications. For example, buses with a longer overall length or wheelbase, buses with a greater GVWR, and/or buses offered in the 10-year or higher service life category are not included in this determination. This determination is based on the information

and claims in your submission or mentioned above. If Forest River or its subsidiaries make significant changes to these bus models, additional testing may be required.

If you require any further assistance with this or other matters concerning Bus Testing, I encourage you to consult the resources provided at www.transit.dot.gov/research-innovation/bus-testing. If you still have questions after checking this website, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Marcel Belanger".

Marcel Belanger
Bus Testing Program Manager
Office of Infrastructure & Asset
Management
TRI-20
marcel.belanger@dot.gov
202-366-0725

STURAA TEST

7 YEAR

200,000 MILE BUS

from

**STARCRAFT BUS,
A DIVISION of FOREST RIVER INC.**

MODEL ALLSTAR -25

FEBRUARY 2006

PTI-BT-R0518

PENNSTATE



The Pennsylvania Transportation Institute

201 Research Office Building (814) 865-1891
The Pennsylvania State University
University Park, PA 16802

Bus Testing and Research Center

2237 Old Route 220 N. (814) 695-3404
Duncansville, PA 16635

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	3
ABBREVIATIONS	5
BUS CHECK-IN	6
1. MAINTAINABILITY	
1.1 ACCESSIBILITY OF COMPONENTS AND SUBSYSTEMS	16
1.2 SERVICING, PREVENTATIVE MAINTENANCE, AND REPAIR AND MAINTENANCE DURING TESTING	19
1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS	23
2. RELIABILITY - DOCUMENTATION OF BREAKDOWN AND REPAIR TIMES DURING TESTING	26
3. SAFETY - A DOUBLE-LANE CHANGE (OBSTACLE AVOIDANCE TEST)	28
4. PERFORMANCE - AN ACCELERATION, GRADEABILITY, AND TOP SPEED TEST	31
5. STRUCTURAL INTEGRITY	
5.1 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL SHAKEDOWN TEST	35
5.2 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL DISTORTION	39
5.3 STRUCTURAL STRENGTH AND DISTORTION TESTS - STATIC TOWING TEST	51
5.4 STRUCTURAL STRENGTH AND DISTORTION TESTS - DYNAMIC TOWING TEST	52
5.5 STRUCTURAL STRENGTH AND DISTORTION TESTS - JACKING TEST	55
5.6 STRUCTURAL STRENGTH AND DISTORTION TESTS - HOISTING TEST	57
5.7 STRUCTURAL DURABILITY TEST	59
6. FUEL ECONOMY TEST - A FUEL CONSUMPTION TEST USING AN APPROPRIATE OPERATING CYCLE	65
7. NOISE	
7.1 INTERIOR NOISE AND VIBRATION TESTS	80
7.2 EXTERIOR NOISE TESTS	86

EXECUTIVE SUMMARY

Starcraft Bus, a Division of Forest River Inc. submitted a model Allstar-25, gasoline-powered 17 seat (including the driver) 25-foot bus, for a 7 yr/200,000 mile STURAA test. The odometer reading at the time of delivery was 529.0 miles. Testing started on December 6, 2005 and was completed on February 14, 2006. The Check-In section of the report provides a description of the bus and specifies its major components.

The primary part of the test program is the Structural Durability Test, which also provides the information for the Maintainability and Reliability results. The Structural Durability Test was started on December 14, 2005 and was completed on February 1, 2006.

The interior of the bus is configured with seating for 17 passengers including the driver + 1 wheelchair position. Free floor space will accommodate 10 standing passengers resulting in a potential capacity of 27 persons + 1 wheelchair position. At 150 lbs per person 600 lbs per wheelchair position, this load results in a measured gross vehicle weight of 13,950 lbs. The first segment of the Structural Durability Test was performed with the bus loaded to a GVW of 13,950 lbs. The middle segment was performed at a seated load weight of 12,500 lbs and the final segment was performed at a curb weight of 9,510 lbs. Durability driving resulted in no unscheduled maintenance and failures.

Accessibility, in general, was adequate, components covered in Section 1.3 (Repair and/or Replacement of Selected Subsystems) along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

The Reliability section compiles failures that occurred during Structural Durability Testing. Breakdowns are classified according to subsystems. The data in this section are arranged so that those subsystems with more frequent problems are apparent. The problems are also listed by class as defined in Section 2. The test bus encountered no failures during the Structural Durability Test.

The Safety Test, (a double-lane change, obstacle avoidance test) was safely performed in both right-hand and left-hand directions up to a maximum test speed of 45 mph. The performance of the bus is illustrated by a speed vs. time plot. Acceleration and gradeability test data are provided in Section 4, Performance. The average time to obtain 50 mph was 13.75 seconds.

The Shakedown Test produced a maximum final loaded deflection of 0.224 inches with a permanent set ranging between -0.003 to 0.005 inches under a distributed static load of 10,725 lbs. The Distortion Test was completed with all subsystems, doors and escape mechanisms operating properly. Water leakage observed during the test at the top of the rear door between the door and the door frame.

The test bus was not equipped with any type of tow eyes or tow hooks, therefore, the Static Towing Test was not performed. The Dynamic Towing Test was performed by means of a front-lift tow. The towing interface was accomplished using a hydraulic under-lift wrecker. The bus was towed without incident and no damage resulted from the test. The manufacturer does not recommend towing the bus from the rear; therefore, a rear test was not performed. The Jacking and Hoisting Tests were also performed without incident. The bus was found to be stable on the jack stands, and the minimum jacking clearance observed with a tire deflated was 8.8 inches.

A Fuel Economy Test was run on simulated central business district, arterial, and commuter courses. The results were 6.39 mpg, 6.90 mpg, and 10.17 mpg respectively; with an overall average of 7.32 mpg.

A series of Interior and Exterior Noise Tests was performed. These data are listed in Section 7.1 and 7.2 respectively.

ABBREVIATIONS

ABTC	- Altoona Bus Test Center
A/C	- air conditioner
ADB	- advance design bus
ATA-MC	- The Maintenance Council of the American Trucking Association
CBD	- central business district
CW	- curb weight (bus weight including maximum fuel, oil, and coolant; but without passengers or driver)
dB(A)	- decibels with reference to 0.0002 microbar as measured on the "A" scale
DIR	- test director
DR	- bus driver
EPA	- Environmental Protection Agency
FFS	- free floor space (floor area available to standees, excluding ingress/egress areas, area under seats, area occupied by feet of seated passengers, and the vestibule area)
GVL	- gross vehicle load (150 lb for every designed passenger seating position, for the driver, and for each 1.5 sq ft of free floor space)
GVW	- gross vehicle weight (curb weight plus gross vehicle load)
GVWR	- gross vehicle weight rating
MECH	- bus mechanic
mpg	- miles per gallon
mph	- miles per hour
PM	- Preventive maintenance
PSBRTF	- Penn State Bus Research and Testing Facility
PTI	- Pennsylvania Transportation Institute
rpm	- revolutions per minute
SAE	- Society of Automotive Engineers
SCH	- test scheduler
SEC	- secretary
SLW	- seated load weight (curb weight plus 150 lb for every designed passenger seating position and for the driver)
STURAA	- Surface Transportation and Uniform Relocation Assistance Act
TD	- test driver
TECH	- test technician
TM	- track manager
TP	- test personnel

TEST BUS CHECK-IN

I. OBJECTIVE

The objective of this task is to log in the test bus, assign a bus number, complete the vehicle data form, and perform a safety check.

II. TEST DESCRIPTION

The test consists of assigning a bus test number to the bus, cleaning the bus, completing the vehicle data form, obtaining any special information and tools from the manufacturer, determining a testing schedule, performing an initial safety check, and performing the manufacturer's recommended preventive maintenance. The bus manufacturer must certify that the bus meets all Federal regulations.

III. DISCUSSION

The check-in procedure is used to identify in detail the major components and configuration of the bus.

The test bus consists of a Starcraft Bus, model Allstar-25. The bus has a front door, rear of the front axle, and a dedicated handicap entrance rear of the rear axle. Note: the test bus was not equipped with a handicap device. Power is provided by a gasoline-fueled, Ford Motor Co. model 6.8 L EFI V10 engine coupled to a Ford Motor Co. model Elec 5-spd AOD transmission.

The measured curb weight is 3,810 lbs for the front axle and 5,700 lbs for the rear axle. These combined weights provide a total measured curb weight of 9,510 lbs. There are 17 seats including the driver, 1 wheelchair position and room for 10 standing passengers bringing the total passenger capacity to 27 + 1 wheelchair position. Gross load is $150 \text{ lb} \times 27 = 4,050 \text{ lbs} + 600 \text{ lbs (wheelchair position)} = 4,650 \text{ lbs}$. At full capacity, the measured gross vehicle weight is 13,950 lbs.

VEHICLE DATA FORM

Bus Number: 0518	Arrival Date: 12-6-05
Bus Manufacturer: Starcraft Bus	Vehicle Identification Number (VIN): 1FDXE45516HA98012
Model Number: Allstar-25	Date: 12-6-05
Personnel: S.C.	

WEIGHT:

Individual Wheel Reactions:

Weights (lb)	Front Axle		Middle Axle		Rear Axle	
	Right	Left	Right	Left	Right	Left
CW	1,970	1,840	N/A	N/A	2,930	2,770
SLW	2,180	2,080	N/A	N/A	4,170	4,070
GVW	2,370	2,250	N/A	N/A	4,750	4,580

Total Weight Details:

Weight (lb)	CW	SLW	GVW	GAWR
Front Axle	3,810	4,260	4,620	4,600
Middle Axle	N/A	N/A	N/A	N/A
Rear Axle	5,700	8,240	9,330	9,450
Total	9,510	12,500	13,950	GVWR: 14,050

Dimensions:

Length (ft/in)	25 / 11
Width (in)	98
Height (in)	112
Front Overhang (in)	33
Rear Overhang (in)	88
Wheel Base (in)	190
Wheel Track (in)	Front: 68.3
	Rear: 78.0

Bus Number: 0518	Date: 12-6-05
------------------	---------------

CLEARANCES:

Lowest Point Outside Front Axle	Location: Steering linkage	Clearance(in): 11.4
Lowest Point Outside Rear Axle	Location: Exhaust	Clearance(in): 11.2
Lowest Point between Axles	Location: Step	Clearance(in): 8.3
Ground Clearance at the center (in)	9.6	
Front Approach Angle (deg)	22.1	
Rear Approach Angle (deg)	9.5	
Ramp Clearance Angle (deg)	8.2	
Aisle Width (in)	17.1	
Inside Standing Height at Center Aisle (in)	92.2	

BODY DETAILS:

Body Structural Type	Integral		
Frame Material	Steel		
Body Material	Aluminum, fiberglass & steel		
Floor Material	Plywood		
Roof Material	Fiberglass		
Windows Type	<input type="checkbox"/> Fixed	<input checked="" type="checkbox"/> Movable	
Window Mfg./Model No.	Safety DOT 269 / ASE M180		
Number of Doors	<u>1</u> Front	<u>1</u> Rear	
Mfr. / Model No.	A & M Systems / 2133.1/213380		
Dimension of Each Door (in)	Front - 32.6 x 81.5	Rear – 45.6 x 70.0	
Passenger Seat Type	<input type="checkbox"/> Cantilever	<input checked="" type="checkbox"/> Pedestal	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	Freedman Seating Co. / Mid-Back Double		
Driver Seat Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input checked="" type="checkbox"/> Other (Cushion)
Mfr. / Model No.	Freedman Seating Co. / Hi-Back		
Number of Seats (including Driver)	17		

Bus Number: 0518	Date: 12-6-05
------------------	---------------

BODY DETAILS (Contd..)

Free Floor Space (ft ²)	16.4				
Height of Each Step at Normal Position (in)	Front	1. <u>10.0</u>	2. <u>9.6</u>	3. <u>10.1</u>	4. <u>N/A</u>
	Middle	1. <u>N/A</u>	2. <u>N/A</u>	3. <u>N/A</u>	4. <u>N/A</u>
	Rear	1. <u>N/A</u>	2. <u>N/A</u>	3. <u>N/A</u>	4. <u>N/A</u>
Step Elevation Change - Kneeling (in)	N/A				

ENGINE

Type	<input type="checkbox"/> C.I.		<input type="checkbox"/> Alternate Fuel	
	<input checked="" type="checkbox"/> S.I.		<input type="checkbox"/> Other (explain)	
Mfr. / Model No.	Ford Motor Co. / 6.8 L EFI V10			
Location	<input checked="" type="checkbox"/> Front	<input type="checkbox"/> Rear	<input type="checkbox"/> Other (explain)	
Fuel Type	<input checked="" type="checkbox"/> Gasoline	<input type="checkbox"/> CNG	<input type="checkbox"/> Methanol	
	<input type="checkbox"/> Diesel	<input type="checkbox"/> LNG	<input type="checkbox"/> Other (explain)	
Fuel Tank Capacity (indicate units)	55 gals			
Fuel Induction Type	<input checked="" type="checkbox"/> Injected		<input type="checkbox"/> Carburetion	
Fuel Injector Mfr. / Model No.	Ford Motor Co. / 6.8 L EFI V10			
Carburetor Mfr. / Model No.	N/A			
Fuel Pump Mfr. / Model No.	Ford Motor Co. / 6.8 L EFI V10			
Alternator (Generator) Mfr. / Model No.	Motorcraft / 3GF			
Maximum Rated Output (Volts / Amps)	14.4 / 110			
Air Compressor Mfr. / Model No.	N/A			
Maximum Capacity (ft ³ / min)	N/A			
Starter Type	<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> Pneumatic	<input type="checkbox"/> Other (explain)	
Starter Mfr. / Model No.	Visteon / AY05J2			

Bus Number: 0518	Date: 12-6-05
------------------	---------------

TRANSMISSION

Transmission Type	<input type="checkbox"/> Manual	<input checked="" type="checkbox"/> Automatic	
Mfr. / Model No.	Ford Motor Co. / Elec 5-spd AOD		
Control Type	<input checked="" type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Other
Torque Converter Mfr. / Model No.	Ford Motor Co. / Elec 5-spd AOD		
Integral Retarder Mfr. / Model No.	N/A		

SUSPENSION

Number of Axles	2		
Front Axle Type	<input checked="" type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	Ford Motor Co. / Twin I-Beam		
Axle Ratio (if driven)	N/A		
Suspension Type	<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	2		
Mfr. / Model No.	Motorcraft / C259Y2		
Middle Axle Type	<input type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	N/A		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	N/A		
Mfr. / Model No.	N/A		
Rear Axle Type	<input type="checkbox"/> Independent	<input checked="" type="checkbox"/> Beam Axle	
Mfr. / Model No.	Dana / Full Floating Dana 10.5H-D		
Axle Ratio (if driven)	4.56		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)

No. of Shock Absorbers	2
Mfr. / Model No.	Motorcraft / C260Y1

Bus Number: 0518	Date: 12-6-05
------------------	---------------

WHEELS & TIRES

Front	Wheel Mfr./ Model No.	Ford / 8-Hole Disc, 16 x 6.0 Steel
	Tire Mfr./ Model No.	Michelin LTX / LT225/75R 16
Rear	Wheel Mfr./ Model No.	Ford / 8-Hole Disc, 16 x 6.0 Steel
	Tire Mfr./ Model No.	Michelin LTX / LT225/75R 16

BRAKES

Front Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	TRW / na		
Middle Axle Brakes Type	<input type="checkbox"/> Cam	<input type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	N/A		
Rear Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	Kelsey Hayes / na		
Retarder Type	N/A		
Mfr. / Model No.	N/A		

HVAC

Heating System Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Other
Capacity (Btu/hr)	35,000		
Mfr. / Model No.	Ford Motor Co. / na		
Air Conditioner	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Location	Dash & Interior ceiling		
Capacity (Btu/hr)	55,000		
A/C Compressor Mfr. / Model No.	Ford / O.E.M.		

STEERING

Steering Gear Box Type	Hydraulic gear
------------------------	----------------

Mfr. / Model No.	Ford / 6C22 3504 AA
Steering Wheel Diameter	15.0
Number of turns (lock to lock)	4.0

Bus Number: 0518	Date: 12-6-05
------------------	---------------

OTHERS

Wheel Chair Ramps	Location: N/A	Type: N/A
Wheel Chair Lifts	Location: N/A	Type: N/A
Mfr. / Model No.	N/A	
Emergency Exit	Location: Windows Doors	Number: 3 1

CAPACITIES

Fuel Tank Capacity (units)	55 gals
Engine Crankcase Capacity (gallons)	1.5
Transmission Capacity (gallons)	4.4
Differential Capacity (gallons)	2.1
Cooling System Capacity (quarts)	8.2
Power Steering Fluid Capacity (gallons)	Not available.

VEHICLE DATA FORM

Bus Number: 0518	Date: 12-6-05
------------------	---------------

List all spare parts, tools and manuals delivered with the bus.

Part Number	Description	Qty.
Michelin LTX M/S LT225/75R 16	Tires/wheels	6
XC2Z-2C026-BB	Brake rotors	2
FBUZ-1102-DA	Brake rotors	2
FA-1769	Air filter	1
FD-4606	Fuel water separator	1
FL-2016	Oil filter	1
AT-164-G F5UZ-18125-A	Shock absorber	2
AT-163-G F5UZ-18124-B	Shock absorber	2
FT-145	Transmission filter	1
FT-144	Screen assembly	1
BR1276 YU2Z-2V200-BA	Brake pads	1
1C3Z-2001-BA	Brake pads	1
2006 E-Series 6C2J19G219GA	Owner's guide	1
NA	Allstar Owner Manual	1
NA	Trans/Air owner manual	1

COMPONENT/SUBSYSTEM INSPECTION FORM

Bus Number: 0518	Date: 12-6-05
------------------	---------------

Subsystem	Checked	Comments
Air Conditioning Heating and Ventilation		
Body and Sheet Metal		
Frame		
Steering		
Suspension		
Interior/Seating		
Axles		
Brakes		
Tires/Wheels		
Exhaust		
Fuel System		Gasoline.
Power Plant		
Accessories		
Lift System		Not equipped with a handicap device.
Interior Fasteners		
Batteries		

CHECK - IN



STARCRAFT BUS MODEL ALLSTAR-25



1. MAINTAINABILITY

1.1 ACCESSIBILITY OF COMPONENTS AND SUBSYSTEMS

1.1-I. TEST OBJECTIVE

The objective of this test is to check the accessibility of components and subsystems.

1.1-II. TEST DESCRIPTION

Accessibility of components and subsystems is checked, and where accessibility is restricted the subsystem is noted along with the reason for the restriction.

1.1-III. DISCUSSION

Accessibility, in general, was adequate. Components covered in Section 1.3 (repair and/or replacement of selected subsystems), along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

ACCESSIBILITY DATA FORM

Bus Number: 0518	Date: 2-9-06
------------------	--------------

Component	Checked	Comments
ENGINE :		
Oil Dipstick		
Oil Filler Hole		
Oil Drain Plug		
Oil Filter		
Fuel Filter		
Air Filter		
Belts		
Coolant Level		
Coolant Filler Hole		
Coolant Drain		
Spark / Glow Plugs		
Alternator		
Diagnostic Interface Connector		
TRANSMISSION :		
Fluid Dip-Stick		
Filler Hole		Fill through dip tube.
Drain Plug		
SUSPENSION :		
Bushings		
Shock Absorbers		
Air Springs	N/A	
Leveling Valves	N/A	
Grease Fittings		

ACCESSIBILITY DATA FORM

Bus Number: 0518	Date: 2-9-06
------------------	--------------

Component	Checked	Comments
HVAC :		
A/C Compressor		
Filters		
Fans		
ELECTRICAL SYSTEM :		
Fuses		
Batteries		
Voltage regulator		Internal.
Voltage Converters	N/A	
Lighting		
MISCELLANEOUS :		
Brakes		
Handicap Lifts/Ramps	N/A	
Instruments		
Axles		
Exhaust		
Fuel System		
OTHERS :		

1.2 SERVICING, PREVENTIVE MAINTENANCE, AND REPAIR AND MAINTENANCE DURING TESTING

1.2-I. TEST OBJECTIVE

The objective of this test is to collect maintenance data about the servicing, preventive maintenance, and repair.

1.2.-II. TEST DESCRIPTION

The test will be conducted by operating the NBM and collecting the following data on work order forms and a driver log.

1. **Unscheduled Maintenance**
 - a. Bus number
 - b. Date
 - c. Mileage
 - d. Description of malfunction
 - e. Location of malfunction (e.g., in service or undergoing inspection)
 - f. Repair action and parts used
 - g. Man-hours required

2. **Scheduled Maintenance**
 - a. Bus number
 - b. Date
 - c. Mileage
 - d. Engine running time (if available)
 - e. Results of scheduled inspections
 - f. Description of malfunction (if any)
 - g. Repair action and parts used (if any)
 - h. Man-hours required

The buses will be operated in accelerated durability service. While typical items are given below, the specific service schedule will be that specified by the manufacturer.

- A. **Service**
 1. Fueling
 2. Consumable checks
 3. Interior cleaning

- B. **Preventive Maintenance**
 4. Brake adjustments
 5. Lubrication
 6. 3,000 mi (or equivalent) inspection

7. Oil and filter change inspection
8. Major inspection
9. Tune-up

C. Periodic Repairs

1. Brake reline
2. Transmission change
3. Engine change
4. Windshield wiper motor change
5. Stoplight bulb change
6. Towing operations
7. Hoisting operations

1.2-III. DISCUSSION

Servicing and preventive maintenance were performed at manufacturer-specified intervals. The following Scheduled Maintenance Form lists the mileage, items serviced, the service interval, and amount of time required to perform the maintenance. Table 1 is a list of the lubricating products used in servicing. Finally, the Unscheduled Maintenance List along with Unscheduled Maintenance-related photographs is included in Section 5.7, Structural Durability. This list supplies information related to failures that occurred during the durability portion of testing. The Unscheduled Maintenance List includes the date and mileage at which the malfunction occurred, a description of the malfunction and repair, and the time required to perform the repair.

(Page 1 of 1)
SCHEDULED MAINTENANCE
Starcraft Bus 0518

DATE	TEST MILES	SERVICE	ACTIVITY	DOWN TIME	HOURS
12-21-05	1,185	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
01-06-06	2,375	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
01-13-06	4,131	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
01-18-06	5,137	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
01-24-06	6,407	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
01-31-06	7,404	P.M. / Inspection Fuel Economy Prep	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
02-01-06	7,500	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed. Oil changed. Oil, fuel, and air filters changed. Transmission oil and filter changed.	8.00	8.00

Table 1. STANDARD LUBRICANTS

The following is a list of Texaco lubricant products used in bus testing conducted by the Penn State University Altoona Bus Testing Center:

<u>ITEM</u>	<u>PRODUCT CODE</u>	<u>TEXACO DESCRIPTION</u>
Engine oil	#2112	URSA Super Plus SAE 30
Transmission oil	#1866	Automatic Trans Fluid Mercon/Dexron II Multipurpose
Gear oil	#2316	Multigear Lubricant EP SAE 80W90
Wheel bearing & Chassis grease	#1935	Starplex II

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS

1.3-I. TEST OBJECTIVE

The objective of this test is to establish the time required to replace and/or repair selected subsystems.

1.3-II. TEST DESCRIPTION

The test will involve components that may be expected to fail or require replacement during the service life of the bus. In addition, any component that fails during the NBM testing is added to this list. Components to be included are:

1. Transmission
2. Alternator
3. Starter
4. Batteries
5. Windshield wiper motor

1.3-III. DISCUSSION

During the test, no additional components were removed for repair or replacement.

At the end of the test, the remaining items on the list were removed and replaced. The transmission assembly took 4.0 man-hours (two men 2.0 hrs) to remove and replace. The time required for repair/replacement of the four remaining components is given on the following Repair and/or Replacement Form.

REPLACEMENT AND/OR REPAIR FORM

Subsystem	Replacement Time
Transmission	4.00 man hours
Wiper Motor	0.50 man hours
Starter	0.50 man hours
Alternator	0.50 man hours
Batteries	1.00 man hours

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS



TRANSMISSION REMOVAL AND REPLACEMENT (4.00 MAN HOURS)



WIPER MOTOR REMOVAL AND REPLACEMENT (0.50 MAN HOURS)

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS CONT.



**STARTER REMOVAL AND REPLACEMENT
(0.50 MAN HOURS)**



**BATTERY REMOVAL AND REPLACEMENT
(1.00 MAN HOURS)**

2. RELIABILITY - DOCUMENTATION OF BREAKDOWN AND REPAIR TIMES DURING TESTING

2-I. TEST OBJECTIVE

The objective of this test is to document unscheduled breakdowns, repairs, down time, and repair time that occur during testing.

2-II. TEST DESCRIPTION

Using the driver log and unscheduled work order forms, all significant breakdowns, repairs, man-hours to repair, and hours out of service are recorded on the Reliability Data Form.

CLASS OF FAILURES

Classes of failures are described below:

- (a) Class 1: Physical Safety. A failure that could lead directly to passenger or driver injury and represents a severe crash situation.
- (b) Class 2: Road Call. A failure resulting in an en route interruption of revenue service. Service is discontinued until the bus is replaced or repaired at the point of failure.
- (c) Class 3: Bus Change. A failure that requires removal of the bus from service during its assignments. The bus is operable to a rendezvous point with a replacement bus.
- (d) Class 4: Bad Order. A failure that does not require removal of the bus from service during its assignments but does degrade coach operation. The failure shall be reported by driver, inspector, or hostler.

2-III. DISCUSSION

A listing of breakdowns and unscheduled repairs is accumulated during the Structural Durability Test. The following Reliability Data Form lists all unscheduled repairs under classes as defined above. These classifications are somewhat subjective as the test is performed on a test track with careful inspections every two hours. However, even on the road, there is considerable latitude on deciding how to handle many failures.

The classification of repairs according to subsystem is intended to emphasize those systems which had persistent minor or more serious problems. The bus submitted for testing encountered no failures during the Structural Durability Test.

3. SAFETY - A DOUBLE-LANE CHANGE (OBSTACLE AVOIDANCE)

3-I. TEST OBJECTIVE

The objective of this test is to determine handling and stability of the bus by measuring speed through a double lane change test.

3-II. TEST DESCRIPTION

The Safety Test is a vehicle handling and stability test. The bus will be operated at SLW on a smooth and level test track. The bus will be driven through a double lane change course at increasing speed until the test is considered unsafe or a speed of 45 mph is reached. The lane change course will be set up using pylons to mark off two 12 foot center to center lanes with two 100 foot lane change areas 100 feet apart. The bus will begin in one lane, change to the other lane in a 100 foot span, travel 100 feet, and return to the original lane in another 100 foot span. This procedure will be repeated, starting first in the right-hand and then in the left-hand lane.

3-III. DISCUSSION

The double-lane change was performed in both right-hand and left-hand directions. The bus was able to safely negotiate the test course in both the right-hand and left-hand directions up to the maximum test speed of 45 mph.

SAFETY DATA FORM

Bus Number: 0518	Date: 2-2-06
Personnel: B.S., S.C. & T.S.	

Temperature (°F): 35	Humidity (%): 93
Wind Direction: Calm	Wind Speed (mph): Calm
Barometric Pressure (in.Hg): 29.91	

SAFETY TEST: DOUBLE LANE CHANGE	
Maximum safe speed tested for double-lane change to left	45 mph
Maximum safe speed tested for double-lane change to right	45 mph
Comments of the position of the bus during the lane change: A safe profile was maintained through all portions of testing.	
Comments of the tire/ground contact patch: Tire/ground contact was maintained through all portions of testing.	

3. SAFETY



RIGHT - HAND APPROACH



LEFT - HAND APPROACH

4. PERFORMANCE - AN ACCELERATION, GRADEABILITY, AND TOP SPEED TEST

4-I. TEST OBJECTIVE

The objective of this test is to determine the acceleration, gradeability, and top speed capabilities of the bus.

4-II. TEST DESCRIPTION

In this test, the bus will be operated at SLW on the skid pad at the PSBRTF. The bus will be accelerated at full throttle from a standstill to a maximum "geared" or "safe" speed as determined by the test driver. The vehicle speed is measured using a Correvit non-contacting speed sensor. The times to reach speed between ten mile per hour increments are measured and recorded using a stopwatch with a lap timer. The time to speed data will be recorded on the Performance Data Form and later used to generate a speed vs. time plot and gradeability calculations.

4-III. DISCUSSION

This test consists of three runs in both the clockwise and counterclockwise directions on the Test Track. Velocity versus time data is obtained for each run and results are averaged together to minimize any test variability which might be introduced by wind or other external factors. The test was performed up to a maximum speed of 50 mph. The fitted curve of velocity vs. time is attached, followed by the calculated gradeability results. The average time to obtain 50 mph was 13.75 seconds.

PERFORMANCE DATA FORM

Bus Number: 0518		Date: 2-2-06	
Personnel: B.S., S.C. & T.S.			
Temperature (°F): 37		Humidity (%): 93	
Wind Direction: Calm		Wind Speed (mph): Calm	
Barometric Pressure (in.Hg): 29.91			
Air Conditioning compressor-OFF		___ Checked	
Ventilation fans-ON HIGH		___ Checked	
Heater pump motor-Off		___ Checked	
Defroster-OFF		___ Checked	
Exterior and interior lights-ON		___ Checked	
Windows and doors-CLOSED		___ Checked	
ACCELERATION, GRADEABILITY, TOP SPEED			
Counter Clockwise Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	2.02	2.15	1.90
20 mph	3.77	4.24	3.84
30 mph	5.99	6.24	5.87
40 mph	9.68	9.84	9.43
Top Test Speed(mph) 50	14.09	14.40	14.20
Clockwise Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	2.11	2.17	2.08
20 mph	3.88	4.14	3.86
30 mph	6.08	6.07	6.08
40 mph	9.36	9.28	9.30
Top Test Speed(mph) 50	13.42	13.08	13.33

0518.ACC

PERFORMANCE SUMMARY SHEET

BUS MANUFACTURER :Starcraft
BUS MODEL :Allstar-25

BUS NUMBER :0518
TEST DATE :2/2/06

TEST CONDITIONS :

TEMPERATURE (DEG F) : 37.0
WIND DIRECTION : calm
WIND SPEED (MPH) : .0
HUMIDITY (%) : 93
BAROMETRIC PRESSURE (IN. HG) : 29.9

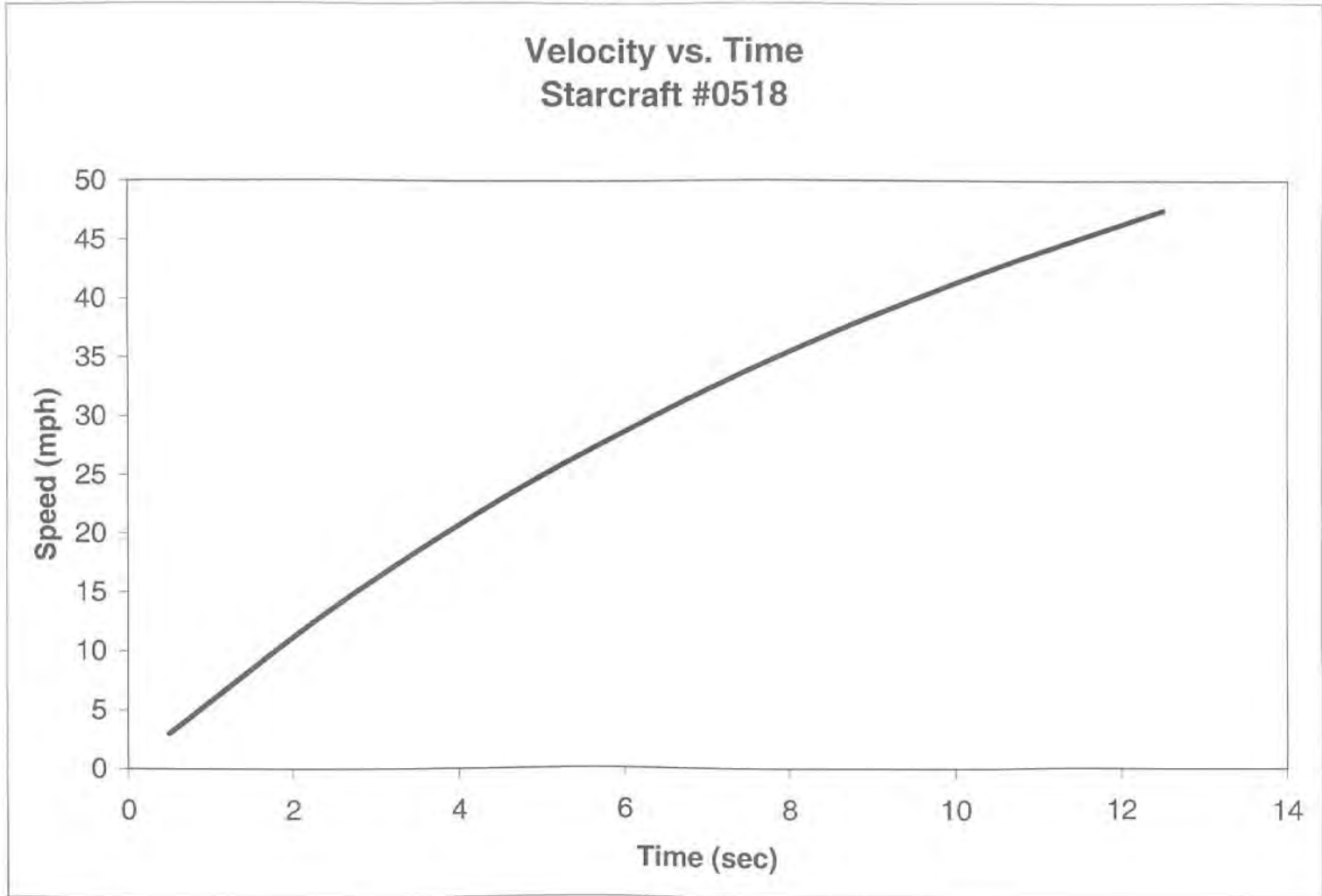
VEHICLE SPEED (MPH)	AVERAGE TIME (SEC)		
	CCW DIRECTION	CW DIRECTION	TOTAL
10.0	2.02	2.12	2.07
20.0	3.95	3.96	3.96
30.0	6.03	6.08	6.06
40.0	9.65	9.31	9.48
50.0	14.23	13.28	13.75

TEST SUMMARY :

VEHICLE SPEED (MPH)	TIME (SEC)	ACCELERATION (FT/SEC^2)	MAX. GRADE (%)
1.0	.16	8.9	28.6
5.0	.85	8.3	26.8
10.0	1.76	7.7	24.6
15.0	2.76	7.1	22.4
20.0	3.85	6.4	20.3
25.0	5.05	5.8	18.3
30.0	6.38	5.2	16.4
35.0	7.87	4.7	14.6
40.0	9.54	4.1	12.9
45.0	11.45	3.6	11.2
50.0	13.64	3.1	9.7

NOTE : Gradeability results were calculated from performance
----- test data. Actual sustained gradeability performance
for vehicles equipped with auto transmission may be
lower than the values indicated here.

t



5. STRUCTURAL INTEGRITY

5.1 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL SHAKEDOWN TEST

5.1-I. DISCUSSION

The objective of this test is to determine certain static characteristics (e.g., bus floor deflection, permanent structural deformation, etc.) under static loading conditions.

5.1-II. TEST DESCRIPTION

In this test, the bus will be isolated from the suspension by blocking the vehicle under the suspension points. The bus will then be loaded and unloaded up to a maximum of three times with a distributed load equal to 2.5 times gross load. Gross load is 150 lb for every designed passenger seating position, for the driver, and for each 1.5 sq ft of free floor space. For a distributed load equal to 2.5 times gross load, place a 375-lb load on each seat and on every 1.5 sq ft of free floor space. The first loading and unloading sequence will "settle" the structure. Bus deflection will be measured at several locations during the loading sequences.

5.1-III. DISCUSSION

This test was performed based on a maximum passenger capacity of 27 people including the driver and one wheelchair position. The resulting test load is $(27 \times 375 \text{ lb}) = 10,125 \text{ lb} + 600 \text{ lbs (wheelchair position)} = 10,725 \text{ lbs}$. The load is distributed evenly over the passenger space. Deflection data before and after each loading and unloading sequence is provided on the Structural Shakedown Data Form.

The unloaded height after each test becomes the original height for the next test. Some initial settling is expected due to undercoat compression, etc. After each loading cycle, the deflection of each reference point is determined. The bus is then unloaded and the residual (permanent) deflection is recorded. On the final test, the maximum loaded deflection was 0.224 inches at reference point 9. The maximum permanent deflection after the final loading sequence ranged from -0.003 inches at reference point 6 to 0.005 inches at reference points 1, 4 and 12.

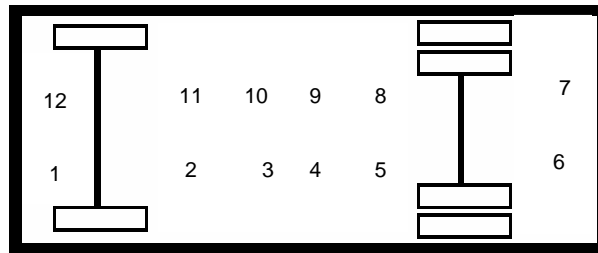
STRUCTURAL SHAKEDOWN DATA FORM

Bus Number: 0518	Date: 12-13-06
Personnel: D.L., E.L., K.D. & S.C.	Temperature (°F): 65
Loading Sequence: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (check one)	
Test Load (lbs): 10,725	

Indicate Approximate Location of Each Reference Point

Right

Front
of
Bus



Left

Top View

Reference Point No.	A (in) Original Height	B (in) Loaded Height	B-A (in) Loaded Deflection	C (in) Unloaded Height	C-A (in) Permanent Deflection
1	0	-.085	-.085	-.015	-.015
2	0	.119	.119	.012	.012
3	0	.221	.221	.052	.052
4	0	.232	.232	.039	.039
5	0	.205	.205	.024	.024
6	0	-.066	-.066	-.011	-.011
7	0	-.015	-.015	-.021	-.021
8	0	.277	.277	.068	.068
9	0	.269	.269	.045	.045
10	0	.244	.244	.045	.045
11	0	.123	.123	.028	.028
12	0	-.009	-.009	-.011	-.011

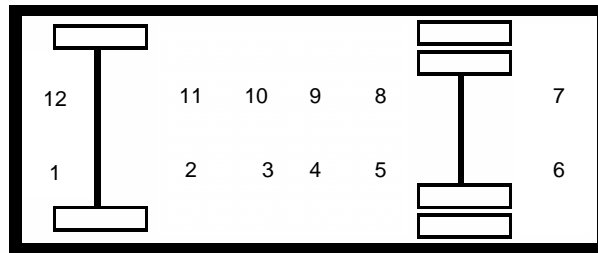
STRUCTURAL SHAKEDOWN DATA FORM

Bus Number: 0518	Date: 12-13-05
Personnel: D.L., E.L., T.S. & S.C.	Temperature (°F):
Loading Sequence: <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 (check one)	
Test Load (lbs): 10,725	

Indicate Approximate Location of Each Reference Point

Right

Front
of
Bus



Left

Top View

Reference Point No.	A (in) Original Height	B (in) Loaded Height	B-A (in) Loaded Deflection	C (in) Unloaded Height	C-A (in) Permanent Deflection
1	-.015	-.086	-.071	-.020	.005
2	.012	.120	.108	.015	.003
3	.052	.228	.176	.056	.004
4	.039	.233	.194	.044	.005
5	.024	.205	.181	.027	.003
6	-.011	-.061	-.050	-.008	-.003
7	-.021	-.010	.011	-.023	.002
8	.068	.285	.217	.070	.002
9	.045	.269	.224	.047	.002
10	.045	.245	.200	.046	.001
11	.028	.124	.096	.032	.004
12	-.011	-.010	.001	-.016	.005

5.1 STRUCTURAL SHAKEDOWN TEST



**DIAL INDICATORS IN POSITION
BUS LOADED TO 2.5 TIMES GVL
(10,725 LBS)**

5.2 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL DISTORTION

5.2-I. TEST OBJECTIVE

The objective of this test is to observe the operation of the bus subsystems when the bus is placed in a longitudinal twist simulating operation over a curb or through a pothole.

5.2-II. TEST DESCRIPTION

With the bus loaded to GVWR, each wheel of the bus will be raised (one at a time) to simulate operation over a curb and the following will be inspected:

1. Body
2. Windows
3. Doors
4. Roof vents
5. Special seating
6. Undercarriage
7. Engine
8. Service doors
9. Escape hatches
10. Steering mechanism

Each wheel will then be lowered (one at a time) to simulate operation through a pothole and the same items inspected.

5.2-III. DISCUSSION

The test sequence was repeated ten times. The first and last test is with all wheels level. The other eight tests are with each wheel 6 inches higher and 6 inches lower than the other three wheels.

All doors, windows, escape mechanisms, engine, steering and handicapped devices operated normally throughout the test. The undercarriage and body indicated no deficiencies. Water leakage was observed during the test at the top of the rear door between the door and the door frame. The results of this test are indicated on the following data forms.

DISTORTION TEST INSPECTION FORM

(Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input checked="" type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	Leak at top between door and door frame.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	Not equipped with a handicap device.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM

(Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	Leak at top between door and door frame.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	Not equipped with a handicap device.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	Leak at top between door and door frame.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	Not equipped with a handicap device.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)

Bus Number: 0518	Date: 12-14-05
Personnel: T.S., E.L., D.L. & S.C.	Temperature(°F): 65

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input checked="" type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left center	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	Leak at top between door and door frame.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	Not equipped with a handicap device.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.

■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

5.2 STRUCTURAL DISTORTION TEST



LEFT REAR WHEEL SIX INCHES LOWER



LEFT FRONT WHEEL SIX INCHES HIGHER

5.3 STRUCTURAL STRENGTH AND DISTORTION TESTS - STATIC TOWING TEST

5.3-I. TEST OBJECTIVE

The objective of this test is to determine the characteristics of the bus towing mechanisms under static loading conditions.

5.3-II. TEST DESCRIPTION

Utilizing a load-distributing yoke, a hydraulic cylinder is used to apply a static tension load equal to 1.2 times the bus curb weight. The load will be applied to both the front and rear, if applicable, towing fixtures at an angle of 20 degrees with the longitudinal axis of the bus, first to one side then the other in the horizontal plane, and then upward and downward in the vertical plane. Any permanent deformation or damage to the tow eyes or adjoining structure will be recorded.

5.3-III. DISCUSSION

The test bus submitted for testing was not equipped with any type of tow eyes or tow hooks, therefore, the Static Towing Test was not performed.

5.4 STRUCTURAL STRENGTH AND DISTORTION TESTS - DYNAMIC TOWING TEST

5.4-I. TEST OBJECTIVE

The objective of this test is to verify the integrity of the towing fixtures and determine the feasibility of towing the bus under manufacturer specified procedures.

5.4-II. TEST DESCRIPTION

This test requires the bus be towed at curb weight using the specified equipment and instructions provided by the manufacturer and a heavy-duty wrecker. The bus will be towed for 5 miles at a speed of 20 mph for each recommended towing configuration. After releasing the bus from the wrecker, the bus will be visually inspected for any structural damage or permanent deformation. All doors, windows and passenger escape mechanisms will be inspected for proper operation.

5.4-III. DISCUSSION

The bus was towed using a heavy-duty wrecker. The towing interface was accomplished by incorporating a hydraulic under lift. A front lift tow was performed. Rear towing is not recommended. No problems, deformation, or damage was noted during testing.

DYNAMIC TOWING TEST DATA FORM

Bus Number: 0518	Date: 2-13-06
Personnel: T.S. & S.C.	

Temperature (°F): 32	Humidity (%): 59
Wind Direction: NW	Wind Speed (mph): 8
Barometric Pressure (in.Hg): 30.05	

Inspect tow equipment-bus interface.
Comments: A safe and adequate connection was made between the tow equipment and the bus.
Inspect tow equipment-wrecker interface.
Comments: A safe and adequate connection was made between the tow equipment and the wrecker.
Towing Comments: A front lift tow was performed incorporating a hydraulic under lift wrecker.
Description and location of any structural damage: None noted.
General Comments: No problems were encountered with the tow or towing interface.

5.4 DYNAMIC TOWING TEST



TOWING INTERFACE

5.5 STRUCTURAL STRENGTH AND DISTORTION TESTS – JACKING TEST

5.5-I. TEST OBJECTIVE

The objective of this test is to inspect for damage due to the deflated tire, and determine the feasibility of jacking the bus with a portable hydraulic jack to a height sufficient to replace a deflated tire.

5.5-II. TEST DESCRIPTION

With the bus at curb weight, the tire(s) at one corner of the bus are replaced with deflated tire(s) of the appropriate type. A portable hydraulic floor jack is then positioned in a manner and location specified by the manufacturer and used to raise the bus to a height sufficient to provide 3-in clearance between the floor and an inflated tire. The deflated tire(s) are replaced with the original tire(s) and the hack is lowered. Any structural damage or permanent deformation is recorded on the test data sheet. This procedure is repeated for each corner of the bus.

5.5-III. DISCUSSION

The jack used for this test has a minimum height of 8.75 inches. During the deflated portion of the test, the jacking point clearances ranged from 8.8 inches to 20.1 inches. No deformation or damage was observed during testing. A complete listing of jacking point clearances is provided in the Jacking Test Data Form.

JACKING CLEARANCE SUMMARY

Condition	Frame Point Clearance
Front axle – one tire flat	15.3”
Rear axle – one tire flat	20.1”
Rear axle – two tires flat	17.7”

JACKING TEST DATA FORM

Bus Number: 0518	Date: 12-7-05
Personnel: E.L. & D.L.	Temperature (°F): 68

Record any permanent deformation or damage to bus as well as any difficulty encountered during jacking procedure.

Deflated Tire	Jacking Pad Clearance Body/Frame (in)	Jacking Pad Clearance Axle/Suspension (in)	Comments
Right front	17.3 " I 15.3 " D	11.2 " I 9.3 " D	None noted.
Left front	17.3 " I 15.3 " D	11.3 " I 9.3 " D	"
Right rear—outside	20.2 " I 20.1 " D	11.4 " I 11.2 " D	"
Right rear—both	20.2 " I 17.7 " D	11.4 " I 8.9 " D	"
Left rear—outside	20.3 " I 20.1 " D	11.4 " I 11.1 " D	"
Left rear—both	20.3 " I 17.7 " D	11.4 " I 8.8 " D	"
Right middle or tag—outside	NA	NA	
Right middle or tag—both	NA	NA	
Left middle or tag—outside	NA	NA	
Left middle or tag—both	NA	NA	
Additional comments of any deformation or difficulty during jacking:			
None noted.			

5.6 STRUCTURAL STRENGTH AND DISTORTION TESTS - HOISTING TEST

5.6-I. TEST OBJECTIVE

The objective of this test is to determine possible damage or deformation caused by the jack/stands.

5.6-II. TEST DESCRIPTION

With the bus at curb weight, the front end of the bus is raised to a height sufficient to allow manufacturer-specified placement of jack stands under the axles or jacking pads independent of the hoist system. The bus will be checked for stability on the jack stands and for any damage to the jacking pads or bulkheads. The procedure is repeated for the rear end of the bus. The procedure is then repeated for the front and rear simultaneously.

5.6-III. DISCUSSION

The test was conducted using four posts of a six-post electric lift and standard 19 inch jack stands. The bus was hoisted from the front wheel, rear wheel, and then the front and rear wheels simultaneously and placed on jack stands.

The bus easily accommodated the placement of the vehicle lifts and jack stands and the procedure was performed without any instability noted.

HOISTING TEST DATA FORM

Bus Number: 0518	Date: 12-12-05
Personnel: T.S. & S.C.	Temperature (°F): 66

Comments of any structural damage to the jacking pads or axles while both the front wheels are supported by the jack stands:
None noted.
Comments of any structural damage to the jacking pads or axles while both the rear wheels are supported by the jack stands:
None noted.
Comments of any structural damage to the jacking pads or axles while both the front and rear wheels are supported by the jack stands:
None noted.

5.7 STRUCTURAL DURABILITY TEST

5.7-I. TEST OBJECTIVE

The objective of this test is to perform an accelerated durability test that approximates up to 25 percent of the service life of the vehicle.

5.7-II. TEST DESCRIPTION

The test vehicle is driven a total of 7,500 miles; approximately 5,000 miles on the PSBRTF Durability Test Track and approximately 2,500 miscellaneous other miles. The test will be conducted with the bus operated under three different loading conditions. The first segment will consist of approximately 3,000 miles with the bus operated at GVW. The second segment will consist of approximately 1,500 miles with the bus operated at SLW. The remainder of the test, approximately 3,000 miles, will be conducted with the bus loaded to CW. If GVW exceeds the axle design weights, then the load will be adjusted to the axle design weights and the change will be recorded. All subsystems are run during these tests in their normal operating modes. All recommended manufacturers servicing is to be followed and noted on the vehicle maintainability log. Servicing items accelerated by the durability tests will be compressed by 10:1; all others will be done on a 1:1 mi/mi basis. Unscheduled breakdowns and repairs are recorded on the same log as are any unusual occurrences as noted by the driver. Once a week the test vehicle shall be washed down and thoroughly inspected for any signs of failure.

5.7-III. DISCUSSION

The Structural Durability Test was started on December 14, 2005 and was conducted until February 1, 2006. The first 3,000 miles were performed at a GVW of 13,950 lbs. and completed on January 6, 2006. The next 1,500 mile SLW segment was performed at 12,500 lbs and completed on January 16, 2006, and the final 3,000 mile segment was performed at a CW of 9,510 lbs and completed on February 1, 2006.

The following mileage summary presents the accumulation of miles during the Structural Durability Test. The driving schedule is included, showing the operating duty cycle. A detailed plan view of the Test Track Facility and Durability Test Track are attached for reference. Also, a durability element profile detail shows all the measurements of the different conditions. The test bus encountered no failures during the Structural Durability Test.

STARCRAFT - TEST BUS #0518
MILEAGE DRIVEN/RECORDED FROM DRIVERS= LOGS

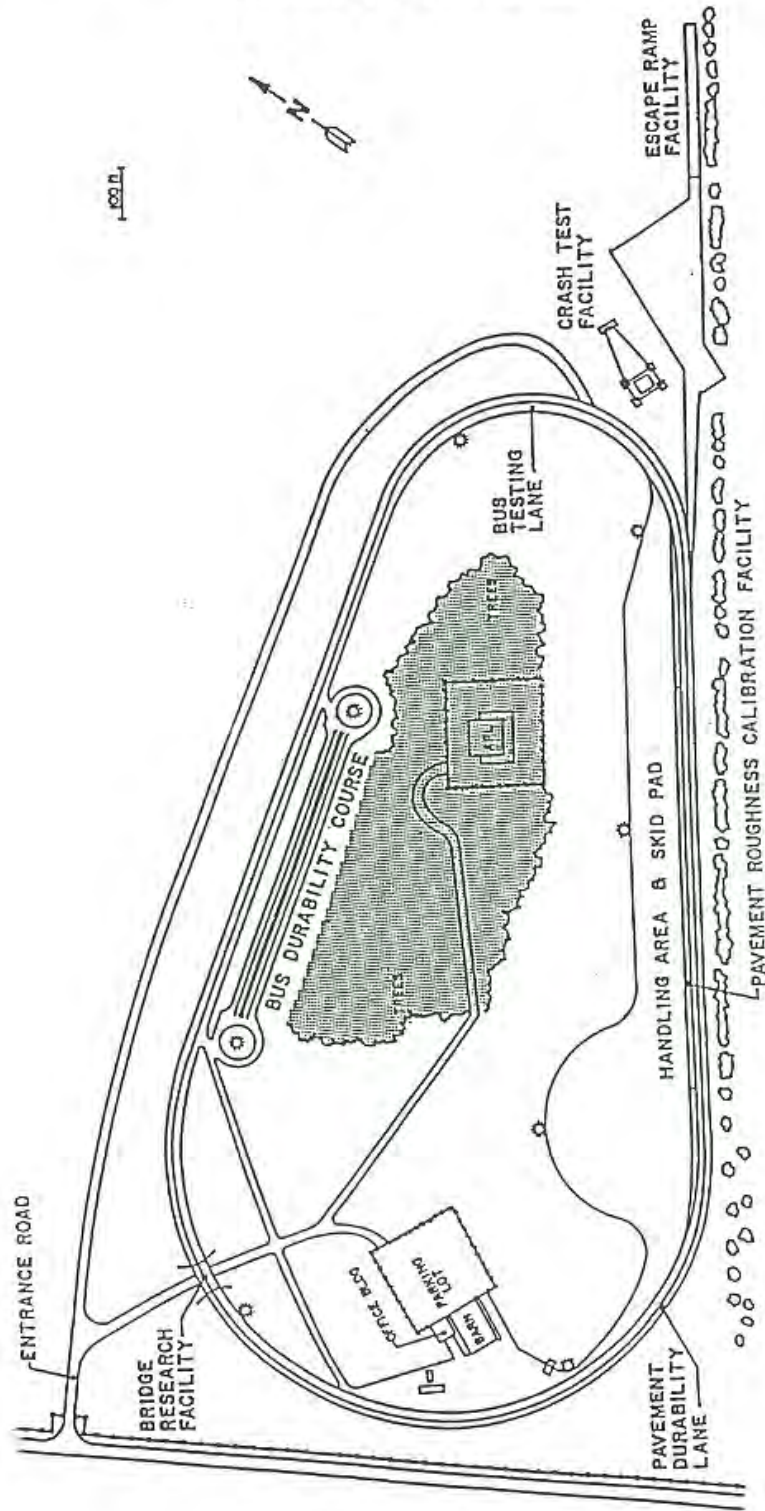
DATE	TOTAL DURABILITY TRACK	TOTAL OTHER MILES	TOTAL
12/12/05 TO 12/18/05	496.00	74.00	570.00
12/19/05 TO 12/25/05	801.00	138.00	939.00
12/26/05 TO 01/01/06	0.00	0.00	0.00
01/02/06 TO 01/08/06	703.00	309.00	1012.00
01/09/06 TO 01/15/06	889.00	875.00	1764.00
01/16/06 TO 01/22/06	972.00	728.00	1700.00
01/23/06 TO 01/29/06	1139.00	180.00	1319.00
01/30/06 TO 02/05/06	0.00	196.00	196.00
TOTAL	5000.00	2500.00	7500.00

Table 4. Driving Schedule for Bus Operation on the Durability Test Track.

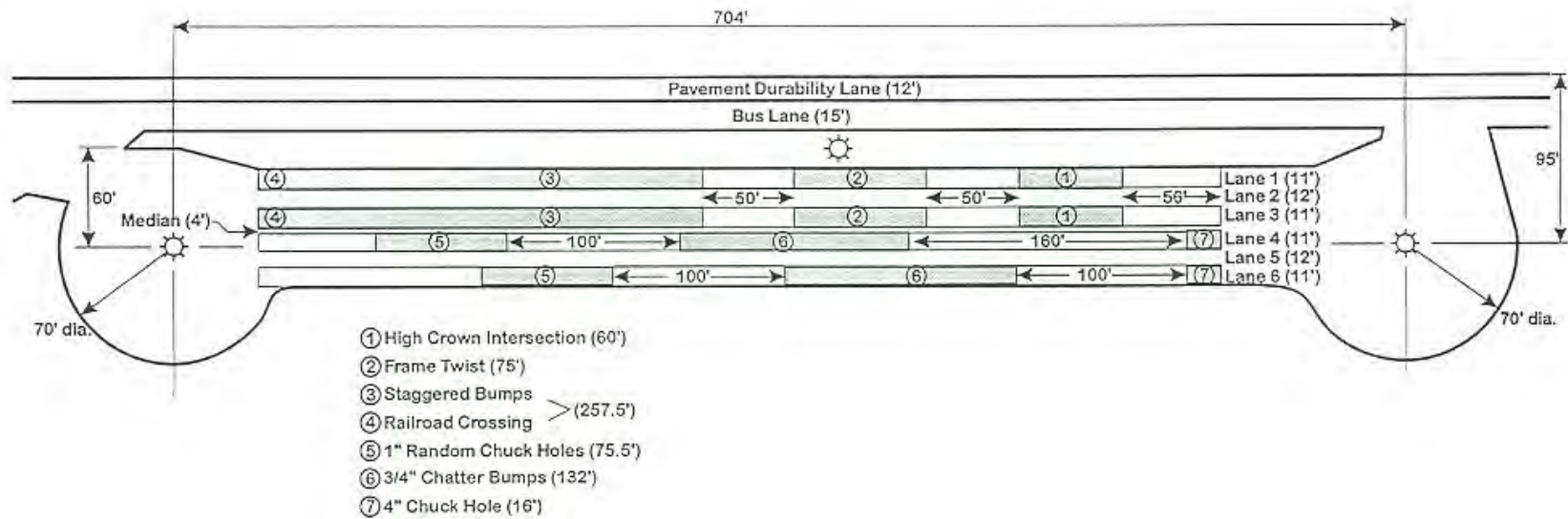
STANDARD OPERATING SCHEDULE		
Monday through Friday		
	HOUR	ACTION
Shift 1	midnight	D
	1:40 am	C
	1:50 am	B
	2:00 am	D
	3:35 am	C
	3:45 am	B
	4:05 am	D
	5:40 am	C
	5:50 am	B
	6:00 am	D
	7:40 am	C
Shift 2	7:50 am	F
	8:00 am	D
	9:40 am	C
	9:50 am	B
	10:00 am	D
	11:35 am	C
	11:45 am	B
	12:05 pm	D
	1:40 pm	C
	1:50 pm	B
	2:00 pm	D
Shift 3	3:40 pm	C
	3:50 pm	F
	4:00 pm	D
	5:40 pm	C
	5:50 pm	B
	6:00 pm	D
	7:40 pm	C
	7:50 pm	B
	8:05 pm	D
	9:40 pm	C
	9:50 pm	B
10:00 pm	D	
11:40 pm	C	
11:50 pm	F	

B—Break
 C—Cycle all systems five times, visual inspection, driver's log entries
 D—Drive bus as specified by procedure
 F—Fuel bus, complete driver's log shift entries

“PLAN VIEW OF PENN STATE BUS TESTING AND RESEARCH FACILITY”



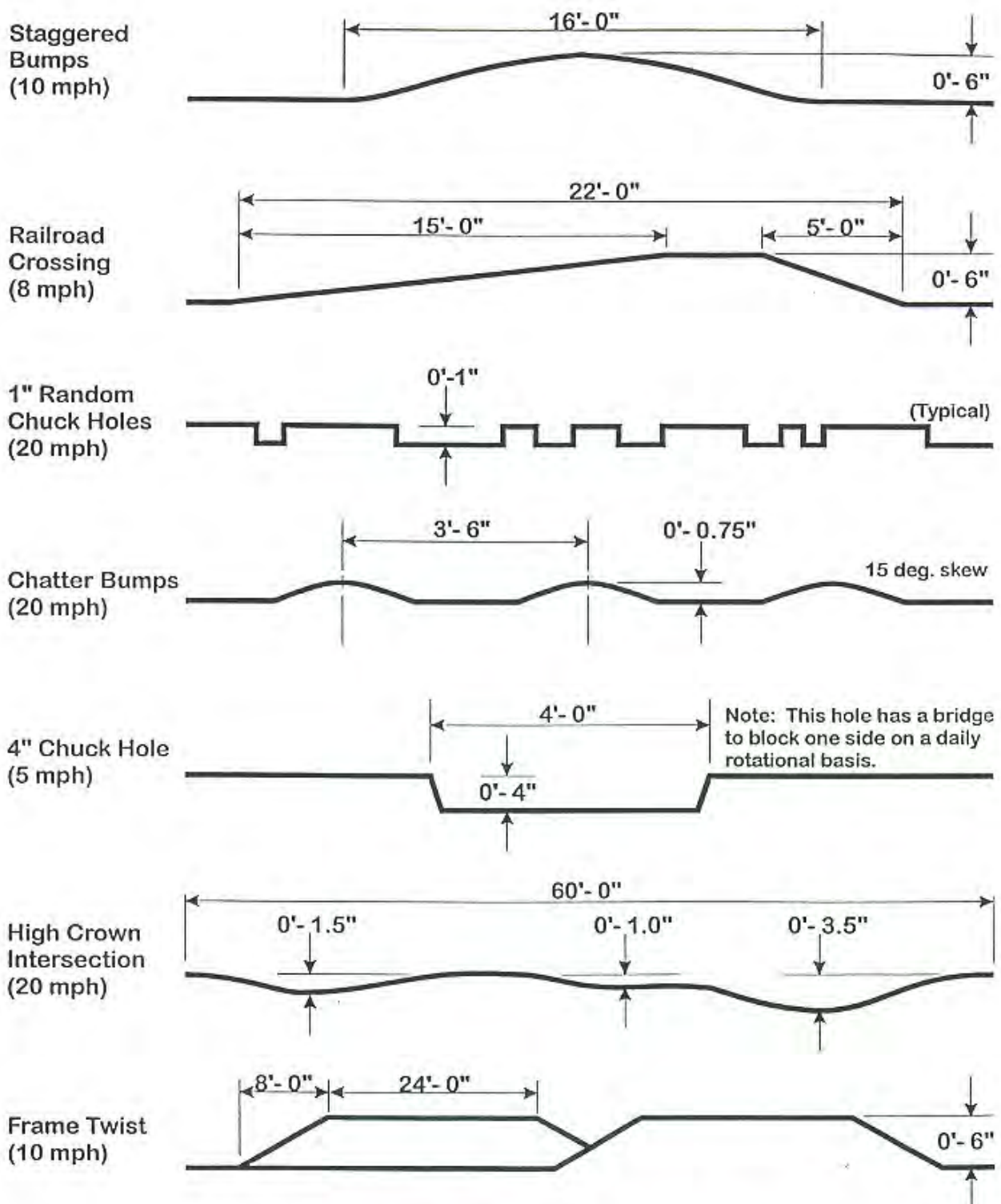
BUS TESTING AND RESEARCH TEST TRACK
UNIVERSITY PARK, PA



Plan View

Vehicle Durability Test Track

The Pennsylvania Transportation Institute
Penn State



Durability Element Profiles

The Pennsylvania Transportation Institute
Penn State

6. FUEL ECONOMY TEST - A FUEL CONSUMPTION TEST USING AN APPROPRIATE OPERATING CYCLE

6-I. TEST OBJECTIVE

The objective of this test is to provide accurate comparable fuel consumption data on transit buses produced by different manufacturers. This fuel economy test bears no relation to the calculations done by the Environmental Protection Agency (EPA) to determine levels for the Corporate Average Fuel Economy Program. EPA's calculations are based on tests conducted under laboratory conditions intended to simulate city and highway driving. This fuel economy test, as designated here, is a measurement of the fuel expended by a vehicle traveling a specified test loop under specified operating conditions. The results of this test will not represent actual mileage but will provide data that can be used by recipients to compare buses tested by this procedure.

6-II. TEST DESCRIPTION

This test requires operation of the bus over a course based on the Transit Coach Operating Duty Cycle (ADB Cycle) at seated load weight using a procedure based on the Fuel Economy Measurement Test (Engineering Type) For Trucks and Buses: SAE 1376 July 82. The procedure has been modified by elimination of the control vehicle and by modifications as described below. The inherent uncertainty and expense of utilizing a control vehicle over the operating life of the facility is impractical.

The fuel economy test will be performed as soon as possible (weather permitting) after the completion of the GVW portion of the structural durability test. It will be conducted on the bus test lane at the Penn State Test Facility. Signs are erected at carefully measured points which delineate the test course. A test run will comprise 3 CBD phases, 2 Arterial phases, and 1 Commuter phase. An electronic fuel measuring system will indicate the amount of fuel consumed during each phase of the test. The test runs will be repeated until there are at least two runs in both the clockwise and counterclockwise directions in which the fuel consumed for each run is within ∇ 4 percent of the average total fuel used over the 4 runs. A 20-minute idle consumption test is performed just prior to and immediately after the driven portion of the fuel economy test. The amount of fuel consumed while operating at normal/low idle is recorded on the Fuel Economy Data Form. This set of four valid runs along with idle consumption data comprise a valid test.

The test procedure is the ADB cycle with the following four modifications:

1. The ADB cycle is structured as a set number of miles in a fixed time in the following order: CBD, Arterial, CBD, Arterial, CBD, and Commuter. A separate idle fuel consumption measurement is performed at the beginning and end of the fuel economy test. This phase sequence permits the reporting of fuel consumption for each of these phases separately, making the data more useful to bus manufacturers and transit properties.
2. The operating profile for testing purposes shall consist of simulated transit type service at seated load weight. The three test phases (figure 6-1) are: a central business district (CBD) phase of 2 miles with 7 stops per mile and a top speed of 20 mph; an arterial phase of 2 miles with 2 stops per mile and a top speed of 40 mph; and a commuter phase of 4 miles with 1 stop and a maximum speed of 40 mph. At each designated stop the bus will remain stationary for seven seconds. During this time, the passenger doors shall be opened and closed.
3. The individual ADB phases remain unaltered with the exception that 1 mile has been changed to 1 lap on the Penn State Test Track. One lap is equal to 5,042 feet. This change is accommodated by adjusting the cruise distance and time.
4. The acceleration profile, for practical purposes and to achieve better repeatability, has been changed to "full throttle acceleration to cruise speed".

Several changes were made to the Fuel Economy Measurement Test (Engineering Type) For Trucks and Buses: SAE 1376 July 82:

1. Sections 1.1, and 1.2 only apply to diesel, gasoline, methanol, and any other fuel in the liquid state (excluding cryogenic fuels).

1.1 SAE 1376 July 82 requires the use of at least a 16-gal fuel tank. Such a fuel tank when full would weigh approximately 160 lb. It is judged that a 12-gal tank weighing approximately 120 lb will be sufficient for this test and much easier for the technician and test personnel to handle.

1.2 SAE 1376 July 82 mentions the use of a mechanical scale or a flowmeter system. This test procedure uses a load cell readout combination that provides an accuracy of 0.5 percent in weight and permits on-board weighing of the gravimetric tanks at the end of each phase. This modification permits the determination of a fuel economy value for each phase as well as the overall cycle.

2. Section 2.1 applies to compressed natural gas (CNG), liquefied natural gas (LNG), cryogenic fuels, and other fuels in the vapor state.

2.1 A laminar type flowmeter will be used to determine the fuel consumption. The pressure and temperature across the flow element will be monitored by the flow computer. The flow computer will use this data to calculate the gas flow rate. The flow computer will also display the flow rate (scfm) as well as the total fuel used (scf). The total fuel used (scf) for each phase will be recorded on the Fuel Economy Data Form.

3. Use both Sections 1 and 2 for dual fuel systems.

FUEL ECONOMY CALCULATION PROCEDURE

A. For diesel, gasoline, methanol and fuels in the liquid state.

The reported fuel economy is based on the following: measured test quantities-- distance traveled (miles) and fuel consumed (pounds); standard reference values-- density of water at 60EF (8.3373 lbs/gal) and volumetric heating value of standard fuel; and test fuel specific gravity (unitless) and volumetric heating value (BTU/gal). These combine to give a fuel economy in miles per gallon (mpg) which is corrected to a standard gallon of fuel referenced to water at 60EF. This eliminates fluctuations in fuel economy due to fluctuations in fuel quality. This calculation has been programmed into a computer and the data processing is performed automatically.

The fuel economy correction consists of three steps:

- 1.) Divide the number of miles of the phase by the number of pounds of fuel consumed

<u>phase</u>	<u>miles per phase</u>	<u>total miles per run</u>
CBD	1.9097	5.7291
ART	1.9097	3.8193
COM	3.8193	3.8193

$$FE_{o_{mi/lb}} = \text{Observed fuel economy} = \frac{\text{miles}}{\text{lb of fuel}}$$

- 2.) Convert the observed fuel economy to miles per gallon [mpg] by multiplying by the specific gravity of the test fuel G_s (referred to water) at 60EF and multiply by the density of water at 60EF

$$FE_{\text{mpg}} = FE_{\text{mi/lb}} \times G_s \times G_w$$

where G_s = Specific gravity of test fuel at 60EF (referred to water)
 G_w = 8.3373 lb/gal

- 3.) Correct to a standard gallon of fuel by dividing by the volumetric heating value of the test fuel (H) and multiplying by the volumetric heating value of standard reference fuel (Q). Both heating values must have the same units.

$$FE_c = FE_{\text{mpg}} \times \frac{Q}{H}$$

where

H = Volumetric heating value of test fuel [BTU/gal]
 Q = Volumetric heating value of standard reference fuel

Combining steps 1-3 yields

$$\implies FE_c = \frac{\text{miles}}{\text{lbs}} \times (G_s \times G_w) \times \frac{Q}{H}$$

- 4.) Convert the fuel economy from mpg to an energy equivalent of miles per BTU. Since the number would be extremely small in magnitude, the energy equivalent will be represented as miles/BTU $\times 10^6$.

Eq = Energy equivalent of converting mpg to mile/BTU $\times 10^6$.

$$Eq = ((\text{mpg})/(H)) \times 10^6$$

B. CNG, LNG, cryogenic and other fuels in the vapor state.

The reported fuel economy is based on the following: measured test quantities-- distance traveled (miles) and fuel consumed (scf); density of test fuel, and volumetric heating value (BTU/lb) of test fuel at standard conditions ($P=14.73$ psia and $T=60$ EF).

These combine to give a fuel economy in miles per lb. The energy equivalent (mile/BTUx10⁶) will also be provided so that the results can be compared to buses that use other fuels.

- 1.) Divide the number of miles of the phase by the number of standard cubic feet (scf) of fuel consumed.

phase	miles per phase	total miles per run
CBD	1.9097	5.7291
ART	1.9097	3.8193
COM	3.8193	3.8193

$$\text{FEO}_{\text{mi/scf}} = \text{Observed fuel economy} = \frac{\text{miles}}{\text{scf of fuel}}$$

- 2.) Convert the observed fuel economy to miles per lb by dividing FEO by the density of the test fuel at standard conditions (Lb/ft³).

Note: The density of test fuel must be determined at standard conditions as described above. If the density is not defined at the above standard conditions, then a correction will be needed before the fuel economy can be calculated.

$$\text{FEO}_{\text{mi/lb}} = \text{FEO} / \text{Gm}$$

where Gm = Density of test fuel at standard conditions

- 3.) Convert the observed fuel economy (FEOmi/lb) to an energy equivalent of (miles/BTUx10⁶) by dividing the observed fuel economy (FEOmi/lb) by the heating value of the test fuel at standard conditions.

$$\text{Eq} = ((\text{FEOmi/lb})/\text{H}) \times 10^6$$

where

Eq = Energy equivalent of miles/lb to mile/BTUx10⁶

H = Volumetric heating value of test fuel at standard conditions

6-III. DISCUSSION

This is a comparative test of fuel economy using unleaded gasoline fuel with a heating value of 20,025.0 btu/lb. The driving cycle consists of Central Business District (CBD), Arterial (ART), and Commuter (COM) phases as described in 6-II. The fuel consumption for each driving cycle and for idle is measured separately. The results are corrected to a reference fuel with a volumetric heating value of 127,700.0 btu/gal.

An extensive pretest maintenance check is made including the replacement of all lubrication fluids. The details of the pretest maintenance are given in the first three Pretest Maintenance Forms. The fourth sheet shows the Pretest Inspection. The next sheet shows the correction calculation for the test fuel. The next four Fuel Economy Forms provide the data from the four test runs. Finally, the summary sheet provides the average fuel consumption. The overall average is based on total fuel and total mileage for each phase. The overall average fuel consumption values were; CBD – 6.39 mpg, ART – 6.90 mpg, and COM – 10.17 mpg. Average fuel consumption at idle was 4.10 lb/hr (0.65 gph).

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Bus Number: 0518	Date: 1-30-06	SLW (lbs): 12,500
Personnel: T.S., E.L. & D.L.		

FUEL SYSTEM	OK	Date	Initials
Install fuel measurement system	✓	1/30/06	T.S.
Replace fuel filter	✓	1/30/06	T.S.
Check for fuel leaks	✓	1/30/06	T.S.
Specify fuel type (refer to fuel analysis)	Gasoline		
Remarks: None noted.			
BRAKES/TIRES	OK	Date	Initials
Inspect hoses	✓	1/30/06	T.S.
Inspect brakes	✓	1/30/06	T.S.
Relube wheel bearings	✓	1/30/06	T.S.
Check tire inflation pressures (mfg. specs.)	✓	1/30/06	T.S.
Remarks: None noted.			
COOLING SYSTEM	OK	Date	Initials
Check hoses and connections	✓	1/30/06	D.L.
Check system for coolant leaks	✓	1/30/06	D.L.
Remarks: None noted.			

FUEL ECONOMY PRE-TEST MAINTENANCE FORM (page 2)

Bus Number: 0518	Date: 1-30-06		
Personnel: T.S., E.L. & D.L.			
ELECTRICAL SYSTEMS	OK	Date	Initials
Check battery		1/30/06	T.S.
Inspect wiring		1/30/06	T.S.
Inspect terminals		1/30/06	T.S.
Check lighting		1/30/06	T.S.
Remarks: None noted.			
DRIVE SYSTEM	OK	Date	Initials
Drain transmission fluid		1/30/06	D.L.
Replace filter/gasket		1/30/06	E.L.
Check hoses and connections		1/30/06	D.L.
Replace transmission fluid		1/30/06	E.L.
Check for fluid leaks		1/30/06	E.L.
Remarks: None noted.			
LUBRICATION	OK	Date	Initials
Drain crankcase oil		1/30/06	E.L.
Replace filters		1/30/06	D.L.
Replace crankcase oil		1/30/06	T.S.
Check for oil leaks		1/30/06	E.L.
Check oil level		1/30/06	T.S.
Lube all chassis grease fittings		1/30/06	E.L.
Lube universal joints		1/30/06	E.L.
Replace differential lube including axles		1/30/06	D.L.
Remarks: None noted.			

FUEL ECONOMY PRE-TEST MAINTENANCE FORM (page 3)

Bus Number: 0518	Date: 1-30-06		
Personnel: T.S., E.L. & D.L.			
EXHAUST/EMISSION SYSTEM	OK	Date	Initials
Check for exhaust leaks		1/30/06	T.S.
Remarks: None noted.			
ENGINE	OK	Date	Initials
Replace air filter		1/30/06	E.L.
Inspect air compressor and air system	N/A	1/30/06	E.L.
Inspect vacuum system, if applicable		1/30/06	D.L.
Check and adjust all drive belts		1/30/06	E.L.
Check cold start assist, if applicable	N/A	1/30/06	E.L.
Remarks: None noted.			
STEERING SYSTEM	OK	Date	Initials
Check power steering hoses and connectors		1/30/06	E.L.
Service fluid level		1/30/06	E.L.
Check power steering operation		1/30/06	E.L.
Remarks: None noted.			
TEST DRIVE	OK	Date	Initials
Check brake operation		1/30/06	T.S.
Check transmission operation		1/30/06	T.S.
Remarks: None noted.			

FUEL ECONOMY PRE-TEST INSPECTION FORM

Bus Number: 0518	Date: 1-31-06
Personnel: T.S. & S.C.	
PRE WARM-UP	If OK, Initial
Fuel Economy Pre-Test Maintenance Form is complete	T.S.
Cold tire pressure (psi): Front <u>80</u> Middle <u>N/A</u> Rear <u>80</u>	T.S.
Tire wear:	T.S.
Engine oil level	T.S.
Engine coolant level	T.S.
Interior and exterior lights on, evaporator fan on	T.S.
Fuel economy instrumentation installed and working properly.	T.S.
Fuel line -- no leaks or kinks	T.S.
Speed measuring system installed on bus. Speed indicator installed in front of bus and accessible to TECH and Driver.	S.C. & T.S.
Bus is loaded to SLW	T.S.
WARM-UP	If OK, Initial
Bus driven for at least one hour warm-up	S.C.
No extensive or black smoke from exhaust	S.C.
POST WARM-UP	If OK, Initial
Warm tire pressure (psi): Front <u>80</u> Middle <u>N/A</u> Rear <u>80</u>	T.S.
Environmental conditions Average wind speed <12 mph and maximum gusts <15 mph Ambient temperature between 30°F(-1C°) and 90°F(32°C) Track surface is dry Track is free of extraneous material and clear of interfering traffic	T.S.

FUEL ECONOMY DATA FORM (Liquid Fuels)

Bus Number: 0518		Manufacturer: Starcraft			Date: 1-31-06		
Run Number: 1		Personnel: B.S., T.S. & S.C.					
Test Direction: <input type="checkbox"/> CW or <input checked="" type="checkbox"/> CCW		Temperature (°F): 38			Humidity (%): 61		
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 12/WNW			Barometric Pressure (in.Hg): 29.80		
Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Load Cell Reading (lb)		Fuel Used (lbs)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:20	8:20	5.5	0	1.95	1.95
ART #1	0	3:54	3:54	4.5	0	1.74	1.74
CBD #2	0	8:25	8:25	4.5	0	1.82	1.82
ART #2	0	3:59	3:59	4.5	0	1.70	1.70
CBD #3	0	8:21	8:21	4.5	0	1.88	1.88
COMMUTER	0	5:51	5:51	4.0	0	2.37	2.37
Total Fuel = 11.46 lbs							
20 minute idle : Total Fuel Used = 1.36 lbs							
Heating Value = 20,025.0 BTU/LB							
Comments: None noted.							

FUEL ECONOMY DATA FORM (Liquid Fuels)

Bus Number: 0518		Manufacturer: Starcraft		Date: 1-31-06			
Run Number: 2		Personnel: B.S., T.S. & S.C.					
Test Direction: <input checked="" type="checkbox"/> CW or <input type="checkbox"/> CCW		Temperature (°F): 38			Humidity (%): 61		
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 12/WNW			Barometric Pressure (in.Hg): 29.80		
Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Load Cell Reading (lb)		Fuel Used (lbs)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:45	8:45	4.0	0	1.82	1.82
ART #1	0	3:57	3:57	4.0	0	1.68	1.68
CBD #2	0	8:25	8:25	3.5	0	1.88	1.88
ART #2	0	3:56	3:56	3.5	0	1.80	1.80
CBD #3	0	8:24	8:24	3.5	0	1.87	1.87
COMMUTER	0	6:06	6:06	3.5	0	2.40	2.40
Total Fuel = 11.45 lbs							
20 minute idle : Total Fuel Used = N/A lbs							
Heating Value = 20,025.0 BTU/LB							
Comments: None noted.							

FUEL ECONOMY DATA FORM (Liquid Fuels)

Bus Number: 0518		Manufacturer: Starcraft			Date: 2/1/06		
Run Number: 3		Personnel: B.S., T.S. & S.C.					
Test Direction: <input type="checkbox"/> CW or <input checked="" type="checkbox"/> CCW		Temperature (°F): 36			Humidity (%): 65		
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 5/SSW			Barometric Pressure (in.Hg): 29.96		
Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Load Cell Reading (lb)		Fuel Used (lbs)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:51	8:51	4.0	0	1.87	1.87
ART #1	0	3:53	3:53	4.0	0	1.77	1.77
CBD #2	0	8:33	8:33	4.0	0	1.89	1.89
ART #2	0	3:55	3:55	4.0	0	1.76	1.76
CBD #3	0	8:36	8:36	4.5	0	1.93	1.93
COMMUTER	0	6:05	6:05	4.5	0	2.39	2.39
Total Fuel = 11.61 lbs							
20 minute idle : Total Fuel Used = N/A lbs							
Heating Value = 20,025.0 BTU/LB							
Comments: None noted.							

FUEL ECONOMY DATA FORM (Liquid Fuels)

Bus Number: 0518		Manufacturer: Starcraft			Date: 2-1-06		
Run Number: 4		Personnel: B.S., T.S. & S.C.					
Test Direction: <input checked="" type="checkbox"/> CW or <input type="checkbox"/> CCW		Temperature (°F): 36			Humidity (%): 65		
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 5/SSW			Barometric Pressure (in.Hg): 29.96		
Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Load Cell Reading (lb)		Fuel Used (lbs)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:38	8:38	3.5	0	1.94	1.94
ART #1	0	3:59	3:59	4.5	0	1.81	1.81
CBD #2	0	8:37	8:37	5.5	0	1.92	1.92
ART #2	0	3:55	3:55	5.5	0	1.76	1.76
CBD #3	0	8:36	8:36	4.5	0	1.93	1.93
COMMUTER	0	5:58	5:58	5.0	0	2.35	2.35
Total Fuel = 11.71 lbs							
20 minute idle : Total Fuel Used = 1.37 lbs							
Heating Value = 20,025.0 BTU/LB							
Comments: None noted.							

0518.FUL
FUEL ECONOMY SUMMARY SHEET

BUS MANUFACTURER :Starcraft BUS NUMBER :0518
BUS MODEL :Allstar-25 TEST DATE :1/31/06

FUEL TYPE : GASOLINE
SP. GRAVITY : .7512
HEATING VALUE : 20025.00 BTU/Lb
Standard Conditions : 60 deg F and 14.7 psi
Density of water : 8.3373 lb/gallon at 60 deg F

CYCLE	TOTAL FUEL USED (Lb)	TOTAL MILES	FUEL ECONOMY M/Lb(Measured)	FUEL ECONOMY MPG(Corrected)
Run # :1, CCW				
CBD	5.65	5.73	1.01	6.42
ART	3.44	3.82	1.11	7.03
COM	2.37	3.82	1.61	10.20
TOTAL	11.46	13.37	1.17	7.38
Run # :2, CW				
CBD	5.57	5.73	1.03	6.51
ART	3.48	3.82	1.10	6.95
COM	2.40	3.82	1.59	10.07
TOTAL	11.45	13.37	1.17	7.39
Run # :3, CCW				
CBD	5.69	5.73	1.01	6.37
ART	3.53	3.82	1.08	6.85
COM	2.39	3.82	1.60	10.11
TOTAL	11.61	13.37	1.15	7.29
Run # :4, CW				
CBD	5.79	5.73	.99	6.26
ART	3.57	3.82	1.07	6.77
COM	2.35	3.82	1.63	10.28
TOTAL	11.71	13.37	1.14	7.22

IDLE CONSUMPTION

First 20 Minutes Data : 1.36 Lb Last 20 Minutes Data : 1.37 Lb
Average Idle Consumption : 4.10 Lb/Hr

RUN CONSISTENCY: % Difference from overall average of total fuel used

Run 1 : .8 Run 2 : .9 Run 3 : -.5 Run 4 : -1.3

SUMMARY

Average Idle Consumption : .65 G/Hr
Average CBD Phase Consumption : 6.39 MPG
Average Arterial Phase Consumption : 6.90 MPG
Average Commuter Phase Consumption : 10.17 MPG
Overall Average Fuel Consumption : 7.32 MPG
Overall Average Fuel Consumption : 58.37 Miles/ Million BTU

7. NOISE

7.1 INTERIOR NOISE AND VIBRATION TESTS

7.1-I. TEST OBJECTIVE

The objective of these tests is to measure and record interior noise levels and check for audible vibration under various operating conditions.

7.1-II. TEST DESCRIPTION

During this series of tests, the interior noise level will be measured at several locations with the bus operating under the following three conditions:

1. With the bus stationary, a white noise generating system shall provide a uniform sound pressure level equal to 80 dB(A) on the left, exterior side of the bus. The engine and all accessories will be switched off and all openings including doors and windows will be closed. This test will be performed at the ABTC.
2. The bus accelerating at full throttle from a standing start to 35 mph on a level pavement. All openings will be closed and all accessories will be operating during the test. This test will be performed on the track at the Test Track Facility.
3. The bus will be operated at various speeds from 0 to 55 mph with and without the air conditioning and accessories on. Any audible vibration or rattles will be noted. This test will be performed on the test segment between the Test Track and the Bus Testing Center.

All tests will be performed in an area free from extraneous sound-making sources or reflecting surfaces. The ambient sound level as well as the surrounding weather conditions will be recorded in the test data.

7.1-III. DISCUSSION

This test is performed in three parts. The first part exposes the exterior of the vehicle to 80.0 dB(A) on the left side of the bus and the noise transmitted to the interior is measured. The overall average of the six measurements was 48.0 dB(A); ranging from 47.1 dB(A) at the rear passenger seats to 50.9 dB(A) at the driver's seat. The interior ambient noise level for this test was < 34.0 dB(A).

The second test measures interior noise during acceleration from 0 to 35 mph. This noise level ranged from 69.4 dB(A) at the front passenger seats to 71.7 dB(A) at the rear passenger seats. The overall average was 71.0 dB(A). The interior ambient noise level for this test was 38.6 dB(A).

The third part of the test is to listen for resonant vibrations, rattles, and other noise sources while operating over the road. No vibrations or rattles were noted.

INTERIOR NOISE TEST DATA FORM
Test Condition 1: 80 dB(A) Stationary White Noise

Bus Number: 0518	Date: 2/8/06
Personnel: T.S. & S.C.	
Temperature (°F): 33	Humidity (%): 67
Wind Speed (mph): Calm	Wind Direction: Calm
Barometric Pressure (in.Hg): 30.10	
Initial Sound Level Meter Calibration: ■ checked by: S.C.	
Interior Ambient Noise Level dB(A): < 34.0	Exterior Ambient Noise Level dB(A): 45.1
Microphone Height During Testing (in): 48.0	

Measurement Location	Measured Sound Level dB(A)
Driver's Seat	50.9
Front Passenger Seats	47.6
In Line with Front Speaker	47.8
In Line with Middle Speaker	47.6
In Line with Rear Speaker	47.2
Rear Passenger Seats	47.1

Final Sound Level Meter Calibration: ■ checked by: S.C.

Comments: All readings taken in the center aisle.

INTERIOR NOISE TEST DATA FORM
Test Condition 2: 0 to 35 mph Acceleration Test

Bus Number: 0518	Date: 2-2-06
Personnel: B.S., S.C. & T.S.	
Temperature (°F): 37	Humidity (%): 93
Wind Speed (mph): Calm	Wind Direction: Calm
Barometric Pressure (in.Hg): 29.91	
Initial Sound Level Meter Calibration: ■ checked by: S.C.	
Interior Ambient Noise Level dB(A): 38.6	Exterior Ambient Noise Level dB(A): 53.2
Microphone Height During Testing (in): 48.0	

Measurement Location	Measured Sound Level dB(A)
Driver's Seat	71.5
Front Passenger Seats	69.4
Middle Passenger Seats	71.5
Rear Passenger Seats	71.7

Final Sound Level Meter Calibration: ■ checked by: S.C.

Comments: All readings taken in the center aisle.

INTERIOR NOISE TEST DATA FORM
Test Condition 3: Audible Vibration Test

Bus Number: 0518	Date: 2-2-06
Personnel: B.S., S.C. & T.S.	
Temperature (°F): 37	Humidity (%): 93
Wind Speed (mph): Calm	Wind Direction: Calm
Barometric Pressure (in.Hg): 29.91	

Describe the following possible sources of noise and give the relative location on the bus.

Source of Noise	Location
Engine and Accessories	None noted.
Windows and Doors	None noted.
Seats and Wheel Chair lifts	None noted.

Comment on any other vibration or noise source which may have occurred that is not described above: None noted.

7.1 INTERIOR NOISE TEST



**TEST BUS SET-UP FOR 80 dB(A)
INTERIOR NOISE TEST**

7.2 EXTERIOR NOISE TESTS

7.2-I. TEST OBJECTIVE

The objective of this test is to record exterior noise levels when a bus is operated under various conditions.

7.2-II. TEST DESCRIPTION

In the exterior noise tests, the bus will be operated at a SLW in three different conditions using a smooth, straight and level roadway:

1. Accelerating at full throttle from a constant speed at or below 35 mph and just prior to transmission up shift.
2. Accelerating at full throttle from standstill.
3. Stationary, with the engine at low idle, high idle, and wide open throttle.

In addition, the buses will be tested with and without the air conditioning and all accessories operating. The exterior noise levels will be recorded.

The test site is at the PSBRTF and the test procedures will be in accordance with SAE Standards SAE J366b, Exterior Sound Level for Heavy Trucks and Buses. The test site is an open space free of large reflecting surfaces. A noise meter placed at a specified location outside the bus will measure the noise level.

During the test, special attention should be paid to:

1. The test site characteristics regarding parked vehicles, signboards, buildings, or other sound-reflecting surfaces
2. Proper usage of all test equipment including set-up and calibration
3. The ambient sound level

7.2-III. DISCUSSION

The Exterior Noise Test determines the noise level generated by the vehicle under different driving conditions and at stationary low and high idle, with and without air conditioning and accessories operating. The test site is a large, level, bituminous paved area with no reflecting surfaces nearby.

With an exterior ambient noise level of 51.6 dB(A), the average test result obtained while accelerating from a constant speed was 73.2 dB(A) on the right side and 73.0 dB(A) on the left side.

When accelerating from a standstill with an exterior ambient noise level of 53.7 dB(A), the average of the results obtained were 72.7 dB(A) on the right side and 71.4 dB(A) on the left side.

With the vehicle stationary and the engine, accessories, and air conditioning on, the measurements averaged 48.0 dB(A) at low idle, 56.2 dB(A) at high idle, and 67.1 dB(A) at wide open throttle. With the accessories and air conditioning off, the readings averaged 0.5 dB(A) higher at low idle, 0.8 dB(A) higher at high idle, and 0.3 dB(A) higher at wide open throttle. The exterior ambient noise level measured during this test was 50.9 dB(A).

EXTERIOR NOISE TEST DATA FORM

Accelerating from Constant Speed

Bus Number: 0518	Date: 2-2-06
Personnel: B.S., S.C. & T.S.	
Temperature (°F): 41	Humidity (%): 85
Wind Speed (mph): 5	Wind Direction: SW
Barometric Pressure (in.Hg): 29.91	
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■ checked by: S.C.	
Initial Sound Level Meter Calibration: ■ checked by: S.C.	
Exterior Ambient Noise Level dB(A): 51.6	

Accelerating from Constant Speed Curb (Right) Side		Accelerating from Constant Speed Street (Left) Side	
Run #	Measured Noise Level dB(A)	Run #	Measured Noise Level dB(A)
1	72.6	1	73.2
2	72.4	2	72.7
3	73.0	3	72.5
4	73.2	4	72.6
5	73.1	5	72.7
Average of two highest actual noise levels = 73.2 dB(A)		Average of two highest actual noise levels = 73.0 dB(A)	

Final Sound Level Meter Calibration Check: ■ checked by: S.C.
Comments: None noted.

EXTERIOR NOISE TEST DATA FORM
Accelerating from Standstill

Bus Number: 0518	Date: 2-2-06
Personnel: B.S., S.C. & T.S.	
Temperature (°F): 41	Humidity (%): 85
Wind Speed (mph): 5	Wind Direction: SW
Barometric Pressure (in.Hg): 29.91	
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■ checked by: S.C.	
Initial Sound Level Meter Calibration: ■ checked by: S.C.	
Exterior Ambient Noise Level dB(A): 53.7	

Accelerating from Standstill Curb (Right) Side		Accelerating from Standstill Street (Left) Side	
Run #	Measured Noise Level dB(A)	Run #	Measured Noise Level dB(A)
1	72.4	1	71.3
2	72.9	2	71.4
3	72.1	3	71.0
4	72.5	4	71.3
5	72.4	5	71.2
Average of two highest actual noise levels = 72.7 dB(A)		Average of two highest actual noise levels = 71.4 dB(A)	

Final Sound Level Meter Calibration Check: ■ checked by: S.C.
Comments: None noted.

EXTERIOR NOISE TEST DATA FORM Stationary

Bus Number: 0518		Date: 2-2-06	
Personnel: B.S., S.C. & T.S.			
Temperature (°F): 41		Humidity (%): 85	
Wind Speed (mph): 5		Wind Direction: SW	
Barometric Pressure (in.Hg): 29.91			
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■ checked by: S.C.			
Initial Sound Level Meter Calibration: ■ checked by: S.C.			
Exterior Ambient Noise Level dB(A): 50.9			
Accessories and Air Conditioning ON			
Throttle Position	Engine RPM	Curb (Right) Side dB(A)	Street (Left) Side db(A)
		Measured	Measured
Low Idle	703	47.8	48.2
High Idle	2,050	54.3	58.1
Wide Open Throttle	3,602	67.0	67.2
Accessories and Air Conditioning OFF			
Throttle Position	Engine RPM	Curb (Right) Side dB(A)	Street (Left) Side db(A)
		Measured	Measured
Low Idle	750	48.0	49.0
High Idle	2,153	54.7	59.3
Wide Open Throttle	3,651	66.9	67.8
Final Sound Level Meter Calibration Check: ■ checked by: S.C.			
Comments: None noted.			

7.2 EXTERIOR NOISE TESTS



TEST BUS UNDERGOING EXTERIOR NOISE TESTING



Filename: Report.0518.doc
Directory: E:
Template: C:\Documents and Settings\vnocek\Application
Data\Microsoft\Templates\Normal.dot
Title: 5
Subject:
Author: Sondra Hoover
Keywords:
Comments:
Creation Date: 2/20/2006 10:52:00 AM
Change Number: 2
Last Saved On: 2/20/2006 10:52:00 AM
Last Saved By: PTI
Total Editing Time: 1 Minute
Last Printed On: 3/6/2007 10:41:00 AM
As of Last Complete Printing
Number of Pages: 102
Number of Words: 14,310 (approx.)
Number of Characters: 70,410 (approx.)



U.S. Department
of Transportation
**Federal Transit
Administration**

1200 New Jersey Avenue SE
Washington, D.C. 20590

June 5, 2020

Stephen Spata
MSBMA Secretary
NTEA Technical Assistance Director
37400 Hills Tech Drive
Farmington Hills, MI 48331-7090
(via email: SteveS@NTEA.com)

Dear Mr. Spata:

This is a clarification of FTA's May 4, 2020 response to your letter dated April 9, 2020, in which you requested assistance from the Federal Transit Administration (FTA) on behalf of several MSBMA member companies concerning the applicability of the Bus Testing Regulation (49 CFR Part 665) to previously-tested bus models equipped with Ford's new 7.3L gasoline engine. Your letter, which is attached and incorporated by reference, cites the recently completed partial test of the 7.3L Ford gasoline engine in an Eldorado Advance bus model built by REV Group, Bus Testing Report # LTI-BT-R1914-P. Your letter then asks FTA to issue a "blanket determination" that Report 1914-P will satisfy Bus Testing requirements for MSBMA member companies' buses that are also built on the Ford E-Series chassis using the new 7.3L engine. On May 5, 2020, you requested a clarification of whether this determination also applies to previously-tested bus models now equipped with the 7.3L engine on the Ford F-Series chassis.

FTA notes that Ford's new 7.3L V8 gasoline engine will replace both 6.8L V10 and 6.2L V8 gasoline engines in Ford E-Series and F-Series chassis. FTA had previously determined that since this is a new engine design, FTA expects this engine may produce significantly different data in the Performance, Fuel Economy, Noise, and Emissions tests compared to its predecessors, and at least one bus model equipped with a 7.3L Ford engine must complete these partial tests. FTA also determined that a partial testing report with this data on a similar bus from any manufacturer will satisfy the partial testing requirements for a bus model equipped with the corresponding engine.

Now that Report # 1914-P is available, **FTA recipients may use a combination of Report # 1914-P for the Maintainability, Performance, Fuel Economy, Noise, and Emissions data, and the Bus Testing Report(s) applicable to a previously-tested model for the remaining baseline data, when the acquiring a bus model built on a new E-Series chassis that has been previously tested on a Ford E-Series chassis**

On an interim basis, FTA recipients may use a combination of Report # 1914-P for the Maintainability, Performance, Fuel Economy, Noise, and Emissions data, and the Bus Testing

Report(s) applicable to the previously-tested model for the remaining baseline data, to acquire bus models built on new F-Series chassis that have been previously tested on Ford F-Series chassis powered by previous engines. Once a bus model built on an F-550 or F-650 chassis powered by the 7.3L engine has completed (at least) the Maintainability, Performance, Fuel Economy, Noise, and Emissions tests, then that partial or full Bus Testing Report on the closest-matching chassis should be used instead of Report # 1914-P to provide data for these tests for buses built on new F-Series chassis powered by the 7.3L engine.

As set forth in section 665.13(c) of FTA's bus testing regulation:

(c)(1) A manufacturer or dealer of a new bus model or a bus produced with a major change in component or configuration shall provide a copy of the corresponding full Bus Testing Report and any applicable partial testing report(s) to a recipient during the point in the procurement process specified by the recipient, but in all cases before final acceptance of the first bus by the recipient.

Therefore, prior to final acceptance of a vehicle, an FTA recipient must possess copies of all of the applicable reports as described in the applicable section above in order to be in compliance, consistent with Section 9 of FTA's Comprehensive Review Guide (<https://www.transit.dot.gov/fy20-comprehensive-review-guide>).

This determination is based on the changes detailed in your letter or mentioned above. If the member company makes any other changes to its vehicle, additional testing may be required. If you require any further assistance with this or other matters concerning Bus Testing, I encourage you to consult the resources provided at www.transit.dot.gov/research-innovation/bus-testing. If you still have questions after checking this website, please feel free to contact me.

Sincerely,



Marcel Belanger
Bus Testing Program Manager
Office of Infrastructure & Asset
Management
TRI-20
marcel.belanger@dot.gov
202-366-0725

Attachment: April 9, 2020 MSBMA letter

Mid-Size Bus Manufacturers Association

An Industry Division of NTEA – The Association for the Work Truck Industry

37400 Hills Tech Drive, Farmington Hills, MI 48331-3414 • 248/489-7090

Mr. Marcel Belanger
Bus Testing Program Manager
Federal Transit Administration
Office of Mobility Innovation, TRI-12
Room E43-471
1200 New Jersey Ave. SE
East Building, 4th floor
Washington, DC 20590

Date: April 9, 2020

Dear Mr. Belanger,

As you are likely aware, a number of the bus manufacturers that belong to the Mid-Size Bus Manufacturers Association (MSBMA), an Industry Division of NTEA – The Association for the Work Truck Industry, utilize the Ford E-Series cutaway models in their bus model offerings, which has served as a staple to bus industry customers.

As you are also aware, FTA has determined that the introduction of the new Ford 7.3L engine would necessitate some level of retesting of the Ford E-Series for the 2021 model year chassis. This engine has only recently gone into production in the new year, and it has not yet been commercially available for the manufacturers to acquire and test their respective models. This issue has generated a great deal of concern for grantee customers as well as the bus manufacturers regarding the timing and logistics of being able to order buses based on this chassis.

Having identified the implications for the bus manufacturers and their common customers, Ford made an advanced prototype chassis available with this engine, which has now successfully passed the Altoona Bus Test program as documented in Report LTI-BT-R1914-P.

With the successful completion of testing of the Ford E-Series chassis and new 7.3L gas engine in Report LTI-BT-R1914-P, we request that FTA provide a 'blanket determination' such that manufacturers would not have to individually submit determination requests to FTA for previously tested bus models that would now incorporate the new 7.3L powertrain. This would apply to bus models where the 7.3L powertrain is the only change in the manufacturers' model offerings that include the E-Series cutaway chassis'.

Given the success of this well-known and frequently tested chassis, we respectfully request that FTA would consider providing relief from the testing requirements, to the extent possible, for the following members of the MSBMA that utilize the E-Series chassis:

- Champion Bus Inc
- Coach & Equipment Mfg Corp
- Diamond Coach
- ElDorado National
- Elkhart Coach, A Division Forest River Inc.
- Glaval Bus, A Division of Forest River Inc.
- LA West Inc
- Micro Bird, Inc
- Starcraft Bus, A Division of Forest River Inc.
- StarTrans Bus, A Division of Forest River Inc.
- SVO Group, Inc
- Titan Bus Co LLC
- Turtle Top

Thank you very much for your consideration of this request, and please let me know if we can provide any additional information or input.

Sincerely,

A handwritten signature in black ink that reads "Stephen C. Spata". The signature is written in a cursive style with a large, looped initial "S".

Stephen C. Spata
MSBMA Secretary
NTEA Technical Assistance Director
P: 248.479.8147
E: steves@ntea.com


CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

The undersigned [contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. 5323 and FTA's implementing regulation at 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

Date: 9/28/2020

Company Name: Glaval Bus, A Division of Forest River Inc.

Signature of contractor's Authorized Official: 

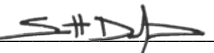
Name and Title of contractor's Authorized Official: Scott Defrees, Government Bid Sales

CERTIFICATE OF COMPLIANCE WITH PRE-AWARD AND POST-DELIVERY AUDITS OF ROLLING STOCK

The bidder will supply the items called for in the specifications.

Date: 9/28/2020

Company Name: Glaval Bus, A Division of Forest River Inc.

Signature of contractor's Authorized Official: 

Name and Title of contractor's Authorized Official: Scott Defrees, Government Bid Sales

CERTIFICATION REGARDING LOBBYING

The undersigned {contractor} certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal Grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds or other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contracts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

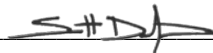
This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

[Note: Pursuant to 31 U.S.C. 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The contractor, Glaval Bus, A Division of Forest River Inc., certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure. In addition, the contractor understands and agrees that the provisions of 31 U.S.C. A 3801, et seq., apply to this certification and disclosure, if any.

Date: 9/28/2020

Company Name: Glaval Bus, A Division of Forest River Inc.

Signature of contractor's Authorized Official: 

Name and Title of contractor's Authorized Official: Scott Defrees, Government Bid Sales

BUY AMERICA

Certificate of Compliance With 49 U.S.C. 5323(j).

The bidder hereby certifies that it will comply with the requirements of Section of 49 U.S.C. 5323(j) and the regulations at 49 CFR Part 661 as amended by the FAST Act.

Date: 9/28/2020

Company Name: Glaval Bus, A Division of Forest River Inc.

Signature of contractor's Authorized Official: 

Name and Title of contractor's Authorized Official: Scott Defrees, Government Bid Sales

Certificate for Non-Compliance With 49 U.S.C. 5323(j)(2)(C)

The bidder hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(2)(C) but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C) or and the applicable regulations in 49 CFR, 661.11.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

DISADVANTAGED BUSINESS ENTERPRISES CERTIFICATION

The following certification must be signed by a legally authorized representative of the Bidder's firm and returned with the bid.

The Bidder certifies that the transit vehicle(s) to be provided under this quotation will be provided by a manufacturer which is in compliance with Special Provisions for Transit Vehicle Manufacturers, Title 49 of the Code of Federal Regulations, Part 26, Subpart C, Section 26.49.

Date: 9/28/2020

Company Name: Glaval Bus, A Division of Forest River Inc.

Signature of contractor's Authorized Official: 

Name and Title of contractor's Authorized Official: Scott Defrees, Government Bid Sales

FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION

I, Glaval Bus, A Division of Forest River Inc. certify that the vehicle bid will meet the following FMVSS:
(Name of Vendor/Agent)

- 101 Controls location and identification
- 102 Transmission shift lever sequence
- 103 Windshield defrosting and defogging
- 104 Windshield wiping and washing system
- 105 Hydraulic brake system
- 106 Brake hoses
- 108 Lights and reflectors
- 111 Rear view mirrors
- 113 Hood latch system
- 115 Vehicle identification number
- 116 Hydraulic brake fluids
- 119 New pneumatic tires
- 120 Tire selection and wheels for buses
- 124 Accelerator control system
- 204 Steering system reward movement
- 205 Glazing materials (window glass)
- 206 Door lock and door retention components
- 207 Anchorage of seats
- 208 Occupant restraints
- 209 Seat belt assemblies
- 210 Seat belt assembly anchorage
- 217 Bus window strength and emergency release
- 220 School bus rollover protection
- 301 Fuel system integrity
- 302 Flammability of interior materials
- 403 Platform lift systems for motor vehicles
- 404 Platform lift installation in motor vehicles



Signature

9/28/2020

Date

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 02/24/20
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

AN AWARD HAS BEEN MADE TO THE CONTRACTOR NAMED ABOVE FOR THE FURNISHING OF MATERIALS AND/OR SERVICES AS LISTED BELOW FOR THE PERIOD:

APRIL 01, 2020 THROUGH MARCH 31, 2021

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2019 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2020 through March 31, 2021. The contract may be renewed for one (1) additional one (1) year period when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the third renewal of the contract as amended. (me! 02/24/20)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	2019 OR CURRENT PRODUCTION YEA SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55	200.0000	EA	57,248.0000
	BUS MANUFACTURER: GOSHEN PRODUCTION YEAR: 2019 DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 DAYS			
	THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.			

2/25/20
Christie Kelly
BUYER
2/26/20
MATERIEL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 02/24/20
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945085	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	OPTIONS			
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS (S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	200.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEELCHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTEGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	200.0000	EA	990.0000
9	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	200.0000	EA	36.0000


BUYER INITIALS

STATE OF NEBRASKA CONTRACT AWARD

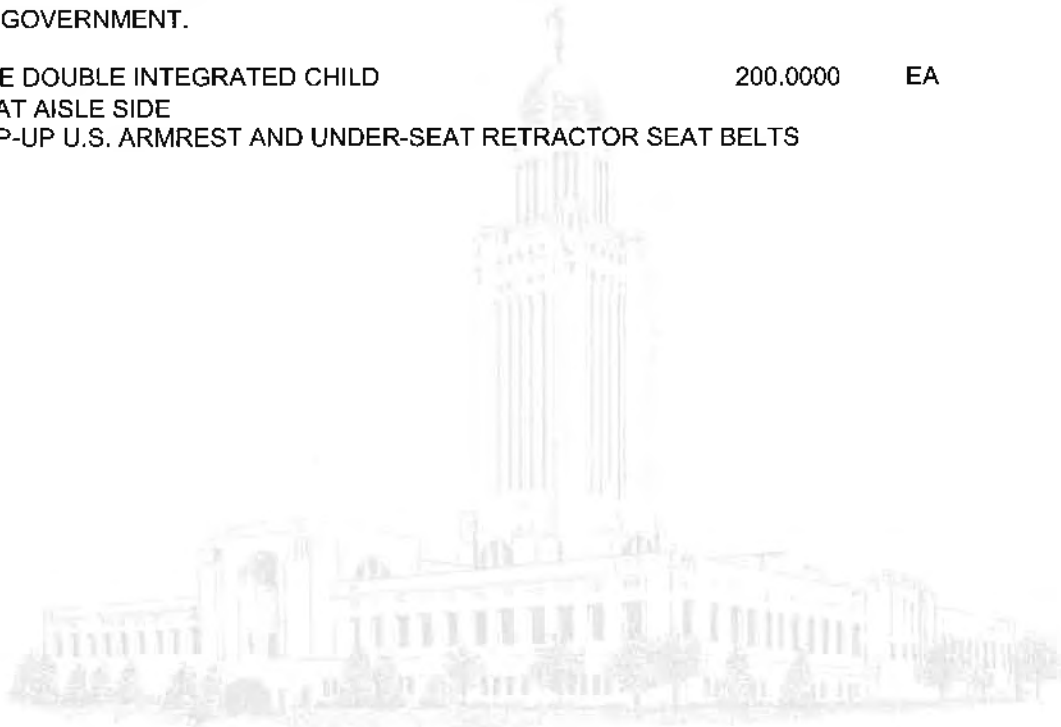
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3	ORDER DATE 02/24/20
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000
11	ONE DOUBLE INTEGRATED CHILD SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS	200.0000	EA	2,230.0000



ak

BUYER INITIALS

NEBRASKA

Good Life. Great Service.

DEPT. OF ADMINISTRATIVE SERVICES

CONTRACT RENEWAL

October 10, 2019

Ms. Amy Monroe
Masters Transportation Inc.
5535 Arbor Road
Lincoln, NE 68514-9723

RE: Contract Number 14755 OC, 2019 or Current Production Year Small Transit Buses 12+2

Dear Ms. Monroe:

The above named contract for providing 2019 or Current Production Year Small Transit Buses 12+2 to the State of Nebraska, Nebraska Department of Transportation expires March 31, 2020.

It carries a provision for renewal when mutually agreeable to the Vendor and the State of Nebraska. The State of Nebraska wishes to renew this contract for an additional One (1) year period, i.e. April 1, 2020 through March 31, 2021.

If this is agreeable with Masters Transportation Inc., please sign and return as soon as possible, keeping one (1) copy for your files.

If no response is received within thirty (30) calendar days, the State of Nebraska will assume that Masters Transportation Inc. does not intend to renew contract number 14755 OC and thus may begin the formal solicitation process to obtain 2019 or Current Production Year Small Transit Buses 12+2.

Sincerely,



Christle Kelly, Buyer
State Purchasing Bureau

DATE: 10/10/19

Masters Transportation Inc. is agreeable to the renewal of 14755 OC for 2019 or Current Production Year Small Transit Buses 12+2 April 1, 2020 through March 31, 2021.

SIGNATURE: Amy Monroe TITLE: Executive Assistant

DATE: 10/10/19

Department of Administrative Services | MATERIEL DIVISION

1526 K Street, Ste. 130
Lincoln, Nebraska 68508

OFFICE 402-471-6500
FAX 402-471-2088

das.nebraska.org

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 08/01/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

THE CONTRACT PERIOD IS:

APRIL 1, 2019 THROUGH MARCH 31, 2020

THIS CONTRACT HAS BEEN AMENDED PER THE FOLLOWING INFORMATION:

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2019 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2019 through March 31, 2020. The contract may be renewed for two (2) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the second renewal of the contract as amended. (vc 4/04/19)

Amendment Three as attached. (8/1/19 sc)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	2019 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55 BUS MANUFACTURER: GOSHEN PRODUCTION YEAR: 2019 DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 DAYS THE ORIGINAL MANUFACTURER'S SERVICE AND	200.0000	EA	57,248.0000

8/1/19

 BUYER

 MATERIEL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 08/01/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.			
	OPTIONS			
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES.	200.0000	EA	22,650.0000
	NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.			
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L " TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEECHAIR SPACES WILL HAVE " L " TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTEGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT	200.0000	EA	990.0000

ck
BUYER INITIALS

STATE OF NEBRASKA CONTRACT AMENDMENT

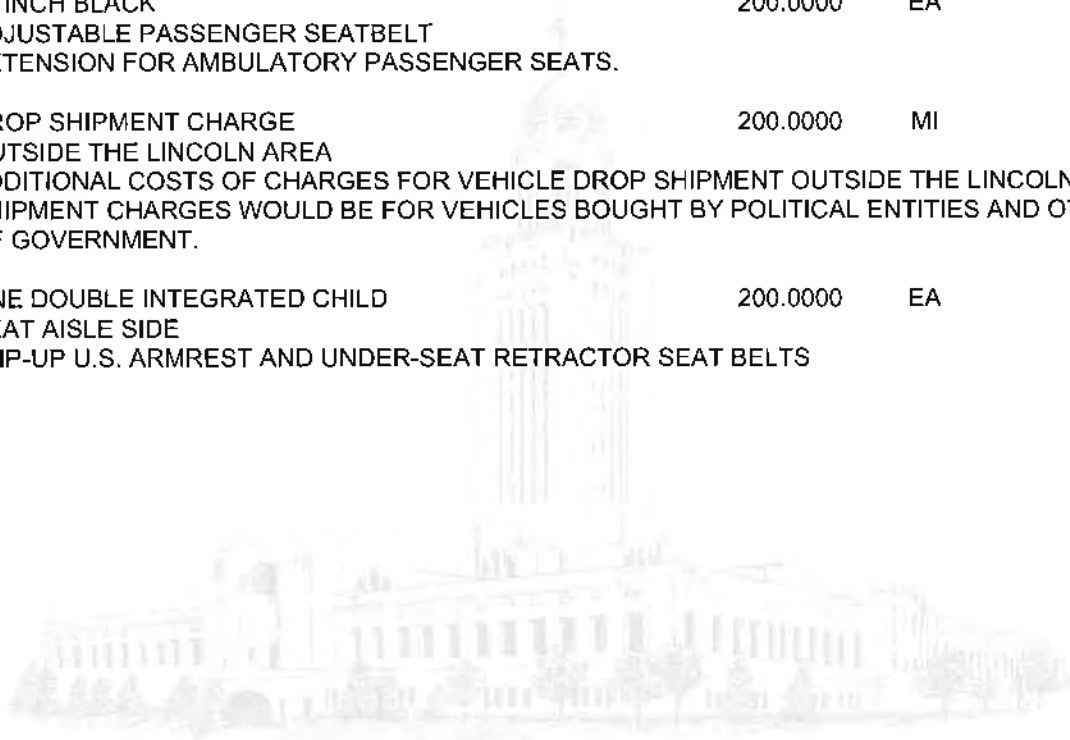
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE		ORDER DATE	
3 of 3		08/01/19	
BUSINESS UNIT		BUYER	
9000		CHRISTIE KELLY (AS)	
VENDOR NUMBER: 945065			

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.			
9	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	200.0000	EA	36.0000
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000
11	ONE DOUBLE INTEGRATED CHILD SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS	200.0000	EA	2,230.0000



CK
BUYER INITIALS

AMENDMENT THREE
Contract 14755 OC
2019 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2
For the State of Nebraska
Between
The State of Nebraska and Master's Transportation Inc.

This Amendment (the "Amendment") is made by the State of Nebraska and Master's Transportation Inc., parties to Contract 14755 OC (the "Contract"), and upon mutual agreement and other valuable consideration, the parties agree to and hereby amend the contract upon Execution by both parties as follows:

1. Line 1 is hereby superseded due to global tariff numbers 7601.10, 7601.20, 7604, 7605, 7606, and Carbon and alloy flat products produced by rolling semi-finished steel through varying sets of rolls, including sheets, strips and plates for the duration of the tariff:

Line	Description	Unit of Measure	Unit Price
1	2019 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55 BUS MANUFACTURER: GOSHEN PRODUCTION YEAR: 2019 DELIVERY TIME AFTER RECEIPT OF ORDER: 120- 160 DAYS THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.	EA	\$ 57,248.0000

2. This Price Increase due to tariffs will stay in effect as long as the above referenced tariffs remain in effect. It is up to Master's Transportation Inc. to advise when these tariffs have ended.

This amendment and any attachments hereto will become part of the Contract. Except as set forth in this Amendment, the Contract is unaffected and shall continue in full force and effect in accordance with its terms. If there is conflict between this amendment and the Contract or any earlier amendment, the terms of this amendment will prevail.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date of execution by both parties below.

State of Nebraska

By: 

Name: Doug Carlson

Title: Material Administrator

Date: 8/6/19

Contractor: Master's Transportation Inc.

By: Amy Monroe

Name: Amy Monroe

Title: Executive Assistant

Date: 7/31/19

STATE OF NEBRASKA CONTRACT AWARD

Slate Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 04/04/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

AN AWARD HAS BEEN MADE TO THE CONTRACTOR NAMED ABOVE FOR THE FURNISHING OF MATERIALS AND/OR SERVICES AS LISTED BELOW FOR THE PERIOD:

APRIL 01, 2019 THROUGH MARCH 31, 2020

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2019 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2019 through March 31, 2020. The contract may be renewed for two (2) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the second renewal of the contract as amended, (vc 4/04/19)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2019 OR CURRENT PRODUCTION YEAR	200.0000	EA	55,398.0000
	BUS MANUFACTURER: Goshen PRODUCTION YEAR: 2019 DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days ARO			
	THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.			
	OPTIONS			

4.5.19
Christie Kelly 4/5/19
BUYER
MATERIEL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 04/04/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	200.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L " TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEELCHAIR SPACES WILL HAVE " L " TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTEGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	200.0000	EA	990.0000
9	24 INCH BLACK	200.0000	EA	36.0000


BUYER INITIALS

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3	ORDER DATE 04/04/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.			
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000
11	ONE DOUBLE INTEGRATED CHILD SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS	200.0000	EA	2,230.0000

CK
BUYER INITIALS

NEBRASKA

Good Life. Great Service.

DEPT. OF ADMINISTRATIVE SERVICES

CONTRACT RENEWAL

November 6, 2018

Ms. Amy Monroe
Masters Transportation Inc.
5535 Arbor Road
Lincoln, NE 68514-9723

RE: Contract Number, 14755 OC, 2019 Or Current Production Year Small Transit Buses 12 + 2

Dear Ms. Monroe:

The above named contract for providing 2019 Or Current Production Year Small Transit Buses 12 + 2 to the State of Nebraska, expires March 31, 2019.

It carries a provision for renewal when mutually agreeable to the Vendor and the State of Nebraska. The State of Nebraska wishes to renew this contract for an additional one (1) year period, i.e. April 1, 2019 through March 31, 2020.

If this is agreeable with Masters Transportation Inc., please sign and return as soon as possible, keeping one (1) copy for your files.

If no response is received within thirty (30) calendar days, the State of Nebraska will assume that Masters Transportation Inc. does not intend to renew contract number 14755 OC and thus may begin the formal solicitation process to obtain 2019 Or Current Production Year Small Transit Buses 12 + 2.

Sincerely,


Julie Schiltz, Buyer
State Purchasing Bureau

Masters Transportation Inc. is agreeable to the renewal of 14755 OC for 2019 Or Current Production Year Small Transit Buses 12 + 2, beginning April 1, 2019 through March 31, 2020.

SIGNATURE: Amy Monroe

TITLE: Executive Assistant

DATE: 11/6/18

Department of Administrative Services | MATERIEL DIVISION

David Zwart, Materiel Administrator

1526 K Street, Ste. 130
Lincoln, Nebraska 68508

OFFICE 402-471-6500
FAX 402-471-2089

das.nebraska.org

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 01/15/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

THE CONTRACT PERIOD IS:

APRIL 01, 2018 THROUGH MARCH 31, 2019

THIS CONTRACT HAS BEEN AMENDED PER THE FOLLOWING INFORMATION:

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2018 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2018 through March 31, 2019. The contract may be renewed for three (3) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the first renewal of the contract as amended. (vc 3/21/18)

Amendment one as attached (bb 05/11/18)

Amendment Two as attached. (vc 01/15/19)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2018 OR CURRENT PRODUCTION YEAR	200.0000	EA	55,398.0000

BUS MANUFACTURER: Goshen
PRODUCTION YEAR: 2018
DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days ARO

THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.

1-15-19
m
Christie Kelly 1/15/19
BUYER
S. Dineen 1/15/19
MATERIAL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 01/15/19
BUSINESS UNIT 9000	BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	OPTIONS			
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	200.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEECHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTEGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	200.0000	EA	990.0000
9	24 INCH BLACK	200.0000	EA	36.0000


BUYER INITIALS

STATE OF NEBRASKA CONTRACT AMENDMENT

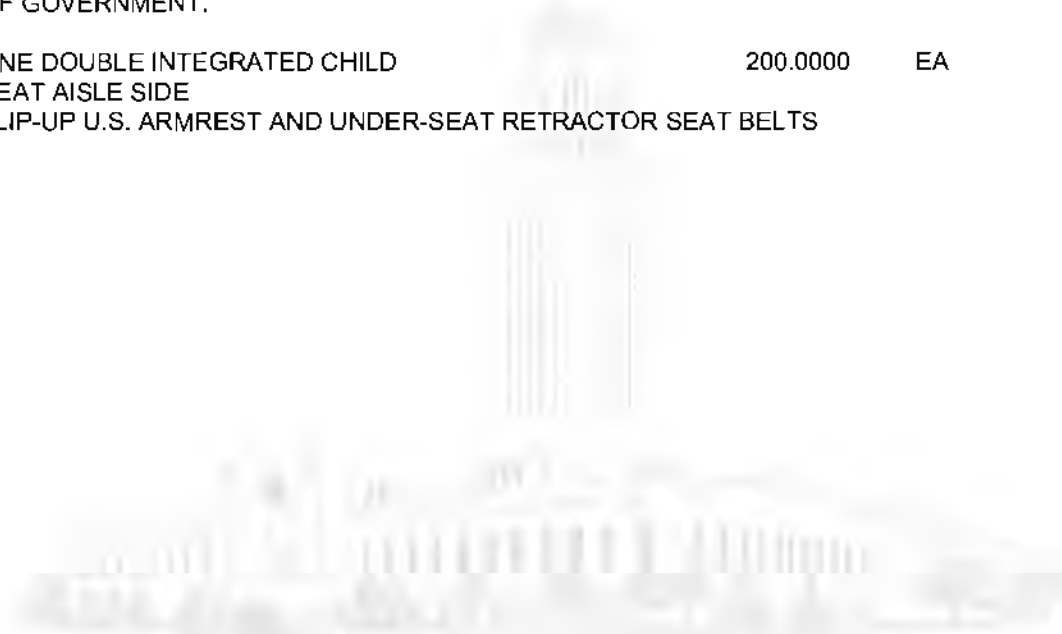
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3		ORDER DATE 01/15/19
BUSINESS UNIT 9000		BUYER CHRISTIE KELLY (AS)
VENDOR NUMBER: 945065		

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.			
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000
11	ONE DOUBLE INTEGRATED CHILD SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS	200.0000	EA	2,230.0000



ck

BUYER INITIALS

AMENDMENT TWO
14755 OC
2018 or Current Production Year Small Transit Buses 12+2 for the State of Nebraska
Between
The State of Nebraska and Masters Transportation Inc.

This Amendment (the "Amendment") is made by the State of Nebraska and Masters Transportation Inc., parties to Contract 14755 OC (the "Contract"), and upon mutual agreement and other valuable consideration the parties agree to and hereby amend the contract Upon Execution as follows:

1. Adding line 11 as Option line:

Line	Description	Unit of Measure	Unit Price
11	ONE DOUBLE INTEGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS	EA	\$2,230.0000

This amendment and any attachments hereto will become part of the Contract. Except as set forth in this Amendment, the Contract is unaffected and shall continue in full force and effect in accordance with its terms. If there is conflict between this amendment and the Contract or any earlier amendment, the terms of this amendment will prevail.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date of execution by both parties below.

State of Nebraska

Contractor: Masters Transportation Inc.

By: *[Signature]*
 Name: S. Doreen Sanders

By: *[Signature]*
 Name: Amy McCall

Title: MATERIAL ADMINISTRATOR

Title: Sales Coordinator

Date: 1/10/19

Date: 1/11/19

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 05/11/18
BUSINESS UNIT 9000	BUYER JULIE SCHILTZ (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

THE CONTRACT PERIOD IS:

APRIL 01, 2018 THROUGH MARCH 31, 2019

THIS CONTRACT HAS BEEN AMENDED PER THE FOLLOWING INFORMATION:

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2018 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2018 through March 31, 2019. The contract may be renewed for three (3) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the first renewal of the contract as amended. (vc 3/21/18)

Amendment one as attached (bb 05/11/18)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2018 OR CURRENT PRODUCTION YEAR	200.0000	EA	55,398.0000

BUS MANUFACTURER: Goshen
PRODUCTION YEAR: 2018
DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days ARO

THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.

OPTIONS

Julie Schiltz 5/25/18
BUYER
[Signature] 5/25/18
MATERIEL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 05/11/18
BUSINESS UNIT 9000	BUYER JULIE SCHILTZ (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	200.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEELCHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTERGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	200.0000	EA	990.0000
9	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	200.0000	EA	36.0000


BUYER INITIALS

STATE OF NEBRASKA CONTRACT AMENDMENT

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3	ORDER DATE 05/11/18
BUSINESS UNIT 9000	BUYER JULIE SCHILTZ (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000


BUYER INITIALS

AMENDMENT ONE
 14755 OC
 2018 Or Current Production Year Small Transit buses 12 + 2 for the State of Nebraska
 Between
 The State of Nebraska and Masters Transportation

This Amendment (the "Amendment") is made by the State of Nebraska and Masters Transportation, parties to Contract 14755 OC (the "Contract"), and upon mutual agreement and other valuable consideration the parties agree to and hereby amend the contract as follows:

1. Effective upon execution, line 1 is hereby deleted and replaced with the following:

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2018 OR CURRENT PRODUCTION YEAR BUS MANUFACTURER: Goshen PRODUCTION YEAR: 2018 DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days ARO THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED. OPTIONS	200	EA	\$55,398.0000

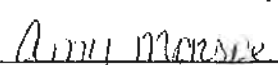
This amendment and any attachments hereto will become part of the Contract. Except as set forth in this Amendment, the Contract is unaffected and shall continue in full force and effect in accordance with its terms. If there is conflict between this amendment and the Contract or any earlier amendment, the terms of this amendment will prevail.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date of execution by both parties below.

State of Nebraska

Contractor: Masters Transportation

By: 

By: 

Name: David Dunkel

Name: Amy Mervoe

Title: Material Administrator

Title: Executive Assistant

Date: 5/25/18

Date: 5/15/18

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 03/21/18
BUSINESS UNIT 9000	BUYER JULIE SCHILTZ (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

AN AWARD HAS BEEN MADE TO THE CONTRACTOR NAMED ABOVE FOR THE FURNISHING OF MATERIALS AND/OR SERVICES AS LISTED BELOW FOR THE PERIOD:

APRIL 01, 2018 THROUGH MARCH 31, 2019

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2018 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2018 through March 31, 2019. The contract may be renewed for three (3) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

This is the first renewal of the contract as amended. (vc 3/21/18)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2018 OR CURRENT PRODUCTION YEAR	200.0000	EA	54,259.0000
	BUS MANUFACTURER: Goshen PRODUCTION YEAR: 2017 DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days ARO			
	THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.			
	OPTIONS			

MUSA 3/21/18 *3/23/18*
BUYER
[Signature]
MATERIAL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 03/21/18
BUSINESS UNIT 9000	BUYER JULIE SCHILTZ (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
2	RAISED FLOOR	200.0000	EA	700.0000
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	200.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEECHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	200.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	200.0000	EA	-255.0000
6	ONE INTERGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	200.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	200.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	200.0000	EA	990.0000
9	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	200.0000	EA	36.0000


BUYER INITIALS

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
 1526 K Street, Suite 130
 Lincoln, Nebraska 68508

Telephone: (402) 471-6500
 Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3		ORDER DATE 03/21/18	
BUSINESS UNIT 9000		BUYER JULIE SCHILTZ (AS)	
VENDOR NUMBER: 945065			

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	200.0000	MI	2.0000




BUYER INITIALS

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 1 of 3	ORDER DATE 03/22/17
BUSINESS UNIT 9000	BUYER DIANNA GILLILAND (AS)
VENDOR NUMBER: 945065	
VENDOR ADDRESS: MASTERS TRANSPORTATION INC 5535 ARBOR RD LINCOLN NE 68514-9723	

AN AWARD HAS BEEN MADE TO THE CONTRACTOR NAMED ABOVE FOR THE FURNISHING OF MATERIALS AND/OR SERVICES AS LISTED BELOW FOR THE PERIOD:

April 01, 2017 THROUGH MARCH 31, 2018

NO ACTION ON THE PART OF THE CONTRACTOR NEEDS TO BE TAKEN AT THIS TIME. ORDERS FOR THE MATERIALS AND/OR SERVICES WILL BE MADE AS NEEDED BY THE VARIOUS AGENCIES OF THE STATE.

THIS CONTRACT IS NOT AN EXCLUSIVE CONTRACT TO FURNISH THE MATERIALS AND/OR SERVICES SHOWN BELOW, AND DOES NOT PRECLUDE THE PURCHASE OF SIMILAR MATERIALS AND/OR SERVICES FROM OTHER SOURCES.

THE STATE RESERVES THE RIGHT TO EXTEND THE PERIOD OF THIS CONTRACT BEYOND THE TERMINATION DATE WHEN MUTUALLY AGREEABLE TO THE CONTRACTOR AND THE STATE OF NEBRASKA.

Original/Bid Document 5509 OF

Contract to supply and deliver 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for the contract period April 1, 2017 through March 31, 2018. The contract may be renewed for four (4) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

Vendor Contact: Amy Monroe, Contract Specialist - Government
Office Phone: 816-979-3478
Cell Phone: 816-560-8712
Fax: 816-318-9998
E-Mail: amonroe@masterstransportation.com

(vc 03/22/17)

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2017 OR CURRENT PRODUCTION YEAR BUS MANUFACTURER: Goshen PRODUCTION YEAR: 2017 DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days ARO THE ORIGINAL MANUFACTURER'S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED. OPTIONS	50.0000	EA	54,259.0000
2	RAISED FLOOR	50.0000	EA	700.0000

Dianna Gilliland 3-23-17
BUYER 3-24-17
3/24/17
MATERIEL ADMINISTRATOR

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 2 of 3	ORDER DATE 03/22/17
BUSINESS UNIT 9000	BUYER DIANNA GILLILAND (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
3	COMPRESSED NATURAL GAS CNG OPTION PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES. NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.	50.0000	EA	22,650.0000
4	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEECHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	50.0000	EA	950.0000
5	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	50.0000	EA	-255.0000
6	ONE INTERGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	50.0000	EA	1,980.0000
7	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	50.0000	EA	150.0000
8	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	50.0000	EA	990.0000
9	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	50.0000	EA	36.0000
10	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA	50.0000	MI	2.0000


BUYER INITIALS

STATE OF NEBRASKA CONTRACT AWARD

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: (402) 471-6500
Fax: (402) 471-2089

CONTRACT NUMBER
14755 OC

PAGE 3 of 3	ORDER DATE 03/22/17
BUSINESS UNIT 9000	BUYER DIANNA GILLILAND (AS)
VENDOR NUMBER: 945065	

Line	Description	Estimated Quantity	Unit of Measure	Unit Price
	ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.			



BUYER INITIALS



Pete Ricketts, Governor

January 4, 2017

Dear Prospective Bidder:

The State of Nebraska Purchasing Bureau is issuing the following Invitation to Bid (ITB):

ITB Number/ Commodity: 5510 OF 2017 or Current Production Year Small Transit Buses
9+2
5509 OF 2017 or Current Production Year Small Transit Buses
12+2
Opening Date: February, 1, 2017; 2:00 p.m. Central Time
Buyer: Dianna Gilliland

Copies of 5510 OF/5509 OF and all information relevant to this ITB to include addenda and/or amendments may be obtained from the State Purchasing Bureau web site at:

<http://das.nebraska.gov/materiel/purchasing.html>

It is the responsibility of the bidder to check this site for other pertinent information and any mandatory requirements. All information relevant to this ITB, to include addenda and/or amendments that may be issued prior to the opening date, will be posted to the website.

ITB responses must be in a sealed envelope that indicates the ITB Number and Opening Date. Sealed responses must be received in the State Purchasing Bureau on or before February 1, 2017; 2:00 p.m. Central Time, at which time responses will be publicly opened. ITB response must be sent to:

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, NE 68508

Any problems accessing the website regarding the above ITB should be e-mailed or faxed to the State Purchasing Bureau at as.materielpurchasing@nebraska.gov or 402-471-2089.

Sincerely,

Dianna Gilliland, Buyer
State Purchasing Bureau

1

BID INVITATION

2

BUS SPECIFICATIONS

3

AMENDMENTS

4

CERTIFICATES

5

WARRANTIES

BIDDER'S CHECKLIST

A. The following items must be submitted with the bid.

- 1. Submit signed certifications.
 - a. Buy America certification as per 49 CFR, Part 663.25
 - b. Purchaser's requirements certification as per 49 CFR, Part 663.27
 - c. A manufacturer's Federal Motor Vehicle Safety Certification as per 49 CFR, Part 663.41

B. The following items should be submitted with the bid, but must be submitted prior to bid award.

- 1. Copy of the Altoona Bus Testing Report for vehicle bid.
- 2. Furnish a copy of the current Nebraska Motor Vehicle Dealer License.
- 3. A detailed floor plan showing all dimensions of the proposed vehicle.
- 4. Each bidder should state in detail warranty provisions covering the bid item(s).
- 5. Furnish name and address of the agency that will be responsible for after-sale service.
- 6. A detailed description of the air conditioning units.
- 7. The brand name and model number of the lift to be provided should be identified and manufacturer's literature should be included with the bid.
- 8. Furnish ISO Certification.
- 9. Pre-Award Requirements submitted.



January 31, 2017

Dianna Gilliland, Buyer
State of Nebraska
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, NE 68508

RE: Solicitation Number: 5509 OF

Dear Ms. Gilliland:

Master's Transportation is pleased to submit a bid for Solicitation Number 5509 OF.

Master's Transportation meets or exceeds all requested specifications of the bid. Our bus proposed is a Goshen Coach and can be delivered in 120-160 days after receipt of order.

The units will be delivered to Master's Transportation, Inc., 5535 Arbor Rd., Lincoln, NE 68514. This will also be the after-sale service location.

If you have any questions regarding the enclosed bid, I can be reached at 800-783-3613 or via email at mbaumgartner@masterstransportation.com

Thank you for your consideration of this bid.

Mike Baumgartner
Regional Sales Manager
Master's Transportation, Inc.

Kansas City, MO

Denver, CO

800 Quik Trip Way, Belton, MO 64012

1011 S. Huron St, Denver, CO 80223

Kearney, NE

Hot Springs, AR

Ozark, MO

3710 Central Ave, Ste 5, Kearney, NE 68847

4364 Malvern Rd, Hot Springs, AR 71901

171 Shady Oak Rd, Ozark, MO 65721

FEE \$ 20.00

2017

NO.

**STATE OF NEBRASKA
MOTOR VEHICLE INDUSTRY LICENSING BOARD**

**SALESPERSON
LICENSE**

WILLIAM S. JACKSON, EXECUTIVE DIRECTOR
OF NEBRASKA MOTOR VEHICLE INDUSTRY LICENSING BOARD DO HEREBY CERTIFY

THAT

MICHAEL D BAUMGARTNER,

DL-06472

MASTERS TRANSPORTATION INC
5535 ARBOR RD
LINCOLN NE 68514



IS DULY LICENSED TO ENGAGE IN THE ACTIVITIES AS INDICATED ABOVE, IN ACCORDANCE WITH CHAPTER 60, ARTICLE 14 R.R.S 1943, AS AMENDED, SUBJECT TO THE LIMITATIONS IMPOSED BY LAW DURING THE CALENDAR YEAR OF 2017.



EXECUTIVE DIRECTOR

THIS LICENSE MUST BE PROMINENTLY DISPLAYED 02735

THIS IS TO CERTIFY THAT:

STATE OF NEBRASKA
Motor Vehicle
Industry Licensing Board

MICHAEL D BAUMGARTNER
920 11TH AVE
KEARNEY, NE 68645

VALID ONLY WHEN EMPLOYED BY
MASTERS TRANSPORTATION INC
5535 ARBOR RD
LINCOLN, NE



HAS BEEN DULY LICENSED AS A

FOR THE CALENDAR YEAR 2017 LIC NO. DL-06472

MASTERS TRANSPORTATION INC
5535 ARBOR RD
LINCOLN NE 68514

**BIDDER'S CERTIFICATION
BUY AMERICA**

Pre - AWARD AUDIT

**ELDORADO NATIONAL
FOR**

Nebraska DOT Goshen Coach 12+2

Pursuant to 49 CFR Part 661, no funds shall be obligated under Federal Mass Transit Act of 1964, as amended or the Surface Transportation Assistance Act of 1982, as amended, unless steel and a manufactured product used in such products are produced in the United States.

COMPONENT	MANUFACTURER	COUNTRY OF ORIGIN	PERCENTAGE OF TOTAL VEHICLE COST
Chassis	Ford	US	62.3438%
Base Body	EIDorado National	US	0.0000%
Engine Fast Idle	Motogard	INCLUDED IN CHASSIS PRICE	0.0000%
Battery Tray	N/A	INCLUDED IN CHASSIS PRICE	0.0000%
Windows	Included In Base Body	US	0.0000%
Brake Retarder	Telma	US	0.0000%
Air Conditioning	N/A	US	0.0000%
Suspension	Morryde	US	0.8634%
Driver's Seat	N/A	US	0.0000%
Seats	Freedman	US	4.3170%
Fiberglass	Included In Base Body	US	0.0000%
Mirror	Included In Base Body	US	0.0000%
Door control assemblies	Included In Base Body	US	0.0000%
Lift	Braun	US	4.7229%
Restraints	Q-Straint	US	1.1614%
Front Bumper	Included in Base Body	US	0.0000%
Rear Bumper	N/A	US	0.0000%
	TOTAL		73.4084%

The following is a description of the actual location of the final assembly point including a description of the activities that will take place at the final assembly point and the cost of final assembly:

The actual location of the final assembly point shall be: 1655 Wall Street, Salina, KS 67401

Description and activities are as follows:

- Cab-chassis is modified to receive the vehicle body
- Steel sub-frame is fabricated and attached to chassis
- Flooring is installed on the sub-frame
- Body is attached to chassis sub-frame and floor
- Windows are installed
- Doors are installed
- Electrical wiring harness is installed
- Interior paneling and equipment finished out
- Air conditioning installed
- Lift installed and tested
- Seats installed
- Tie-downs installed

Final finish functions performed:

- Exterior paint and markings applied
- Quality control and final testing performed
- Vehicle readied for shipment


COST OF FINAL ASSEMBLY

\$6,587.35

Upon written request to the Federal Transit Administration, the Contractor may request a waiver of the above provision. Such a waiver may be granted if FTA determines that:

- A. Their application would be inconsistent with public interest.
- B. Such matters and products are not produced in the United States in sufficient and reasonably available quantities and of satisfactory quality.
- C. In the case of the procurement of bus or other rolling stock (including train control equipment, communication equipment and traction power equipment) under the Federal Mass Transit Act of 1964, as amended, that (a) the cost of all components which are produced in the United States is more than 60 percent of the cost of components of the bus or equipment described in this paragraph, and (b) final assembly of the bus or equipment described in this paragraph has taken place in the United States.
- D. The inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent in the case of projects for the acquisition of rolling stock and 25 percent in the cost of all other projects. For purposes of this section in calculating costs, labor costs involved in final assembly shall not be included in the calculations.

The bidder certifies that it complies with the Buy America requirements of Section 165 (b) (3) of the Surface Transportation Assistance Act of 1982, as amended, and the regulations set forth in 49 CFR Part 661.11.

By: 
Title
Manufacturer:
Date:

Gary Gragg
Controller
EIDorado National Co.
April 2017

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	1/4/17	Page	1 of 3
Solicitation Number	5509 OF		
Opening Date and Time	02/01/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

Contract to supply and deliver 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for a one (1) year period from date of award. The contract may be renewed for four (4) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

1/04/17)

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2017 OR CURRENT PRODUCTION YEAR BUS MANUFACTURER: <u>Goshen</u> PRODUCTION YEAR: <u>2017</u> DELIVERY TIME AFTER RECEIPT OF ORDER: <u>120-160 days ARO</u> MSRP AS BID: <u>\$54,259.00 per unit</u>	50.0000	EA	<u>\$54,259.00</u>	<u>\$2,712,950.00</u>

BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: 0 % 0 DAYS

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within _____ days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign Here Mike Baumgartner 1-31-2017
(Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

Enter Contact Information Below

VENDOR# DL-01472
VENDOR: Master's Transportation, Inc.
Address: 5535 Arbor Rd
Lincoln, NE 68514

Contact Mike Baumgartner
Telephone 300-733-3613
Facsimile 316-318-9998
Email mbaumgartner@masterstransportation.com

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-8500
Fax: 402-471-2089

Date	1/4/17	Page	2 of 3
Solicitation Number	5509 OF		
Opening Date and Time	02/01/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.				

2	GAS SMALL TRANSIT BUS 12 PLUS CHEVROLET CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2017 OR CURRENT PRODUCTION YEAR	50.0000	EA	<u>0</u>	<u>0</u>
---	--	---------	----	----------	----------

BUS MANUFACTURER: Goshen

PRODUCTION YEAR: 2017

DELIVERY TIME AFTER RECEIPT OF ORDER: 120-160 days APD

MSRP AS BID: 0

THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.

OPTIONS

THE OPTIONS SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS, WHICH ARE EXCEPTIONS TO SPECIFICATIONS AND MUST BE FACTORY-INSTALLED. QUOTES MUST BE FURNISHED, IF AVAILABLE, FOR BELOW LIST AND IF NOT INCLUDED AS STANDARD EQUIPMENT OR REQUESTED IN MAIN PART OF THIS SPECIFICATION.

ALL EXCEPTIONS TO OPTIONS MUST BE CLEARLY INDICATED. EXAMPLE: UNITS ORDERED WITH AIRBAGS MAY NOT BE AVAILABLE WITH A TILT WHEEL AND AUTOMATIC SPEED CONTRQL.

FOR DEDUCTION LINES: THE BID PRICE SUBMITTED SHOULD BE THE SUBTRACTED PRICE DIFFERENCE FROM THE BUS BID PRICE.

BIDDER MUST SUPPLY LITERATURE ON OPTIONAL ITEMS TO BE SUPPLIED.

3	RAISED FLOOR	50.0000	EA	<u>\$700.00</u>	<u>\$35,000.00</u>
4	COMPRESSED NATURAL GAS CNG OPTION	50.0000	EA	<u>\$22,650.00</u>	<u>\$1,132,500.00</u>

PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES.

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	1/4/17	Page	3 of 3
Solicitation Number	5509 OF		
Opening Date and Time	02/01/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.				
5	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEELCHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	50.0000	EA	<u>\$950.00</u>	<u>\$47,500.00</u>
6	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	50.0000	EA	<u>\$(255.00)</u>	<u>\$(12,750.00)</u>
7	ONE INTERGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	50.0000	EA	<u>\$1,950.00</u>	<u>\$99,000.00</u>
8	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL.).	50.0000	EA	<u>\$150.00</u>	<u>\$7,500.00</u>
9	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	50.0000	EA	<u>\$990.00</u>	<u>\$49,500.00</u>
10	RETRACTABLE SAFETY PLATFORM LIFT BELT	50.0000	EA	<u>0</u>	<u>0</u>
11	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	50.0000	EA	<u>\$36.00</u>	<u>\$1,800.00</u>
12	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	50.0000	EA	<u>\$ 2.00 per mile</u>	

TABLE OF CONTENTS

GLOSSARY OF TERMS	iv
I. SCOPE OF THE INVITATION TO BID (ITB)	1
A. SCHEDULE OF EVENTS.....	1
II. PROCUREMENT PROCEDURES	2
A. PROCURING OFFICE AND CONTACT PERSON.....	2
B. GENERAL INFORMATION.....	2
C. COMMUNICATION WITH STATE STAFF AND EVALUATORS.....	2
D. WRITTEN QUESTIONS AND ANSWERS.....	2
E. SUBMISSION OF BIDS.....	3
F. IMPORTANT NOTICE LANGUAGE.....	3
G. DISCOUNTS.....	3
H. PRICE ADJUSTMENTS DURING CONTRACT TERM.....	3
I. PAYMENT.....	3
J. BID EXECUTION.....	3
K. BID OPENING.....	3
L. ELECTRONIC DOCUMENTS/FACSMILIE SUBMISSIONS.....	4
M. VALID BID TIME.....	4
N. ALTERNATE/EQUIVALENT BIDS.....	4
O. LATE BIDS.....	4
P. NO BID.....	4
Q. LUMP SUM OR ALL OR NONE BIDS.....	4
R. REJECTION OF BIDS.....	4
S. EVALUATION OF BIDS.....	4
T. BID TABULATIONS.....	4
U. MANDATORY REQUIREMENTS.....	5
V. REFERENCE CHECKS.....	5
W. RECYCLING.....	5
X. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS.....	5
Y. RESIDENT BIDDER.....	5
Z. EVALUATION CRITERIA AND AWARD.....	5
AA. POLITICAL SUB-DIVISIONS.....	6
BB. VIOLATION OF TERMS AND CONDITIONS.....	6
III. INVITATION TO BID - TERMS AND CONDITIONS	7
A. GENERAL.....	7
B. DEBARMENT.....	7
C. SPECIFICATIONS.....	8
D. PERFORMANCE AND DEFAULT.....	8
E. DRUG POLICY.....	8
F. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION.....	8
G. PERMITS, REGULATIONS, LAWS.....	9
H. COOPERATION WITH OTHER CONTRACTORS.....	9
I. CONTRACTOR RESPONSIBILITY.....	9
K. FUNDING OUT CLAUSE OR LOSS OF APPROPRIATIONS.....	10
L. RIGHT TO AUDIT.....	10
M. CONFLICT OF INTEREST.....	11
N. BID PREPARATION COSTS.....	11
O. ERRORS AND OMISSIONS.....	11
P. ASSIGNMENT BY THE STATE.....	11
Q. ASSIGNMENT BY THE CONTRACTOR.....	12
R. GOVERNING LAW.....	12
S. ATTORNEY'S FEES.....	12
T. ADVERTISING.....	12
U. NOTIFICATION.....	12
V. EARLY TERMINATION.....	13
W. BREACH BY CONTRACTOR.....	14
X. ASSURANCES BEFORE BREACH.....	14

Y.	ACCEPTANCE AND PAYMENT OF GOODS	14
Z.	FORCE MAJEURE	15
AA.	PROHIBITION AGAINST ADVANCE PAYMENT	15
BB.	PAYMENT	15
CC.	INVOICES.....	15
DD.	TAXES	16
EE.	SEVERABILITY	16
FF.	PROPRIETARY INFORMATION	16
GG.	CERTIFICATION OF INDEPENDENT PRICE DETERMINATION/COLLUSIVE BIDDING	17
HH.	PRICES	17
II.	ETHICS IN PUBLIC CONTRACTING	18
JJ.	INDEMNIFICATION	18
KK.	ANTITRUST.....	19
LL.	EMPLOYEE WORK ELIGIBILITY STATUS.....	19
IV.	SCOPE OF WORK	20
A.	SCOPE	20
B.	AMENDMENT.....	20
C.	REVISIONS	20
V.	PROCUREMENT REQUIREMENTS FOR SMALL BUSES	21
A.	FLOOR PLAN	21
B.	WARRANTY PROVISIONS	21
C.	ROYALTIES AND LICENSE FEES	21
D.	FEDERAL MOTOR VEHICLE SAFETY STANDARD AND AMERICANS WITH DISABILITIES ACT (ADA).....	21
E.	MANUALS, MANUFACTURER'S STATEMENT OF ORIGIN (MSO) AND ETC.....	22
F.	PRIOR TO DELIVERY, EACH VEHICLE SHALL BE COMPLETELY SERVICED	22
G.	VEHICLE DELIVERY	22
H.	IF VEHICLE DOES NOT COMPLY	23
I.	GRIEVANCES AND PROTESTS	23
J.	TERMINATION FOR CONVIENANCE	24
K.	TERMINATION FOR DEFAULT	24
L.	NO OBLIGATION BY THE FEDERAL GOVERNMENT.....	24
M.	PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS	24
N.	FEDERAL CHANGES.....	25
O.	INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS.....	25
P.	CIVIL RIGHTS	25
Q.	CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS	26
R.	ENERGY CONSERVATION REQUIREMENTS	27
S.	CLEAN WATER REQUIREMENTS	27
T.	CLEAN AIR REQUIREMENTS	28
U.	BUS TESTING.....	28
V.	PRE-AWARD AND POST-DELIVERY AUDIT REQUIREMENTS	28
W.	RESTRICTIONS ON LOBBYING	29
X.	BUY AMERICA	29
Y.	DISADVANTAGED BUSINESS ENTERPRISES (DBE).....	29
Z.	ACCESS TO RECORDS	30
AA.	DISPUTE, BREACHES AND OTHER LITIGATION.....	31
BB.	CARGO PREFERENCE	31
CC.	FLY AMERICA.....	32
DD.	OVERTIME REQUIREMENTS	32
EE.	VIOLATION; LIABILITY FOR UNPAID WAGES' LIQUIDATED DAMAGES	32
FF.	WITHHOLDING FOR UNPAID WAGES AND LIQUIDATED DAMAGES	33
GG.	SUBCONTRACTS	33
HH.	PAYROLLS AND BASIC RECORDS.....	33
II.	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT	34
JJ.	SUBCONTRACTS	34
KK.	ADA ACCESS.....	34
LL.	SPECIAL NOTIFICATION REQUIREMENTS FOR STATES	35
MM.	NEW EMPLOYEE WORK ELIGIBILITY STATUS	35
NN.	SPECIAL PROVISION-TEXT MESSAGING WHILE DRIVING	36

OO.	ASSIGNMENT AND SUBCONTRACTING	37
PP.	LICENSING REOUIREMENTS.....	37
QQ.	FACTORY INSPECTION.....	37
VI.	INVITATION TO BID - TECHNICAL SPECIFICATIONS	38
A.	NON-COMPLIANCE STATEMENT	38
B.	GENERAL REOUIREMENTS.....	39
C.	GENERAL DIMENSIONS AND CAPACITITES	40
D.	CHASSIS AND RELATED SYSTEMS	40
E.	AUXILIARY SYSTEMS, MISCELLANEOUS PARTS, AND ACCESSORIES	42
F.	EMERGENCY EQUIPMENT	43
G.	BUS BODY	43
H.	WINDSHIELD AND WINDOWS	44
I.	DOORS.....	45
J.	SEATS AND AISLE	45
K.	FRONT WHEELCHAIR ACCOMMODATIONS.....	46
L.	STANCHIONS, MODESTY PANELS AND HANDRAILS.....	48
M.	FINISHES	48
N.	MOTOR VEHICLE INDUSTRIES REGULATION ACT	49
O.	SUSTAINABILITY	50
R.	ORDERS	50
X.	WITHDRAWAL OF BID	52
	FIGURE 1 Floor Diagram.....	54
	BIDDER'S CHECKLIST.....	55
	CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS.....	56
	CERTIFICATION REGARDING LOBBYING	57
	BUY AMERICA	58
	DISADVANTAGED BUSINESS ENTERPRISES CERTIFICATION	59
	FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION.....	60
	FORM A BIDDER CONTACT SHEET	61

GLOSSARY OF TERMS

Acceptance Test Procedure: Benchmarks and other performance criteria, developed by the State of Nebraska or other sources of testing standards, for measuring the effectiveness of products or services and the means used for testing such performance.

Addendum: Something to be added or deleted to an existing document; a supplement.

After Receipt of Order (ARO): After Receipt of Order

Agency: Any state agency, board, or commission other than the University of Nebraska, the Nebraska State colleges, the courts, the Legislature, or any other office or agency established by the Constitution of Nebraska.

Agent/Representative: A person authorized to act on behalf of another.

Amend: To alter or change by adding, subtracting, or substituting.

Amendment: A written correction or alteration to a document.

Appropriation: Legislative authorization to expend public funds for a specific purpose. Money set apart for a specific use.

Award: All purchases, leases, or contracts which are based on competitive bids will be awarded according to the provisions in the Invitation to Bid. The State reserves the right to reject any or all bids, wholly or in part, or to award to multiple bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid, and do not improve the bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State.

Bid/Proposal: The offer submitted by a vendor in a response to written solicitation.

Bid Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the vendor will not withdraw the bid.

Bidder: A vendor who submits an offer bid in response to a written solicitation.

Business: Any corporation, partnership, individual, sole proprietorship, joint-stock company, joint venture, or any other private legal entity.

Business Day: Any weekday, except State-recognized holidays.

Calendar Day: Every day shown on the calendar including Saturdays, Sundays, and State/Federal holidays.

Cancellation: To call off or revoke a purchase order without expectation of conducting or performing it at a later time.

Central Processing Unit (CPU): Any computer or computer system that is used by the State to store, process, or retrieve data or perform other functions using Operating Systems and applications software.

Change Order: Document that provides amendments to an executed purchase order.

Collusion: An agreement or cooperation between two or more persons or entities to accomplish a fraudulent, deceitful, or unlawful purpose.

Commodities: Any equipment, material, supply or goods; anything movable or tangible that is provided or sold.

Commodities Description: Detailed descriptions of the items to be purchased; may include information necessary to obtain the desired quality, type, color, size, shape, or special characteristics necessary to perform the work intended to produce the desired results.

Competition: The effort or action of two or more commercial interests to obtain the same business from third parties.

Confidential Information: Unless otherwise defined below, "Confidential Information" shall also mean proprietary trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. §84-712.05(3)). In accordance with Nebraska Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive.

Contract: An agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law; the writing that sets forth such an agreement.

Contract Administration: The management of the contract which includes and is not limited to contract signing, contract amendments and any necessary legal actions.

Contract Management: The management of day to day activities at the agency which includes and is not limited to ensuring deliverables are received, specifications are met, handling meetings and making payments to the Contractor.

Contract Period: The duration of the contract.

Contractor: Any individual or entity having a contract or awarded purchase order to furnish commodities or services.

Cooperative Purchasing: The combining of requirements of two or more political entities to obtain advantages of volume purchases, reduction in administrative expenses or other public benefits.

Copyright: A property right in an original work of authorship fixed in any tangible medium of expression, giving the holder the exclusive right to reproduce, adapt and distribute the work.

Critical Program Error: Any Program Error, whether or not known to the State, which prohibits or significantly impairs use of the Licensed Software as set forth in the documentation and intended in the contract.

Customer Service: The process of ensuring customer satisfaction by providing assistance and advice on those products or services provided by a Contractor.

Default: The omission or failure to perform a contractual duty.

Deviation: Any proposed change(s) or alteration(s) to either the terms and conditions or deliverables within the scope of the written solicitation or contract.

Evaluation: The process of examining an offer after opening to determine the vendor's responsibility, responsiveness to requirements, and to ascertain other characteristics of the offer that relate to determination of the successful award.

Evaluation Committee: Committee(s) appointed by the requesting agency that advises and assists the procuring office in the evaluation of bids/proposals (offers made in response to written solicitations).

Extension: Continuance of a contract for a specified duration upon the agreement of the parties beyond the original Contract Period. Not to be confused with "Renewal Period".

Free on Board (F.O.B.) Destination: The delivery charges are included in the quoted price and prepaid by the vendor. Vendor is responsible for all claims associated with damages during delivery of product.

Free on Board (F.O.B.) Point of Origin: The delivery charges are not included in the quoted price and are the responsibility of the agency. Agency is responsible for all claims associated with damages during delivery of product.

Foreign Corporation: A foreign corporation that was organized and chartered under the laws of another state, government, or country.

Installation Date: The date when the procedures described in "Installation by Contractor", and "Installation by State", as found in the RFP, ITB (written solicitation) or contract are completed.

Late Bid/Proposal: An offer received after the Opening Date and Time.

Licensed Software Documentation: The user manuals and any other materials in any form or medium customarily provided by the Contractor to the users of the Licensed Software which will provide the State with sufficient information to operate, diagnose, and maintain the Licensed Software properly, safely, and efficiently.

Mandatory/Must: Required, compulsory, or obligatory.

May: Discretionary, permitted; used to express possibility.

Module (see System): A collection of routines and data structures that perform a specific function of software.

Must: See Shall/Will/Must.

National Institute for Governmental Purchasing (NIGP): National Institute of Governmental Purchasing – Source used for assignment of universal commodity codes to goods and services.

Open Market Purchase: Authorization may be given to an agency to purchase items above direct purchase authority due to the unique

nature, price, quantity, location of the using agency, or time limitations by the AS Materiel Division, State Purchasing Bureau.

Opening Date and Time: Specified date and time for the public opening of received, labeled, and sealed formal bids.

Operating System: The control program in a computer that provides the interface to the computer hardware and peripheral devices, and the usage and allocation of memory resources, processor resources, input/output resources, and security resources.

Outsourcing: The contracting out of a business process which an organization may have previously performed internally or has a new need for, to an independent organization from which the process is purchased back.

Payroll & Financial Center (PFC): Electronic procurement system of record.

Performance Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the Contractor fulfills any and all obligations under the contract.

Platform: A specific hardware and Operating System combination that is different from other hardware and Operating System combinations to the extent that a different version of the Licensed Software product is required to execute properly in the environment established by such hardware and Operating System combination.

Pre-Bid/Pre-Proposal Conference: A meeting scheduled for the purpose of clarifying a written solicitation and related expectations.

Product: Something that is distributed commercially for use or consumption and that is usually (1) tangible personal property, (2) the result of fabrication or processing, and (3) an item that has passed through a chain of commercial distribution before ultimate use or consumption.

Program Error: Code in Licensed Software which produces unintended results or actions, or which produces results or actions other than those described in the specifications. A program error includes, without limitation, any Critical Program Error.

Program Set: The group of programs and products, including the Licensed Software specified in the RFP, plus any additional programs and products licensed by the State under the contract for use by the State.

Project: The total scheme, program, or method worked out for the accomplishment of an objective, including all documentation, commodities, and services to be provided under the contract.

Proposal: See Bid/Proposal.

Proprietary Information: Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and service no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific named competitor(s) advantaged by release of the information and the demonstrated advantage the named competitor(s) would gain by the release of information.

Protest/Grievance: A complaint about a governmental action or decision related to an Invitation to Bid or resultant contract, brought by a vendor who has timely submitted a bid response in connection with the award in question, to AS Materiel Division or another designated agency with the intention of achieving a remedial result.

Public Proposal/Bid Opening: The process of opening correctly submitted offers at the time and place specified in the written solicitation end in the presence of anyone who wished to attend.

Recommended Hardware Configuration: The data processing hardware (including all terminals, auxiliary storage, communication, and other peripheral devices) to the extent utilized by the State as recommended by the Contractor.

Release Date: The date of public release of the written solicitation to seek offers

Renewal Period: Optional contract periods subsequent to the original Contract Period for a specified duration with previously agreed to terms and conditions. Not to be confused with Extension.

Request for Information (RFI): A general invitation to vendors requesting information for a potential future solicitation. The RFI is typically used as a research and information gathering tool for preparation of a solicitation.

Request for Proposal (RFP): A written solicitation utilized for obtaining competitive offers.

Responsible Bidder: A bidder who has the capability in all respects to perform fully and lawfully all requirements with integrity and reliability to assure good faith performance.

Responsive Bidder: A bidder who has submitted a bid which conforms to all requirements of the solicitation document.

Shall/Will/Must: An order/command; mandatory.

Should: Expected; suggested, but not necessarily mandatory.

Software License: Legal instrument with or without printed material that governs the use or redistribution of licensed software.

Sole Source – Commodity: When an item is available from only one source due to the unique nature of the requirement, its supplier, or market conditions.

Sole Source – Services: A service of such a unique nature that the vendor selected is clearly and justifiably the only practical source to provide the service. Determination that the vendor selected is justifiably the sole source is based on either the uniqueness of the service or sole availability at the location required.

Specifications: The detailed statement, especially of the measurements, quality, materials, and functional characteristics, or other items to be provided under a contract.

System (see Module): Any collection or aggregation of two (2) or more Modules that is designed to function, or is represented by the Contractor as functioning or being capable of functioning, as an entity.

Termination: Occurs when either party, pursuant to a power created by agreement or law, puts an end to the contract prior to the stated expiration date. All obligations which are still executory on both sides are discharged but any right based on prior breach or performance survives.

Trade Secret: Information, including, but not limited to, a drawing, formula, pattern, compilation, program, device, method, technique, code, or process that (a) derives independent economic value, actual or potential, from not being known to, and not being ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy (see Neb. Rev. Stat. § 87-502(4)).

Trademark: A word, phrase, logo, or other graphic symbol used by a manufacturer or vendor to distinguish its product from those of others, registered with the U.S. Patent and Trademark Office.

Upgrade: Any change that improves or alters the basic function of a product of service.

Vendor: An individual or entity lawfully conducting business in the State of Nebraska, or licensed to do so, who seeks to provide goods or services under the terms of a written solicitation.

Vendor Performance Report: A report issued to the Contractor by State Purchasing Bureau when products or services delivered or performed fail to meet the terms of the purchase order, contract, and/or specifications, as reported to State Purchasing Bureau by the agency. The State Purchasing Bureau shall contact the Contractor regarding any such report. The vendor performance report will become a part of the permanent record for the Contractor. The State may require vendor to cure. Two such reports may be cause for immediate termination.

Will: See Shall/Will/Must.

Work Day: See Business Day.

I. SCOPE OF THE INVITATION TO BID (ITB)

The State of Nebraska, Administrative Services (AS), Materiel Division, State Purchasing Bureau (hereafter known as State Purchasing Bureau or SPB), is issuing this Invitation To Bid, Number 5509 OF for the purpose of selecting a qualified Contractor to provide 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2.

A contract resulting from this Invitation To Bid will be issued approximately for a period of one (1) year effective the date of award. The contract has the option to be renewed for four (4) additional one (1) year periods as mutually agreed upon by all parties.

ALL INFORMATION PERTINENT TO THIS INVITATION TO BID CAN BE FOUND ON THE INTERNET AT:
<http://das.nebraska.gov/materiel/purchasing.html>

A. SCHEDULE OF EVENTS

The State expects to adhere to the tentative procurement schedule shown below. It should be noted, however, that some dates are approximate and subject to change.

	ACTIVITY	DATE/TIME
1.	Release Invitation To Bid	January 4, 2017
2.	Last day to submit written questions	January 18, 2017
3.	State responds to written questions through Invitation To Bid "Addendum" and/or "Amendment" to be posted to the Internet at: http://das.nebraska.gov/materiel/purchasing.html	January 23, 2017
4.	Bid opening Location: State Purchasing Bureau 1526 K Street, Suite 130 Lincoln, NE 68508	February 1, 2017 2:00 PM Central Time
5.	Review for conformance of mandatory requirements	To Be Determined
6.	Review period	To Be Determined
7.	Post "Letter of Intent to Award" to Internet at: http://das.nebraska.gov/materiel/purchasing.html	To Be Determined
8.	Contract finalization period	To Be Determined
9.	Contract award	To Be Determined
10.	Contract start date	To Be Determined

II. PROCUREMENT PROCEDURES

A. PROCURING OFFICE AND CONTACT PERSON

Procurement responsibilities related to this Invitation To Bid reside with the State Purchasing Bureau. The point of contact for the procurement is as follows:

Name: Dianna Gilliland
Agency: State Purchasing Bureau
Address: 1526 K Street, Suite 130
Lincoln, NE 68508

B. GENERAL INFORMATION

The Invitation To Bid (ITB) is designed to solicit bids from qualified vendors who will be responsible for providing 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 at a competitive and reasonable cost. Bids that do not conform to the mandatory items as indicated in the Invitation To Bid will not be considered.

Bids shall conform to all instructions, conditions, and requirements included in the Invitation To Bid. Prospective Bidders are expected to carefully examine all documentation, schedules, and requirements stipulated in this Invitation To Bid, and respond to each requirement in the format prescribed.

In addition to the provisions of this Invitation To Bid and the awarded bid, which shall be incorporated by reference in the contract, any additional clauses or provisions required by the terms and conditions will be included as an amendment to the contract.

A fixed-price contract will be awarded as a result of this Invitation to Bid.

C. COMMUNICATION WITH STATE STAFF AND EVALUATORS

From the date the Invitation To Bid is issued until a determination is announced regarding the contract award, contact regarding this project between potential Contractors and individuals employed by the State is restricted to only written communication with the staff designated above as the point of contact for this Invitation To Bid. Bidders shall not have any communication with, or attempt to communicate with or influence in any way, any evaluator involved in this ITB.

Once a Contractor is preliminarily selected, as documented in the intent to award, that Contractor is restricted from communicating with State staff until a contract is signed. The following exceptions to these restrictions are permitted:

1. Written communication with the person(s) designated as the point(s) of contact for this Invitation To Bid or procurement;
2. Contacts made pursuant to any pre-existing contracts or obligations; and
3. State-requested presentations, key personnel interviews, clarification sessions or discussions to finalize a contract.

Violations of these conditions may be considered sufficient cause to reject a Bidder's bid and/or selection irrespective of any other condition. No individual member of the State or employee of the State is empowered to make binding statements regarding this Invitation To Bid. The Buyer will issue any clarifications or opinions regarding this Invitation To Bid in writing.

D. WRITTEN QUESTIONS AND ANSWERS

Any explanation desired by a Bidder regarding the meaning or interpretation of any Invitation To Bid provision must be submitted in writing to the State Purchasing Bureau and clearly marked "ITB Number 5509 OF; 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 Questions". It is preferred that questions be sent via e-mail to as.materielpurchasing@nebraska.gov Questions may also be sent by facsimile to 402-471-2089, and must include a cover sheet clearly indicating that the transmission is to the attention of Dianna Gilliland, showing the total number of pages transmitted, and clearly marked "ITB Number 5509 OF 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 Questions".

It is recommended that Bidders submit questions sequentially numbered and include the Invitation To Bid reference and page number.

Written answers will be provided through an addendum to be posted on the Internet at <http://das.nebraska.gov/materiel/purchasing.html> on or before the date shown in the Schedule of Events.

<u>Question Number</u>	<u>ITB Section References</u>	<u>ITB Page Number</u>	<u>Question</u>

E. SUBMISSION OF BIDS

The following describes the requirements related to bid submission, bid handling, and review by the State.

To facilitate the evaluation process, one (1) original of the entire bid should be submitted. Bids must be submitted by the bid due date and time. **A separate sheet must be provided that clearly states which sections, if applicable, have been submitted as proprietary or have copyrighted materials.** All proprietary information the Bidder wishes the State to withhold must be submitted in accordance with the instructions outlined in Section III, Proprietary Information. If a recipient phone number is required for delivery purposes, 402-471-6500 should be used. The Invitation To Bid number must be included in all correspondence.

F. IMPORTANT NOTICE LANGUAGE

Bid responses should include the completed Form A and Bidder Contact Sheet. Bids must reference the Invitation To Bid number and be sent to the specified address. Please note that the address label should appear as specified in Section II part A on the page of the calendar or bidder's bid response packet. Rejected late bids will return to the bidder unopened.

IMPORTANT NOTICE: Pursuant to Neb. Rev. Stat. § 84-602.02, all State contracts in effect as of January 1, 2014 will be posted to a public website beginning July 1, 2014. All non-proprietary or confidential information as defined by State Law **WILL BE POSTED FOR PUBLIC VIEWING.**

G. DISCOUNTS

Prices quoted shall be inclusive of ALL trade discounts. Cash discount terms of less than thirty (30) days will not be considered as part of the bid. Cash discount periods will be computed from the date of receipt of a properly executed claim voucher or the date of completion of delivery of all items in a satisfactory condition, whichever is later.

H. PRICE ADJUSTMENTS DURING CONTRACT TERM

Any request for a price adjustment must be submitted in writing to the State Purchasing Bureau, a minimum of thirty (30) days prior to proposed effective date of increase, and must show cause with supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. No price increases are to be billed to any State Agencies without prior written approval by the State Purchasing Bureau. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.

I. PAYMENT

Payment will be made by the responsible agency in accordance with the State of Nebraska Prompt Payment Act, Neb. Rev. Stat. §§ 81-2401 through 81-2408. The State may request that payment be made electronically instead of by state warrant.

J. BID EXECUTION

Bids must be signed in ink by the Bidder on the State of Nebraska's Invitation To Bid form. All bids must be typewritten or in ink on the State of Nebraska's Invitation To Bid form. Erasures and alternations must be initialed by the Bidder in ink. No telephone or voice bids will be accepted. Failure to comply with these provisions may result in the rejection of the bid.

K. BID OPENING

The sealed bids will be publicly opened and the bidding entities announced on the date, time, and location shown in the Schedule of Events. Bids will be available for viewing by those present at the bid opening. Vendors may also contact the State to schedule an appointment for viewing bids after the Intent to Award has been posted to the website.

L. ELECTRONIC DOCUMENTS/FACSMILIE SUBMISSIONS

The State Purchasing Bureau will not accept electronic responses to an Invitation To Bid for a commodity contract at any dollar amount. However, an exception applies to one-time purchase bids under \$25,000. These one-time purchase bids may be submitted by electronic means, but cannot exceed ten (10) pages.

Sealed responses to an Invitation To Bid that contain a two party bid, may include electronic pages transmitted between the two parties, but these documents cannot be submitted to the State Purchasing Bureau by electronic means. No direct electronic solicitation responses will be accepted for a commodity contract of any estimated value.

M. VALID BID TIME

Bids shall be firm for a minimum of sixty (60) calendar days after the opening date, unless otherwise stipulated by either party in the Invitation To Bid.

N. ALTERNATE/EQUIVALENT BIDS

Bidder may offer bids which are at variance from the express specifications of the Invitation To Bid. The State reserves the right to consider and accept such bids if, in the judgment of the State Procurement Manager, the bid will result in goods and/or services equivalent to or better than those which would be supplied in the original bid specifications. Bidders must indicate on the Invitation To Bid the manufacturer's name, number and shall submit with their bid, sketches, descriptive literature and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. Bids which do not comply with these requirements are subject to rejection. In the absence of any stated deviation or exception, the bid will be accepted as in strict compliance with all terms, conditions and specification, and the Bidder shall be held liable therefore.

O. LATE BIDS

Bids received after the time and date of the bid opening will be considered late bids. Rejected late bids will be returned to the Bidder unopened. The State is not responsible for bids that are late or lost due to mail service inadequacies, traffic, or any other reason(s).

P. NO BID

If not submitting a bid, respond by returning the Invitation To Bid form explaining the reason in the space provided. NOTE: To qualify as a respondent, Bidder must submit a "NO BID" and it must be received no later than the stated bid opening date and time.

Q. LUMP SUM OR ALL OR NONE BIDS

The State reserves the right to purchase item-by-item, by groups or as a total when the State may benefit by so doing. Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a bid on an item-by-item basis. The term "all or none" means a conditional bid which requires the purchase of all items on which bids are offered and Bidder declines to accept award on individual items; a "lump sum" bid is one in which the Bidder offers a lower price than the sum of the individual bids if all items are purchased but agrees to deliver individual items at the prices quoted.

R. REJECTION OF BIDS

The State reserves the right to reject any or all bids, wholly or in part, or to award to multiple Bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid and do not improve the Bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State. The State reserves the right to reject any or all bids and re-advertise for bids; and further reserves the right to waive any informality or irregularity.

S. EVALUATION OF BIDS

All responses to this Invitation To Bid which fulfill all mandatory requirements will be evaluated for conformance to requested specifications. Elements that may also be considered include but are not limited to:

1. The ability, capacity, and skill of the Bidder to deliver and implement the system or project, or provide the requested goods, that meet the requirements of the Invitation to Bid;
2. The character, integrity, reputation, judgment, experience, and efficiency of the Bidder;
3. Whether the Bidder can perform the contract within the specified time frame;
4. The quality of Bidder performance on prior contracts; and
5. Such other information that may be secured and that has a bearing on the decision to award the contract.

T. BID TABULATIONS

Bid tabulations are available on the website at: <http://www.das.state.ne.us/materiel/purchasing/bidtabs.htm>.

Bid tabulations will not be provided by telephone or facsimile. Bid files may be examined, after the evaluation period is over, during normal business hours by appointment.

U. MANDATORY REQUIREMENTS

The bids will first be examined to determine if all mandatory requirements listed below have been addressed to warrant further evaluation. Bids not meeting mandatory requirements will be excluded from further evaluation. The mandatory requirement items are as follows:

1. Invitation To Bid for Commodity Contract form, signed in ink; and
2. The completed Invitation To Bid document.

V. REFERENCE CHECKS

The State reserves the right to check any reference(s), regardless of the source of the reference information, including but not limited to, those that may be identified by the company in the bid, those indicated through the explicitly specified contacts, those that are identified during the review of the bid, or those that result from communication with other entities involved with similar projects. The State may use a third party to conduct reference checks.

W. RECYCLING

As outlined in Neb. Rev. Stat. § 81-15,159, a preference shall be given to those Bidders that provide products, materials, or supplies which are manufactured or produced from recycled material or that can be readily reused or recycled after its normal use. Preference will also be given to purchases of corn-based biodegradable plastics and road deicers. No preference shall be given if such preference would result in the purchase of products, materials, or supplies that are of inadequate quality or of substantially higher cost.

X. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS

All Bidders should be authorized to transact business in the State of Nebraska. All Bidders are expected to comply with all Nebraska Secretary of State Registration requirements. It is the responsibility of the Bidder to comply with any registration requirements pertaining to types of business entities (e.g. person, partnership, foreign or domestic limited liability company, association, or foreign or domestic corporation or other type of business entity). The Bidder who is the recipient of an Intent to Award will be required to certify that it has complied and produce a true and exact copy of its current (within ninety (90) calendar days), valid Certificate of Good Standing or Letter of Good Standing; or in the case of a sole proprietorship, provide written documentation of sole proprietorship. This must be accomplished prior to the award of the contract. Construction Contractors are expected to meet all applicable requirements of the Nebraska Contractor Registration Act and provide a current, valid certification of registration. Further, all Bidders shall comply with any and all other applicable Nebraska statutes regarding transacting business in the State of Nebraska. Bidders should submit the above certification(s) with their bid.

Y. RESIDENT BIDDER

Pursuant to Neb. Rev. Stat. §§ 73-101.01 through 73-101.02, a Resident Bidder shall be allowed a preference against a Nonresident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the Nonresident Bidders. Where the lowest responsible bid from a resident bidder is equal in all respects to one from a nonresident bidder from a state which has no preference law, the resident bidder shall be awarded the contract. The provision of this preference shall not apply to any contract for any project upon which federal funds would be withheld because of the provisions of this preference.

Z. EVALUATION CRITERIA AND AWARD

The State of Nebraska reserves the right to evaluate bids in a manner, and utilizing methods, selected in the State of Nebraska's best interest and discretion. The State of Nebraska may waive informalities or irregularities in bids if the waiver is in the best interest of the State of Nebraska and such waiver does not prejudice other bidders in the State of Nebraska's discretion. After evaluation of the bids, the State of Nebraska may take, in the State's discretion, one or more of the following actions:

- Accept or reject a portion of or all of a bid;
- Accept or reject all bids;
- Withdraw the Invitation to Bid;
- Elect to rebid the Invitation to Bid;
- Award single lines or multiple lines to one or more bidders; or,
- Award one or more complete contracts.

The State of Nebraska reserves the right to make awards that are in the best interest of the State of Nebraska. The State of Nebraska may consider, but is not limited to, one or more of the following award criteria:

Price;
Location;
Quality;
Delivery time; and,
State contract management requirements or costs.
[Additional criteria may be added]

By submitting a bid in response to this Invitation to Bid, the Bidder grants to the State the right to contact or arrange a visit in person with any or all of the Bidder's clients.

Once an Intent to Award decision has been determined, it will be posted to the Internet at:
<http://das.nebraska.gov/materiel/purchasing.html/>

AA. POLITICAL SUB-DIVISIONS

The Contractor may extend the contract to political sub-divisions conditioned upon the honoring of the prices charged to the State. Terms and conditions of the Contract must be met by political sub-divisions. Under no circumstances shall the State be contractually obligated or liable for any purchases by political sub-divisions or other public entities not authorized by Neb. Rev. Stat. § 81-145, listed as "all officers of the state, departments, bureaus, boards, commissions, councils, and institutions receiving legislative appropriations." A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

BB. VIOLATION OF TERMS AND CONDITIONS

Violation of the terms and conditions contained in this Invitation To Bid or any resultant contract, at any time before or after the award, shall be grounds for action by the State which may include, but is not limited to, the following:

1. Rejection of a bidder's proposal;
2. Withdrawal of the Intent to Award
3. Termination of the resulting contract.
4. Legal action.
5. Suspension of the bidder from further bidding with the State for the period of time relative to the seriousness of the violation, such period to be within the sole discretion of the State.

III. INVITATION TO BID - TERMS AND CONDITIONS

By signing the "Invitation To Bid" form, the Bidder guarantees compliance with the provisions stated in this Invitation To Bid, agrees to the Terms and Conditions unless otherwise agreed to, and certifies Bidder maintains a drug free work place environment.

Bidders are expected to closely read the Terms and Conditions and provide a binding signature of intent to comply with the Terms and Conditions; provided, however, a Bidder may indicate any exceptions to the Terms and Conditions by one (1) clearly identifying the term or condition by subsection, and two (2) including an explanation for the Bidder's inability to comply with such term or condition which includes a statement recommending terms and conditions the Bidder would find acceptable. Rejection in whole or in part of the Terms and Conditions may be cause for rejection of a Bidder's bid. Bidders must include completed Section III with their ITB response.

The State of Nebraska is soliciting bids in response to the ITB. The State of Nebraska will not consider bids that propose the substitution of the bidder's contract, agreements, or terms for those of the State of Nebraska's. Any License, Service Agreement, Customer Agreement, User Agreement, Bidder Terms and Conditions, Document, or Clause purported or offered to be included as a part of this ITB must be submitted as individual clauses, as either a counter-offer or additional language, and each clause must be acknowledged and accepted in writing by the State. If the Bidder's clause is later found to be in conflict with the ITB or resulting contract the Bidder's clause shall be subordinate to the ITB or resulting contract.

A. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

The contract resulting from this Invitation To Bid shall incorporate the following documents:

1. Amendment to Contract Award with the most recent dated amendment heving the highest priority;
2. Contract Award and any attached Addenda;
3. The Invitation To Bid form and the Contractor's Bid Response signed in ink
4. Amendments to ITB and any Questions and Answers; and
5. The original ITB document and any Addenda.

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to Contract Award with the most recent dated amendment having the highest priority, 2) Contract Award and any attached Addenda, 3) the signed Invitation To Bid form and the Contractor's Bid Response 4) Amendments to ITB and any Questions and Answers, 5) the original ITB document and any Addenda.

Any ambiguity in any provision of this contract which shall be discovered after its execution shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

Once bids are opened they become the property of the State of Nebraska and will not be returned.

B. DEBARMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

The contractor, by signature to the Invitation To Bid, certifies that the contractor is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or

agency from participating in transactions (debarred). The contractor also agrees to include the above requirements in any and all subcontracts into which it enters. The contractor also agrees to include the above requirements in any and all subcontracts into which it enters. The contractor shall immediately notify the Department if, during the term of this contract, contractor becomes debarred. The Department may immediately terminate this contract by providing contractor written notices if contractor becomes debarred during the term of this contract.

C. SPECIFICATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for reference and not intended to limit competition, but will be used as the standard by which equivalent material offered will be judged. The State Procurement Manager will be the sole judge of equivalency. The Bidder may offer any brands which meets or exceeds the specification. When a specific product is required, the Invitation to Bid will so state. Any item bid is to be the latest current model under standard production at the time of order. No used or refurbished equipment will be accepted, unless otherwise stated.

D. PERFORMANCE AND DEFAULT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The State reserves the right to require a performance bond from the successful Bidder, as provided by law, without expense to the State. Otherwise, in case of default of the Contractor, the State may procure the articles from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

E. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

Bidder certifies that it maintains a drug free workplace environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

F. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of

race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §§ 48-1101 t 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all subcontracts for services to be covered by any contract resulting from this Invitation To Bid.

G. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor shall procure and pay for all permits, licenses, and approvals necessary for the execution of the contract. The Contractor shall comply with all applicable local, state, and federal laws, ordinances, rules, orders, and regulations.

H. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The State may already have in place or choose to award supplemental contracts related to this Invitation To Bid or any portion thereof.

1. The State reserves the right to award the contract jointly between two or more potential Contractors, if such an arrangement is in the best interest of the State.
2. The Contractor shall agree to cooperate with such other Contractors, and shall not commit or permit any act which may interfere with the performance of work by any other Contractor.
3. The State reserves the right to award multiple contracts or to award line by line contract.

I. CONTRACTOR RESPONSIBILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor is solely responsible for fulfilling the contract, with responsibility for all services offered and products to be delivered as stated in the Invitation To Bid, the Contractor's bid, and the resulting contract. The Contractor shall be the sole point of contact regarding all contractual matters.

J. CONTRACT CONFLICTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
AB			

Contractor shall insure that contracts or agreements with sub-contractors and agents, and the performance of services in relation to this contract by sub-contractors and agents, does not conflict with this contract.

K. FUNDING OUT CLAUSE OR LOSS OF APPROPRIATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The State may terminate the contract, in whole or in part, in the event funding is no longer available. The State's obligation to pay amounts due for fiscal years following the current fiscal year is contingent upon legislative appropriation of funds for the contract. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal years for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of any termination, and advise the Contractor of the location of any related equipment. All obligations of the State to make payments after the termination date will cease and all interest of the State in any related equipment will terminate. In no event shall the Contractor be paid for a loss of anticipated profit.

L. RIGHT TO AUDIT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

Contractor shall establish and maintain a reasonable accounting system that enables the State to readily audit contract. The State and its authorized representatives shall have the right to audit, to examine, and to make copies of or extracts from all financial and related records (in whatever form they may be kept, whether written, electronic, or other) relating to or pertaining to this contract kept by or under the control of the Contractor, including, but not limited to those kept by the Contractor, its employees, agents, assigns, successors, and Subcontractors. Such records shall include, but not be limited to, accounting records, written policies and procedures; all paid vouchers including those for out-of-pocket expenses; other reimbursement supported by invoices; ledgers; cancelled checks; deposit slips; bank statements; journals; original estimates; estimating work sheets; contract amendments and change order files; backcharge logs and supporting documentation; insurance documents; payroll documents; timesheets; memoranda; and correspondence.

Contractor shall, at all times during the term of this contract and for a period of five (5) years after the completion of this contract, maintain such records, together with such supporting or underlying documents and materials. The Contractor shall at any time requested by the State, whether during or after completion of this contract and at Contractor's own expense make such records available for inspection and audit (including copies and extracts of records as required) by the State. Such records shall be made available to the State during normal business hours at the Contractor's office or place of business. In the event that no such location is available, then the financial records, together with the supporting or underlying documents and records, shall be made available for audit at a time and location that is convenient for the State. Contractor shall ensure the State has these rights with Contractor's assigns, successors, and Subcontractors, and the obligations of these rights shall be explicitly included in any subcontracts or agreements formed between the Contractor and any Subcontractors to the extent that those subcontracts or agreements relate to fulfillment of the Contractor's obligations to the State.

Costs of any audits conducted under the authority of this right to audit and not addressed elsewhere will be borne by the State unless certain exemption criteria are met. If the audit identifies overpricing or overcharges (of any nature) by the Contractor to the State in excess of one-half of one percent (.5%) of the total contract billings, the Contractor shall reimburse the State for the total costs of the audit. If the audit discovers substantive findings related to fraud, misrepresentation, or non-performance, the Contractor shall reimburse the State for total costs of audit. Any adjustments and/or payments that must be made as a result of any such audit or inspection of the Contractor's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the State's findings to Contractor.

M. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

By submitting a bid, Bidder certifies that there does not now exist any relationship between the Bidder and any person or entity which is or gives the appearance of a conflict of interest related to this Invitation To Bid or project.

The Bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or appearance of conflict of interest.

The Bidder certifies that it will not employ any individual known by Bidder to have a conflict of interest.

N. BID PREPARATION COSTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The State shall not incur any liability for any costs incurred by Bidders in replying to this Invitation To Bid, including any activity related to bidding on this Invitation To Bid.

O. ERRORS AND OMISSIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The Bidder shall not take advantage of any errors and/or omissions in this Invitation To Bid or resulting contract. The Bidder must promptly notify the State of any errors and/or omissions that are discovered.

P. ASSIGNMENT BY THE STATE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The State shall have the right to assign or transfer the contract or any of its interests herein to any agency, board, commission, or political subdivision of the State of Nebraska. There shall be no charge to the State for any assignment hereunder.

Q. ASSIGNMENT BY THE CONTRACTOR

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor may not assign, voluntarily or involuntarily, the contract or any of its rights or obligations hereunder (including without limitation rights and duties of performance) to any third party, without the prior written consent of the State, which will not be unreasonably withheld.

R. GOVERNING LAW

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contract shall be governed in all respects by the laws and statutes of the State of Nebraska. Any legal proceedings against the State of Nebraska regarding this Invitation To Bid or any resultant contract shall be brought in the State of Nebraska administrative or judicial forums as defined by State law. The Contractor must be in compliance with all Nebraska statutory and regulatory law.

S. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Contractor agrees to pay all expenses of such action, as permitted by law, including attorney's fees and costs, if the State is the prevailing party.

T. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. News releases pertaining to the project shall not be issued without prior written approval from the State.

U. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

During the bid process, all communication between the State and a Bidder shall be between the Bidder's representative clearly noted in its bid and the buyer noted in Section II Part A., Procuring Office and Contact Person, of this ITB. Bidder is at all times to keep its point of contact updated with the most current information. After the award of the contract, all notices under the contract shall be deemed duly given upon delivery to the staff designated as the point of contact for this ITB, in person, or upon delivery by U.S. Mail, facsimile, or e-mail. Each Bidder should provide in its bid the name, title, and complete address of its designee to receive notices.

1. Except as otherwise expressly specified herein, all notices, requests, or other communications shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth above, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or three (3) calendar days following deposit in the mail.
2. Whenever the Contractor encounters any difficulty which is delaying or threatens to delay its timely performance under the contract, the Contractor shall immediately give notice thereof in writing to the State reciting all relevant information with respect thereto. Such notice shall not in any way constitute a basis for an extension of the delivery schedule or be construed as a waiver by the State of any of its rights or remedies to which it is entitled by law or equity or pursuant to the provisions of the contract. Failure to give such notice, however, may be grounds for denial of any request for an extension of the delivery schedule because of such delay.

Either party may change its address for notification purposes by giving notice of the change, and setting forth the new address and an effective date.

For the duration of the contract, all communication between Contractor and the State regarding the contract shall take place between the Contractor and individuals specified by the State in writing. Communication about the contract between Contractor and individuals not designated as points of contact by the State is strictly forbidden.

V. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar days written notice. Written notice to the contractor shall not relieve the Contractor of warranty or other obligations incurred under the terms of the contract. In the event of cancellation the Contractor shall be entitled to payment, for those products received and accepted by the State.
3. The State may terminate the contract immediately for the following reasons:
 - a. if directed to do so by statute;
 - b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
 - c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
 - d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
 - e. an involuntary proceeding has been commenced by any party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;

- f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
- g. Contractor intentionally discloses confidential information;
- h. Contractor has or announces it will discontinue support or provision of the deliverable;
- i. second or subsequent documented "vendor performance report" form deemed acceptable by the State Purchasing Bureau; or
- j. Contractor engaged in collusion or ones' actions which could have provided Contractor an unfair advantage in obtaining this contract.

W. BREACH BY CONTRACTOR

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

The State may terminate the contract, in whole or in part, if the Contractor fails to perform its obligations under the contract in a timely and proper manner. The State may, by providing a written notice of default to the Contractor, allow the Contractor to cure a failure or breach of contract within a period of thirty (30) calendar days (or longer at State's discretion considering the gravity and nature of the default). Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing the Contractor time to cure a failure or breach of contract does not waive the State's right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the goods from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

X. ASSURANCES BEFORE BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

If any document or deliverable required pursuant to the contract does not fulfill the requirements of the Intent To Bid/resulting contract, upon written notice from the State, the Contractor shall deliver assurances in the form of additional Contractor resources at no additional cost to the project in order to complete the deliverable, and to ensure that other project schedules will not be adversely affected.

Y. ACCEPTANCE AND PAYMENT OF GOODS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

In the event that the Contractor fails to provide the goods requested by the State, the State will not pay for such products until the same has been received and accepted by the State.

Z. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

Neither party shall be liable for any costs or damages resulting from its inability to perform any of its obligations under the contract due to a natural disaster, or other similar event outside the control and not the fault of the affected party ("Force Majeure Event"). A Force Majeure Event shall not constitute a breach of the contract. The party so affected shall immediately give notice to the other party of the Force Majeure Event. The State may grant relief from performance of the contract if the Contractor is prevented from performance by a Force Majeure Event. The burden of proof for the need for such relief shall rest upon the Contractor. To obtain release based on a Force Majeure Event, the Contractor shall file a written request for relief with the State Purchasing Bureau. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event and will not suspend performance requirements under the contract.

AA. PROHIBITION AGAINST ADVANCE PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

BB. PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §§ 81-2401 through 81-2406). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any goods provided by the Contractor prior to the Effective Date, and the Contractor hereby waives any claim or cause of action for any such claims.

CC. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

Invoices for payments must be submitted by the Contractor to the agency requesting the goods with sufficient detail to support payment. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

DD. TAXES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The State is not required to pay taxes of any kind and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

EE. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular provision held to be invalid.

FF. PROPRIETARY INFORMATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

Data contained in the bid and all documentation provided therein, become the property of the State of Nebraska and the data becomes public information upon opening the bid. If the Bidder wishes to have any information withheld from the public, such information must fall within the definition of proprietary information contained within Nebraska's public record statutes. **All proprietary information the Bidder wishes the State to withhold must be submitted in a sealed package, which is separate from the remainder of the bid, and provide supporting documents showing why such documents should be marked proprietary.** The separate package must be clearly marked PROPRIETARY on the outside of the package. **Bidders may not mark their entire Invitation To Bid as proprietary.** Pricing submitted in Bidder's ITB may not be marked as proprietary information. Failure of the Bidder to follow the instructions for submitting proprietary and copyrighted information may result in the information being viewed by other Bidders and the public. Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, Bidders submitting information as proprietary may be required to prove specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive. Although every effort will be made to withhold information that is properly submitted as proprietary and meets the State's definition of proprietary information, the State is under no obligation to maintain the confidentiality of proprietary information and accepts no liability for the release of such information.

GG. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION/COLLUSIVE BIDDING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

By submission of this bid, the bidder certifies, that it is the party making the foregoing bid and that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further that the bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

HH. PRICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

All prices, costs, and terms and conditions outlined in the proposal shall remain fixed and valid commencing on the opening date of the proposal until an award is made or the Request for Proposal is cancelled.

Prices quoted on the Cost Proposal form shall remain fixed for the first year of the contract period. Any request for a price increase subsequent to the first year shall not exceed five percent (5%) of the previous Contract period and must be submitted in writing to the State Purchasing Bureau and be accompanied by documentation justifying the price increase. Further documentation may be required by the State to justify the increase. The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

The State will be given full proportionate benefit of any price decrease during the term of the contract. Contractor represents and warrants that all prices for services, now or subsequently specified, are as low as and no higher than prices which the Contractor has charged or intends to charge customers other than the State for the same or similar products and services of the same or equivalent quantity and quality for delivery or performance during the same periods of time. If, during the term of the contract, the Contractor shall reduce any and/or all prices charged to any customers other than the State for the same or similar products or services specified herein, the Contractor shall make an equal or equivalent reduction in corresponding prices for said specified products or services.

Contractor also represents and warrants that all prices set forth in the contract and all prices in addition, which the Contractor may charge under the terms of the contract, do not and will not violate any existing federal, state, or municipal law or regulations concerning price discrimination and/or price fixing. Contractor agrees to hold the State harmless from any such violation. Prices quoted shall not be subject to increase throughout the contract period unless specifically allowed by these specifications.

II. ETHICS IN PUBLIC CONTRACTING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

No Bidder shall pay or offer to pay, either directly or indirectly, any fee, commission compensation, gift, gratuity, or anything of value to any State officer, legislator, employee or evaluator based on the understanding that the receiving person's vote, actions, or judgment will be influenced thereby. No Bidder shall give any item of value to any employeae of the State Purchasing Bureau or any evaluator.

Bidders shall be prohibited from utilizing the services of lobbyists, attorneys, political activists, or consultants to secure the contract. It is the intent of this provision to assure that the prohibition of state contact during the procurement process is not subverted through the use of lobbyists, attorneys, political activists, or consultants. It is the intent of the State that the process of evaluation of bids and award of the contract be completed without external influence. It is not the intent of this section to prohibit Bidders from seeking professional advice, for example consulting legal counsel, regarding terms and conditions of this Invitation To Bid or the format or content of their bid.

If the Bidder is found to be in non-compliance with this section of the Invitation To Bid, they may forfeit the contract if awarded to them or be disqualified from the selection process.

JJ. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

1. GENERAL

The Contractor agrees to defend, indemnify, hold, and save harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. INTELLECTUAL PROPERTY

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this ITB.

3. SELF-INSURANCE

The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 *et seq.* and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

KK. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

LL. EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at <http://das.nebraska.gov/materiel/purchasing.html>
The completed United States Attestation Form should be submitted with the Invitation To Bid response.
2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

IV. SCOPE OF WORK

The Bidder must provide the following information in response to this Invitation To Bid.

The following terms, conditions, and specifications shall apply to the purchase of small bus type passenger vehicles by the Nebraska Department of Roads.

A. SCOPE

It is the intent of this bid invitation to establish a contract to supply 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 per the attached specifications from date of award for a period of one (1) year with the option to renew for an additional four (4), one (1) year periods when mutually agreeable to the vendor and the State of Nebraska. The State reserves the right to extend the period of this contract beyond the end date when mutually agreeable to the vendor and the State of Nebraska.

All items bid shall be of the latest manufacture in production as of the date of the Invitation To Bid and be of proven performance and under standard design complete as regularly advertised and marketed. All necessary materials for satisfactory performance of the supplies shall be incorporated into the 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 whether or not they may be specifically mentioned below.

Complete specifications, manufacturer's descriptive literature and/or advertising data sheets with cuts or photographs may be required prior to an award and should be included with the bid on the IDENTICAL items proposed. Literature should be complete and the latest published. Any information necessary to show compliance with these specifications not given on the manufacturer's descriptive literature and/or advertising data sheets should be supplied in writing on or attached to the bid document. If manufacturer's specifications sheets, descriptive literature, advertising data sheets or information necessary to show compliance with these specifications is not supplied in writing on or attached to the bid document, the Bidder will be required to submit requested information within three (3) business days of a written request. Failure to submit requested descriptive literature or advertising data sheets may be grounds to reject the bid.

B. AMENDMENT

This Contract may be amended at any time in writing upon the agreement of both parties.

C. REVISIONS

In the event any product is discontinued or replaced with a newer version during the contract period, the State of Nebraska reserves the right to amend this contract to include the new product.

V. PROCUREMENT REQUIREMENTS FOR SMALL BUSES

A. FLOOR PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

A detailed floor plan showing all dimensions of the proposed vehicle should be submitted with the bid, but must be submitted prior to bid award; this should include but is not limited to location of access doors, seating, wheel wells, wheelchair lift and wheelchair positions, if applicable.

B. WARRANTY PROVISIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

Each bidder should state in detail the warranty provisions covering the bid item(s), and the bidder's policy on freight charges for parts. This must be provided prior to bid award. The bidder to whom the contract is awarded shall assume full responsibility for all parts, materials, accessories and equipment - standard, optional or specialty - used in the vehicle, and for their proper installation, whether manufactured by the contractor or purchased from another source. Under no condition shall the contractor delegate this responsibility to suppliers and/or other sources. The contractor shall also provide full and competent engineering services to handle any, and correct all problems associated with the performance of the vehicle during its useful life. The contractor's warranty shall cover parts, materials, and workmanship and shall apply for not less than a period of twelve (12) months or 12,000 miles, whichever occurs first. The 12,000 miles shall be in addition to any mileage shown by the vehicle's odometer upon delivery. If the contractor's or manufacturer's standard warranty exceeds this, the standard warranty shall apply. The warranty shall include repair and/or replacement of defective parts (except tires and tubes) and labor. The warranty period shall begin upon delivery of the vehicle(s) by the Nebraska Department of Roads to the recipient agency, and the warranty described above shall run between the contractor and the recipient agency.

C. ROYALTIES AND LICENSE FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor shall pay all royalties and license fees. He shall defend at his own cost all suits or claims for infringements of any patent rights, shall pay all awards of damages and all settlement agreements, and shall indemnify and save the U.S. Department of Transportation (DOT), the State of Nebraska, and the recipient agency to which the Nebraska Department of Roads delivers the vehicle(s) harmless from any loss on account of any such infringement, suit or claim.

D. FEDERAL MOTOR VEHICLE SAFETY STANDARD AND AMERICANS WITH DISABILITIES ACT (ADA)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The vehicles shall conform to all applicable Federal Motor Vehicle Safety Standards (FMVSS), Title 49 CFR Part 38, Subpart B ADA specs for Transportation Vehicles (or current Title 49 CFR Subpart 38) and Federal Motor Carrier Safety Regulations (FMCSR) as established by DOT (complete and submit certification provided). It shall also meet all applicable requirements of the Occupational Safety and Health Administration and of the Environmental Protection Agency. Failure of these specifications to identify explicitly each such regulation shall not relieve the contractor of the responsibility for compliance.

E. MANUALS, MANUFACTURER'S STATEMENT OF ORIGIN (MSO) AND ETC.

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor shall, prior to or upon delivery of any bid item(s) to the Department of Roads, provide the Department with copies of complete parts books, copies of maintenance manuals, copies of operating manuals, copies of drawings showing wiring schematics including all auxiliary systems, and all other manufacturer's prints necessary for the maintenance of the bid item(s) (CDs or flash drives are acceptable with this information). At the same time, the contractor shall provide the Department with detailed maintenance and inspection schedules incorporating the required maintenance and inspection of the basic vehicle and of each of its subsystems (e.g., wheelchair lifts) as prescribed by the respective manufacturers. In addition, the contractor shall, upon delivery of the bid item(s), provide the Department with copies of the contractor's warranty, the manufacturer's Original Statement of Origin or title to new vehicle, and all other documents necessary for securing title to the vehicle(s) in the name of the Nebraska Department of Roads. Title shall pass to the Department free and clear of all liens, mortgages and encumbrances, financing statements, securing agreements, claims; or demands of any character.

F. PRIOR TO DELIVERY, EACH VEHICLE SHALL BE COMPLETELY SERVICED

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The servicing program shall not include less than the following operations: engine tune-up, lubrication, wheel alignment, front wheel balancing, wiring check, body conditioning, and all other inspections and tests normally performed on a new vehicle. Parts of this servicing program may be performed at the manufacturer's assembly plant if proper facilities are available there. However, delivery and final servicing checkup, including final body cleanup, must be made in an adequately equipped shop provided by the contractor in the State of Nebraska or a contiguous State. The contractor shall furnish a completed checklist on the above items with each vehicle at the time of delivery.

G. VEHICLE DELIVERY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The bid item(s) shall be delivered to the Nebraska Department of Roads at 5001 South 14th Street, Lincoln, Nebraska, in first class condition, complete and ready for operation, and the contractor shall assume all responsibility and liability incident to said delivery. Delivery shall be made between 8:00 a.m. and 3:00 p.m. local time on a day other than Saturday, Sunday or a holiday. The vehicle(s) shall have been serviced and shall be in road-ready condition with not less than a HALF tank of gasoline when delivered, and the odometer(s) shall not reflect more than 1,250 miles driven.

Prior to delivery of any vehicles to the Department of Roads, the successful bidder must notify the appropriate individual(s) in the Public Transportation Section of the Nebraska Department of Roads at least two working days

before the delivery of vehicles. The contact person(s) will be established in the post award meeting with the successful bidder.

A maximum of five completed vehicles shall be allowed to be delivered to the Nebraska Department of Roads at one time. All appropriate documents must accompany each vehicle in order that the Nebraska Department of Roads can take possession of each vehicle after it has passed inspection by the State.

No other vehicle will be allowed to be delivered until previous vehicles have passed inspection and all appropriate documents have satisfied the State's requirements in order that possession can be taken by the State.

H. IF VEHICLE DOES NOT COMPLY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

In the event any bid item delivered by the contractor does not comply with these specifications, conditions and requirements as, accepted by the contractor, said bid item shall not be considered as being delivered. Further, if any bid item is delivered incomplete or contains any defective or damaged parts, said parts shall be removed and new parts shall be furnished by the contractor. The new parts furnished, including the transportation charges for same plus the labor for the removal and installation of said parts shall be free of all costs to the Nebraska Department of Roads or to the recipient agency to which the Department delivers the vehicle. Acceptance of delivery of the bid item(s) shall not release the contractor from liability for faulty workmanship or materials appearing even after final payment has been made.

I. GRIEVANCES AND PROTESTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

Administrative procedures for filing grievances/protests, by a vendor, relating to the contract award are as follows:

1. Within ten (10) business days of the posting of the intent to award, grievances/protests are to be expressed in writing to the Materiel Division Administrator, Administrative Services, 1526 K Street, Suite 130, Lincoln, NE 68508. The letter should state the bid number and specific issues that are to be addressed.
2. A response will be made by the Materiel Division Administrator.
3. If the response from the Materiel Division Administrator has not satisfied the grievance of the vendor, a protest letter is to be sent to the Director of Administrative Services, 1526 K Street, Suite 250, Lincoln, Nebraska 68508.
4. A meeting will be scheduled with the vendor, the ordering agency (optional) the Materiel Division Administrator and the Director of Administrative Services to discuss the issues.
5. A written response of the final decision by the Director of Administrative Services will be sent to the vendor.
6. Step 3 may be eliminated if the vendor opts to grieve simultaneously to both the Materiel Division Administration and the Director of Administrative Services.

If the vendor protesting the award of contract does not agree with the final decision in the administrative process, the vendor may then protest to the Federal Transit Administration (FTA) in accordance with FTA Circular 4220.1F (or current Circular).

J. TERMINATION FOR CONVIENANCE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The State of Nebraska may terminate this contract, in whole or in part, at any time with a 30-day written notice to the contractor. The contractor shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. The contractor shall promptly submit its termination claim to be paid the contractor. If the contractor has any property in its possession belonging to the State, the contractor shall account for the same, and dispose of it in the manner the State Purchasing Administrator directs.

K. TERMINATION FOR DEFAULT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

If the contractor does not deliver bid items in accordance with the contract delivery schedule, or if the contractor fails to perform in the manner called for in the contract, or if the contractor fails to comply with any other provisions of the contract, the State of Nebraska may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the contractor is in default. The contractor will only be paid the contract price for items delivered and accepted.

L. NO OBLIGATION BY THE FEDERAL GOVERNMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The purchaser and contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the purchaser, contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

M. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986 as amended, 31 U.S.C. 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this project. Upon execution of the underlying contract, the contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or cause to be made, pertaining to the underlying contract of the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the contractor further acknowledges that if it makes, or causes to be made, a false, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to

impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the contractor to the extent the Federal Government deems appropriate.

N. FEDERAL CHANGES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

The contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the current FTA Master Agreement between purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. contractor's failure to so comply shall constitute a material breach of this contract.

O. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F (or current Circular), are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The contractor shall not perform any act, fail to perform any act, or refuse to comply with any State requests, which would cause the State to be in violation of the FTA terms and conditions.

P. CIVIL RIGHTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

The following requirements apply to the underlying contract:

1. NONDISCRIMINATION

In accordance with Title VI of the Civil Rights Act, 42 U.S.C. 2000d, Section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. 6102, Section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. 12132, and Federal transit law at 49 U.S.C. 5332, the contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

2. EQUAL EMPLOYMENT OPPORTUNITY

The following equal employment opportunity requirements apply to the underlying contract:

a. Race, Color, Creed, National Origin, Sex (including pregnancy), Mental/Physical Disability, Age (40 or over), Genetic Information or any other basis prohibited by law

In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. 2000e, and Federal transit laws at 49 U.S.C. 5332, the contractor agrees to comply with all applicable equal opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No.11246, "Equal Employment

Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. 2000e note), and with any applicable Federal Statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the project. The contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the contractor agrees to comply with any implementing requirements FTA may issue.

b. Age

In accordance with Section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. 623 and Federal transit law at 49 U.S.C. 5332, the contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the contractor agrees to comply with any implementing requirements FTA may issue.

c. Disabilities

In accordance with Section 102 of the Americans with Disabilities Act, as amended, U.S.C. 12112, the contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the contractor agrees to comply with any implementing requirements FTA may issue.

3. The contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

Q. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
			

Instructions for Certification

By signing and submitting this bid or proposal, the prospective lower tier participant certifies to the following:

- The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the State may pursue available remedies, including suspension and/or debarment.
- The prospective lower tier participant shall provide immediate written notice to the State if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "principal," "proposal" and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact the State for assistance in obtaining a copy of those regulations.
- The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the State.
- The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the

- method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non Procurement List issued by U.S. General Service Administration.
7. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
 8. Except for transactions authorized under paragraph 4 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the State may pursue available remedies including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction"

- a. The prospective lower tier participant certifies, by submission of this bid or proposal,) that neither it nor its "principals" [as defined at 49 C.F.R. 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- b. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospectiva participant shall attach an explanation to this proposal.

R. ENERGY CONSERVATION REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

By signing and submitting this bid or proposal, the prospective lower tier participant certifies that it will comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

S. CLEAN WATER REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

By signing and submitting this bid or proposal, the prospective lower tier participant certifies that it will comply with all applicable standards, orders or regulations issued to the Federal Water Pollution Control Act, es amended, 33 U.S.C. 1251 et seq. The contractor agrees to report each violation to the purchaser and understands and agrees that the purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

T. CLEAN AIR REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

By signing and submitting this bid or proposal, the prospective lower tier participant certifies that it will comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. The contractor agrees to report each violation to the purchaser and understands and agrees that the purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

U. BUS TESTING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor [Manufacturer] agrees to comply with 49 U.S.C. A 5323(c) and FTA's Implementing regulation at 49 CFR Part 665 and shall perform the following:

1. A manufacturer of a new bus model or a bus produced with a major change in components or configuration shall provide a copy of the final test report to the Department of Roads.
2. A manufacturer who releases a report under paragraph 1 above shall provide notice to the operator of the testing facility that the report is available to the public.
3. If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the recipient prior to recipient's final acceptance of the first vehicle. If the configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing.
4. If the manufacturer represents that the vehicle is "grandfathered" (has been used in mass transit service in the United States before October 1, 1988, and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle's configuration and major components.

V. PRE-AWARD AND POST-DELIVERY AUDIT REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor agrees to comply with 49 U.S.C. 5323(1) and FTA's implementing regulation at 49 CFR Part 663 and to submit the following certifications:

1. **BUY AMERICA REQUIREMENTS**
The contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America with their bid. If the Bidder/Offeror certifies compliance with Buy America, it shall submit documentation, prior to bid award, which lists a) component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and b) the location

of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and cost of final assembly.

2. SOLICITATION SPECIFICATION REQUIREMENTS

The contractor shall submit evidence that it will be capable of meeting the bid specifications.

3. FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS)

The contractor shall submit the manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS.

W. RESTRICTIONS ON LOBBYING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The Lobbying Certification must be signed by a legally authorized representative of the Bidder's firm and returned with the bid.

X. BUY AMERICA

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The contractor agrees to comply with 49 U.S.C. 5323 (j)(2)(C) and 49 CFR Part 661.11, rolling stock not subject to a general waiver must be manufactured in the United States and meet the percent of domestic content requirements of the Fixing America's Surface Transportation (FAST) Act provisions for date of delivery of rolling stock. Thus, for vehicles delivered in FY-2018 and FY2019, the domestic content must be more than 65 percent domestic content, and for vehicles delivered in FY2020 and beyond, the domestic content must be more than 70 percent. The certification must be signed by a legally authorized representative of the bidder's firm and returned with the bid.

Y. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

In accordance with Title 49 of the Code of Federal Regulations, Part 26, Subpart C, Section 26.49 Special Provisions for Transit Vehicle Manufacturers, it is a requirement that each vehicle manufacturer must certify compliance with this section as a condition of authorization to bid on transit vehicle purchases, which are utilizing Federal Transit Administration funds. The regulation provides that the Transit Vehicle Manufacturer will certify that:

1. They have submitted annual overall DBE goals to FTA; and that,
2. FTA has either approved their overall goals, or that FTA has not disapproved their overall goals.

The certification must be signed by a legally authorized representative of the bidder's firm and returned with the bid. A Transit Vehicle Manufacturer failing to make this certification is considered non-responsive and cannot be awarded the contract.

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) days from receipt of each payment the prime contractor receives from the State. The prime contractor agrees further to return retainage withheld to ensure satisfactory completion of the work, to

each subcontractor within 30 days after the subcontractor achieves the specified work as verified by payment from the State.

Any disputes that arise regarding the satisfactory completion of work by a subcontractor may be brought to the attention of the State, which will make a determination. Any delay of payment from the above-referenced time frame may occur only for good cause following written approval from the State. This clause applies to both DBE and non-DBE subcontractors.

The failure by the prime contractor to carry out the requirements of the Prompt Payment Clause and/or timely return of retainage, without just cause, is a material breach of this contract, which may result in the State withholding payment from the prime contractor until all delinquent payments have been made (no interest will be paid for the period that payment was withheld), termination of this contract, or other such remedy as the State deems appropriate.

Note: The prime contractor may withhold payment only for just cause, and must notify the State in writing of its intent to withhold payment prior to actually withholding payment. The prime contractor shall not withhold, delay or postpone payment without first receiving written approval from the State.

Z. ACCESS TO RECORDS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

ADDITIONAL FEDERAL REQUIREMENTS

ACCESS TO RECORDS

49 C.F.R. 19.48

49 U.S.C. 5325(a)

49 U.S.C. 5302(a)1

49 CFR 18.39(i)(11)

Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.

Where any Purchaser which is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

The contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR Part 18.

FTA does not require the inclusion of these requirements in subcontracts.

AA. DISPUTE, BREACHES AND OTHER LITIGATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

ADDITIONAL FEDERAL REQUIREMENTS

DISPUTE/BREACHES/OTHER LITIGATION

**49 CFR Part 18
FTA Circular 4220.1E**

In the event of any dispute between the State and contractor with respect to the interpretation of this contract, any required payment under or the performance required by this contract, including any dispute which may result in a claim, (a "Dispute"), the aggrieved Party shall notify the other in writing of the Dispute then existing (the "Dispute Notice"). In order for a Party to proceed under this Section, the Dispute Notice must specifically state that the aggrieved Party is invoking the Dispute procedure of this Section. The Parties shall then make a good faith attempt to resolve the Dispute, first through direct discussions between their respective designated representatives. In the event the designated representatives are unable to reach agreement then upon the written request of either Party, each of the Parties will appoint a designated executive whose task it will be to meet for the purpose of endeavoring to resolve such dispute. The designated executives shall meet in Lincoln, Nebraska, as often as the Parties reasonably deem necessary in order to gather and furnish to the other all information with respect to the matter in issue which the Parties believe to be appropriate and germane in connection with its resolution. Such executives will discuss the problem and/or negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding relating thereto. No action for the resolution of such dispute outside of these procedures shall be taken by either Party until one of the designated executives concludes in good faith that amicable resolution through continued negotiation of the matter in issue does not appear likely and so notifies the other designated executive in writing either party in its sole discretion may invoke litigation, provided that failure to invoke litigation shall not be a waiver of any such Dispute except as otherwise provided in the contract. During any mediation or litigation which arises out of a Dispute, all parties will continue to perform pursuant to the contract, without prejudice to the express rights of either Party set forth in this Section to terminate the contract.

BB. CARGO PREFERENCE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

ADDITIONAL FEDERAL REQUIREMENTS

**CARGO PREFERENCE
Master Agreement §14.b**

The contractor agrees:

1. To use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels.
2. To furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market

Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.)

3. To include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

CC. FLY AMERICA

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

ADDITIONAL FEDERAL REQUIREMENTS

FLY AMERICA
49 U.S.C. 40118
41 CFR Part 301-10

The contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and sub-recipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

DD. OVERTIME REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

ADDITIONAL FEDERAL REQUIREMENTS

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

29 CFR 5.5(a)(1)(iv)
40 U.S.C. section 333
29 C.F.R. Part 1926

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

EE. VIOLATION; LIABILITY FOR UNPAID WAGES' LIQUIDATED DAMAGES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

In the event of any violation of the clause set forth in Section V.DD. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in Section V.DD. of this section, in the sum of \$ 10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in Section V.DD. of this section.

FF. WITHHOLDING FOR UNPAID WAGES AND LIQUIDATED DAMAGES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The State shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in Section V.EE. of this section.

GG. SUBCONTRACTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section.

HH. PAYROLLS AND BASIC RECORDS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
MB			

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs

and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

II. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor agrees to comply with section 107 of the Contract Work Hours and Safety Standards Act, 40 U.S.C. section 333, and applicable DOL regulations, " Safety and Health Regulations for Construction " 29 C.F.R. Part 1926. Among other things, the contractor agrees that it will not require any laborer or mechanic to work in unsanitary, hazardous, or dangerous surroundings or working conditions.

JJ. SUBCONTRACTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

The contractor also agrees to include the requirements of this section in each subcontract. The term "subcontract" under this section is considered to refer to a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. A person who undertakes to perform a portion of a contract involving the furnishing of supplies or materials will be considered a "subcontractor" under this section if the work in question involves the performance of construction work and is to be performed: (1) directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials which will become an integral part of the construction is a "subcontractor" if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a "subcontractor." The requirements of this section do not apply to contracts or subcontracts for the purchase of supplies or materials or articles normally available on the open market.

KK. ADA ACCESS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

ADDITIONAL FEDERAL REQUIREMENTS

ADA ACCESS
49 U.S.C. § 5301 (d)
29 U.S.C. § 794
42 U.S.C. §§ 12101 et seq.
42 U.S.C. §§ 4151 et seq.

The contractor agrees to comply with the requirements of 49 U.S.C. § 5301 (d), which states the Federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement that policy. The contractor also agrees to comply with all applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent

amendments to that Act, and with the Architectural Barriers act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to persons with disabilities, including any subsequent amendments to that Act. In addition, the contractor agrees to comply with any and all applicable requirements issued by the FTA, DOT, DOJ, U.S. GSA, U.S. EEOC, U.S. FCC, any subsequent amendments thereto and any other nondiscrimination statute(s) that may apply to the Project.

LL. SPECIAL NOTIFICATION REQUIREMENTS FOR STATES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

ADDITIONAL FEDERAL REQUIREMENTS

SPECIAL NOTIFICATION REQUIREMENT FOR STATES
Master Agreement §36

To the extent required by Federal law, the State agrees that, in administering any Federal assistance Program or Project supported by the Grant Agreement or Cooperative Agreement, any request for proposals, solicitation, grant application, form, notification, press release, or other publication involving the distribution of FTA assistance for the Program or the Project shall indicate that FTA is the Federal agency that is providing the Federal assistance, the Catalog of Federal Domestic Assistance Number of the program from which the Federal assistance is authorized, as may be applicable, and the amount of Federal assistance FTA provided.

MM. NEW EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
AB			

ADDITIONAL FEDERAL REQUIREMENTS


NEW EMPLOYEE WORK ELIGIBILITY STATUS
8 U.S.C. 1324a
Neb. Rev. Stat. §4-108

The contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

If the contractor is an individual or sole proprietorship, the following applies:

1. The contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at www.das.state.ne.us.
2. If the contractor indicates on such attestation form that he or she is a qualified alien, the contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The contractor understands and agrees that lawful presence in the United States is required and the contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

NN. SPECIAL PROVISION-TEXT MESSAGING WHILE DRIVING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
			

ADDITIONAL FEDERAL REQUIREMENTS

SPECIAL PROVISION – TEXT MESSAGING WHILE DRIVING
23 U.S.C.A. § 402 note

In accordance with Executive Order No. 13513, Federal Leadership on Reducing Text Messaging While Driving, October 1, 2009, 23 U.S.C.A. § 402 note, and DOT Order 3902.10, Text Messaging While Driving December 30, 2009, the Grantee is encouraged to comply with the terms of the following Special Provision.

1. **Definitions** - As used in this Special Provision:
 - a. **Driving** - Means operating a motor vehicle on a roadway, including while temporarily stationary because of traffic, a traffic light, stop sign, or otherwise. Driving does not include being in your vehicle (with or without the motor running) in a location off the roadway where it is safe and legal to remain stationary.
 - b. **Text Messaging** - Means reading from or entering data into any handheld or other electronic device, including for the purpose of short message service texting, e-mailing, instant messaging, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication. The term does not include the use of a cell phone or other electronic device for the limited purpose of entering a telephone number to make an outgoing call or answer an incoming call, unless the practice is prohibited by State or local law.

2. **Safety** - The Grantee is encouraged to:
 - a. Adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers including policies to ban text messaging while driving-
 - i. Grantee-owned or Grantee-rented vehicles or Government-owned, leased or rented vehicles;
 - ii. Privately-owned vehicles when on official Project related business or when performing any work for or on behalf of the Project; or
 - iii. Any vehicle, on or off duty, and using an employer supplied electronic device.
 - b. Conduct workplace safety initiatives in a manner commensurate with the Grantee's size, such as:
 - i. Establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving; and
 - ii. Education, awareness, and other outreach to employees about the safety risks associated with texting while driving.
 - c. Include this Special Provision in its sub-agreements with its sub-recipients and third party contracts and also encourage its sub-recipients, lessees, and third party contractors to comply with the terms of this Special Provision, and include this Special Condition in each sub-agreement, lease, and third party contract at each tier financed with Federal assistance provided by the Federal Government.

OO. ASSIGNMENT AND SUBCONTRACTING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

NDOR reserves the right to assign all or any portion of the vehicles awarded under this contract including option quantities provided that:

1. Such units are no longer required by NDOR; and,
2. NDOR written approval to assign its options is obtained by the interested party(s) prior to issuing a purchase order, obligating funds, etc.

NDOR's right of assignment shall remain in force throughout the term of the contract or until all options have been executed, whichever occurs first.

PP. LICENSING REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act, Nebraska Revised Statutes, Chapter 60, Article 14. The licensing requirements must be met at time of bid opening for the bid to be valid. Bidder must include copy of current Nebraska Motor Vehicle Dealer License prior to bid award.

QQ. FACTORY INSPECTION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
RB			

Prior to the completion of the first vehicle at the factory, two Department of Roads' representatives and the successful bidder's authorized representative will do an inspection of the bid vehicle at the successful bidder's manufacturer. Adequate indoor facilities shall be available to conduct the inspection without interference of the weather. The vehicle must meet the requirements of the specifications prior to any further units being produced under the awarded contract.

Travel costs for transportation, meals and lodging for each representative of the Department of Roads shall be at the vendor's expense until inspection is complete. Travel arrangements to the inspection must be at the convenience and approval of the appropriate Department of Roads' officials.

Travel beyond 200 miles will be by commercial airline.

VI. INVITATION TO BID - TECHNICAL SPECIFICATIONS

BIDDER INSTRUCTIONS

Bidder must respond to each of the following statements. Specifications listed are minimum conditions that must be met in order for a Bidder to qualify for the award.

"YES" response means the Bidder guarantees they can meet this condition.

"NO" response means the Bidder cannot meet this condition and will not be considered.

"NO & PROVIDE ALTERNATIVE" responses should be used only with a narrative response in the NOTES/COMMENTS section explaining in detail any deviation from the Bidder's ability to meet the condition, and an explanation of how this would be determined to be an acceptable alternative to meeting the condition. Alternatives must be detailed in such a way that allows such deviations to be fully evaluated. The State of Nebraska shall determine at its sole discretion whether or not the Bidder's alternative is an acceptable alternative.


DEFINITIONS

The following are definitions of special terms used in these technical specifications:


- 1. CURB WEIGHT**
The "as delivered" weight of the vehicle with all equipment required for operation, all equipment required by these specifications, and with maximum fuel, oil, and coolant, but without driver or passengers.
- 2. HEAVY-DUTY**
Where used in these specifications, the term "heavy-duty" shall mean that the item to which it is applied is to exceed the usual quality or capacity of similar items normally supplied as standard equipment, and that the item shall be capable of withstanding unusual stress, temperature, wear, exposure, and/or use.
- 3. CRASHWORTHINESS**
The body and roof structure of the vehicle shall withstand a static load equal to 150 percent of the curb weight, as defined in Item 1 above, evenly distributed on the roof with no more than a 6-inch reduction in any interior dimension. When the roof is fully loaded as specified above, each emergency exit of the vehicle provided in accordance with FMVSS No. 217 shall still be capable of opening as specified in that standard.
- 4. GROSS VEHICLE WEIGHT RATING (GVWR)**
Gross vehicle weight rating shall be no less than the sum of curb weight as defined in Item 1 above plus 150 pounds for the driver and for each passenger seating position other than a folding jump seat plus 300 pounds for each wheelchair space provided.
- 5. SEATING CAPACITY**
The vehicle must be capable of accommodating a wheelchair lift, the driver, at least two standard wheelchairs with seated passengers, and no fewer than nine ambulatory passengers seated in regular passenger seats installed as specified in Section IV.J.2.

A. NON-COMPLIANCE STATEMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. Read these specifications carefully. Any and all exceptions to these specifications must be written on or attached to quotation request. Any noncompliance may void your quotation. Non-compliance to any single specification can void your bid.
AB			2. It is the responsibility of Bidders to obtain information and clarifications as provided below. The State of Nebraska is not responsible for any erroneous or incomplete understandings or wrongful interpretations of this Invitation to Bid by any Bidder.

			<p>3. No interpretation related to the meaning of bid specifications or other pre-bid documents will be made orally to any Bidder by the State of Nebraska. Any Invitation To bid interpretation must be put in writing and faxed by the Bidder to: the State Purchasing Bureau, Fax (402) 471-2089 or e-mailed to AS Materiel Purchasing as.materielpurchasing@nebraska.gov by the last day to submit written questions that is specified in the Schedule of Events. (Inquiries received after the last day to submit written questions may not be addressed).</p>
NOTES/COMMENTS:			

B. GENERAL REQUIREMENTS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. The manufacturer of the bus body must be certified to be in compliance with Quality Standards of the ISO (International Organization for Standardization) 9001:2000 with regard to the sale, design and manufacture of the bus. Bidder must provide proof that bus manufacturer is certified by ISQ and a copy of the manufacturer's ISO Certification should accompany bid, but must be submitted prior to bid award.</p> <p>The vehicle to be procured must provide suitable public transportation in light transit or paratransit service. It must serve the needs of the physically and mentally handicapped, including those who must travel in wheelchairs. It will be operated primarily in rural and small urban areas.</p> <p>At times, the vehicle may be operated at or near maximum legal speeds on highways or on rural roads. Consequently, crashworthiness and operating safety are of paramount importance. Passenger comfort and convenience are also highly important, and the vehicle must provide increased headroom, a low entrance step, and a high-quality interior trim and seating package. Seating must afford adequate hip-to-knee room and leg room for arthritic or rheumatic passengers of the physical dimensions given for a 95th percentile male by SAE Recommended Practice J833.</p> <p>The vehicle must operate reliably in ambient temperatures ranging from -25° to +115° F, and must be equipped with climate control and engine cooling systems that will cope with such extremes for extended periods. In addition, oils, greases, and fluids used in subsystems such as wheelchair lifts must be suitable for such temperatures.</p> <p>The vehicle may be operated by transportation providers who lack a backup vehicle. To preclude unnecessarily extended down times, complete warranty and after-sales service must be available in Nebraska for the completed vehicle and for all installed subsystems, including air conditioning systems, wheelchair lifts, and so on. Bidders should furnish with their bids the name and address of the agency that will be responsible for such service activities but must be submitted prior to bid award.</p>
NOTES/COMMENTS:			

C. GENERAL DIMENSIONS AND CAPACITIES

YES	NO	NO & PROVIDE ALTERNATIVE	
BB			1. Interior Width Minimum 85 inches.
BB			2. Interior Headroom Minimum 73 inches.
BB			3. Overall Width (excluding mirrors) Maximum 96 inches.
BB			4. Overall Height (including safety vent) Maximum 118 inches. A vehicle clearance sticker indicating the maximum height of the vehicle in feet and inches shall be provided and located in easy view of the driver, preferably above the windshield directly in front of the driver.
BB			5. Wheelbase Minimum 158 inches.
NOTES/COMMENTS:			

D. CHASSIS AND RELATED SYSTEMS

YES	NO	NO & PROVIDE ALTERNATIVE	
BB			1. Chassis 2017 or Current Production Year Ford cutaway minimum GVWR of 14,500 pounds; 2017 or Current Production Year Chevrolet cutaway minimum GVWR 14,200 pounds.
BB			2. Engine Minimum 6.0L gasoline.
BB			3. Cooling Manufacturer's heavy duty, increased capacity. Permanent ethylene glycol-base antifreeze protection to 30 degrees below zero Fahrenheit required.
BB			4. Steering Manufacturer's recommended power steering.
BB			5. Brakes Manufacturer's recommended power service brakes designed for the GVWR of the vehicle.
BB			6. Transmission Automatic.
BB			7. Differential Manufacturer's recommended gear ratio.
BB			8. Shock Absorbers Heavy-duty shock absorbers are required, both front and rear, if available by manufacturer.
BB			9. Wheels and Tires Dual rear wheels shall be provided on vehicle. The inner dual will be equipped with a solid brass air valve extension or braided stainless steel "live stem" air valve extension hose (minimum rating of 120 psi) with securement clamps. Valve extensions should not extend beyond the outer edge of the rim of the outside dual. The vehicle shall be equipped

			with two front and four rear matching wheels and tires. Wheels and tires shall be adequate to comply with manufacturer's GVWR of vehicle. All wheels' color shall be compatible to the exterior color of the vehicle. Radial tires required.
BB			10. Fuel Tank Minimum 30 gallons.
BB			11. Bumpers and Tow Hooks Manufacturer's standard bumper is acceptable. Rear tow hooks required.
BB			12. Throttle An auto-throttle system that senses when the electrical current draw exceeds alternator output and increases the engine idle RPM while the vehicle is stationary.
BB			13. Alternator Minimum 130 amperes
BB			14. Batteries Manufacturer's heavy-duty dual batteries with at least one mounted on a slide-out battery tray, such as that produced by Kwikkee Products Co., Drain, Oregon or equivalent. The sliding tray shall be enclosed with entry through a key lock door and located under the body behind the entry door on the passenger side of the vehicle.
BB			15. Speed Control/Tilt Steering Wheel Manufacturer's required.
BB			16. Back-up Alarm Back-up alarm required.
BB			17. Back-up Camera High definition color camera able to process excellent images at all light conditions, even in complete darkness. The camera's field of vision shall be a minimum of 120 degrees for superb coverage behind the vehicle. The system shall be weather proof with an IP67 rating, shock resistant with a minimum of a one year warranty and complies with the latest NHTSA 49 C.F.R. Parts 571 and 585. Backing camera shall be mounted at the top of the rear end cap of the vehicle. A 6"X16" internal rear view mirror with a 7" monitor for rear back up camera is to be provided and mounted above the windshield. Mirror is to afford a view of the passenger and roadway to the rear.
BB			18. Emergency Flashers The wiring for emergency flashers shall utilize the turn signal bulbs in lieu of the brake light bulbs, so the emergency flash will work when the brake pedal is depressed.
BB			19. Mud Flaps Mud flaps front and rear required.
BB			20. Exhaust Vehicle shall have street side exhaust system (exits the left side of vehicle) behind rear axle and a minimum of 3" ahead of the rear bumper. Exhausts that run closer than 8" to the fuel tank must have metal heat shields or clamp on heat shield jacket between the exhaust and fuel tank.
BB			21. Rear Suspension Rear suspension shall be equipped with MORryde rubber suspension or approved equivalent.
NOTES/COMMENTS:			

E. AUXILIARY SYSTEMS, MISCELLANEOUS PARTS, AND ACCESSORIES

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			<p>1. Exterior Lighting The exterior lighting system shall conform to the requirements of FMVSS No. 108 and 49 CFR Part 38 Subpart B 38.31.</p>
AB			<p>2. Interior Lighting The interior lighting system shall provide bright floor surface illumination in the entryway and aisle, when required. A separate overhead lamp shall be provided for the driver's use. All lamps shall operate with or without the engine running, and the entrance steps shall be automatically illuminated whenever the entrance doors are open, day or night and conform to 49 CFR Part 38 Subpart B 38.31.</p>
AB			<p>3. Heating and Defrosting System The heating system shall have at least two unit type heaters, one located in the driver's area and one in the passenger area. The output of each heater shall be individually adjustable by means of controls easily reached by the seated driver. There shall also be a standard windshield defrosting and defogging system that meets or exceeds the performance requirements of SAE J382.</p>
AB			<p>4. Air-conditioning System The system shall have two separate air conditioners (dual compressor) a factory installed dash-mounted unit (13,000 BTU min.) and an auxiliary unit for the passenger area. The auxiliary unit shall have its own compressor, a skirt mounted condenser with a free blowing evaporator and a minimum output of 52,000 BTU/hr. The output of each unit shall be individually adjustable by means of controls easily reached by the seated driver. A detailed description of the air-conditioning units should be submitted with each bid, but must be submitted prior to bid award.</p>
AB			<p>5. Windshield Wipers and Washers Dual, electrically driven wipers (with intermittent wipe) and washers shall be furnished, and the washing fluid reservoir shall have a capacity of no less than one quart.</p>
AB			<p>6. Rearview Mirrors The OEM rear view mirror mounted on the windshield will be provided. A 6"X16" internal rear view mirror mounted above the windshield with a 7" monitor for rear back up camera is to be provided. Mirror is to afford a view of the passenger and roadway to the rear. External rear vision mirrors on right and left side of vehicle shall be heated, power adjustable type with 15" Mirror Head Standard (2 in 1) Flat and Convex Glass.</p>
AB			<p>7. Sun Visor A fully adjustable interior sun visor shall be provided for the driver. The sun visor shall not interfere with the driver's view of the rearview mirrors.</p>
AB			<p>8. Horn The vehicle shall be equipped with an OEM horn.</p>
AB			<p>9. Controls and Instruments All controls shall be within the driver's arm reach with seat belt fastened. Instrumentation shall include an oil pressure gauge, a coolant temperature gauge, a charge indicator with graduated charge-discharge scale, and an engine hour meter.</p>
AB			<p>10. AM-FM Radio and Speaker System A good quality, 10-watt minimum power output, push-button AM-FM stereo clock radio with a minimum of four speakers shall be provided. The speakers shall be positioned to allow for balanced audio coverage within the vehicle. At least two speakers shall be mounted in the forward area and a minimum of two speakers shall be mounted at least halfway to the back of the vehicle. The speakers shall be enclosed so as to</p>

AB			provide protection from damage and all wiring shall be concealed. A balance control for the front and rear speaker shall be provided and located within easy reach of the driver.
NOTES/COMMENTS:			

F. EMERGENCY EQUIPMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. First Aid Kit A 12-unit first aid kit provided with instruction for the use of its contents shall be securely mounted in a location readily accessible to the driver.
AB			2. Fire Extinguisher A UL approved fire extinguisher shall be bracket mounted in a location readily accessible to the driver. Size shall be no less than five-pound with a total rating of not less than 2A, 10-B:C or UL approved equivalent.
AB			3. Warning Devices A kit of three folding bi-directional emergency reflective triangles that conform to the requirements of FMVSS No. 125 shall be provided.
AB			4. Safety Vent A Dual Purpose Safety Low Profile roof vent such as the Transpec Econovent roof hatch or equivalent shall be provided. Safety vent exterior height shall not exceed 2" above vehicle roof. This will be mounted according to the directions of the manufacturer near the middle of the passenger compartment. Installation of roof hatch shall include gasket to seal out moisture.
AB			5. Blood-borne Pathogens Kit Will be provided with a minimum of the following items. Latex Gloves, CPR Mask, Goggles, Apron, Disinfectant Wipes, Absorbent and Scoop, and an I.D. tag and red plastic bag.
NOTES/COMMENTS:			

G. BUS BODY

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. Structure The body structure shall be steel reinforced fiberglass or steel reinforced plastic that will withstand flexing or fatigue that would make the vehicle unfit for safe and weather-tight operation. The exterior body panels shall be constructed of gel-coated fiberglass reinforced plastic. The body structure shall form an integrated unit. All points, such as joints and corners, at which stress concentrations may occur shall be reinforced as needed to carry required loads and withstand road shock. All structural framing shall be designed and constructed so that each member carries its proportionate share of stresses. Framing members shall be of durable channel, box, hat, zee, or similar cross section. End posts shall be designed to resist shear, and vertical members shall be securely fastened to under frame components so that the entire structure shall act as one unit without any movement at the joints.

			<p>2. Body Exterior Fiberglass reinforced plastic shall be used for the construction of the bus body securely fastened to the interior structural members. The entire body shall be thoroughly tested by the final-stage manufacturer and made as nearly dust-proof and watertight as practicable.</p>
			<p>3. Roof Roof construction may employ steel, aluminum, or fiberglass panels. The requirements must meet the definition of CRASHWORTHINESS, page 38 Item 3.</p>
			<p>4. Body Interior Inner lining panels shall be gel-coated fiberglass reinforced plastic. Wood or fiber panels shall not be used. To minimize the need for vertical seams, all interior panels shall extend full-length longitudinally, where practical. Where seams are unavoidable, all exposed edges shall be beaded, hemmed, or flanged with the rearward components lapped over the forward components.</p>
			<p>5. Floor A 3/4 inch thick underlayment shall be applied over a lower metal floor structure. The 3/4" underlayment shall be Thermo-Lite Board Model 2651a fiber-reinforced urethane composite material by Space Age Synthetics or plywood underlayment completely fiberglass gel coat sealed to prevent moisture infiltration. All plywood edges are to be sealed prior to being attached. The underlayment floor shall be laid with no gaps or openings.</p>
			<p>6. Wheel Housings The housings shall provide ample clearance for operating the fully loaded vehicle with tire chains and with unrestricted steering. Splash aprons and fenders shall be provided if tires extend beyond the sides of the vehicle.</p>
			<p>7. Access Hatches Access panels or hatches shall be provided where needed to service transmission, engine, radiator, battery, air conditioning components, etc.</p>
			<p>8. Anti-corrosion Treatment All metallic body components, including the surfaces of those interior body panels and posts that are to be covered by insulation or trim materials, shall be thoroughly protected against corrosion by means such as bonderizing or the application of multiple coats of anti-corrosive primer. All nuts, bolts, clips, washers, clamps, and like fasteners shall be plated or phosphate-coated to prevent corrosion.</p>
			<p>9. Insulation The ceiling and all inside walls of the vehicle shall be moisture proof and contain thermal and acoustic insulating characteristics. The insulating material shall have a minimum of R-5 rating.</p>
			<p>10. Undercoating The entire body/frame under-structure of the vehicle shall be fully undercoated with nonflammable resin-type material, poly-oleum, or the equivalent in accordance with vehicle chassis standards.</p>
NOTES/COMMENTS:			

H. WINDSHIELD AND WINDOWS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Safety Requirements All glazing materials shall conform to the requirements of FMVSS No. 205. All windows shall conform to the requirements of FMVSS No. 217, and emergency egress shall be provided as specified in that standard.</p>

B			<p>2. Side Windows At least 3,700 square inches of window space shall be furnished in addition to windows installed in doors. Windows shall be T side panel type. All side windows shall be top vented (except for left rear window above tailpipe) to allow for ventilation and all side windows shall provide a clear view to the outside from each passenger seat position. All windows shall be tinted.</p>
B			<p>3. Rear Windows A rear window surface area of no less than 390 square inches shall be provided and must provide emergency egress from the vehicle.</p>
NOTES/COMMENTS:			

I. DOORS

YES	NO	NO & PROVIDE ALTERNATIVE	
B			<p>1. Entrance Door and Stepwell The vehicle shall be equipped with a two section, jackknife or split type main entrance door located opposite the driver. The door shall be at least 80 inches high. The door control shall be manually operated with over center linkage of the self-locking type, and shall be easily operated by the seated driver with seat belt fastened. The stepwell shall be corrosion-resistant steel. Step treads shall be at least 9 inches deep. The entry step shall be 12 inches (plus or minus 1 inch) above ground level and subsequent step risers shall be no greater than 10 inches.</p>
B			<p>2. Driver's Door and Running Board A front-hinged, sedan type door with roll-down window and exterior key lock shall be provided at the left-hand side of the driver's seat. A driver's side running board that runs from the front wheel mud flap to a minimum of 4 inches past the back of the driver's door that will accommodate a driver weighing up to 325 pounds shall be provided. Running board at a minimum shall be 8 inches wide at the mid area of the driver door to allow adequate surface for safe entry and exit of vehicle. Running board shall be secured to the vehicle with steel braces that are rust resistant. Running board deflection shall not be greater than ¼ inch when used to enter and exit vehicle by driver.</p>
NOTES/COMMENTS:			

J. SEATS AND AISLE

YES	NO	NO & PROVIDE ALTERNATIVE	
B			<p>1. Driver's Seat Multi-position cloth driver's seat, such as Evolution G2ELP series cut-away driver seat by Freedman Seating Company of Chicago, Illinois, with PIM mechanical suspension, two-way, mechanically adjustable lumbar, 45 to 100 degree adjustable back, four-way adjustable headrest, fore/aft adjustments, and front adjustable flip-up right side armrest or approved equivalent shall be provided. The seatbelt assembly shall be a combination of pelvic and upper torso-restraint (Type 2) with retractors. The seatbelt assembly and seatbelt anchorages shall conform to the requirements of FMVSS Nos. 207, 208, 209, and 210.</p>

AB			<p>2. Passenger Seats All cloth double passenger seats with flip up aisle US armrest, aisle side seat grab handles on top of mid-back or mid-hi seats with lumbar support mounted on track. Seat back height from the top of the seat cushion will be a minimum of 22 inches. Each passenger seating position shall be equipped with an under seat retractor seat belt assembly and belt anchorages that conform to the requirements of FMVSS Nos. 209 and 210. Leg room, the horizontal distance forward from the front surface of a seat cushion to the rear of another seat or other obstruction shall be no less than 10 inches.</p>
AB			<p>3. Color and Fabric for Passenger Seats Color of fabric shall be NPF by CMI #831 Pinwheel Mono Blue treated with Nanocide by Freedman Seating Company or approved equivalent.</p>
AB			<p>4. Aisle Aisle width shall be no less than 14 inches.</p>
<p>NOTES/COMMENTS:</p>			

K. FRONT WHEELCHAIR ACCOMMODATIONS

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			<p>1. Lift Access Doors Split type outward-opening lift access doors located on the right-hand side (curb side) of the vehicle to the rear of the right rear wheel well as shown in FIGURE 1, page 55, shall be provided. The lift access doors shall be constructed so as to be equivalent in strength and materials to other areas of the body and shall be fitted with weather seals at all edges so as to exclude dust and moisture. Minimum vertical opening of the doors shall be 68 inches. The minimum door clear opening width when doors are fully opened shall be 44 ½ inches. The doors shall be equipped with windows with bottoms approximately aligned with those of the main side windows and of the maximum width appropriate to the width of the doors. The windows shall conform to the requirements of Section H.1. above. Both doors shall be fitted with latching mechanisms to secure each door when closed. One door shall have a locking latch which allows both doors to be securely locked when closed. Gas shocks or spring resistant door restraints shall be provided to hold the doors in the fully open position while the lift is in operation. An interlock shall also be provided to disable all lift controls whenever the doors are closed.</p>
AB			<p>2. Wheelchair Lift A front pump 12-volt, fully automatic, electrohydraulic or electromechanical, folding platform wheelchair lift with a design load of not less than 600 pounds shall be installed inside the lift access doors. Installation of the lift shall not diminish the vehicle's structural integrity.</p> <p>The platform lift shall be certified by the manufacturer to meet the requirements of DOT 49 CFR Part 38. The brand name and model number of the lift to be provided should be identified and manufacturer's literature should be included with the bid, but must be submitted prior to bid award.</p> <p>When in the stowed configuration, all parts of the lift shall be completely housed within the vehicle.</p> <p>The platform shall measure at least 34 inches wide by 51 inches long. The platform shall be equipped with a hydraulic powered automatic outboard roll stop. The barrier shall be erected automatically by means</p>

<p>AA B</p>			<p>that prevent deactivation of the barrier while the platform is unfolded and is more than four inches above the ground or curb.</p> <p>The platform shall rise and descent smoothly with no sudden acceleration, deceleration, or jerking motion while bearing any load up to and including 100% of the design load in ambient temperatures of -25° to +115° F.</p> <p>The entire lift electrical system shall be protected by a master circuit breaker. Maximum operating current shall not exceed 180 amps. Lift control switches housed in a hand-held, weatherproof switch box shall be provided. The switch box shall permit remote control of all lift functions and shall be connected to the end of a flexible, cut-resistant electrical cable of sufficient length to allow safe, convenient lift operation by an attendant in the vehicle or standing on the ground beside the lift door. There shall be two mounting areas for securing the handheld control box when not in use. One shall be provided for access from within the vehicle and the other from outside the vehicle when lift doors are open. All lift controls shall be clearly labeled so as to be easily understood. Wheelchair lift and installation shall comply with Federal Motor Vehicle Safety Standards 403 and 404.</p>
<p>BB B</p>			<p>3. Wheelchair Transport Space At least two functional wheelchair transport spaces shall be provided. The spaces shall be located as shown in FIGURE 1, page 55. Each such space shall be at least 30 inches wide and 48 inches long.</p>
<p>B</p>			<p>4. Wheelchair Securement Each wheelchair space shall be equipped with auto-tensioning, auto locking retractor style restraint system with knobs that allows for final tightening of the securement if necessary. Securement system must meet the requirements of DOT 49 CFR Part 38, SAE J2249, WC 18, along with all recognized government standards. This system shall be installed according to the manufacturer's instructions and specification. Securement system should consist of the following items produced by Sure-Lok or equivalent.</p> <ul style="list-style-type: none"> a. Kit No. AL812S-4C-7 securement system. Kit contains: <ul style="list-style-type: none"> i. Four (4) - AL800855S - Auto-tensioning retractors with L track fitting, tightening knobs, stud fitting and J hook. ii. One (1) - AL700868 - 4 Occupant restraint buckle connector assembly with stud fitting. iii. One (1) - AL700771 - Fixed-point mount occupant restraint retractor with height adjuster and stud fitting. b. 8705 Web Cutter; c. FE200750 Quick Strap - 4 per position; d. FE2001145 Mesh Storage Container; Location of the mesh storage containers for the two rear wheelchair positions are to be anchored to the back wall, the bottom of the bags are to be a minimum of fifteen inches above the floor. e. SLCE03 Training Program CD (one per vehicle) f. AL700842 Integrated Lap Belt Length 96 inches; g. Floor anchorages will be recessed L-Track of a 6061-T6 compound (OMI), or approved equivalent. Track shall be provided for each wheelchair position. Two L-Track 65 inches in length are to be installed in the rear of the vehicle from the street side to the curb side a minimum of 52 inches apart (54 inches preferred if possible) as recommended by the supplier's installation instructions. Each rear wheelchair space shall have L-Track 12 inches to 14 inches long installed side to side on the back wall for the upper anchor of the occupant restraint, to accommodate adjusting for oversized wheelchairs.

NOTES/COMMENTS:




L. STANCHIONS, MODESTY PANELS AND HANDRAILS

YES	NO	NO & PROVIDE ALTERNATIVE	
MB			<p>1. Stanchions Vertical, floor-to-ceiling stanchions shall be installed on the right hand side of the aisle behind the stepwell and behind the rearmost position of the driver's seat. Stanchion behind the driver seat must allow driver seat to recline to maximum extent possible with seat position slid back to the rear-most position. A clear Plexiglas or Lexan shield shall be located behind the driver above the lower panel of the stanchion separating the driver compartment from the passenger compartment. The shield shall provide handholds for support as passengers are walking up the aisle.</p>
MB			<p>2. Modesty Panels A horizontal guardrail and sheet metal barrier panel or hardboard laminate panel shall be installed as shown in Figure 1, page 55. The guardrails shall not be less than 30 inches above the floor, and the barrier panels shall extend from the guardrails to within 8 inches of the floor.</p> <p>All stanchions, handrails and guardrails shall be constructed of corrosion resistant steel tubing with a minimum outside diameter of 1.25 inches. Urethane foam padding with a minimum 3/8-inch wall thickness shall be applied to the tubing so that guardrails are fully padded and stanchions are padded from within 3 inches of the ceiling to within 3 inches of the floor.</p>
MB			<p>3. Handrails and Stanchions Handrails and stanchions must be provided to meet the requirements of 49 CFR Part 38 Subpart B 38.29.</p> <p>All stanchions, handrails, and guardrails shall be securely anchored to frame members or to solid bracing. Any sharp edges or protruding fasteners or brackets that might harm passengers or clothing shall be eliminated or protected.</p> <p>There shall be handrails on each side of the passenger doorway. A minimum of one handrail shall run parallel to the steps and be easily accessible to aide passengers when negotiating the entry steps.</p>
MB			<p>4. Priority Seating Sign Shall be furnished as required by 49 CFR Part 38 Subpart B 38.27.</p>


NOTES/COMMENTS:

M. FINISHES

YES	NO	NO & PROVIDE ALTERNATIVE	
MB			<p>1. Interior Finish All materials used in the passenger compartment, including upholstery, padding, floor covering, and insulation shall conform to the requirements of FMVSS No. 302, and materials that emit toxic gases as byproducts of</p>


			<p>combustion shall not be used.</p> <p>Floor covering shall be slip resistant exceeding the ADA minimum slip resistance standard rating of .06 static coefficient of friction, under dry or wet conditions. Floor covering shall be constructed with aluminum oxide, silicon carbide, quartz and optional PVC chip blended throughout a high quality vinyl wear surface (top coating is not acceptable). Backing to be polyester cellulose material with fiberglass fiber reinforced center scrim for additional durability. Floor covering shall be Meta 2.2 mm or greater, color TFM22903 Storm by Altro Transflor or approved equivalent.</p> <p>The whole floor will be a uniform thickness throughout the vehicle, eliminating the need for ribbed surfaces. Seams are to be heat welded to provide a permanent waterproof seal against water penetration. All trim edges (if used) are to be sealed by heat welding or with mastic/caulk by the manufacturer's instructions before installation.</p> <p>Floor covering is to be installed on the passenger entrance steps and risers according to the manufacture's recommendations. Step edging shall be yellow vinyl step nosing installed according to the floor covering manufacture's recommendations.</p> <p>Those interior surfaces that are not padded or covered with a decorative vinyl surface shall be appropriately primed and finished with a top quality Acrylic enamel. Color of paint and other interior finishing materials shall harmonize with the vehicle's exterior finish.</p>
			<p>2. Exterior Finish The exterior color shall be white. All exterior surfaces shall be smooth and free of visible wrinkles and dents. To assure a proper bond between the basic surface and successive coats of paint, exterior surfaces to be painted shall be properly cleaned and primed, as appropriate for the paint used, prior to application of the paint. Exterior surfaces to be painted shall be finished with a top-quality Acrylic paint applied according to the recommendations of its manufacturer. The paint shall be applied smoothly and evenly with the finished surface free of dirt, runs, orange peel, and other imperfections.</p>
			<p>3. Optional Raised Floor for Wheelchair Positions This option calls for a true raised floor, not a double floor, to provide a flat surface from behind the driver to the rear of the vehicle eliminating the protrusion of the wheel wells in the vehicle, for the purpose of additional wheelchair positions. The headroom provided in this area should be a minimum of 72 inches.</p>
<p>NOTES/COMMENTS:</p>			

N. MOTOR VEHICLE INDUSTRIES REGULATION ACT

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. All Bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Regulation Act, Nebraska Revised Statutes, § Chapter 60, Article 14 at time of bid. Bids will only be accepted from Bidders who are fully compliant with the Motor Vehicle Industries Regulation Act, Chapter 60, Article 14.</p>


NOTES/COMMENTS:

O. SUSTAINABILITY

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. If any part or component of the vehicle bid contains recycled or bio-based materials(s), please list and provide detailed information on the environmental attributes.


NOTES/COMMENTS:

P. ANNUAL USAGE, ESTIMATED

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Annual usage figures provided are estimates and are not to be construed as either a minimum or maximum purchase quantity. The orders shall be for the actual quantities of each item ordered by or for any agency during the life of the contract. Vendor shall not impose minimum order requirements.


NOTES/COMMENTS:


Q. USAGE REPORT

YES	NO	NO & PROVIDE ALTERNATIVE	
			A. The vendor shall, upon request by the State of Nebraska, provide an annual usage report of this contract by state agencies. Information will include agency name, item, and dollar amount. Information may be requested at any time by the State Purchasing Bureau, but may typically be requested at the end of the contract period or upon renewal of the contract, or at other intervals (monthly, quarterly, etc.) as determined by the State.


NOTES/COMMENTS:

R. ORDERS


YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Orders will be placed either by, phone, fax, e-mail or Internet (if available and not to the exclusion of the other methods). All orders must reference a purchase order number and the purchase order number must be referenced on the packing slip, and invoice. Invoices are to be sent to the "Invoice to" address on the purchase order.

			Once contract is awarded, purchase orders issued by ordering agencies should include vehicle description, number of units ordering, shipping and billing location, agency delivery contact name and phone number and related information.
NOTES/COMMENTS:			

S. QUALITY

YES	NO	NO & PROVIDE ALTERNATIVE	
			<ol style="list-style-type: none"> Product quality must meet specifications and be consistent for the term of the contract. A guarantee of satisfactory performance by the supplier and meeting delivery dates are considered to be an integral part of the purchase contract resulting from this bid invitation. All materials must be of first quality, under standard production by the manufacturer and be of standard design, complete as regularly advertised and marketed and be of proven performance. Products are to be fully guaranteed and may be returned for full credit or replacement (at the State's option) for any reason during the initial warranty period with no additional charges for shipping or restocking.
NOTES/COMMENTS:			

T. PRICES

YES	NO	NO & PROVIDE ALTERNATIVE	
			<ol style="list-style-type: none"> Price quoted shall be unit price and shall be firm for 180 days from date of an award and are to be net; including transportation and delivery charges fully prepaid by the Bidder F.O.B. Destination as specified. No additional charges will be allowed for packing, handling, fuel surcharge, or partial delivery costs. Any Invitation To an increase must be submitted in writing to the State Purchasing Bureau a minimum of 30 days prior to proposed effective date of increase, and must show cause and be accompanied by supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. No price increases are to be billed to any State Agencies without prior written approval by the State Purchasing Bureau. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.
NOTES/COMMENTS:			

U. AUTHORIZED DEALER & WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. To the extent required by the manufacturer, the Bidder shall be an authorized dealer. Bidder may be required to substantiate that he/she is an authorized dealer. Proof, if required, must be submitted to the State Purchasing Bureau within three (3) days of the request and prior to the award of any contract. The terms of the original manufacturer's standard warranty shall apply to all equipment acquired from this solicitation for the entire warranty period.
NOTES/COMMENTS:			

V. WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. Contractor must warrant the average life expectancy supplies hereunder to be not less than that stated in the manufacturer's price list and agree to replace, without cost, all supplies failing to meet this requirement, except where the reduced life is due to conditions beyond the control of the Contractor. Defective parts or those damaged in shipment must be replaced by the Contractor at no charge to the State of Nebraska. The manufacturer's standard warranty shall apply and be in effect for at least one year from the date the equipment was placed in service.
NOTES/COMMENTS:			

W. SUBSTITUTIONS

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. Vendor will not substitute any item that has been awarded without prior written approval of State Purchasing Bureau.
NOTES/COMMENTS:			

X. WITHDRAWAL OF BID

YES	NO	NO & PROVIDE ALTERNATIVE	
AB			1. The vendor is responsible for reviewing their bid(s) before submission for accuracy and completeness, to include price. The vendor may without penalty withdraw their bid within five (5) business days of bid opening by notifying the SPB Buyer in writing.

NOTES/COMMENTS:

Y. SECRETARY OF STATE REGISTRATION REQUIREMENTS


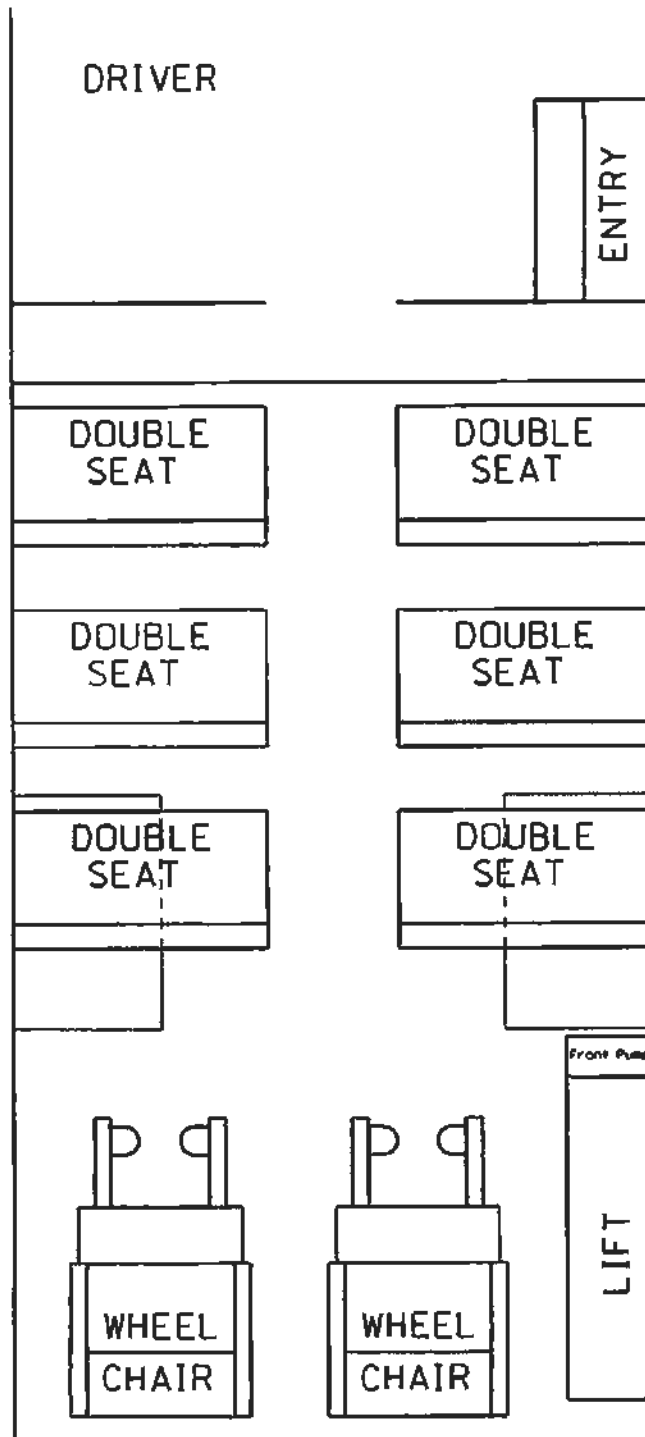
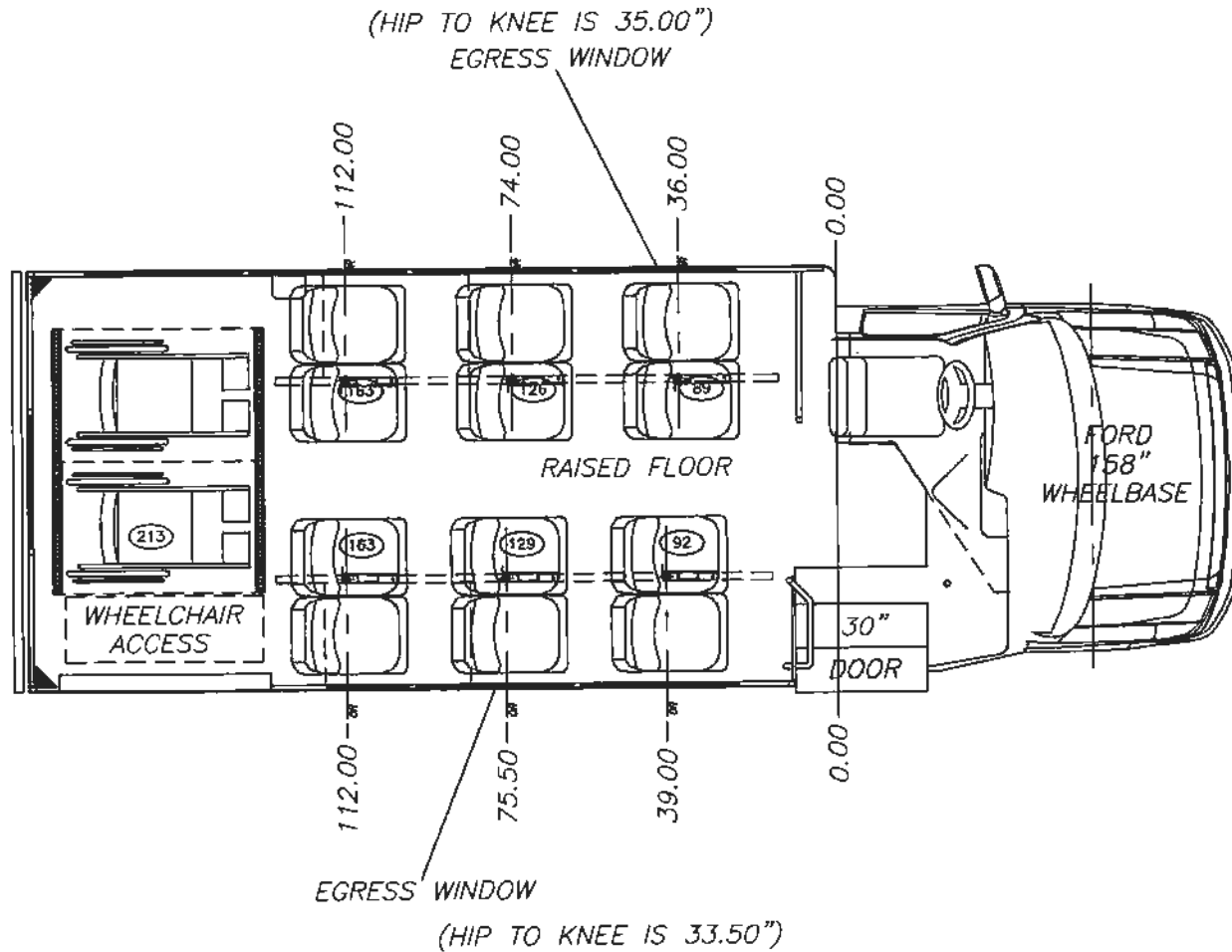
YES	NO	NO & PROVIDE ALTERNATIVE	*Prior to contract award and/or upon request of SPB, potential award recipient(s) will be asked to certify compliance with Nebraska Secretary of State Registration by providing a true and exact copy of current (dated within 90 days) valid Certificate of Good Standing or Letter of Good Standing.
			<p>1. Bidder is a SOLE PROPRIETORSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required)</p> <p>If the Bidder is an Individual or Sole Proprietorship, the following applies:</p> <p>a. The Bidder must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html</p> <p>The completed United States Attestation Form should be submitted with the Invitation to Bid response.</p> <p>b. If the Bidder indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.</p> <p>c. The Bidder understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.</p>
			<p>2. Bidder is a GENERAL PARTNERSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required).</p>
			<p>3. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State is provided within bid submission documents.</p>
			<p>4. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State will be provided in a timely manner upon request prior to award.</p>
<p>NOTES/COMMENTS:</p>			

FIGURE 1
Floor Diagram



LEGEND

95 = C/L FRONT AXLE TO PASS C.G.



NOTES:

- 36" X 36" WINDOWS

DEALER APPROVAL

APPROVED

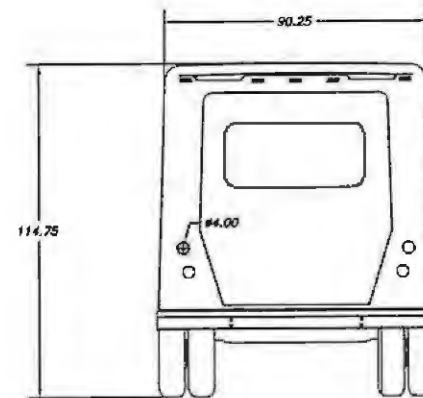
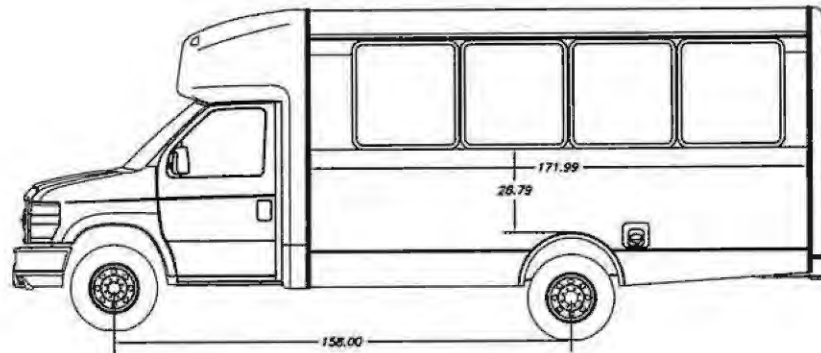
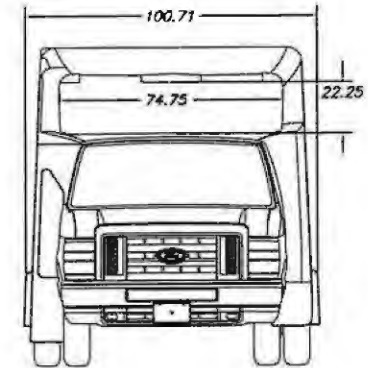
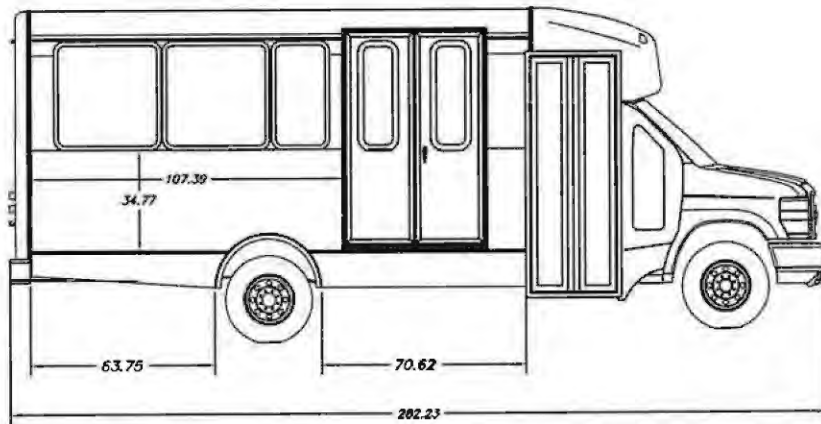
X _____
CUSTOMER SIGNATURE

G GOSHEN™
REVGROUP
1655 WALL STREET
SALINA, KS. 67401
(785) 827-1033

DO NOT SCALE DRAWING	DRAWING INFORMATION		
THIS DRAWING IS THE PROPERTY OF ELDORADO, A REV GROUP COMPANY, AND IS NOT TO BE DUPLICATED OR USED IN ANY WAY DETRIMENTAL TO THEIR BEST INTEREST. REV. 02/16	DRAWN: MILLER	CKD:	
	DATE: 1/26/17	SIZE: A	
	SCALE: 1/42	WGT:	
TOLERANCE UNLESS SPECIFIED			
SEAT SPACING ± .25 (SEAT SPACING NOT TO BE LESS THAN 28.5")	-	JPM	1/26/17
RESTRAINTS ± .25 (N/C POSITIONS NOT TO BE SMALLER THAN 30 X 48)	REV.	BY	DATE

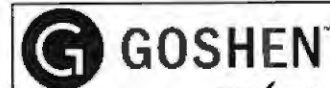
TITLE: IMPULSE 220 30" ENTRY DOOR / WC DOOR (REAR)	UNIT NUMBER IMP2216-NK01	PAGE 1 of 1
--	-----------------------------	----------------

RELEASE TO PRODUCTION
DESCRIPTION



158" WHEELBASE 36" X 36" WINDOWS SHOWN 30" ENTRY DOOR

NOTE: OVERALL HEIGHT MAY VARY DUE TO SPRING PKG
OPTIONS AND DOES NOT REFLECT ROOF HATCH.



REV GROUP

1655 WALL STREET
SALINA, KS. 67401
(785) 827-1033

DO NOT SCALE DRAWING	DRAWING INFORMATION			
THIS DRAWING IS THE PROPERTY OF ELDORADO, A REV GROUP COMPANY, AND IS NOT TO BE DUPLICATED OR USED IN ANY WAY DETRIMENTAL TO THEIR BEST INTEREST. REV. 02/16	DRAWN: MILLER	CKD:		
	DATE: 1/27/17	SIZE: A		
	SCALE: 1/64	WGT:		
TOLERANCE UNLESS SPECIFIED ± .5		- JPM	1/27/17	RELEASE TO PRODUCTION
	REV.	BY	DATE	DESCRIPTION

TITLE:
ELEVATION VIEWS, IMPULSE 220
30" ENTRY DOOR / WC DOOR (FRONT)

UNIT NUMBER
ELEV2213-NK01

PAGE
1 OF 1

Specifications

Exterior Dimensions

	E-350 Super Duty® Cutaway (SRW)	E-350 Super Duty® Cutaway (SRW)	E-350 Super Duty® Cutaway (DRW)	E-350 Super Duty® Cutaway (DRW)	E-350 Super Duty® Cutaway (DRW)	E-450 Super Duty® Cutaway (DRW)	E-450 Super Duty® Cutaway (DRW)
Wheelbase (in.)	138	158	138	158	176	158	176
Overall Length (in.)	241.1	261.1	241.1	261.1	261.1	261.1	261.1
Overall Height (Loaded) (in.)	80.4	80.3	80.3	80.2	80.1	80	80
Overall Width (in.)	79.4	79.4	94.9	94.9	94.9	94.9	94.9
Front Track (in.)	69.4	69.4	69.4	69.4	69.4	69.4	69.4
Rear Track (in.)	72.1	72.1	75.4	75.4	75.4	77.7	77.7
Cab Length (in.)	92.5	92.5	92.5	92.5	92.5	92.5	92.5
Cab Rear to Rear Axle	80	100	80	100	116	100	118
Top of Frame to Top of Cab (in.)	54.4	54.4	54.4	54.4	54.4	58.4	58.4
Rear Axle to End of Frame (in.)	68.5	68.5	68.5	68.5	50.5	68.5	50.5
Load Height (loaded) (in.)	25.9	25.9	26.2	26.2	26.2	26	26
Overhang (in.)	34.6	34.6	34.6	34.6	34.6	34.6	34.6
Estimated base Curb Weight (lbs.)	4950	5012	5225	5287	5297	5512	5519

Interior Dimensions

	E-350 Super Duty® Cutaway (SRW) / (DRW)	E-450 Super Duty® Cutaway (DRW)
First row Head Room (in.)	42	42
First row Shoulder room (in.)	68.1	68.1
First row Hip Room (in.)	65.6	65.6
First row Leg Room (in.)	42.1	42.1

Explore 2017 E-Series Cutaway

Capacities: Passengers, Fuel

	E-350 Super Duty® Cutaway (SRW) / (DRW)	E-450 Super Duty® Cutaway (DRW)
Seating capacity (std./opt.)	12	12

E-350 Super Duty® Cutaway (SRW) / (DRW)**E-450 Super Duty® Cutaway (DRW)**

Fuel capacity (gal.)

40/55

40/55

Engine Specifications

Engine type	6.8L Triton® 2-valve V10
Engine electronics	EEC-V computer
Displacement	415 CID
Horsepower (SAE net@rpm)	305@4,250
Torque (lb.-ft. @rpm)	420@3,250
Compression ratio	9.06:1
Bore x stroke (In.)	3.55x4.16
Main bearings	6-bearing
Valvetrain	SOHC, 2 valves per cylinder
Valve lifters	Hydraulic roller finger
Fuel delivery	Sequential multipoint electronic fuel injection (SEFI)
Electronic throttle control (ETC)	Std
Engine oil cooler	Std
aust	LH-Cast Iron, RH-Stainless Steel
Transmission type	TorqShift® 6-speed automatic overdrive w/Tow Haul
Engine block material	Cast Iron
Cylinder head material	Aluminum

Chassis Specifications

Front suspension	Twin I-beam IFS with computer-selected coil springs and stabilizer bar
Rear suspension	Multileaf 2-stage leaf springs/solid axle and rear stabilizer bar (DRW only)
Front and rear shocks	Heavy-duty gas-pressurized
Brakes	Power 4-wheel disc anti-lock
Steering	Recirculating ball, power-assisted

Explore 2017 E-Series Cutaway 

Maximum Payloads

CUTAWAY	Engine	GCWR	GVWR	Payload
---------	--------	------	------	---------

E-350 (SRW) 138" Wheelbase	6.8L	18500	10050	5100
E-350 (DRW) 138" Wheelbase	6.8L	18500	11500	6327
E-350 (SRW) 158" Wheelbase	6.8L	18500	10050	5038
E-350 (DRW) 158" Wheelbase	6.8L	18500	11500	6213
E-350 (DRW) 158" Wheelbase	6.8L	18500	12500	7213
E-350 (DRW) 176" Wheelbase	6.8L	18500	12500	7203
E-450 (DRW) 158" Wheelbase	6.8L	22000	*14200/14500	8968
E-450 (DRW) 176" Wheelbase	6.8L	22000	*14200/14500	8961

*14200 lb GVWR optional (derated springs)

Fuel Capacity and Engine Highlights

Engine Type	6.8L Triton® 2-valve V10
Fuel Capacity	40/35 gallons

Vehicle Highlights

Drive Type	4x2
Transmission	TorqShift® 6-speed automatic overdrive (6.8L)
Wheelbase	138" (E-350 SRW/DRW) 158" (E-350, E-450 DRW) 176" (E-350, E-450 DRW)
GVWR Range	10,050 lbs. to 14,500 lbs.
Warranty	Bumper to Bumper: 3 years / 36,000 miles Powertrain: 5 years / 60,000 miles Safety Restraint System: 5 years / 60,000 miles Corrosion (Perforation Only): 5 years / Unlimited miles Roadside Assistance Program: 5 years / 60,000 miles

Explore 2017 E-Series Cutaway



Search Inventory



22FVG 2016 ADVANTAGE 220 (FORD)
 Base Pads: Verona Coal #0022090-1
 HFH31B 2017 E450 FORD 158-6.8 V 10-14500GVWR
 1100000J DELIVERY DATE REQUIRED
 2123009J SPRING SPACER, LIFT SIDE E-450 2009-
 2129000V TIRE VALVE EXTENSIONS, 6"
 2197000Y SUSPENSION, MOR-RYDE E-450
 2236050A EXHAUST, 3.0 SS 90 M/R FD AT/AL/SC
 2305003P FAST IDLE, W/INTERLOCK, FORD IP EP4
 2410000N TOW HOOK OPTION, REAR AT/AL/SC
 3030M1VC DOOR, ENTRY A&M 30 MANUAL SC GVL
 3540203D WINDOW PACKAGE, 36 X 36 STARQUEST TOP-T SC
 4125411P ACT 45 HD 65KBTU SKIRT COND E-FORD
 4420002P HEATER 65K BTU ¾" EP4
 4506000P HOUR METER, LIGHTED 5-DIGIT ANALOG EP4
 4536230H TRAY, BATTERY, M-R SEAL-TITE PS-AVF
 4560061P PD & BATTER (1) G27 SLIDE TRAY EP4
 490120EP ELECTRICAL SYSTEM EP4
 6011001A DRIVER SEAT, USSC G2E AT/AL/SC ONLY
COVER TO MATCH PASSENGER SEATS
 6202000Y 12 SEATBELT, FREEDMAN USR FEATHER
 6263000M 6 SEAT, MID-BCK DOUBLE FREEDMAN
 6633000M 13 SEAT COVER, LEVEL 5
COLOR: #831 PINWHEEL MONO BLUE
 6700000M 6 SEAT ARMREST, U.S.ARM - AISLE SIDE
 6724000M 12 SEAT, AV GRAB HANFDLE-PADDED
 6735000F FLOOR, ¾' 2611 COMPOSITE
 7100000N HANDRAIL, RIGHT ENTRY ASSIST
 7105000F HANDRAIL, OVERHEAD
 7110000P REVERSE ALARM (102 DB) EP4
 7116001F HATCH, TRANSPECT LP-TRANSTECH
 7128FOVJ MIRROR, VELVAC HEAT-REM FORD E-SERIES ONLY
 7132501C MIRROR, 6 X 16 REAR VIEW INTERIOR AVF
 7135000M FIRST AID KIT, 16 UNIT
 7141200J DELUXE BLOODBORNE PATHOGEN KIT
 7142000M FIRE EXT & REFLECTOR KIT, 5#

Kansas City, MO
 800 Quik Trip Way Belton, MO 64012

Kearney, NE
 3710 Central Ave. Suite 5
 Kearney, NE 68847

Branson, MO
 171 Shady Oak Rd.
 Ozark, MO 65721

Hot Springs, AR
 4364 Malvern Rd.
 Hot Springs, AR 71901

Denver, CO
 1011 S. Huron St.
 Denver, CO 80223



715700HP	EXTERIOR LED LIGHTS PKG TURNS & CMBL (190-290)
7158200P	LIGHT, LED DOME SUPER BRIGHT (3) EP4
7191000H	STANCHION, PADDED YELLOW
7238000P	SPEAKER, (4) EP4
7274002P	CAMERA, BACKUP-7" REAR VW MR "ASA" EP4
734224MY	FLOOR RUBBER, ALTRO 250 META
734AY30P	STEP NOSING YELLOW ALTRO 30"
772000CM	MODESTY PANEL, DRIVER
772500CM	PANEL, DIRVERS PLEX.25 SMOKED
7780000N	RUNNING BOARD, DR SIDE DIAMOND PLT – FD
8117000V 2	DOOR HOLDBACK, T-MOUNT (EA)
821C1F2J	LIFT, BRAUN CENTURY 2-NCL919FIBHBY-2 FRT
8521000D 2	RESTRAINT, Q-8100-A1-L, OMNI
8549000Y	RESTRAINT, Q-STRNT BELT CUTTER
9136001A	PAINT, NO-PAINT (GR1)
SPF0101	FORD OEM AM/FM RADIO (NO SPEAKERS)
SPO 01	SRO 1891-FRP INTERIOR ILO EMBOSSED THATCHED MATERIAL
SPO 03 8	SOR 2176-QUICK STRAP

Kansas City, MO
800 Quik Trip Way Belton, MO 64012

Kearney, NE
3710 Central Ave. Suite 5
Kearney, NE 68847

Branson, MO
171 Shady Oak Rd.
Ozark, MO 65721

Hot Springs, AR
4364 Malvern Rd.
Hot Springs, AR 71901

Denver, CO
1011 S. Huron St.
Denver, CO 80223

Impulse

Ford

Technical Specifications

(Goshen Base Package)

To maintain our dedication to quality and safety, Goshen buses are continually under review which may result in a change in specifications without notice.



1. GENERAL

It is the intent of these Technical Specifications to describe the base, gas-powered cutaway buses for use in fixed route, paratransit and on-demand operating environments.

2. CONFORMITY

The product furnished is of first class quality and the workmanship is the best obtainable in various trades. The design of the body, chassis, and equipment the contractor proposes to furnish is of the latest design and model so as to produce a vehicle of substantial and durable construction in all respects.

3. CHASSIS SPECIFICATION

3.1 MANUFACTURER

Ford

3.2 STANDARD CHASSIS EQUIPMENT

- Ford Cutaway chassis – E350 or E450
- Ford "Shuttle Bus Prep Package"
 - Engine Block Heater
 - License Plate Bracket
 - Heavy-duty 225 amp alternator
 - Front Chrome Bumper with Black Lower Fascia
 - Chrome Grille
 - Dual sealed Beam w/ Fixed lens Headlamps
 - 12 body mounts
 - Driver Air Bag
- Front and Rear Heavy Duty Shock Absorbers
- 6-speed Electronic Automatic Transmission with OD with tow-haul
- Auxillary Transmission Oil Cooler
- Tilt Steering Wheel
- Power Steering
- Driver's Sun Visor
- Instrumentation, Engine Oil Pressure Gauge, Electronic Speedometer
- Dual Rear Wheels
- LT225/75SR16.0 BSW AS front and rear tires
- Front and Rear 16.0" x 6.00" painted white steel wheels
- 4-Wheel ABS Hydraulic Disc Brakes with Hydro-Boost

- 40 Gallon Fuel Tank on E350; 55 Gallon on E450
- Alternator: 225 Amps
- Dual Batteries: One (1) 650 CCA mounted under hood and one (1) 750 CCA mounted on the frame
- Glove Box with 12-volt Power Port
- Storage Bins in Driver's Door
- 50 State Emissions Package

3.3 GVWR

11,500 LBS, 12,500 LBS. on E350, 14,500 LBS on E450

3.4 AXLES & SUSPENSION

The front suspension consists of coil-type springs. The axle has a maximum load rating of 5,000 lbs. The rear suspension consists of two-stage, multi leaf-type springs. The rear axle has a minimum load rating of 7,800 lbs. on the E-350 and a minimum load rating of 9,600 on the E-450. 4.10 Rear End Ratio on E350 and 4.56 on the E450. Rubber axle stops will be provided between the axle and the frame on each side of both axles to prevent axle and/or frame damage in severe bounce conditions.

3.5 SHOCK ABSORBERS

Heavy duty gas pressurized shock absorbers are provided by the chassis manufacturer.

3.6 ENGINE

A front mounted OEM Triton 6.8L (415) SOHC SEFI, V-10. Peak horsepower is 305 BHP @ 4,250 RPM and peak torque is 420 lbs/ft @ 3,250 RPM. The engine is certified to all applicable Federal EPA and State of California (CARB) emissions standards at time of manufacture.

3.7 EXHAUST SYSTEM

The exhaust system is OEM stainless steel exhaust pipes and muffler properly installed with heat shields and baffles. The tailpipe is designed as to direct exhaust toward the rear of the bus.

3.8 FUEL TANK

The largest fuel tank capacity from the chassis manufacturer is required – 40 gallon for the E-350 and 55 gallon for the E-450. The fuel tank must be installed by the chassis manufacturer; fully compliant with California Air Resources Board (CARB) standards and must not be modified in any way. No access will be provided through the floor.

3.9 TIRES & WHEELS

Six identical steel belted radial tires designed for primary use on "highways" are provided with each bus. The tires are rated to meet or exceed the GVWR of the chassis and are designed for use on the steel wheels provided with each bus. All tires must be "dual-planed or dynamically" balanced and inflated for rated GVWR rating prior to performing any road test. Tire size is 225/75R16E radial.

Six matching OEM steel wheels with a rated capacity that meets or exceeds the GVWR of the chassis are provided with each vehicle. The wheels are painted white.

3.10 TRANSMISSION

The transmission is a torque shift six (6) speed automatic. The gear shift selector incorporates a "Park" position and an "overdrive gear over-ride" feature. A heavy duty auxiliary "air to transmission fluid" cooler is provided and installed by the chassis manufacturer.

3.11 DRIVE SHAFT, STEERING, BRAKES

DRIVE SHAFT: The drive shaft(s) are the largest available and a minimum of 3 ½" in diameter. The drive shaft is easily removed from the bus without the disassembly of the universal joints. Universal joints are equipped with lube fittings. Two (2) drive shaft guards are installed to prevent contact with the undercarriage of the bus and the ground in the case of drive shaft universal joint failure.

STEERING: Each bus is equipped with power-assisted steering installed by the chassis manufacturer. The steering column has a tilt feature.

BRAKING: The braking system provided complies with FMVSS 105 and 106. It is a "dual" or "split" hydraulic braking system featuring; hydro-boost assisted, anti-lock braking (ABS) and disc-type brakes at both the front and rear axles. All brake friction material is "asbestos-free". A "self-adjusting" parking brake system is provided. The parking brake system is applied with a foot pedal and a warning light located on the dashboard will illuminate when the parking brake is applied. The parking brake friction material is "asbestos-free".

3.12 DRIVER'S CONTROLS AND INSTRUMENTATION

The driver's area consists of an ergonomically designed molded dash console and molded driver's console complete with controls and instrumentation. All system control switches are labeled and illuminated.

3.13 WINDSHIELD WIPERS AND WASHERS

OEM two (2)-speed, intermittent electric wipers are provided with variable speed control to allow timed intermittent windshield wiping. Arms are of single type, 21" long. Blades are 19" long and park at the lower edge of the windshield.

The washer is powered by an electric pump with 3-quart washer reservoir and supply nozzles located on the lower windshield cowl.

4. **ELECTRICAL**

4.1 ELECTRICAL SYSTEM

The electrical system is designed to provide and distribute 12-volt DC power to all electrical components in the bus. All add-on components must be "Plug and Play" to the wiring harness. All Primary connector circuit labels must be "hot-stamped" into the connector housing.

4.2 WIRING AND HARNESSSES

All general purpose wiring is cross-linked polyolefin insulated, colored, numbered, and function coded every 6" for positive identification, and meets the requirements of SAE J1127 & J1128, types GXL and SGX. Precautions are taken to avoid damage from heat, water, solvents, or chafing by proper routing, clamping, and the use of grommets or suitable elastomeric cushion materials. Harnesses are designed to resist abrasion by the use of Packard Electric flex-guard plastic loom. Harnesses are sectional terminating at insulated multi-pin quick disconnects or junction blocks.

All exterior electrical connectors are coated with di-electric spray to protect them from moisture and corrosion. Primary distribution must contain (2) spare battery fuses and (2) spare ignition fuses to be used for add-on items rated at a max of 30 Amps. All relays must be removable. All connections to the distribution center must be Plug and Play connectors. All connectors on the distribution center must be clearly marked with circuit number and color-coded to ensure proper installation.

4.3 ELECTRICAL JUNCTION PANEL

Electrical panels installed by the body builders are located for easy access. Circuit breaker circuit protection is standard but spade type fuses may be used when expressly required by the component manufacturer. All components placed on the front of the electrical panel for ease of service. A heavy-duty power distribution panel is provided and equipped with heavy-

duty 12-volt DC relays. All fuse and relay identification are incorporated within the electrical panel. The power distribution post must be directly tied to the distribution center for minimum heat build-up.

All fuses must contain a flashing red LED light to indicate when a fuse is non-functional. Relays must contain a green LED light to indicate when the relay output is "active". The system must have a yellow LED light for relay "energized" operation.

4.4 DRIVER SWITCH PANEL

The driver switch panel is located to the right of the OEM instrument cluster, integrated into the OEM dash for driver convenience, maximization of visibility and knee room. All panel switches and function lights must use the same cut-out within the panel to allow for changes in location. The OEM cigarette lighter/power distribution plug must remain available to the driver. All driver switch labels must be located on the switch itself and include an amber LED backlight. Amber function LED lights must be present on switches that operate devices that cannot readily be identified by the driver as being powered. All add-on A/C systems must use the OEM rear A/C switch when available on the chassis. Switches must use universal symbols instead of text.

4.5 ELECTRICAL CHARGING SYSTEM

The vehicle charging system is equipped with one alternator of 12-volt potential having the largest charging capacity available from the chassis manufacturer. The alternator is of the chassis manufacturer's design and installation.

4.6 BATTERIES

Batteries are dual, maintenance free 12-volt DC type with minimum of 1400 cold cranking amps (CCA). The batteries are mounted per specifications. The positive and ground battery cables are properly sized per SAE standards and continuous run without any splices.

5. **VEHICLE DESCRIPTION**

5.1 GENERAL DESCRIPTION

The vehicle is a "cutaway type" bus utilizing the most current model year FORD E-350 or E-450 cutaway chassis based on seating capacity and designed and constructed to ensure a minimum service life of at least 7 years/200,000 miles in daily or revenue service.

The bus, in all respects, is equipped to operate legally on State highways, night and day, and, in all respects, conforms to State and Federal regulations pertaining to the equipment herein described.

Pedestrian Safety – Exterior protrusions greater than .50 inches and within 80 inches of the ground will have a radius no less than the amount of the protrusion. The left and right side rear-view mirrors and required running lights and reflectors are exempt from the protrusion requirement. Grills, doors, bumpers and other features on the sides and rear of the buses are designed to minimize the ability of unauthorized riders to secure toeholds, and handholds.

5.2 OVERALL PERFORMANCE

The bus will achieve normal operation in ambient temperature ranges of -10° F to 110° F, at relative humidity between 5% and 100%, and at altitudes up to 3,000 feet above sea level. Speed, gradability, and acceleration performance requirements per SAE J1995 will be met.

No electrical and electronic subsystem or component will generate, or be affected by, electromagnetic interference or radio frequency interference (EMI/RFI) that can disturb the performance of electrical/electronic equipment as defined in SAE J1113. The bus-generated noise level conforms to SAE Standard J366. Each bus conforms to the air pollution control standards of the U.S. Environmental Protection Agency (EPA) and all applicable state and local regulations at time of manufacturing.

6. **BUS BODY**

6.1 BODY FRAME STRUCTURE

Multi-point rubber isolators shall be used to mount the welded steel cage structure to the cab chassis. All structural fabrication shall consist of 1010/1020 low carbon cold rolled steel.

The substructure shall consist of a combination of 2" x 2" x 16-gauge and 2" x 2" x 11-gauge tubular steel outriggers, 1" x 3 ¼" x 16-gauge and 1 ¼" x 4 ¼", 11-gauge C-channel, 12-gauge "seat track" welded into a ladder type structure and bolted to the OEM chassis frame on rubber grommets.

6.2 BODY DESIGN

The buses shall have a clean, smooth, sleek design, correctly proportioned and properly balanced. The exterior and body features,



GOSHEN™
REVGROUP



including chassis and body grills and louvers, shall be shaped to allow complete and easy cleaning by automatic bus washers without snagging washer brushes. Water and dirt will not be retained in or on any body feature to freeze or bleed out onto the buses after leaving the washer.

- a. Body, windows and doors are sealed to prevent leaking of water, air or dust in routine service, or of cleaning liquids in automatic bus washers, for the life of the bus under normal use (normal wear and tear excluded). Accumulation of spray and splash on any window of the bus, generated by the bus wheels on a wet road, shall be minimized. A drip rail with water deflector will be placed directly above the passenger windows and entry/lift door starting directly behind the front molding and ending at the rear molding.
- b. Each bus is tested with a Simulated Altoona Test Track and corrected as appropriate. The vehicle will traverse this track which shall consist of (6) durability element profiles as follows:
 - Staggered bumps
 - Chatter bumps
 - Railroad crossing
 - Frame twist
 - 1" random chuck holes
 - 4" random chuck holes
- c. After successful completion of the simulated Altoona Test Track, each bus is water-leak tested for minimum of 10 minutes in a water-spray booth specifically designed for such tests. Any leaks detected during the test are to be repaired immediately and extreme leaks require a second water-leak test to assure repairs were effective. Extreme leaks are defined as any leak that creates a stream of water that rapidly pools on the interior of the bus. During leak testing, particular attention is to be paid to windows, doors and seams. Leaks at the entry or wheelchair-lift doors or at window locations that egress back to the outside of the buses shall not be regarded as defects and will not require repair.

6.3 BODY MATERIALS

Exterior body materials shall be a high gloss, color impregnated white, fiberglass, reinforced polyester with a nominal thickness of 3mm.

Detailing shall be kept simple without exposed fasteners. Add-on devices and trim shall be minimized and, where necessary, integrated into the basic design.

6.4 FINISH AND COLOR

All exterior surfaces are smooth and free as possible of visible fasteners, wrinkles and dents. Since a commercial bus appearance is desired, an exposed, riveted-type body construction will not be accepted. Both exterior and interior surfaces to be painted are properly cleaned and primed, as appropriate, for the paint being used. This cleaning process will be done prior to the application of the paint to assure a proper bond between the base surface and successive coats of original paints.

All exterior finished surfaces shall be impervious to diesel fuel, gasoline and commercial applications of commonly used graffiti removing chemicals.

6.5 BODY PANEL ASSEMBLY

Body assembly shall meet or exceed FMVSS 220 requirements.

Panel Construction

- Exterior surface shall be a minimum 3mm thickness of non-corrosive low-density laminate panel with gelcoat except the roof. The roof surface is CosmoLite – a thermoplastic substrate comprised of polypropylene resin reinforced with continuous bi-directional glass fibers.
- The roof shall be backed by SymaLITE which is moisture and mold resistant, impact resistant, meets FMVSS 302 flammability criteria, absorbs noise, insulates and provides weight savings.
- Wall structure shall include a 1" x 3" wide longitudinal section of 16-gauge tubular steel extending from the forward body seam to the rearward body seam to provide an additional attachment point for the integrally welded sidewall seat rail. Also include a minimum of (6) 1" x 1 ½" x 16 gauge tubular steel from the floor to just below ceiling height.
- Rear wall structure shall include a minimum of 4 vertical tubes 1" x 1 ½" x 16 gauge and a minimum of 3 horizontal 1" x 3" x 16-gauge tubular steel.



- Roof structure shall include a minimum of (7) 1 ½" x 1 ½" x 16 gauge tubular steel side to side, (2) rows of 1" x 3 ½" x 16 gauge c-channel extending from the forward body seam to the rearward body seam and shall provide additional structural integrity and a secure attachment surface for ceiling panels, handrails and stanchion fixtures.

6.6 INSULATION

Sidewalls and rear wall shall be insulated with expanded polystyrene (EPS), commodity grade with a thickness of 1". The roof shall be insulated with EPS with a thickness of 1 ½". The insulation shall provide an R-6 thermo-barrier, and sound absorption. Insulation shall meet or exceed all Federal requirements in FMVSS 302.

6.7 UNDERCOATING

The underside of the body including floor members, side panels below floor level (if metal), fender wells is undercoated, at the time of manufacture, with nonflammable 76M Waterborn excluding any component within 12" of the exhaust, or on any part of the exhaust or related heat shields, fuel tank, fuel filler and vent tube, drive shaft or shock absorbers.

The subfloor understructure is completely undercoated by hand brushing to a dry film thickness of 10 – 12 mils and sealed from moisture penetration prior to being installed on steel frame understructure.

6.8 BUMPERS

Front bumper shall be chassis OEM, body contoured, reinforced with wrap-around ends. Front bumper shall be chrome plated, thick carbon steel with formed plastic ground effects trim. Rear bumper shall be powder coated 2" x 7", 12-gauge wrap around channel. Rear bumpers shall be attached to the chassis frame with .5" diameter grade-5 bolts.

6.9 WHEEL HOUSINGS

Wheel housings shall be constructed of 16-gauge steel. Housings shall be welded to the floor structure and properly sealed and undercoated.

6.10 SKIRTS, FENDERS, AND MUD FLAPS

Skirts are constructed of .040" aluminum with a rolled lower flange and have replaceable contoured TPO wheel well fenders. Mud flaps shall be made of 3/16" thick rubber composite and installed behind the front and rear tires.



GOSHEN™
REV GROUP

7. EXTERIOR

7.1 MIRRORS

Each bus shall be equipped with a fully adjustable 9.5" x 7" rectangular mirror with a 4" x 7" convex adjustable diminishing mirror mounted below. Mirror head and rigid adjustable support shall be powder coated finish.

7.2 LIGHTING

All exterior lighting meets or exceeds all state regulations and FMVSS 108 requirements. LED type exterior lighting is provided. The use of butyl tape is prohibited. All lights utilize a foam or gasket material for sealing.

HEADLAMPS

OEM headlamps are dual sealed beam automotive type with tilt-ray features controlled by a lever operated dimmer switch mounted on the steering column.

STOP, TAIL, DIRECTIONAL, CLEARANCE, IDENTIFICATION & BACK-UP LIGHTS

Stop and tail lights are red combination 4" round lens, vertically mounted on the rear crown corners. Back-up lights are grouped with and below the stop and tail lights. Front directional lights are body corner contoured and mounted horizontally with one (1) on each side. Identification and clearance lights are rectangular and roof mounted consisting of five (5) amber at the front and seven (7) red lights at the rear. Front side marker lights are amber and incorporated with the parking lights. The rear side marker lights are red lights.

FRONT AND SIDE REFLECTORS AND DIRECTIONAL LIGHTING

Front and side reflectors are incorporated with the parking lights. Rear, side reflectors and rear reflectors are mounted on the rear corners above the bumper.

Front directional lights are incorporated with the parking lights. Rear directional lights are red in color and grouped with the stop, tail, and back-up lights.

7.3 DECALS

The following decals shall be provided on the exterior of the vehicle:

- "Impulse" Name
- "Unleaded Fuel Only"
- Goshen

8. INTERIOR

8.1 ENTRANCE STEPWELL

Steps shall be formed and weld fabricated using minimum 14-gauge, carbon steel, powder coated bright white using the five (5) step Interpon PZ770 process in a two-step design. The step assembly shall be undercoated.

Standard entry steps shall provide the following maximum dimensions:

- Ground to first – 11.5"
- Step risers – 8.5"
- Step tread depth – 10"

Steps shall be covered with 2.25mm thick rubber flooring on all risers, treads and sides with contrasting nosing that is properly sealed.

Stepwell lights shall be suitably mounted so that the entire Stepwell and a portion of the ground area outside the bus are sufficiently illuminated. The step lights extinguish when the front door is closed.

8.2 BUS SUB FLOOR

The floor structure shall be computer load tested to withstand 40,000 pounds with less than 1/16" of deflection at the perimeter.

Subfloor shall be B/C exterior grade .625", 5-ply, yellow pine plywood with a solid cross band that is pattern cut, edge sealed, and fastened with #10 counter sunk Tek screws installed approximately every 12" throughout the entire floor structure.

Flooring understructure and edges are completely undercoated by hand brushing with 76M Waterborn and sealed from moisture penetration prior to being installed on steel frame understructure.



8.3 FLOOR COVERING

Gray transit grade rubber flooring provided. The flooring thickness is 2.25 mm and provides excellent resistance to cold & heat, scarring & denting and tearing.

The driver's area is covered with sound deadening, non-skid black floor mat that meets the interior noise requirements of these Technical Specifications.

8.4 INTERIOR PANELS

The wall and ceiling panels shall be a minimum of 3.4 mm thickness of highly durable thatched white emboss on hardwood plywood CARB Phase 2 compliant, resistant to vandalism and easy to clean.

Smooth White Thatched Emboss sidewall panels shall be installed from the seat rail to the ceiling body liner.

The front cab area will be constructed of shop-panel front driver area covered with fabric.

The panel shall allow accessibility for wiring harness connections, and optional driver storage, or front destination sign, easy-to-maintain entryway ceiling

An entry door header panel shall be made of shop panel and covered in fabric to fit the roof contour and shall be removable.

8.5 WINDOWS

All windows meet all State and Federal Safety regulations. The windshield is AS-1, the driver's side window shall be AS-2, and the passenger windows shall be AS-3 in quality.

The OEM windshield shall be front body cab contoured single piece .25" thick tinted, laminated safety float glass.

The driver's roadside window shall be standard OEM roll-up vertical glass design glazed with tinted .125" thick, tempered safety glass. A traffic view cowl window forward of entry door shall also be provided.

Each driver curbside window is one-piece, minimum AS-2 rated safety glass. Divider or reinforcing mullions are not acceptable. Glazing is .25"

thick and provides a minimum of 470 sq. inches of viewing. Window shall be frameless and installed with Sikaflex 221 adhesive to minimize leakage. A minimum 1" black fritting is applied to the interior perimeter of the window glass to provide additional glare reduction and to protect the adhesive from UV rays.

Door windows are fully encapsulated. Windows are glazed with .125" thick, tinted, tempered safety glass that meets or exceeds FMVSS 217 requirements. Full-length windows are provided in each passenger door panel and in the upper portion of the lift door panels in line with the passenger side windows.

Passenger windows shall be:

- 36" tall x 36" wide solid pane, non-ventilating type as required by the floor plan design.
- Unless otherwise required, two (2) egress windows, one (1) per side and one (1) 22" x 48" rear egress window will be provided.
- Glazing will be 3mm Graylite II with 24% light transmission. Window framing will be black anodized aluminum with interior clamp ring attachment design.
- Windows are located in the sidewall to provide a minimum upper viewing height of 69" measured from the standard floor or 64" measured from the elevated (raised) floor.
- The window seal is .375" thick and .625" wide.
- All passenger windows meet or exceed FMVSS 217 requirements for manufacturing and egress.

8.6 PASSENGER ENTRY

The entry door frame shall be constructed of a minimum 14-gauge, HR carbon steel and located opposite of driver. This structure is powder coated using the five (5) step Interpon PZ770 process, in bright white to match vehicle exterior base color. The 30" passenger door shall provide a 26" x 79.50" clear opening.

The door includes a two (2) panel design. Vertical door shafts are an integral part of the door panels. The top portion of the shaft is designed to prevent the door panels from rotating out of alignment. Shafts pivot on a

top mounted, bronze thrust bushing and a lower stud-mounted alignment pivot, accommodated with a glass filled molded bearing.

Perimeter door edges are sealed with neoprene bulb seals. The center of the door assembly is equipped with overlapping neoprene 2" leading edge seals. Seals overlap front to rear to provide an air and watershed.

The door panels are manually operated by the driver by actuation of a push/pull rod assembly with a two (2)-position arm located to the right of the driver.

8.7 SEATING

All seating for this vehicle, including the driver's seat, is specified by the customer, and based upon the floor plan and needs. All seating installed in this vehicle meets or exceeds FMVSS 207 requirements for strength and safety; and when applicable meets or exceeds FMVSS 209, 210. All passenger seats will be supplied customer chosen seat belts.

All seats are floor and side wall track mounted for ease of seat removal. Where exposed, the track is covered with a vinyl track plug strip. The seat-tracking system will be incorporated into the bus to provide secure seat anchorage, to improve the floor-to-body securement, and to provide additional side crash barrier around the perimeter of the body structure.

8.8 COURTESY LIGHTS-LED

Interior courtesy lights are located in the ceiling cove as LED light fixtures and mounted as a total of 3 fixtures to provide passenger compartment lighting. A single driver's light fixture is provided with a separate control.

8.9 INTERIOR MIRRORS

Each bus is equipped with a fully adjustable rear view mirror mounted in easy reach for driver's viewing of the passenger compartment.

8.10 PASSENGER ASSISTS

Front stanchions are provided on each side of the aisle at passenger entry: one (1) to rear of step well and one (1) behind driver's seat are 1 ¼" diameter, 11-gauge stainless steel tubing with brushed finish. Left entry assist handrail provided rear of the step well. All passenger assists meet all applicable ADA requirements. Vehicles over 22' must have one (1) overhead handrail.

8.11 MODESTY PANELS

A curbside modesty panel assembly is installed behind the entry door step well. The modesty panel is 1/4" gray Starboard.

8.12 DECALS

The following decals are provided in the interior of the vehicle:

- No Standing
- Watch Your Step
- Keep Head, Hands, Feet Inside Vehicle with Symbol
- Goshen Certification
- Warranty Repair
- Stand Clear
- Emergency Window Exit
- Vehicle Modification

9. **CLIMATE CONTROL**

9.1 DRIVER'S HVAC

Driver's area are heated and cooled by a chassis OEM forced air heater/defroster and air conditioning system. The heater and defroster provide 30,000 BTU. The driver's air conditioning provides 24,000 BTU/HR. Both heat and cool is controlled by electric over vacuum dash mounted controls. The system has 4-speed fans with fresh air mode. Windshield airflow is through molded dash air ducts providing constant and even air diffusion.

9.2 PASSENGER COMPARTMENT HVAC

The passenger compartment is heated and cooled by separate, optional systems as selected. Refrigerant type is R134A.

10. **QUALITY AND CERTIFICATIONS**

10.1 MANUFACTURER'S QUALITY STANDARDS

Goshen has a "Fully Meets" rating under Ford's QVM quality program.

10.2 ISO

Goshen builds our units in a facility that has a proven third-party certified quality control system in place and is ISO 9001:2008 certified.

10.3 ALTOONA TESTING

Goshen has tested all of its models under the Surface Transportation and Uniform Relocation Assistance Act (STURRA). Test results are available upon request. In addition, every vehicle is tested with a simulated Altoona Test Track using the same criterion as the durability track at the FTA testing facility.

10.4 FMVSS CERTIFICATION

Goshen certifies to meet or exceed all applicable provisions of the Federal Motor Vehicle Safety Standards (FMVSS). A complete list is available upon request.

10.5 OTHER

All parts of this vehicle conform as applicable to provisions of the Code of Regulations and the Americans with Disabilities Act (ADA).

Each vehicle is water-leak tested for a minimum of ten (10) minutes in a water-spray booth specifically designed for such tests.

11. DIMENSIONS

	200	220	240	270
Length, overall bumpers	21' 6"	23' 2"	24' 8"	27' 4"
Width, overall body (maximum)	96"	96"	96"	96"
Height, overall (@ GVWR) Approximately (excluding roof vents)	115"	115"	115"	115"
Wheelbase	138"	158"	176"	208"
Overhang, front	30"	30"	30"	30"
Overhang, rear	88"	88"	86.50"	88"
Width, front tires overall	78"	78"	78"	78"
Width, rear tires overall (E-350)	95"	95"	N/A	N/A
Width, rear tires overall (E-450)	97"	97"	97"	97"

Height, floor (@ GVWR) (maximum)	28"	28"	28"	28"
Height, first step (@GVWR) (maximum)	11.5"	11.5"	11.5"	11.5"
Height, Interior (minimum) *5" lower for raised floor units	79"	79"	79"	79"
Width, Interior @ seat cushion level	91"	91"	91"	91"
Width, aisle	Variable	Variable	Variable	Variable
Width, std 30" manual door (clear) w/LH assist / w/LH & RH assist	23"/23"	23"/23"	23"/23"	23"/23"
Width, std 30" electric door (clear) w/LH assist / w/LH & RH assist	25.50"/24"	25.50"/24"	25.50"/24"	25.50"/24"
Height, door (clear)	79.5"	79.5"	79.5"	79.5"
GVWR (maximum)	11,500 lbs	12,500 - 14,050 lbs	14,500 lbs.	14,500 lbs.
GAWR, front	4,600 lbs.	5,000 lbs.	5,000 lbs.	5,000 lbs.
GAWR, rear	7,800 lbs.	8,500 - 9,600 lbs.	9,600 lbs.	9,600 lbs.
Turning radius (outside body corner)	25'1"	28' 1"	31' 0"	33'8"
Approach angle	27°	27°	27°	27°
Breakover angle	10°	10°	10°	10°
Departure angle	16°	16°	16°	16°

BUS AIR CONDITIONING

ACT

CS-2 CONDENSER

THE A.C.T. **CS-2** CONDENSER IS DESIGNED FOR SKIRT MOUNT APPLICATIONS. WE HAVE MANUFACTURED THIS CONDENSER SPECIFICALLY FOR THE TRANSPORTATION INDUSTRY.

IT'S LOW PROFILE, LIGHT WEIGHT ALUMINUM STRUCTURE, ENHANCED AIRFLOW, PERFORMANCE, SERVICEABILITY, AND INSTALLATION EASE ARE THE RESULT OF MANY YEARS' EXPERIENCE IN THIS INDUSTRY. THIS CONDENSER IS DESIGNED TO PERFORM IN EXTREME HOT CLIMATES AND THE MOST DEMANDING TRANSIT APPLICATIONS.



SPECIFICATIONS

RATING: 60,000 Btu/Hr
AIRFLOW: 2460 cfm (3136 m3/hr)
AMPERAGE DRAW: 23 Amps @ 13.5 Volts
11 Amps @ 27 Volts
CONDENSER FANS: 12 Inch Diameter, Sealed Motors
FILTER DRIER/SIGHTGLASS: 16 Cu. Inch Displacement w/ Moisture Indicator
WEIGHT: 40 lbs.

Specifications subject to change without notice.

ADVANCED FEATURES

- Highgrade, Lightweight, Rust Proof Aluminum
- Internally Enhanced Copper Tubing Increases System Performance
- Integral Sightglass/Filter Drier and 100% O-Ring Connections For Maximum Leak Protection
- Unequalled Heat Rejection....
 - Lower Cooling Temperatures
 - Lower Head Pressures
- 12 Inch Diameter Fan for Increased Airflow
- Sealed Motor Design
- Two Electrical Connections

OPTIONS

- Condenser or Skirt Mounted Air Inlet Grill
- 12 Volt or 24 Volt Motors
- Winter Protection Kit

**2 YEAR
LIMITED WARRANTY**

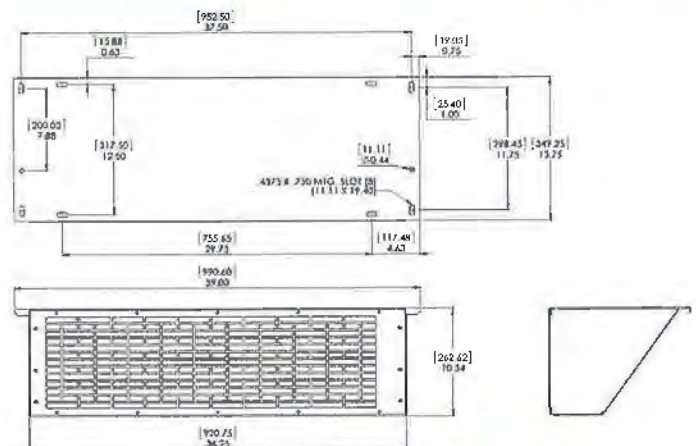
AMERICAN COOLING TECHNOLOGY, Inc.

www.actusa.us.com

715 Willow Springs Lane, York, PA 17406

Tel: 717.767.2775 ~ Fax: 717.767.3658

Toll Free: 877.228.4247



ACT

"SUCCESS THROUGH SIMPLICITY"

RELY ON OUR EXPERIENCE TO PROPERLY APPLY YOUR BUS AIR CONDITIONING SYSTEM

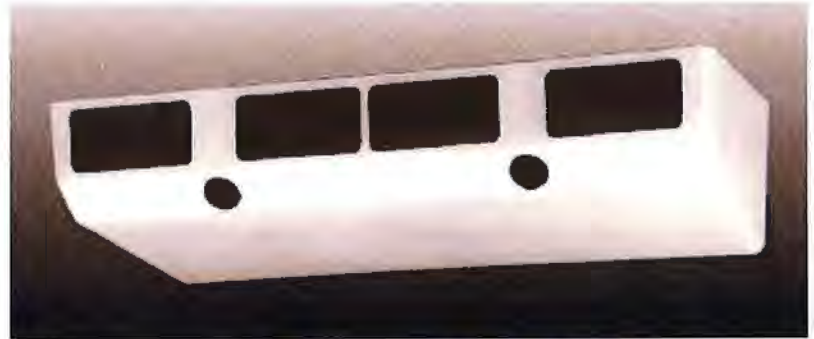
BUS AIR CONDITIONING

ACT

EZ-5 EVAPORATOR

THE A.C.T. **EZ-5** EVAPORATOR IS DESIGNED FOR FREE-BLOW CEILING MOUNT APPLICATIONS. WE HAVE MANUFACTURED THIS EVAPORATOR SPECIFICALLY FOR THE TRANSPORTATION INDUSTRY.

IT'S ENHANCED PERFORMANCE, SERVICEABILITY, AND INSTALLATION EASE ARE THE RESULT OF MANY YEARS' EXPERIENCE IN THIS INDUSTRY.



ADVANCED FEATURES

- Unique Louver Design Enhances Airflow Throughout The Vehicle
- Pressure Switches Located At The Evaporator For Maximum Compressor Protection
- Internally Enhanced Copper Tubing Coils Increases System Performance
- 100% O-Ring Connections For Maximum Leak Protection
- Low Profile Design For Added Headroom
- Unitized Drain Pan Construction Eliminates Condensate Problems

OPTIONS

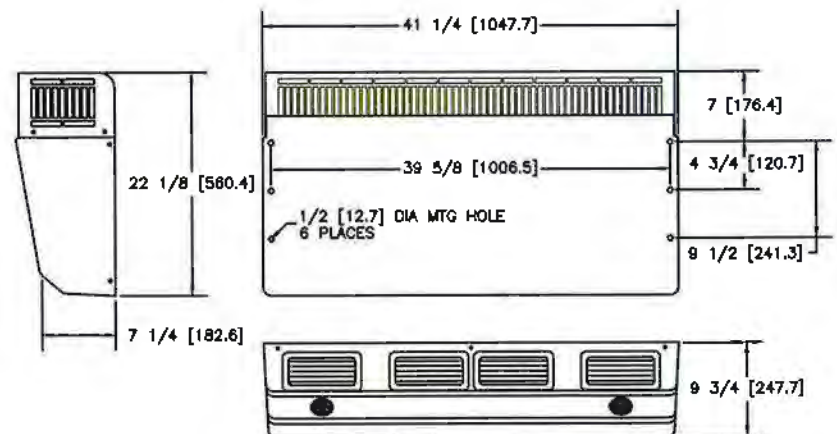
- Adjustable or Fixed Air Outlet Louvers
- 12 Volt or 24 Volt Motors

**2 YEAR
LIMITED WARRANTY**

SPECIFICATIONS

COOLING CAPACITY: up to 60,000 Btu/Hr
AIRFLOW: 1600cfm (2712 m3/hr)
AMPERAGE DRAW: 18 Amps @ 13.5 Volts
9 Amps @ 27 Volts
WEIGHT: 67 lbs.
FILTER: Cleanable Aluminum Mesh

Specifications subject to change without notice.



AMERICAN COOLING TECHNOLOGY, Inc.

www.actusa.us.com

715 Willow Springs Lane, York, PA 17406
Tel: 717.767.2775 ~ Fax: 717.767.3658

Toll Free: 877.228.4247

ACT

"SUCCESS THROUGH SIMPLICITY"

RELY ON OUR EXPERIENCE TO PROPERLY APPLY YOUR BUS AIR CONDITIONING SYSTEM



- [ABOUT](#)
- [PRODUCTS](#)
- [CUSTOMER SERVICE](#)
- [FAQ](#)
- [SERVICES CENTERS](#)
- [VIDEOS](#)

Search

Home » System » Heaters » Heater 465 - 50 000 510

CATEGORIES

Heater 465 - 50 000 510

Industries

Parts

System

- Condensers
- Evaporators
- Heaters
- Espar

Product Code: 50 000 510



Description

Heater, 465 65,000 BTU Plastic / 475 75m BTU Plastic

- Size 9.375"x21.5"x9.5" 15lbs
- 640CFM / 65,000BTU
- 9.8 Amps 12v

[Exploded View 465](#)

INFORMATION

- [About Us](#)
- [Privacy Policy](#)
- [Terms & Conditions](#)
- [Refunds](#)
- [Employment](#)

USEFUL LINKS

ACI - American Cooling
Technology Inc.



CUSTOMER SERVICE

- [Contact Us](#)
- [Credit Application](#)
- [Dealer of Service](#)
- [Registration Instructions](#)
- [Online Registration](#)
- [Returns](#)
- [Troubleshooting & Manuals](#)
- [Warranty Procedures](#)

ACCOUNTS

- [Accounts](#)
- [Order History](#)
- [Newsletter](#)

HEADQUARTERS

2500 County Road 6 W
 El Dorado, CA 95624
 Ph: (574) 264-5491
 Toll Free: 800-335-6515
 Fax: (574) 264-2181

WESTERN DIVISION

6601 7th St
 Rancho Cucamonga, CA 91730
 Ph: (909) 330-8221
 Fax: (909) 330-6236

Commercial Wheelchair Lifts

NCL2 Century Series™



 **BraunAbility**
Life is a Moving Experience®

NCL2 Century Series™

- Fully automatic FMVSS 403 compliant lift, operated by an attendant
- Loading position - either direction
- Interfaces with OEM interlocks
- Long lasting LED lift mounted lights that are active when vehicle interlocks are engaged and lift power switch is on
- Hand-held control box with illuminated functions
- Locking mechanical Inboard Barrier (IB), powder coated yellow for safety and high visibility, prevents operation if occupied
- Pump design prevents platform folding when occupied, quiet operation & low current draw
- Durable redesigned baseplate reduces lift weight and allows for quicker and easier service of hose/wiring
- Easily installed, step-by-step installation instructions, no peripheral hardware required
- Platform movement prevented during unsafe operation
- Gas spring activated outer barrier detects roll stop occupancy as the platform leaves the ground, complete with durable rubber nose guard
- Transition areas marked with durable high-gloss yellow powder coating for safety & visibility
- Side or rear door application
- Several platform widths and lengths
- Dual handrails for security and convenience
- Bridging feature permits the wheelchair user to board the lift from sidewalks or inclines
- Floor to ground travel is 48"
- Lifting capacity is 800 lb (1,000 lb model also available)
- Integrated back-up pump
- Equipped with an adjustable anti-rattle feature to avoid unpleasant noise in the vehicle during transit
- Durable high-gloss powder coated finish
- Lift-Tite system stows the lift platform securely while the vehicle is in transit
- Pump module with removable cover offers easy access to all components
- Optional handrail belt

**MADE IN
USA**



Integrated dual handrails provide added security for wheelchair users and standees



Visual and audible warnings alert both passengers and attendants to unsafe conditions



Gas spring activated outer barrier detects roll stop occupancy as the platform leaves the ground



BraunAbility
Life is a Moving Experience®

631 West 11th Street • Winamac, IN 46996

(574) 946-6153 • 1-800-THE-LIFT

www.braunability.com/commercial



Thinking Beyond Safety.

ENGLISH

NORTH AMERICA

Q'community



HOME COMPANY PRODUCTS TRAINING SUPPORT CONTACT

search...

Home : Products : 4-Point Securement Systems : QRT DELUXE

PRODUCTS

4-POINT SECUREMENT SYSTEMS

QRT-300

QRT MAX

QRT DELUXE

QRT STANDARD

QER-4000

M-SERIES

DOCKING SYSTEMS

OMNI FLOOR ANCHORAGES

PARTS & ACCESSORIES

WHEELCHAIR STATIONS & MODULES

QRT DELUXE

The retractor that changed the industry

The QRT Deluxe is the original self-locking and self-tensioning retractable system. The Deluxe features dual tightening knobs and is considered the industry standard.

[Launch Video](#)



QRT Deluxe, shown here with L-Track fitting



Vehicle Applications:

Mini Van , Community Transport , School Bus , Coach Bus , City Bus , Rail



FEATURES AND BENEFITS

<p>Dual Tightening Knobs Provides additional tensioning if needed</p>	<p>Foot Release Lever Easy release eliminates the need to bend down</p>	<p>J-Hook Reduces twisting of belts and ensures proper securement with a quarter turn accommodating virtually all wheelchair designs</p>
<p>Durable Constructed from hardened steel and coated in zinc for maximum corrosion resistance</p>	<p>Universal Design Accommodates virtually all wheelchair designs, including scooters</p>	<p>Accommodates Larger Wheelchairs Reduced overall retractor length leaves more room for wheelchairs</p>
<p>Low Profile & Compact No mounting bracket allows retractors to fit under most footrests</p>	<p>Interchangeable Eliminates confusion; no right, left, front or rear locations</p>	<p>Positive Lock Indicator Patented feature clearly indicates when fitting is locked in anchorage (L-track application only)</p>
<p>Self-Tensioning No manual tensioning required. Retractors automatically take up 'slack' to ensure wheelchair passenger is always secured</p>	<p>Automatic, Self-Locking Allows easy, one-handed hook-up of wheelchairs</p>	

[SPECIFICATIONS & DETAILS](#)

[KITS](#)

[PARTS](#)

[MEDIA](#)

CASE STUDIES

- **Compatible Anchorages** - Slide 'N Click, L-Track and A-Track floor anchorages, or may be directly mounted to vehicle floors, seat legs or barriers
- **Warranty** - 3 years
- **Testing** - Crash tested to 30mph, 20 g's
- **Meets or exceeds the following standards and regulations:**
 - SAE J2249
 - ISO 10542
 - FMVSS 209, 302, 210, 222
 - CMVSS 209
 - CSA Z605
 - AS 2596
 - ADA

[Back to Top](#)

[Launch Video »](#)

Are You Attending Our 12th Annual Training Seminar this Fall? Register Now!

COMPANY

[Customer Case Studies](#)
[Careers](#)
[About us](#)
[History](#)
[The Q'Straint Difference](#)
[Testimonials](#)
[Contact Us](#)
[The Q-Blog](#)

PRODUCTS

[4-Point Securement Systems](#)
[Docking Systems](#)
[OMNI Floor Anchorages](#)
[Parts & Accessories](#)
[Wheelchair Stations & Modules](#)

TRAINING

[Training Products](#)
[Training Downloads](#)
[Training Seminars](#)
[Fleet Evaluation](#)

SUPPORT

[FAQ](#)
[Warranty Registration](#)

QUICK LINKS

[QLK Bracket List](#)
[QSLmanger.com](#)
[Q'Blog/Newsletter](#)



[Africa](#) | [Asia](#) | [Europe](#) | [Middle East](#) | [North America](#) | [Oceania](#) | [South America](#)
[English](#) | [Français](#) | [Español](#) | [Deutsche](#) | [Italiano](#) | [Português](#) | [日本語](#) | [한국어](#) | [中文](#)

@ 2000-2013 Q'Straint, All rights reserved [Sitemap](#) [Terms & Conditions](#) [E-mail Policy](#)

QRT-1 SERIES

THE SECUREMENT SYSTEM THAT CHANGED EVERYTHING

The original 4-point wheelchair securement system, QRT-1 Series retractors defined the way passenger safety devices are designed and tested.

Solutions for Every Need and Budget

Today, QRT-1 Series retractors provide a full range of options for simple, safe and effective securement of wheelchairs in Para-Transit vehicles, mini-van, rail, city bus, coach bus, and school bus applications.



QRT Max

is a **fully automatic, knobless** retractor offering innovative features that maximize ease of use and ensure passenger safety.



QRT Deluxe

is the world-class original **self-locking and self-tensioning** retractable system. The Max and Deluxe models feature a new ergonomic streamlined housing.



QRT Standard

is simple and economical semi-automatic retractor system appropriate for many applications.

QRT-1 Series Specifications

Compatible Anchorages:

Slide 'N Click and I-Track floor anchorages, or may be directly mounted to vehicle floors, seat legs or barriers

Warranty:

3 years (QRT Max, QRT Deluxe)
2 years (QRT Standard)

Testing:

Crash tested to 30mph/20g
Impact Test Criteria

Meets or exceeds the following standards and regulations:

- SAC J2249
- ISO 10542
- FMVSS 209, 302, 210, 222
- CMVSS 209
- CSA Z605
- ADA

QRT SERIES-1 FEATURES COMPARISON	QRT	QRT	QRT
	MAX	DELUXE	STANDARD
Knobless, One-Handed Operation No knobs to interfere with wheels and footrests.	●		
Dual Tensioning Knobs Provides additional tensioning if needed.		●	
Single Tensioning Knob Provides additional tensioning if needed.			●
Automatic, Self-Locking Allows easy, one-handed hook-up.	●	●	
Self-Tensioning Retractors automatically take up 'slack'.	●	●	
Positive Lock Indicator Patented feature clearly indicates when fitting is locked in anchorage.	●	●	●
Interchangeable Eliminates confusion: no right, left, front or rear locations.	●	●	●
Low Profile & Compact Elimination of mounting bracket allows retractors to fit under most footrests.	●	●	●
Accommodates Larger Wheelchairs Reduced overall retractor length leaves more room for wheelchairs.	●	●	
Universal Design Accommodates virtually all wheelchair designs, including scooters.	●	●	●
Durable Constructed from hardened steel and coated in zinc for maximum corrosion resistance.	●	●	●
J-Hook Reduces twisting of belts and ensures proper securement with a quarter turn accommodating virtually all wheelchair designs.	●	●	●
Foot Release Lever Easy release.	●	●	●



Qstraint.com

Q'Strain America
5553 Ravenswood Road, #110
Ft. Lauderdale, FL 33312
Tel: 800-987-9987
Fax: 954-986-0021
Email: qstraint@qstraint.com

Q'Strain Europe
72-76 John Wilson Business Park
Whitstable, Kent, CT5 3QT
United Kingdom
Tel: +44 (0)1227 773035
Fax: +44 (0)1227 770035
Email: info@qstraint.co.uk

Q'Strain Australia
Tramanco Pty Ltd.
21 Shoebury Street,
Rocklea, Australia, QLD 4106
Tel: +61 7 3892 2311
Fax: +61 7 3892 1819
Email: info@tramanco.com.au

Q'Strain Canada
18-100 Sheldon Dr.
Cambridge, ON N1R 7S7
Tel: 1-800-987-9987
Email: qstraint@qstraint.com

MKM4821 - QRT3

FEATHER WEIGHT

**MID-HI SEAT
"ROCK SOLID"**



Sustainable Seating Solutions

Freedman Seating Company's Feather Weight seats are designed to be like feathers on a bird: light and airy to satisfy weight restrictions and ensure a smooth ride, yet durable for years of service and low maintenance.

Freedman Seating Feather Weight seats are the most severely tested in the company's history, and meet all applicable federal motor vehicle safety standards for strength and safety (including 210 for seat belts).

Less weight means one thing to bus builders and operators: they can get more passengers per bus.

And when we say more passengers, ***we mean more happy passengers.***



Not Just Seats



Seating Solutions™

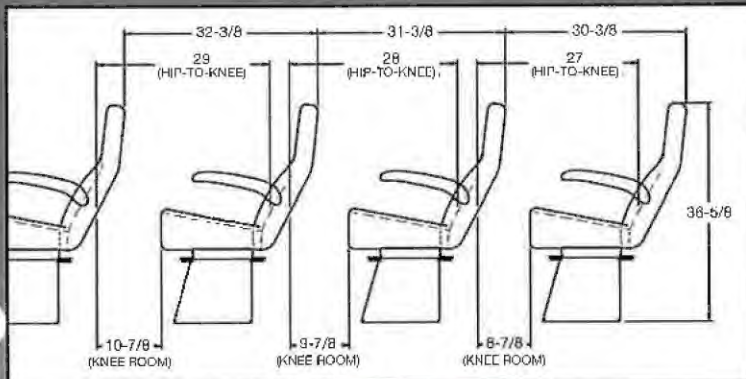
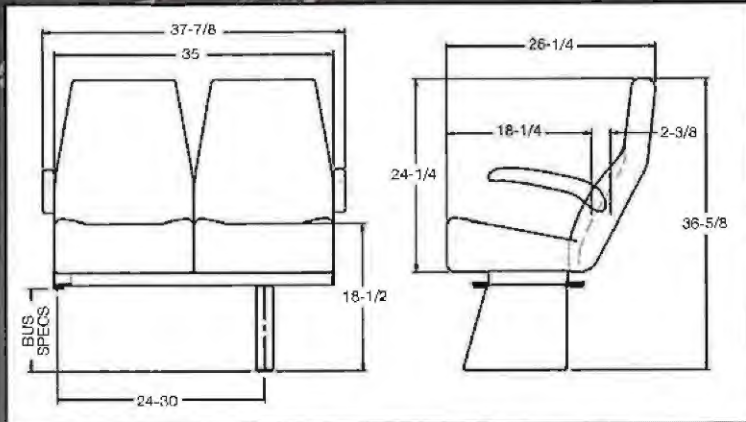
THE FEATHER WEIGHT SERIES BY

FREEDMAN
SEATING COMPANY

an ISO 9001:2000 certified company

FEATHER WEIGHT

MID-HI SEAT "ROCK SOLID"



OPTIONS



Not Just Seats



Seating Solutions™

FREEDMAN
SEATING COMPANY

an ISO 9001:2000 certified company

4545 W. Augusta Blvd., Chicago, IL 60651
(773)524-2440 (800)443-4540 Fax (773)252-7450
e-mail: sales@freedmanseat.com
WWW.FREEDMANSEATING.COM

Sustainable Seating Solutions

Whether your bus is for tour/charter, para-transit, or shuttle, Feather Weight Mid-Hi works for you. Optional adjustable headrests and reclining back-rests give you luxuries for long journeys, while grab rails and ABS plastic backs provide the function and safety required for shorter trips. The ultra-thin backrest gives outstanding support and creates more hip-to-knee room than any other seat in its class. The steel frame system meets or exceeds all applicable government standards for safety and durability. And, it's light as a feather!

Feather Weight Mid-Hi features include:

- An ultra-thin *Knee-Saver* type backrest for added hip-to-knee room and lumbar support
- Molded polyurethane seat and back cushions for comfort and long lasting support
- 17½" wide seat cushions
- 22½" back height off the seat cushion, 37" off the floor
- Wire mesh-grid seat springs for even support
- FMVSS 210 compliance—all *Feather Weight* seats are seat belt ready
- Transit style—rigid backrests (starting weight without options—43 lbs.)
- Touring style—reclining backrests (starting weight without options—47 lbs.)
- Covers that can be removed and replaced easily and without the use of special tools

Feather Weight Mid-Hi options include:

- Black molded *U.S. Arms* or upholstered flip-up armrests
- Adjustable headrests
- Black or yellow corner AV grab rails
- Black or yellow top AV grab rails
- ABS plastic backs
- Mesh map pockets
- Vertical stitching
- FTA foam
- Snack trays
- Aluminum folding footrests
- Pillow seat cushions
- Rear row quick disconnect
- Side sliders
- 16", 18" or 19" wide seats available
- Rigid or reclining backrests
- Seat belts
 - Non-retracting seat belts
 - Retracting seat belts
 - USR (Under Seat Retractors)
- S3 Bio-Cushions (Made with vegetable oil)
- A wide variety of cloths and vinyls
- S3 cloths (Made with recycled yarn)

We are constantly updating and improving our seats; therefore we reserve the right to change or modify specifications or materials without notice. All Freedman Seating Company seats meet or exceed FMVSS standards.

ISO 9001:2000 registered

Evolution G2ELP Driver Seats

Engineered to enhance your vehicle's design with maximum comfort and safety.

USSC's Evolution G2ELP driver seats are ergonomically designed to help reduce day-to-day driver fatigue and stress. The structural integrity built into each seat greatly dampens erratic movements caused by varying road surfaces.

Design options give you a variety of custom seat choices catering to your immediate and long term needs.

Headrest

A 4-way adjustable headrest is built in.

Upholstery

Standard durable seat materials include black fabric inserts and vinyl boxing material.

Lumbar Support

Infinitely adjustable lumbar is operated by a rotational knob located on right-hand side of seat.

Dymetrol® Active Suspension

Greatly enhances driver ride quality by dampening road vibrations.

Back Recline

Seat backrest can easily be adjusted from 45 to 110 degree positions with left-hand side crescent handle.

EVOLUTION G2ELP



Available through Freedman Seating Company
www.freedmanseating.com or call 773-524-2440

For more information visit us at
www.usscseating.com
or call 610.265.3610



EVOLUTION G2 ELP



Adjustable Armrest



4-Way Adjustable Headrest



Infinitely Adjustable Lumbar

Options For Convenience, Personalization and Longevity

- Armrests** a right or left hand-molded front armrest adjusts relative to the backrest's position and can be flipped out of the way.
- Upholstery** custom seat upholstery options available with customer specified material.

FREEDMAN
SEATING COMPANY

Available through Freedman Seating Company
www.freedmanseating.com or call 773-524-2440

001-8.14.13

150 Gordon Drive
Exton, PA 19341 USA
Phone: 610.265.3610
www.usscseating.com



FREEDMAN SEATING ICS

(Integrated Child Seat)

**KIDS &
SAFETY**

**WHAT COULD
BE MORE
IMPORTANT?**

Also available
the ICS-10,
for children
up to 10 years old.

Not Just Seats



Seating Solutions™

THE FEATHER WEIGHT SERIES BY

FREEDMAN
SEATING COMPANY

an ISO 9001:2000 certified company

FREEDMAN

SEATING ICS

(Integrated Child Seat)

Kids and safety, what could be more important? Nothing!

That's the underlying principle behind the Freedman ICS (Integrated Child Seat) and ICS-10.

The ICS is designed for children from 22–51 lbs. and the ICS-10 can accommodate children up to 10 years old, 22–78 lbs. Both ICS seats are comfortable for adults and safe for children.

A tapered back provides unrestricted viewing for drivers, and best of all, the shoulder belts can be adjusted in seconds without taking the seat apart or clumsy operations.

Standard Features:

- Accommodates children 22–51 lbs. (22–78 lbs for the ICS-10)
- Matching companion seat available
- Fold down tongue can be folded to act as a booster seat
- Easily adjustable shoulder straps
- Standard with FMVSS 213 and 210 seat belt anchorage compliance
- Retrofittable; Fits on most Feather Weight frames!

Options:

- Available in a wide variety of vinyls and cloths
- Upholstered or US Arms
- Adjustable footrests
- Freedman USR (Under Seat Retractor)
- Available as a single or double
- Grab rails

Not Just Seats



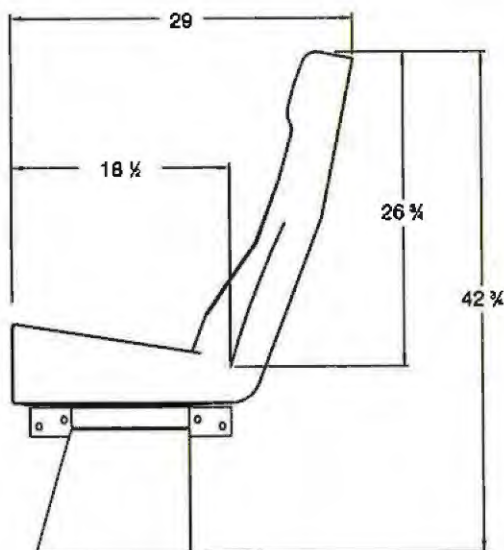
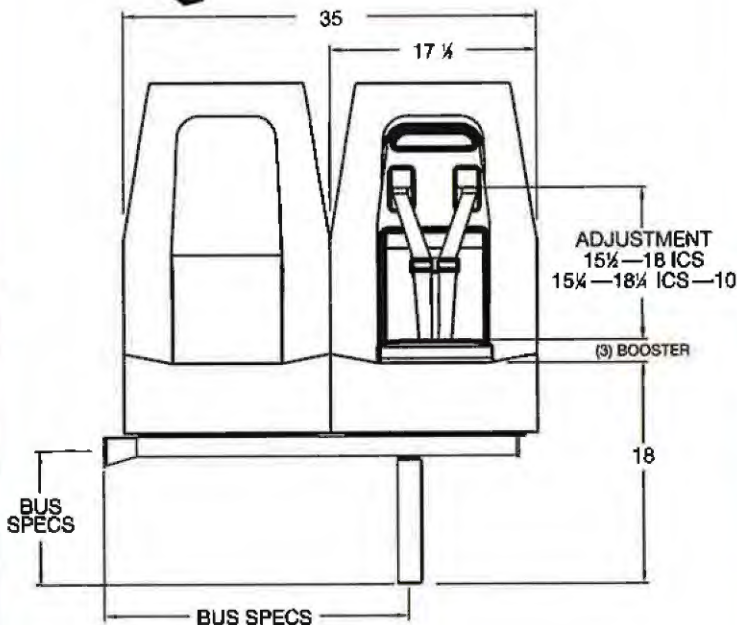
Seating Solutions™

THE FEATHER WEIGHT SERIES BY

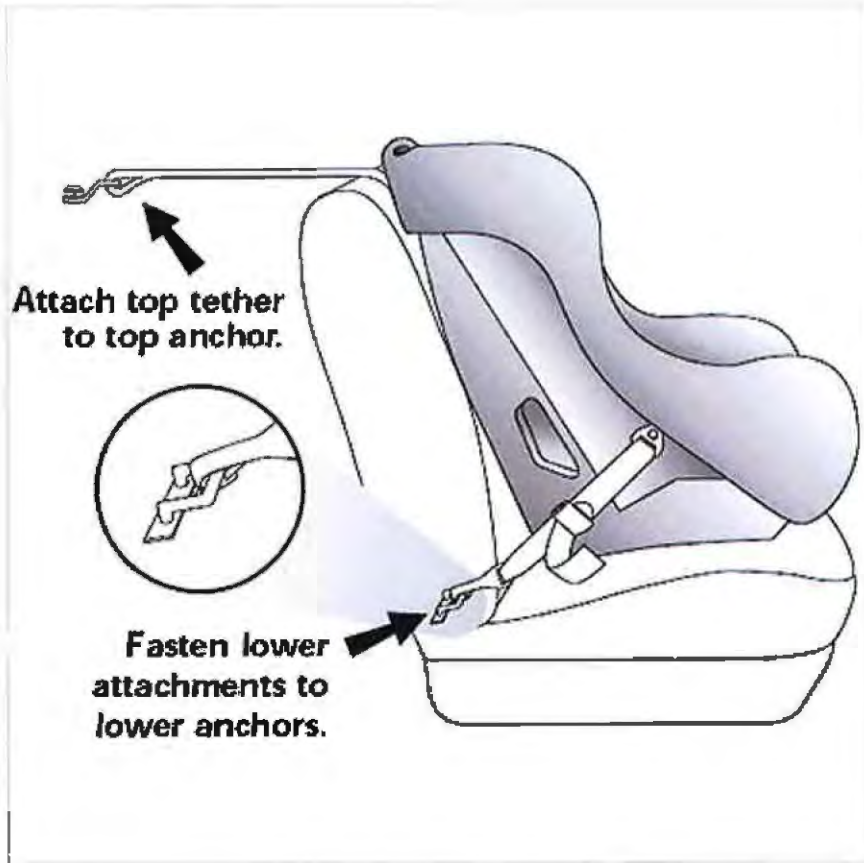
FREEDMAN
SEATING COMPANY

4545 W. Augusta Blvd., Chicago, IL 60851
(773) 524-2440 (800) 443-4540 Fax (773) 252-7450
WWW.FREEDMANSEATING.COM
e-mail: sales@freedmanseat.com

We are constantly updating and improving our seats; therefore we reserve the right to change or modify specifications or materials without notice. All Freedman Seating Company seats meet or exceed FMVS standards.



CRS-225 Hooks and Tethers



LATCH is a new system that makes child safety seat installation easier—without using seat belts. LATCH is required on most child safety seats and vehicles manufactured after September 1, 2002.

[CLICK TO VIEW LARGER IMAGES:](#)



© 2017 Freedman Seating Company
4545 West Augusta Boulevard
Chicago, IL 60651
AN ISO 9001-2008 CERTIFIED COMPANY

PHONE: 800-443-4540
FAX: 773-252-7450
EMAIL: info@freedmanseating.com







Safety Instructions
This seat is fitted with
KUSI safety belts
They are designed to
lock if the seat belt
is fully extended. Do
not attempt to
unlock the seat belt
while the car is
moving. For
more information
consult the owner's
manual.

RSCG



FREEDMAN

CitiSeat
TRANSIT COLLECTION



Not Just Seats



Seating Solutions™

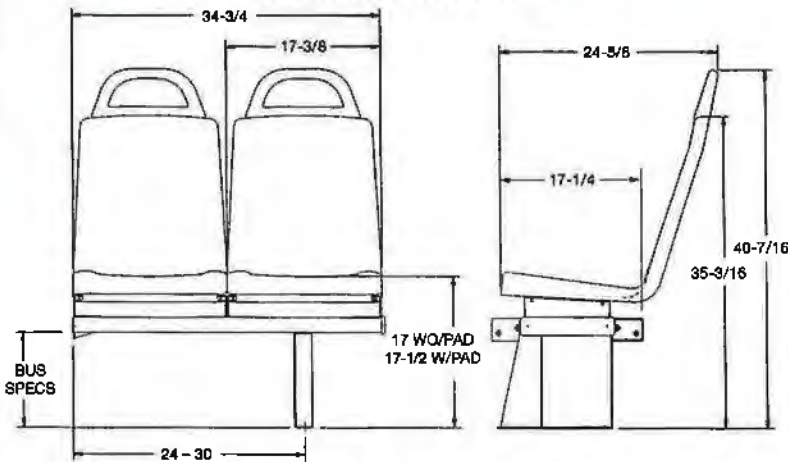
FREEDMAN
SEATING COMPANY

FREEDMAN

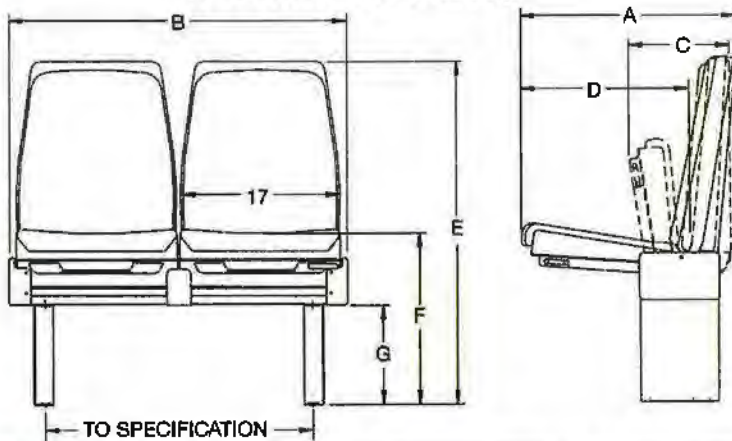
CitiSeat

TRANSIT COLLECTION

Freedman CitiSeat

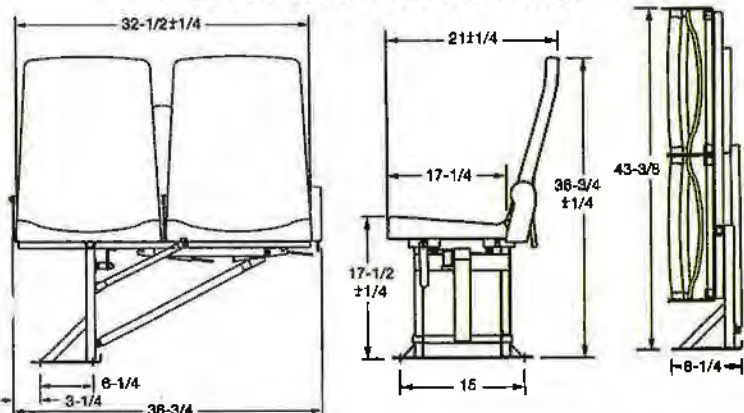


Freedman CitiSeat Flip



MODEL	WEIGHT	A	B	C	D	E	F	G
Single CitiSeat Flip	45 lbs.	22 1/4"	18 3/8"	10 1/2"	17 1/4"	36 3/4"	18"	10 1/2"
Double CitiSeat Flip	78 lbs.	22 1/4"	36 3/4"	10 1/2"	17 1/4"	36 3/4"	18"	10 1/2"
3 Place CitiSeat Flip	112 lbs.	22 1/4"	53 3/4"	10 1/2"	17 1/4"	36 3/4"	18"	10 1/2"

Freedman CitiSeat Foldaway



Comfortable, safe, durable and attractive. The CitiSeat has it all. No matter the floor plan, the CitiSeat can be configured to meet your needs. Transit or shuttle, public or private, the CitiSeat works!

The CitiSeat has the features that riders prefer:

- Waterfalled seat insert provides more comfort
- Available with a choice of inserts and vandal resistant options
 - Conventional padded
 - Padded with Prevent anti-vandal mesh
 - Unpadded AV (anti-vandal) inserts with KEVLAR®
 - Padded AV inserts with KEVLAR®
- Contemporary design and colors to help create a relaxed and aesthetically pleasing environment.
- Ergonomically satisfying - "Individualized" seat
- Insert change out is quick, easy, and accomplished in seconds.
- Improved hip to knee room compared to other transit seats
- Heavy duty hand holds
- Heavy duty arms rests

The CitiSeat flip

Available as a single, double or triple, the CitiSeat Flip makes ADA compliance a snap. The rotating back provides comfort & support while letting the seat be positioned close to the wall.



The CitiSeat Foldaway

This revolutionary seat gives riders what they really want-forward facing seats. The CitiSeat Foldaway stows and deploys in seconds, and the cantilevered design leaves the floor free of obstructions for cleaning and rider comfort. The design of the future- available today

Not Just Seats



Seating Solutions™

FREEDMAN

SEATING COMPANY

4545 W. Augusta Blvd., Chicago, IL 60651
 (773) 524-2440 (800) 443-4540 Fax (773) 252-7450
 WWW.FREEDMANSEATING.COM
 e-mail: sales@freedmanseat.com

We are constantly updating and improving our seats; therefore we reserve the right to change or modify specifications or materials without notice. All Freedman Seating Company seats meet or exceed FMVS standards.



CRACKED ICE BLUE



PINWHEEL MULTI BLUE



PINWHEEL BLUE

NPF

nano protected fabrics



CRACKED ICE GRAY



PINWHEEL MULTI GRAY



PINWHEEL GRAY

NPF still contains all the attributes of previous generation performance fabrics.

- *Extreme abrasion resistance
- *Automotive Lightfastness

- *Water repellant surface
- *Waterproof barrier backcoating

NPF is soft to the touch but engineered to be strong. Cool in the summer it retains heat longer in cold environments...NPF keeps you comfortable in all conditions and provides a stain resistant odor free easily cleanable surface.

We put NPF to the test so that you can rest comfortably knowing that your passengers are riding on the ultimate high performance fabric.

52742 Leer Court Elkhart, IN 46514
phone: 800.346.0475 fax: 574.262.8080
www.cmi-enterprises.com





Pete Ricketts, Governor

January 4, 2017

Dear Prospective Bidder:

The State of Nebraska Purchasing Bureau is issuing the following Invitation to Bid (ITB):

ITB Number/ Commodity: 5510 OF 2017 or Current Production Year Small Transit Buses
9+2
5509 OF 2017 or Current Production Year Small Transit Buses
12+2

Opening Date: February, 1, 2017; 2:00 p.m. Central Time
Buyer: Dianna Gilliland

Copies of 5510 OF/5509 OF and all information relevant to this ITB to include addenda and/or amendments may be obtained from the State Purchasing Bureau web site at:

<http://das.nebraska.gov/materiel/purchasing.html>

It is the responsibility of the bidder to check this site for other pertinent information and any mandatory requirements. All information relevant to this ITB, to include addenda and/or amendments that may be issued prior to the opening date, will be posted to the website.

ITB responses must be in a sealed envelope that indicates the ITB Number and Opening Date. Sealed responses must be received in the State Purchasing Bureau on or before February 1, 2017; 2:00 p.m. Central Time, at which time responses will be publicly opened. ITB response must be sent to:

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, NE 68508

Any problems accessing the website regarding the above ITB should be e-mailed or faxed to the State Purchasing Bureau at as.materielpurchasing@nebraska.gov or 402-471-2089.

Sincerely,

Dianna Gilliland, Buyer
State Purchasing Bureau

Pete Ricketts, Governor

ADDENDUM ONE QUESTIONS and ANSWERS

Date: January 23, 2017

To: All Bidders

From: Dianna Gilliland, Buyer
AS Materiel State Purchasing Bureau

RE: Addendum for Invitation to Bid Number 5509 OF
to be opened February 1, 2017 at 2:00 p.m. Central Time

Questions and Answers

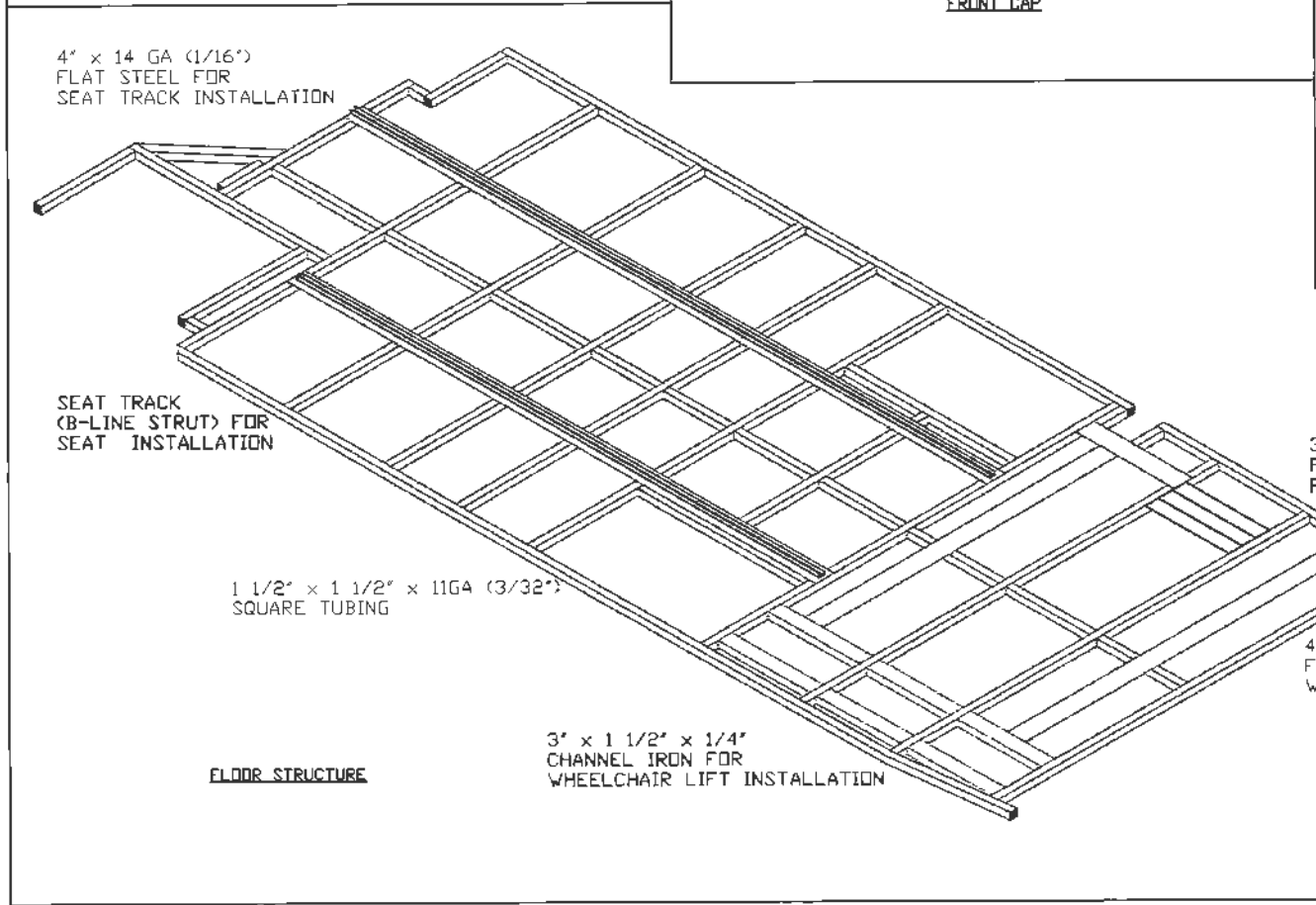
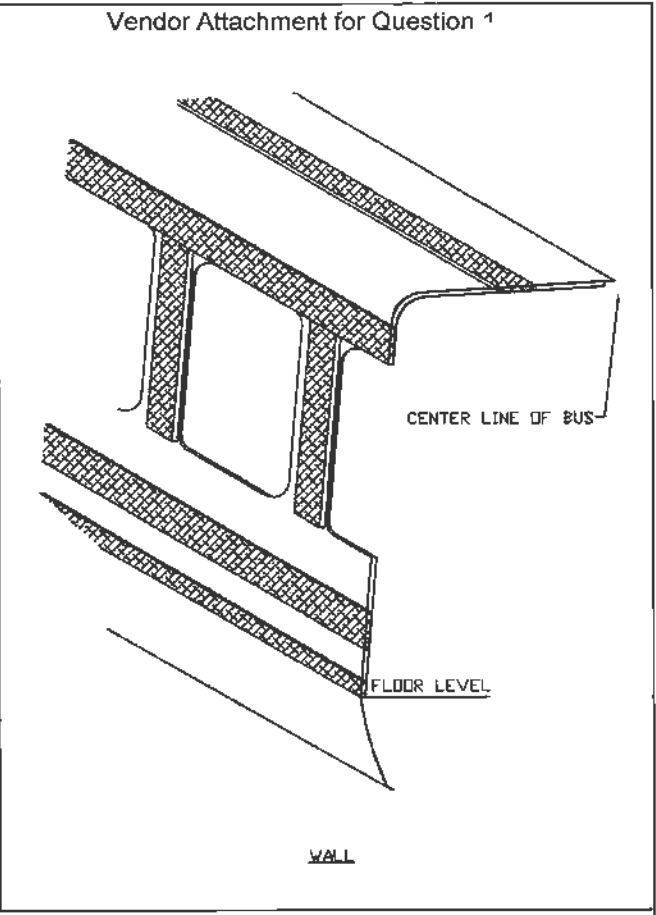
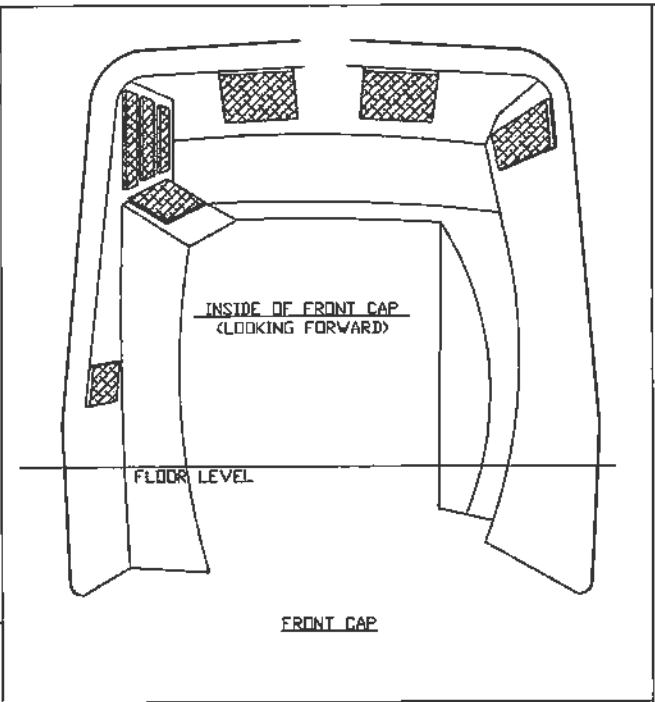
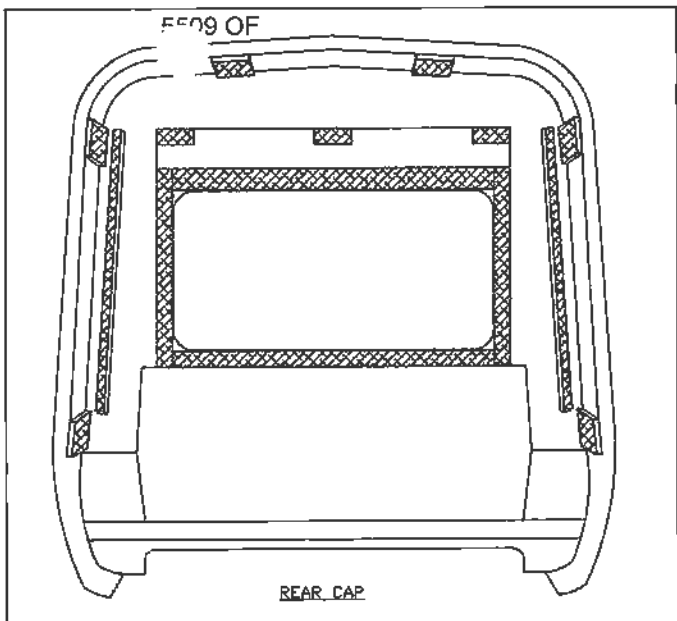
Following are the questions submitted and answers provided for the above mentioned Invitation to Bid. The questions and answers are to be considered as part of the Invitation to Bid. It is the Bidder's responsibility to check the State Purchasing Bureau website for all addenda or amendments.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
1.	G Bus Body	Page 43	Respectfully request approval of our body construction: A Diamond Coach's body is comprised of vacuum-cured honeycomb fiberglass with wood core reinforcement at all corner stress points. The wood core and honeycomb fiberglass are combined to create a uni-body design. This construction type is extremely strong yet its flexibility is what allows it to maintain its structure even after enduring tremendous weight stresses, like a rollover accident. The "spring back" property of the body is a true asset to the safety of the bus. The molded vacuum-cured panels consist of an outer layer of .02" thickness of gelcoat over a three-sixteenth inch (3/16") minimum thickness of resin-	Specifications will remain as written.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
			<p>hardened fiber reinforced composite material. The interior panel is a one-inch (1") thick phenolic impregnated hexel honeycomb center with three-eighth inch (3/8") cells. Panels are treated for fire retardance and resistance to fungus and insect infestation, laid on edge to provide maximum column strength. The interior surface is a minimum of one eighth inch (1/8") thick resin-hardened fiber reinforced composite material. All panels are vacuum-cured to ensure the complete bonding of all materials.</p> <p>Window and door openings are manufactured into the body structure. No cutting of the body structure is required. Diamond Coaches meet both Federal Motor Vehicle Safety Standard (FMVSS) #220(School Bus Rollover Protection) and FMVSS #221 (School Bus Body Joint Strength). Full Altoona testing has been completed. The design and assembly process of the Diamond Coach produce a quiet, comfortable ride for passenger and driver.</p> <p>Please see the attached body structure diagram.</p>	
2.	I Entrance Door and Stepwell	Page 45	<p>Respectfully request approval of the Diamond Coach entrance door stepwell: The step well of each bus will be constructed of Nidacore and Hardwire reinforced fiberglass. Securely fastened to the floor and sidewall substructure. It is deflection tested and highly resistance to road salt and chemicals. Ground to first step is approximately 12". Will vary +/- one half inch due to chassis.</p>	Specifications will remain as written.
3.	B General Requirements, Item 1: ISO Certification	Page 39	<p>Respectfully request requirement for ISO certification be omitted, or not required to participate in this RFP. The ISO certification is a self-governed process that allows the entity to set the end goal. All though compliance is tracked by outside auditing, adherence to ISO guidelines can be subjective. A company with an ISO rating does not necessarily possess the ability to produce a product with superior quality, or deliver on promised target dates.</p>	Specifications will remain as written.

<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
4.	I Price Adjustment	Page 3	Respectfully request clarification on Price Adjustment. If the State decides to extend the contract for the additional years as stated on page #1 of the invitation. The contractor/manufacture will most likely incur price increases due to commodity and raw material costs escalating. Would the State please clarify an acceptable percentage increase per year, or use of PPI table to calculate increases for additional contract years?	Please refer to the following sections in relation to price change: 1. Section II.H. Price Adjustments During Contract Term, page 3; 2. Section III.HH. Prices, page 17; first year will not exceed 5% increase. 3. Section VI.T. Prices, page 51. The Producer Price Index may be used as supporting documentation for price change.
5.	G. BUS BODY, 5. FLOOR	44	We would propose that 5/8" Marine tech plywood (specs attached) decking with metal underbelly be used ilo Thermo-Lite Board Model 2651a fiber-reinforced urethane composite material by Space Age Synthetics.	Specifications will remain as written.
6.	M. FINISHES, 1. INTERIOR FINISH	49	We would like to propose GERFLOR flooring ilo of Altro. (specs attached)	Specifications will remain as written.
7.			Do you have the attached in a word document that can be filled out instead of hand written? Please advise.	The Invitation to Bid (pages 1-3) is PDF only. A Word version of the specifications is now available on the Bid Opportunities webpage. http://das.nebraska.gov/materiel/purchasing/5509/5509.html

This addendum will become part of the ITB and should be acknowledged with the Invitation to Bid.



3" x 1/4"
FLAT STEEL FOR
FOLDAWAY SEAT INSTALLATION

4" x 14 GA (1/16")
FLAT STEEL FOR
WHEELCHAIR TRACK INSTALLATION

DIAMOND COACH CORPORATION
P.O. BOX 489, 2300 WEST FOURTH STREET
OSWEGO, KANSAS 67356 (620) 795-2191 FAX 4816

TITLE: **STRUCTURAL ELEVATIONS OF
WALL, CEILING, & FLOOR**

DRAWN BY: CStrickland DATE: 02/10/15

The following spec sheet was graciously supplied by Plum Creek, the manufacturer of Marine Tech plywood.

Plum Creek

PRODUCT DESCRIPTION MARINE TECH

GENERAL:

- Designed For Rigorous Marine Use With Superior "B" Face Grades
- All Struc 1, Group 1 Species Construction
- Produced With "Ultra Core" Tight "High C" Grade Cross Bands & Centers
- Standard 5/8" 5 Ply (7 Ply Available Upon Request) 3 3/4" 7 Ply
- Available With Solid Core And/Or "B" Faces - 2 Sides Upon Request
- APA Industrial Panel Selection Guide - ICI No. 9344

FACES:

- "B" And Better Face(s) Grade With No Open Holes Or Defects
- Splits Over 1/16" Are Filled. Only Sound, Tight Pin Knots Allowed
- Fully Sanded Faces Using 60 Grit Paper

BACKS:

- Single Faced Panels - "High C" Grade Chosen For Minimal Knotholes & Splits
- Optional 2 Sided Panel Has a B-Plugged Back - No Open Knotholes Or Defects
- Splits Over 1/16" Are Filled. Only Sound Tight Knots Up to 1" Are Allowed
- Back is Touch Sanded With 60 Grit Paper

CORES / CENTERS:

- All Composed "High C" Grade Core Eliminates Laps And Gaps
- 1 Piece "High C" Centers Used

CONSTRUCTION & THICKNESS:

- Available in 4'x 8' - Scarfed Lengths Up To 16' Long
- Thickness:
 - 1/4" - 3 Ply
 - 3/8" - 4 Ply
 - 1/2" - 5 Ply
 - 5/8" - 5 or 7 Ply
 - 3/4" - 7 Ply
- Tongue & Groove Available For Pontoon Boat Flooring
- Thicker Transom Panels Up to 1 1/2" Available

PRESERVATIVE TREATING (PTP):

- Available with CCA Treating To .40 Minimum Retention

Customer Service: Plum Crook Timber Co. Po Box 1990, Columbia Falls, MT 69912, 800-841-0032

[Wood-Plywood Index](#)

Floor covering: (ideal for Tarabus)

The floor surface shall be covered with Tarabus Helios Rhodium 8806 or approved equal.

Floor covering: (if writer does not specify trade names)

The floor covering shall meet FMVSS302.

The floor covering thickness shall be minimum 2.25 mm.

The floor covering shall have a non slip surface that remains effective in all weather conditions and complies with all ADA requirements. The wear layer shall be constructed with silicon carbide particles and shall not contain aluminium oxide or quartz.

Any decorative pattern shall be made with PVC colored chips and shall be consistent throughout the wear layer of the floor covering.

Intermediate layer shall be a fiberglass reinforced grid to ensure dimensional stability $\leq 0.2\%$ according to ASTM D 1204

Backing shall be felt textured with minimum thickness of 0.1 mm to ensure good mechanical adhesion on all types of substrates.

Installation:

Prior to the application of the floor covering, the seams, joints, imperfections and fastener holes shall be filled and the filler material allowed to fully cure. The entire floor shall be thoroughly sanded to smooth. After sanding, the floor shall be thoroughly and completely cleaned of all sanding dust and any foreign materials.

Installation of the floor covering shall be done in a manner so that the flooring rolls up the side wall of the vehicle to the seat track.

All seams in flat areas shall be hot welded with the use of a 5 mm diameter round welding rod and thoroughly flushed. Angle welds shall be hot performed with a triangular 7.2 mm wide welding rod. All edges must be sealed with a colour matching PU sealant to prevent moisture intrusion.

A standee line shall be required and shall be of contrasting color extending across the bus aisle.

Landing area and step edgings shall have aluminium step edge with a band of 1.34 inch bright yellow or white safety vinyl inserted into the step edge. This insert shall be recessed into the aluminium step to prevent trip hazard.

The floor covering, as well as transitions of flooring material to the main floor and to the entrance and exit area, shall be smooth and present no tripping hazards.

All flooring shall be covered after installation to protect it from inadvertent damage during the remaining phases of assembly. Any damage to the floor covering material shall require complete removal of the damaged section and installation of new material.

**TREASURER'S CERTIFICATE
FOR ISSUANCE OF DEALER PLATES**

PRESENT THIS CERTIFICATE
TO COUNTY TREASURER
FOR DEALER PLATES

THE LICENSEE NAMED BELOW IS DULY AUTHORIZED BY LAW AS A
MOTOR VEHICLE/TRAILER DEALER

ISSUED TO: **MASTERS TRANSPORTATION INC**
5535 ARBOR RD
LINCOLN, NE 68514

LICENSE ID NO. **DL-06472**

CALENDAR YEAR **2017**

1 DEALER PLATE OF CHOICE
2 AUTOMOBILE DEALER PLATES

NO.
ISSUED

THE DEALER WHO VALIDLY HOLDS THE LICENSE
SHOWN ABOVE MAY OBTAIN UP TO THE MAXIMUM
NUMBER OF PLATES LISTED HERE.

THIS MAXIMUM NUMBER OF PLATES IS BASED UPON DEALER SALES FROM OCTOBER 1, 2015 TO SEPTEMBER 30, 2016

NEBRASKA MOTOR VEHICLE INDUSTRY LICENSING BOARD

William S. Jackson
Executive Director

This form to be retained by County Treasurer for his/her files.
"DL" preceding license number indicates a NEW & USED MOTOR VEHICLE/TRAILER DEALER
"CY" preceding license number indicates MOTORCYCLE DEALER
"MF" preceding license number indicates RESIDENT MOTOR VEHICLE OR TRAILER MANUFACTURER
"DS" preceding license number indicates RESIDENT MOTOR VEHICLE OR TRAILER DISTRIBUTOR
"MB" preceding license number indicates RESIDENT MOTOR VEHICLE OR TRAILER FACTORY BRANCH
"TR" preceding license number indicates TRAILER DEALER

THIS CERTIFICATE IS VOID IF ALTERED

Lincoln

STURAA TEST

7 YEAR

200,000 MILE BUS

from

ELDORADO NATIONAL-KANSAS

**MODEL
ADVANTAGE 240**

JANUARY 2013

PTI-BT-R1214

PENNSTATE



**The Thomas D. Larson
Pennsylvania Transportation Institute**

201 Transportation Research Building (814) 865-1891
The Pennsylvania State University
University Park, PA 16802

Bus Testing and Research Center

2237 Old Route 220 N. (814) 695-3404
Duncansville, PA 16635



**MECHANICAL TESTING
CERTIFICATE 3172.01**

EXECUTIVE SUMMARY

EIDorado National-Kansas submitted a model Advantage 240, gasoline-powered 17 seat (including the driver) 24-foot bus, for a 7 yr/200,000 mile STURAA test. Testing started on August 16, 2012 and was completed on December 13, 2013. The Check-In section of the report provides a description of the bus and specifies its major components.

The primary part of the test program is the Structural Durability Test, which also provides the information for the Maintainability and Reliability results. The Structural Durability Test was started on August 22, 2012 and was completed on December 10, 2012.

The interior of the bus is configured with seating for 17 passengers including the driver and 2 wheelchair positions. **Note:** this test vehicle is not designed to accommodate standing passengers. At 150 lbs per person and 600 lbs per wheelchair position, this load results in a measured gross vehicle weight of 12,500 lbs. The first segment of the Structural Durability Test was performed with the bus loaded to a GVW of 12,500 lbs. The middle seated load weight segment was performed at the same weight of 12,500 lbs and the final segment was performed at a curb weight of 8,780 lbs. Durability driving resulted in unscheduled maintenance and failures that involved a variety of subsystems. A description of failures, and a complete and detailed listing of scheduled and unscheduled maintenance is provided in the Maintainability section of this report.

Effective January 1, 2010 the Federal Transit Administration determined that the total number of simulated passengers used for loading all test vehicles will be based on the full complement of seats and free-floor space available for standing passengers (150 lbs per passenger). The passenger loading used for dynamic testing will not be reduced in order to comply with Gross Axle Weight Ratings (GAWR's) or the Gross Vehicle Weight Ratings (GVWR's) declared by the manufacturer. Cases where the loading exceeds the GAWR and/or the GVWR will be noted accordingly. During the testing program, all test vehicles transported or operated over public roadways will be loaded to comply with the GAWR and GVWR specified by the manufacturer.

Accessibility, in general, was adequate, components covered in Section 1.3 (Repair and/or Replacement of Selected Subsystems) along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

The Reliability section compiles failures that occurred during Structural Durability Testing. Breakdowns are classified according to subsystems. The data in this section are arranged so that those subsystems with more frequent problems are apparent. The problems are also listed by class as defined in Section 2. The test bus encountered no Class 1 or Class 2 failures. Of the 4 reported failures, 3 were Class 3 and 1 was a Class 4.

The Safety Test, (a double-lane change, obstacle avoidance test) was safely performed in both right-hand and left-hand directions up to a maximum test speed of 45 mph. The performance of the bus is illustrated by a speed vs. time plot. Acceleration and gradeability test data are provided in Section 4, Performance. The average time to obtain 50 mph was 19.34 seconds. The Stopping Distance phase of the Brake Test was completed with the following results; for the Uniform High Friction Test average stopping distances were 22.64' at 20 mph, 47.57' at 30 mph, 84.24' at 40 mph and 98.50' at 45 mph. The average stopping distance for the Uniform Low Friction Test was 21.96'. There was no deviation from the test lane during the performance of the Stopping Distance phase. During the Stability phase of Brake Testing the test bus experienced no deviation from the test lane but did experience pull to the left during both approaches to the Split Friction Road surface. The Parking Brake phase was completed with the test bus maintaining the parked position for the full five minute period with no slip or roll observed in both the uphill and downhill positions.

The Shakedown Test produced a maximum final loaded deflection of 0.145 inches with a permanent set ranging between -0.004 to 0.003 inches under a distributed static load of 7,575 lbs. The Distortion Test was completed with all subsystems, doors and escape mechanisms operating properly. No water leakage was observed throughout the test. All subsystems operated properly.

The test vehicle was not equipped with any type of tow eyes or tow hooks; therefore, the Static Towing Test was not performed. The Dynamic Towing Test was performed by means of a front-lift tow. The towing interface was accomplished using a hydraulic under-lift wrecker. The bus was towed without incident and no damage resulted from the test. The manufacturer does not recommend towing the bus from the rear, therefore, a rear test was not performed. The Jacking and Hoisting Tests were also performed without incident. The bus was found to be stable on the jack stands, and the minimum jacking clearance observed with a tire deflated was 9.1 inches.

A Fuel Economy Test was run on simulated central business district, arterial, and commuter courses. The results were 9.81 mpg, 9.57 mpg, and 15.06 mpg respectively; with an overall average of 10.81 mpg.

A series of Interior and Exterior Noise Tests was performed. These data are listed in Section 7.1 and 7.2 respectively.

The Emissions Test was performed. These results are available in Section 8 of this report.

November 4, 2016

Dear Valued REV Bus Group Partner,

REV Bus Group, the parent corporation of bus brands Champion, Eldorado, and Goshen, has commonized certain engineering designs and manufacturing processes for its bus divisions. With this commonization, Goshen models will share a common design with equivalent Champion or Eldorado models.

Because designs and manufacturing processes are common, prior FMVSS and Altoona testing conducted for Champion and Eldorado models is applicable to the equivalent Goshen model. A summary of equivalent models is shown below:

Goshen Model	Common Model	Test Report	Category
Goshen Pacer	Champion Crusader	PTI-BT-R0903	7 Year/200,000 Mile
Goshen Impulse	Eldorado Advantage	PTI-BT-R1214	7 Year/200,000 Mile
Goshen Impulse-F	Champion Challenger	PTI-BT-R0617	7 Year/200,000 Mile
Goshen GCII	Champion Challenger	PTI-BT-R0617	7 Year/200,000 Mile
Goshen G-Force	Champion Defender	PTI-BT-R1208	7 Year/200,000 Mile
Goshen Sentinel	Champion Defender	PTI-BT-R0911	10 Year/350,000 Mile

REV Bus Group strives to build the safest vehicles available with optimized value for the customer.

Sincerely,
REV BUS GROUP



Bryce Pfister, P.E.
 Vice President Product Development, REV Bus Group



U.S. Department
of Transportation
**Federal Transit
Administration**

1200 New Jersey Avenue SE
Washington, D.C. 20590

October 24, 2016

Bryce Pfister
VP Product Development and Innovation
REV Bus Group
(via email) bryce.pfister@revgroup.com

Dear Mr. Pfister:

This is in response to your emails dated September 7 and September 22, 2016, in which you requested assistance from the Federal Transit Administration (FTA) concerning the applicability of the Bus Testing Regulation (49 CFR Part 665) to a group of previously-tested bus models built at ElDorado and Champion plants that will be offered with Goshen Coach branding. Your emails state that:

- REV Bus Group, the corporate parent of Champion Bus, ElDorado National, Goshen Coach, and other brands, is in the process of commonizing engineering designs and manufacturing processes for its bus divisions.
- Due to a plant and product consolidation, ElDorado and Champion plants are now manufacturing and labeling buses as the Goshen brand. The structures of these buses are identical to the ElDorado or Champion buses in the respective plant. Products that have been engineered, manufactured, and "Altoona-tested" under the Champion Bus and ElDorado National brands will now also be sold under the Goshen Coach brand.
- After the commonization, the following Goshen bus models will share identical designs with these previously-tested Champion or ElDorado bus models:

Goshen Model	Common Model	Chassis	Test Report	Category
Goshen Pacer	Champion Crusader	GM G-Series	PTI-BT-R0903	7 Year/200,000 Mile
Goshen Impulse	ElDorado Advantage	Ford E-Series	PTI-BT-R1214	7 Year/200,000 Mile
Goshen Impulse-F	Champion Challenger	Ford E-Series	PTI-BT-R0617	7 Year/200,000 Mile
Goshen G-Force	Champion Defender	Ford F-550	PTI-BT-R1208	7 Year/200,000 Mile

You have asked FTA to provide guidance if past ElDorado and Champion test reports can be amended to also include Goshen as the manufacturer. Alternatively, you asked if FTA can provide guidance for other ways to address the disconnect between Altoona test report and brand name.

FTA has reviewed your request and accompanying documentation and has determined that re-branding of certain previously-tested bus models will not affect the validity of those models' Bus Testing Reports. The following bus models previously tested under these indicated Champion and ElDorado names may be offered to FTA recipients under these indicated Goshen/Goshen Coach names:

Goshen Model	Previously-Tested Bus Model	Chassis	Test Report	Category
Goshen Pacer	Champion Crusader	Chevrolet Express (GMC Savana) 3500	PTI-BT-R0903-P	7 Year/200,000 Mile
Goshen Impulse	ElDorado Advantage	Ford E-450	PTI-BT-R1214	7 Year/200,000 Mile
Goshen Impulse-F	Champion Challenger	Ford E-450	PTI-BT-R0617	7 Year/200,000 Mile
Goshen G-Force	Champion Defender	Ford F-550	PTI-BT-R1208	7 Year/200,000 Mile

This determination is based on the representation in your email that no changes are being made in the design or construction of the specified bus models themselves, and that this is simply a name change. Should you make any other changes to these vehicles, additional testing may be required. If you require any further assistance with this or other matters concerning Bus Testing, I encourage you to consult the resources provided at www.transit.dot.gov/research-innovation/bus-testing. If you still have questions after checking this website, please feel free to contact me.

Sincerely,



Marcel Belanger
Bus Testing Program Manager
Office of Technology, TRI-20
marcel.belanger@dot.gov
202-366-0725



California Headquarters
2320 Stanislaus Street
Fresno, CA 93721

Indiana Division
3608 Cooper Drive,
Elkhart, Indiana 46514

RE: E-450 Altoona Test from 2010

Dear Bill,

The underhood calibration for the CNG system that was used during the November 2010 test (name: PTI-BT-R1008) that A-1 jointly completed with Glaval Bus was provided by Westport/IMPCO. A-1 is proposing the Westport/IMPCO system for this bid.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Gilio", is written over a faint, larger version of the same signature.

Mark Gilio - President

STURAA TEST

7 YEAR

200,000 MILE BUS

from

GLAVAL BUS/DIV. OF FOREST RIVER

MODEL UNIVERSAL CNG

NOVEMBER 2010

PTI-BT-R1008

PENNSTATE



The Pennsylvania Transportation Institute

201 Transportation Research Building (814) 865-1891
The Pennsylvania State University
University Park, PA 16802

Bus Testing and Research Center

2237 Old Route 220 N. (814) 695-3404
Duncansville, PA 16635

EXECUTIVE SUMMARY

Glaval Bus/Div. of Forest River submitted a model Universal, CNG-powered 17 seat/25-foot bus, built on a Ford E-450 chassis for a 7 yr/200,000 mile STURAA test. The odometer reading at the time of delivery was 2,913 miles. Testing started on June 28, 2010 and was completed on October 29, 2010. The Check-In section of the report provides a description of the bus and specifies its major components.

The primary part of the test program is the Structural Durability Test, which also provides the information for the Maintainability and Reliability results. The Structural Durability Test was started on June 28, 2010 and was completed on October 18, 2010.

The interior of the bus is configured with seating for 17 passengers including the driver and 2 wheelchair positions. Free floor space will accommodate 9 standing passengers resulting in a potential load of 26 persons plus 2 wheelchair positions. At 150 lbs per person, this load results in a measured gross vehicle weight of 15,000 lbs. The first segment of the Structural Durability Test was performed with the bus loaded to a GVW of 15,000 lbs. **Note: at Gross Vehicle Load (GVL), the weight of the rear axle exceeds the rear GAWR by 850 lbs and exceeds the GVWR by 500 lbs.** The middle segment was performed at a seated load weight of 13,670 lbs and the final segment was performed at a curb weight of 10,000 lbs. Durability driving resulted in unscheduled maintenance and failures that involved a variety of subsystems. A description of failures, and a complete and detailed listing of scheduled and unscheduled maintenance is provided in the Maintainability section of this report.

Effective January 1, 2010 the Federal Transit Administration determined that the total number of simulated passengers used for loading all test vehicles will be based on the full complement of seats and free-floor space available for standing passengers (150 lbs per passenger). The passenger loading used for dynamic testing will not be reduced in order to comply with Gross Axle Weight Ratings (GAWR's) or the Gross Vehicle Weight Ratings (GVWR's) declared by the manufacturer. Cases where the loading exceeds the GAWR and/or the GVWR will be noted accordingly. During the testing program, all test vehicles transported or operated over public roadways will be loaded to comply with the GAWR and GVWR specified by the manufacturer.

Accessibility, in general, was adequate, components covered in Section 1.3 (Repair and/or Replacement of Selected Subsystems) along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

The Reliability section compiles failures that occurred during Structural Durability Testing. Breakdowns are classified according to subsystems. The data in this section are arranged so that those subsystems with more frequent problems are apparent. The problems are also listed by class as defined in Section 2. The test bus encountered no Class 1 or Class 2 failures. Of the six reported failures, five were Class 3 and one was a Class 4.

The Safety Test, (a double-lane change, obstacle avoidance test) was safely performed in both right-hand and left-hand directions up to a maximum test speed of 45 mph. The performance of the bus is illustrated by a speed vs. time plot. Acceleration and gradeability test data are provided in Section 4, Performance. The average time to obtain 50 mph was 16.70 seconds. The Stopping Distance phase of the Brake Test was completed with the following results; for the Uniform High Friction Test average stopping distances were 28.20' at 20 mph, 50.76' at 30 mph, 85.73' at 40 mph and 110.97' at 45 mph. The average stopping distance for the Uniform Low Friction Test was 26.13'. There was no deviation from the test lane during the performance of the Stopping Distance phase. During the Stability phase of Brake Testing the test bus experienced no deviation from the test lane but did experience pull to the left during both approaches to the Split Friction Road surface. The Parking Brake phase was completed with the test bus maintaining the parked position for the full five minute period with no slip or roll observed in both the uphill and downhill positions.

The Shakedown Test produced a maximum final loaded deflection of 0.472 inches with a permanent set ranging between -0.004 to 0.006 inches under a distributed static load of 10,950 lbs. The Distortion Test was completed with all subsystems, doors and escape mechanisms operating properly. No water leakage was observed throughout the test. All subsystems operated properly.

The test bus was not equipped with any type of tow eyes or tow hooks therefore the Static Towing Test was not performed. The Dynamic Towing Test was performed by means of a front-lift tow. The towing interface was accomplished using a hydraulic under-lift wrecker. The bus was towed without incident and no damage resulted from the test. The manufacturer does not recommend towing the bus from the rear, therefore, a rear test was not performed. The Jacking and Hoisting Tests were also performed without incident. The bus was found to be stable on the jack stands, and the minimum jacking clearance observed with a tire deflated was 6.9 inches.

A Fuel Economy Test was run on simulated central business district, arterial, and commuter courses. The results were 0.93 M/lb, 0.94 M/lb, and 1.76 M/lb respectively; with an overall average of 1.08 M/lb.

A series of Interior and Exterior Noise Tests was performed. These data are listed in Section 7.1 and 7.2 respectively. Emissions testing was also performed. These data are listed in Section 8.

CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

The undersigned [contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. 5323 and FTA's implementing regulation at 49 CFR Part 685.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

Date: 1/20/17

Company Name: Eldorado

Signature of contractor's Authorized Official: Amy McCall

Name and Title of contractor's Authorized Official: Amy McCall, World Trans Brand Manager

CERTIFICATE OF COMPLIANCE WITH PRE-AWARD AND POST-DELIVERY AUDITS OF ROLLING STOCK

The bidder will supply the items called for in the specifications.

Date: 1/20/17

Company Name: Eldorado

Signature of contractor's Authorized Official: Amy McCall

Name and Title of contractor's Authorized Official: Amy McCall, World Trans Brand Manager

CERTIFICATION REGARDING LOBBYING

The undersigned (contractor) certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal Grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds or other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contracts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions (as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.))

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

[Note: Pursuant to 31 U.S.C. 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The contractor, Eldorado, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure. In addition, the contractor understands and agrees that the provisions of 31 U.S.C. A 3801, et seq., apply to this certification and disclosure, if any.

Date: 1/20/17

Company Name: Eldorado

Signature of contractor's Authorized Official: Amy McCall

Name and Title of contractor's Authorized Official: Amy McCall, World Trans Brand Manager

BUY AMERICA

Certificate of Compliance With 49 U.S.C. 5323(j).

The bidder hereby certifies that it will comply with the requirements of Section of 49 U.S.C. 5323(j) and the regulations at 49 CFR Part 661 as amended by the FAST Act.

Date: 1/20/17

Company Name: Eldorado

Signature of contractor's Authorized Official: *Amy McCall*

Name and Title of contractor's Authorized Official: Amy McCall, World Trans Brand Manager

Certificate for Non-Compliance With 49 U.S.C. 5323(j)(2)(C)

The bidder hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(2)(C) but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C) or and the applicable regulations in 49 CFR, 661.11.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

DISADVANTAGE BUSINESS ENTERPRISES CERTIFICATION

The following certification must be signed by a legally authorized representative of the Bidder's firm and returned with the bid.

The Bidder certifies that the transit vehicle(s) to be provided under this quotation will be provided by a manufacturer which is in compliance with Special Provisions for Transit Vehicle Manufacturers, Title 49 of the Code of Federal Regulations, Part 26, Subpart C, Section 26.49.

Date: 1/20/17

Company Name: Eldorado

Signature of contractor's Authorized Official: Amy McCall

Name and Title of contractor's Authorized Official: Amy McCall, World Trans Brand Manager

FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION

I, Eldorado certify that the vehicle bid will meet the following FMVSS:
(Name of Vendor/Agent)

- 101 Controls location and identification
- 102 Transmission shift lever sequence
- 103 Windshield defrosting and defogging
- 104 Windshield wiping and washing system
- 105 Hydraulic brake system
- 106 Brake hoses
- 108 Lights and reflectors
- 111 Rear view mirrors
- 113 Hood latch system
- 115 Vehicle identification number
- 116 Hydraulic brake fluids
- 119 New pneumatic tires
- 120 Tire selection and wheels for buses
- 124 Accelerator control system
- 204 Steering system reward movement
- 205 Glazing materials (window glass)
- 206 Door lock and door retention components
- 207 Anchorage of seats
- 208 Occupant restraints
- 209 Seat belt assemblies
- 210 Seat belt assembly anchorage
- 217 Bus window strength and emergency release
- 220 School bus rollover protection
- 301 Fuel system Integrity
- 302 Flammability of Interior materials
- 403 Platform lift systems for motor vehicles
- 404 Platform lift Installation in motor vehicles

Amy McCalf
Signature

1/20/17
Date



Orion Registrar, Inc.

Thorough and Fair Auditing

Certificate of Certification

Orion Registrar, Inc.

This is to certify the Quality Management System of:

Eldorado National (Kansas), Inc.

1655 Wall Street

Salina, KS 67401 USA

Has been assessed by Orion Registrar and found to be in compliance with the following Quality Standard:

ISO 9001:2008

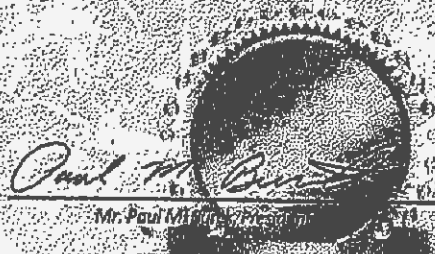
The Quality Management System is applicable to:
Design, Manufacture and Sale of Customized Buses and Multipurpose Passenger Vehicles

The Certification period is from:
October 30, 2015 to September 15, 2018

This certification is subject to the company maintaining its system to the required standard, and applicable exceptions, which will be monitored by Orion.

Client ID: 342 Certificate ID: 1000439

IAF/NAICS/SIC Codes: 22 / 336112 / 3713



10-05-2015

Mr. Paul M. [Name], President

Date



7502 W. 80th Avenue, Suite 225, Arvada, Colorado 80003 | 303-456-6010 | FAX 303-456-6681 | www.orion4value.com

To authenticate this certificate, please visit: www.orion4value.com/about-orion/registered-companies/

**FORM A
 BIDDER CONTACT SHEET
 Invitation To Bid Number 5510 OF**

Form A should be completed and submitted with each response to this Invitation to Bid. This is intended to provide the State with information on the Bidder's name and address, and the specific person(s) who are responsible for preparation of the Bidder's response.

Preparation of ITB Contact Information	
Bidder Name:	Master's Transportation, Inc.
Bidder Address:	5535 Arbor Rd. Lincoln, NE 68514
Contact Person & Title:	Mike Baumgartner – Regional Sales Manager
E-mail Address:	mbaumgartner@masterstransportation.com
Telephone Number (Office):	308-236-6363
Telephone Number (Cellular):	308-440-5006
Fax Number:	816-318-9998

Each Bidder shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the Bidder's response should become necessary.

Communication with the State Contact Information	
Bidder Name:	Master's Transportation, Inc.
Bidder Address:	5535 Arbor Rd. Lincoln, NE 68514
Contact Person & Title:	Amy Monroe – Contract Specialist - Government
E-mail Address:	amonroe@masterstransportation.com
Telephone Number (Office):	816-979-3478
Telephone Number (Cellular):	816-560-8712
Fax Number:	816-318-9998

What Is Covered⁽¹⁾

Bumper-to-Bumper Coverage

Authorized Ford Motor Company dealers will repair, replace or adjust all parts (except wiper blades and windshields) (12 months) and brakes (12 months or 18,000 miles) on Ford vehicles that are defective in factory-supplied materials or workmanship for 3 years or 36,000 miles (whichever occurs first).

Powertrain Limited Warranty⁽²⁾

The Powertrain Limited Warranty for Ford vehicles is 5 years or 60,000 miles, whichever comes first. That's an additional 2 years/24,000 miles of coverage for components such as the engine and transmission beyond the vehicle's 3-year/36,000-mile Bumper-to-Bumper limited warranty.

Power Stroke® V-8 Turbo Diesel Engine Coverage (applies only to E-Series and F-250 – F-550 Trucks)

Certain direct injection diesel engine components are covered against defects in factory-supplied materials or workmanship for 5 years or 100,000 miles (whichever occurs first).

Covered components: cylinder block, heads and all internal parts, intake and exhaust manifolds, timing gear, harmonic balancer, valve covers, oil pan and pump, water pump, fuel system (excluding fuel lines and fuel tank and frame-mounted fuel conditioning module sometimes referred to as the frame-mounted pump/filter/water separator), high-pressure lines, gaskets and seals, glow plugs, turbocharger, powertrain control module, electronic driver unit, injectors, injection pressure sensor, high-pressure oil regulator, exhaust back pressure regulator and sensor, camshaft position sensor and accelerator switch.

NOTE: Some components also may be covered by the Emissions warranties with no deductible.

NOTE: Please see separate warranty coverage for F-650/F-750 trucks on page 7-9 and for Ford LCF trucks.

Focus 5-year/60,001-100,000-mile Powertrain Extended Service Plan (ESP)

Customers who purchase any 2007 Focus model also enjoy a no-charge powertrain Extended Service Plan.⁽³⁾

- Coverage is for a period of 5 years or from 60,001 to 100,000 miles, whichever comes first
- Fully transferable to any subsequent owner, not just family members
- \$100 deductible applies after 60,000 miles
- Includes Roadside Assistance

Corrosion Coverage

Body sheet metal panels are covered against corrosion due to a defect in factory-supplied materials or workmanship. The length of the repair coverage depends upon the type of corrosion damage.

- If corrosion causes holes in the body sheet metal, repair coverage lasts for 5 years regardless of the miles driven
- If corrosion does not cause holes, and is not the result of usage and/or environmental conditions, repair coverage lasts for 3 years or 36,000 miles, whichever occurs first

For damage caused by airborne material (environmental fallout), where there is no defect involved and, therefore, no warranty coverage, Ford's policy is to cover paint damage due to airborne material for 12 months or 12,000 miles (whichever occurs first).

Safety Restraint System Coverage

Safety belts and Supplemental Restraint Systems (airbags) are covered against defects in factory-supplied materials or workmanship. Safety Restraint System coverage begins at the warranty start date and lasts for 5 years or 60,000 miles (whichever occurs first).

NOTE: Safety Restraint Systems are not covered for problems related to comfort or appearance.

Tires

Two separate warranties apply to tires. The New Vehicle Limited Warranty covers tire defects in factory-supplied material or workmanship for 100 percent of labor costs and on a pro rata adjustment basis for parts. (See the reimbursement schedule below.)

For vehicles within the New Vehicle Limited Warranty time in service and mileage coverage period, defective tires will be replaced on a pro rata adjustment basis according to the following mileage-based Reimbursement Schedule:

MILES DRIVEN	Percent of Parts Covered by Ford
1-12,000	100 percent
12,001-24,000	60 percent
24,001-36,000	30 percent

The tire manufacturer also provides a separate tire warranty that may extend beyond the New Vehicle Limited Warranty coverage. The manufacturer's tire warranty is with the owner literature supplied with the vehicle. Owners have the option of having a tire warranty repair performed by the tire manufacturer's authorized service center. If owners go to a tire service center for a repair covered by the New Vehicle Limited Warranty, they may be charged a prorated amount for wear or other charges. If so, the owner should present the paid invoice detailing the nature of the charges to any Ford Motor Company dealership for refund consideration. When making warranty repairs on a vehicle, the dealer will use Ford or Motorcraft parts of remanufactured or other parts that are authorized by Ford. In certain instances, Ford may authorize repairs at other than Ford dealer facilities. Tire replacements under warranty will be made with the same brand and model as originally equipped with the vehicle unless the same brand and model is no longer available, in which case a tire of the same brand, size, load, speed and tread type will be used. In some circumstances, Ford may authorize another brand and/or model to substitute for the original brand and model, even if still available.

Normal tire wear or damage is not reimbursable.

Emissions Warranties

Ford vehicles feature two types of Emissions warranties: Defect and Performance. These warranties are required by the Federal Clean Air Act.

Federal Emissions Defect Warranty

During the warranty coverage period, Ford Motor Company warrants that:

- The vehicle or engine is designed, built and equipped to meet — at the time it is sold — the emissions regulations of the U.S. Environmental Protection Agency (EPA)
- The vehicle or engine is free from defects in factory-supplied materials or workmanship that could prevent it from conforming with applicable EPA regulations
- The customer will not be charged for diagnosis, repair, replacement or adjustment of defective emissions-related parts

The warranty coverage period for:

- Passenger cars, light-duty trucks (vehicles with a GVWR of 8500 lbs. or less, over 8500 lbs. if certified to light-duty emissions standards)
 - 8 years or 80,000 miles (whichever occurs first) for catalytic converter, Electronic Emissions Control Unit (ECU), Transmission Control Module (TCM), onboard emissions diagnostic device, natural gas vehicle (NGV) module (Bi-fuel/CNG)
 - 3 years or 36,000 miles (whichever occurs first) for all other covered parts
- Heavy-duty vehicles (vehicles with a gross vehicle weight of over 8500 lbs.)
 - 5 years or 100,000 miles (whichever occurs first) for covered diesel engine parts
 - 5 years or 50,000 miles (whichever occurs first) for all other covered parts

Federal Emissions Performance Warranty

The Federal Emissions Performance Warranty covers the vehicle if it is registered in a state where the state or local government has an EPA-approved inspection and maintenance program. Under this warranty coverage, Ford Motor Company will not charge for repair, replacement or adjustment (including labor, diagnosis or parts) of any emissions control device or system, provided all of the following conditions are met:

- The vehicle has been maintained and operated according to the instructions on proper care in the vehicle's Owner's Guide and Scheduled Maintenance Guide
- The vehicle fails to conform to the applicable national EPA standards within 2 years or 24,000 miles (whichever occurs first)

- The vehicle owner is subject to a penalty or sanction under local, state or federal law because the vehicle has failed to conform to the emissions standard. A penalty or sanction can include being denied the right to use the vehicle
- The vehicle has not been tampered with, abused or misused

For a complete list of parts covered by this warranty, please refer to the vehicle's Warranty Guide that accompanies the Owner's Guide.

The Federal Emissions Performance warranty will not apply to the vehicle if:

- The vehicle is tested at high altitude, but is certified to meet standards only at sea level
- The diagnosis shows that the vehicle will pass the applicable state or local government test using test procedures and standards set by the EPA

Vehicles certified for sale in California and registered in California, Maine, Massachusetts, New York and Vermont are provided additional Emissions Defect and Performance warranty coverage. Please refer to the vehicle's Warranty Guide or the Warranty and Policy Manual for complete details. (The additional Emissions Defect and Performance warranty coverage also applies to Escape Hybrid vehicles certified for sale and registered in the above states and Connecticut, New Jersey and Rhode Island.)

1. See separate warranty coverages for F-650/F-750 models, Ford LCF and Escape Hybrid.
2. Certain engine, transmission, front-wheel drive and rear-wheel drive components.
3. A deductible applies. In Florida, coverage is provided by a 5-year/100,000-mile Powertrain Limited Warranty.

**Warranty Summary⁽¹⁾
(Car/Light Truck/SUV)**

New Vehicle Limited Warranty	Years/Miles in Service
Powertrain Coverage	5/60,000
Bumper-to-Bumper	3/36,000
6.0L Power Stroke® V-8 Turbo Diesel Engine	5/100,000 ⁽²⁾
Focus models only — Powertrain Extended Service Plan ⁽³⁾ (no charge, fully transferable)	5/60,001-100,000
Corrosion Perforation	5/Unlimited
Safety Restraint System	5/50,000

Emissions Warranty	Years/Miles in Service
Federal Vehicles:	
Emissions Defect Warranty ⁽⁴⁾	3/36,000
<ul style="list-style-type: none"> Certain Emissions Parts⁽⁵⁾ 	8/80,000
Emissions Performance Warranty	
<ul style="list-style-type: none"> Emissions-related Parts 	2/24,000
California Vehicles:	
Emissions Defect Warranty (14,000-lb. GVWR and Under)	
<ul style="list-style-type: none"> Short-term Warranty 	3/50,000
<ul style="list-style-type: none"> Long-term Warranty⁽⁶⁾ 	7/70,000
Emissions Performance Warranty	3/50,000
Partial Zero Emissions Vehicles (PZEV)	15/150,000 ⁽⁷⁾

The chart above shows only general information. Refer to the detailed information for what is covered and what is not covered under each of these warranties in the Warranty Guide that is packaged with the vehicle's Owner's Guide.

- See additional warranty coverages for F-650/F-750 models, and on Ford LCF models and Escape Hybrid.
- 5 years or 100,000 miles, whichever occurs first on certain direct injection diesel engine components. A \$100 deductible per repair visit applies after the Bumper-to-Bumper warranty coverage period (3 years or 36,000 miles). Refer to Parts Coverage Directory of Warranty and Policy Manual for a list of parts covered by the Diesel Warranty.
- A deductible applies. In Florida, coverage is provided by a 100,000-mile/5-year Powertrain Limited Warranty.
- Certified heavy-duty engines are covered for 5 years or 50,000 miles.
- Catalytic converters, electronic emissions control units, onboard emissions diagnostic device and NVG module (BI-fuel/CNG) for passenger cars and light-duty trucks only (required 8-year/80,000-mile coverage per the Clean Air Act).
- Selected on the basis of their estimated replacement cost at the time the California Air Resources Board certified the vehicle for sale in California.
- Vehicles certified to PZEV requirements qualify for this coverage.



WARRANTY OVERVIEW

Please refer to specific warranties for details & exclusions

IMPULSE	
Impulse Base Warranty	1 Year/12,000 Miles
Impulse Body Structure	6 Year/60,000 Miles
Impulse Electrical System	1 Year/12,000 Miles - Electrical Parts (by Vendor only) 2 years/24,000 Miles - Electrical Panels (Circuit Boards) 1 Year/12,000 Miles - Wiring
Impulse Paint	1 Year/12,000 Miles
CHASSIS	
Ford Motor Co.	3 Year/36,000 Miles E Series 5 Year/60,000 Miles Drivetrain 5 Year/Unlimited Miles Corrosion
AIR CONDITIONING AND HEAT	
A.C.T. A/C*	2 Year/Unlimited Mileage, Parts, Labor with prior authorization (from Original in Service Date)
ACC Climate Control	3 Year/75,000 Miles (with min 2 Year/Unlimited mileage for original owner)
Mobile Climate Control(MCC)	2 Year Unlimited Mileage (from Original in Service Date)
Thermo King A/C	2 Year/ Unlimited Mileage, Parts, Labor 1 Year on Compressors
Trans Air	2 Year/Unlimited Mileage (from date of in-service)
ProAir Heaters*	2 Years/Unlimited Mileage
ALTERNATOR	
Alternator	See Chassis Warranty
AUDIO VISUAL	
ASA Radio Components	2 Year/Unlimited Mileage
Echovision	1 Year (from original purchase date)
REI*	2 Year/Unlimited Mileage – Radios, Monitors, DVD players 3 Year/Unlimited Mileage – Surveillance Products 90 Days – Speakers, Microphones, Cables, etc.

Rosco Vision Systems	1 Year from date of receipt of product
BIKE RACKS	
Sportworks – Bike Racks	1 Year (from date of purchase)
COOLANT HEATERS	
Espar Climate Control Systems	2 Year/2000 Hours Airtronic 1 Year/1000 Hours D8LC 2 Year/2000 Hours Hydronic 4 & 5 1 Year/1000 Hours Hydronic10 & higher; Hydronic L's & M's
DESTINATION SIGNS	
Hanover Signs	10 Year – Amber LED Signs 5 Year – White & Color Signs
Luminator-TwinVision	6 Year/Parts & Labor – Horizon SMT Amber or White & Spectrum Full Color (date of shipment from plant) 1 Year/Parts & Labor – Mobilite (in-service date or 90 days after original shipment date) 10 Year/Parts & 3 Year/Labor – Amber/Silver Smart Series (date of shipment from plant) 6 Year/Parts & 3 Year Labor – Chroma Smart Series (date of shipment from plant)
DOORS	
A&M Systems - Doors*	1 Year, Parts & Labor 3 Year Extended Limited available – call for quote
FARE BOXES	
Diamond Mfg – Fare Box	1 Year (from date of shipment)
FAST IDLE/INTERLOCK	
InPower*	2 Year (from date of shipment from InPower)
Intermotive Vehicle Controls	1 Year (from original date product shipped) or 2 Year (from in-service date if registered)
FLOORING	
Altro	15 Year 0.11" (2.7mm) Meta & Chroma 12 Year 0.09" (2.2mm) Meta & Chroma 10 Year 0.07" (1.8mm) Meta & Chroma
GerFlor*	12 Year
RCA Rubber	12 Year Center Aisle Rib & Under Seat (from delivery date) 1 Year Tread & Entrance, Materials Only (from delivery date)

LIGHTING	
Dialight	12 Year LED Vehicle Interior Illumination Products 5 Year LED Reading Lamp, Compartment Light, Exterior Stepwell Light 7 Year LED Vehicle Head Light/5strip Lights (original end user) Lifetime LED Vehicle Lamp (original end user)
Grote Lights	1 Year from date of manufacture
Optronic Lights*	3 Year (excluding bulbs) Incandescent (from purchase date) Lifetime of original purchaser LED lighting products
LUGGAGE BINS	
Pretoria (SMI)	5 Year (original purchaser from shipment date)
MIRRORS	
Safe Fleet (B&R/Hadley)	1 Year (from date of in service for original end user)
Rosco Vision Systems	1 Year (from date of product receipt)
Velvac	1 Year (date of sale to end-user or 2 Year from manufacture)
SEATING	
Freedman Seating*	1 Year Freedman Level 1 & 2 Covers 2 Year Freedman Level 3 & up Covers No Warranty Customer Supplied /Special Fabric 5 Year Metal Frames, Base Frames, Legs 1 Year Foldaway Gas Shocks
Recaro Seating	2 Year/100,000 Miles; 1 Year Foam
WINDOWS	
Cleer Vision Windows	1 Year, Repair or Replacement (original end user)
Hehr Windows	1 Year (date of delivery to original end user)

***Preferred Vendors**

Vendor shown warranties for options/components listed above do not include the installation warranty. Standard installation warranty for all of the listed items is 12 months or 12,000 miles whichever occurs first.



Braun "Worry-Free" Five-Year Limited Warranty

Lifts

The Braun Corporation of Winamac, Indiana, warrants its wheelchair lift against defects in material and workmanship for three years, providing the lift is operated and maintained properly and in conformity with the manual. This warranty is limited to the original purchaser and does not cover defects in the motor vehicle on which it is installed, or defects in the lift caused by a defect in any part of the motor vehicle.

This warranty commences on the date the lift is put in service, providing the warranty registration card is completed and received by The Braun Corporation within twenty days of purchase.

This warranty also covers the cost of labor for the repair or replacement of most parts for one year when performed by an authorized Braun Representative. (A Braun labor schedule determines cost allowance for repairs.)

This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear. The Braun Corporation will not, under any circumstances, pay for loss of use of lift or vehicle in which it is installed or loss of time.

This warranty will become null and void if the lift has been damaged through accident, misuse, or neglect, or if the lift has been altered in any respect.

The Braun Corporation shall not be liable for towing charges, travel and lodging, or any other expense incurred due to the loss of use of vehicle or other reason.

Millennium Style Commercial Lifts (L915 models, Vista, Century)

Millennium Series Lifts Braun "Worry-Free" Five-Year Limited Warranty

The Braun Corporation of Winamac, Indiana, warrants its wheelchair lift against defects in material and workmanship for up to five years*, providing the lift is installed, operated and maintained properly and in conformity with the manual. This warranty is limited to the original purchaser and does not cover defects in the motor vehicle on which it is installed, or defects in the lift caused by a defect in any part of the motor vehicle.

This warranty commences on the date the lift is put into service, providing the warranty registration card is completed and received by The Braun Corporation within twenty days of purchase. If no warranty card is received the warranty will expire three years from the date of manufacture as identified on the lift serial number tag.

This warranty also covers the cost of labor for the repair or replacement of parts for three years when performed by an approved Braun Dealer. (A labor schedule determines cost allowance for repairs, which can be provided upon request by an approved Braun Dealer).

This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear. The Braun Corporation will not, under any circumstances, pay for loss of use, incidental or consequential damages or expenses related to the lift, or vehicle in which it is installed.

This warranty will become null and void if the lift has been damaged through accident, misuse, or neglect, or if the lift has been altered in any respect.

The Braun Corporation shall not be liable for towing charges, travel and lodging, or any other expense incurred due to the loss of use of vehicle or other reason.

* The five-year portion of this warranty covers the following lifts power train parts:

• Cable • Cylinder • Flow Control • Gear Box • Motor. Pump • Hydraulic Hose & Fittings • Solid State Controller.

All remaining lift components are covered by a three-year warranty.

Creation Date: 4/19/2005

Last Revision Date: 5/27/2005

STURAA TEST

7 YEAR

200,000 MILE BUS

from

ELDORADO NATIONAL-KANSAS

**MODEL
ADVANTAGE 240**

JANUARY 2013

PTI-BT-R1214

PENNSTATE



**The Thomas D. Larson
Pennsylvania Transportation Institute**

201 Transportation Research Building (814) 865-1891
The Pennsylvania State University
University Park, PA 16802

Bus Testing and Research Center

2237 Old Route 220 N. (814) 695-3404
Duncansville, PA 16635



MECHANICAL TESTING
CERTIFICATE 3172.01

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	3
ABBREVIATIONS	5
BUS CHECK-IN	6
1. MAINTAINABILITY	
1.1 ACCESSIBILITY OF COMPONENTS AND SUBSYSTEMS	19
1.2 SERVICING, PREVENTATIVE MAINTENANCE, AND REPAIR AND MAINTENANCE DURING TESTING	22
1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS	27
2. RELIABILITY - DOCUMENTATION OF BREAKDOWN AND REPAIR TIMES DURING TESTING	31
3. SAFETY - A DOUBLE-LANE CHANGE (OBSTACLE AVOIDANCE TEST)	33
4. PERFORMANCE TESTS	
4.1 PERFORMANCE - AN ACCELERATION, GRADEABILITY, AND TOP SPEED TEST	36
4.2 PERFORMANCE – BUS BRAKING PERFORMANCE TEST.....	40
5. STRUCTURAL INTEGRITY	
5.1 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL SHAKEDOWN TEST	45
5.2 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL DISTORTION	49
5.3 STRUCTURAL STRENGTH AND DISTORTION TESTS - STATIC TOWING TEST	61
5.4 STRUCTURAL STRENGTH AND DISTORTION TESTS - DYNAMIC TOWING TEST	62
5.5 STRUCTURAL STRENGTH AND DISTORTION TESTS - JACKING TEST	65
5.6 STRUCTURAL STRENGTH AND DISTORTION TESTS - HOISTING TEST	67
5.7 STRUCTURAL DURABILITY TEST	69
6. FUEL ECONOMY TEST - A FUEL CONSUMPTION TEST USING AN APPROPRIATE OPERATING CYCLE	81
7. NOISE	
7.1 INTERIOR NOISE AND VIBRATION TESTS	96
7.2 EXTERIOR NOISE TESTS	101
8. EMISSIONS	107

EXECUTIVE SUMMARY

EIDorado National-Kansas submitted a model Advantage 240, gasoline-powered 17 seat (including the driver) 24-foot bus, for a 7 yr/200,000 mile STURAA test. Testing started on August 16, 2012 and was completed on December 13, 2013. The Check-In section of the report provides a description of the bus and specifies its major components.

The primary part of the test program is the Structural Durability Test, which also provides the information for the Maintainability and Reliability results. The Structural Durability Test was started on August 22, 2012 and was completed on December 10, 2012.

The interior of the bus is configured with seating for 17 passengers including the driver and 2 wheelchair positions. **Note:** this test vehicle is not designed to accommodate standing passengers. At 150 lbs per person and 600 lbs per wheelchair position, this load results in a measured gross vehicle weight of 12,500 lbs. The first segment of the Structural Durability Test was performed with the bus loaded to a GVW of 12,500 lbs. The middle seated load weight segment was performed at the same weight of 12,500 lbs and the final segment was performed at a curb weight of 8,780 lbs. Durability driving resulted in unscheduled maintenance and failures that involved a variety of subsystems. A description of failures, and a complete and detailed listing of scheduled and unscheduled maintenance is provided in the Maintainability section of this report.

Effective January 1, 2010 the Federal Transit Administration determined that the total number of simulated passengers used for loading all test vehicles will be based on the full complement of seats and free-floor space available for standing passengers (150 lbs per passenger). The passenger loading used for dynamic testing will not be reduced in order to comply with Gross Axle Weight Ratings (GAWR's) or the Gross Vehicle Weight Ratings (GVWR's) declared by the manufacturer. Cases where the loading exceeds the GAWR and/or the GVWR will be noted accordingly. During the testing program, all test vehicles transported or operated over public roadways will be loaded to comply with the GAWR and GVWR specified by the manufacturer.

Accessibility, in general, was adequate, components covered in Section 1.3 (Repair and/or Replacement of Selected Subsystems) along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

The Reliability section compiles failures that occurred during Structural Durability Testing. Breakdowns are classified according to subsystems. The data in this section are arranged so that those subsystems with more frequent problems are apparent. The problems are also listed by class as defined in Section 2. The test bus encountered no Class 1 or Class 2 failures. Of the 4 reported failures, 3 were Class 3 and 1 was a Class 4.

The Safety Test, (a double-lane change, obstacle avoidance test) was safely performed in both right-hand and left-hand directions up to a maximum test speed of 45 mph. The performance of the bus is illustrated by a speed vs. time plot. Acceleration and gradeability test data are provided in Section 4, Performance. The average time to obtain 50 mph was 19.34 seconds. The Stopping Distance phase of the Brake Test was completed with the following results; for the Uniform High Friction Test average stopping distances were 22.64' at 20 mph, 47.57' at 30 mph, 84.24' at 40 mph and 98.50' at 45 mph. The average stopping distance for the Uniform Low Friction Test was 21.96'. There was no deviation from the test lane during the performance of the Stopping Distance phase. During the Stability phase of Brake Testing the test bus experienced no deviation from the test lane but did experience pull to the left during both approaches to the Split Friction Road surface. The Parking Brake phase was completed with the test bus maintaining the parked position for the full five minute period with no slip or roll observed in both the uphill and downhill positions.

The Shakedown Test produced a maximum final loaded deflection of 0.145 inches with a permanent set ranging between -0.004 to 0.003 inches under a distributed static load of 7,575 lbs. The Distortion Test was completed with all subsystems, doors and escape mechanisms operating properly. No water leakage was observed throughout the test. All subsystems operated properly.

The test vehicle was not equipped with any type of tow eyes or tow hooks; therefore, the Static Towing Test was not performed. The Dynamic Towing Test was performed by means of a front-lift tow. The towing interface was accomplished using a hydraulic under-lift wrecker. The bus was towed without incident and no damage resulted from the test. The manufacturer does not recommend towing the bus from the rear, therefore, a rear test was not performed. The Jacking and Hoisting Tests were also performed without incident. The bus was found to be stable on the jack stands, and the minimum jacking clearance observed with a tire deflated was 9.1 inches.

A Fuel Economy Test was run on simulated central business district, arterial, and commuter courses. The results were 9.81 mpg, 9.57 mpg, and 15.06 mpg respectively; with an overall average of 10.81 mpg.

A series of Interior and Exterior Noise Tests was performed. These data are listed in Section 7.1 and 7.2 respectively.

The Emissions Test was performed. These results are available in Section 8 of this report.

ABBREVIATIONS

ABTC	- Altoona Bus Test Center
A/C	- air conditioner
ADB	- advance design bus
ATA-MC	- The Maintenance Council of the American Trucking Association
CBD	- central business district
CW	- curb weight (bus weight including maximum fuel, oil, and coolant; but without passengers or driver)
dB(A)	- decibels with reference to 0.0002 microbar as measured on the "A" scale
DIR	- test director
DR	- bus driver
EPA	- Environmental Protection Agency
FFS	- free floor space (floor area available to standees, excluding ingress/egress areas, area under seats, area occupied by feet of seated passengers, and the vestibule area)
GVL	- gross vehicle load (150 lb for every designed passenger seating position, for the driver, and for each 1.5 sq ft of free floor space)
GVW	- gross vehicle weight (curb weight plus gross vehicle load)
GVWR	- gross vehicle weight rating
MECH	- bus mechanic
mpg	- miles per gallon
mph	- miles per hour
PM	- Preventive maintenance
PSBRTF	- Penn State Bus Research and Testing Facility
PTI	- Pennsylvania Transportation Institute
rpm	- revolutions per minute
SAE	- Society of Automotive Engineers
SCH	- test scheduler
SEC	- secretary
SLW	- seated load weight (curb weight plus 150 lb for every designed passenger seating position and for the driver)
STURAA	- Surface Transportation and Uniform Relocation Assistance Act
TD	- test driver
TECH	- test technician
TM	- track manager
TP	- test personnel

TEST BUS CHECK-IN

I. OBJECTIVE

The objective of this task is to log in the test bus, assign a bus number, complete the vehicle data form, and perform a safety check.

II. TEST DESCRIPTION

The test consists of assigning a bus test number to the bus, cleaning the bus, completing the vehicle data form, obtaining any special information and tools from the manufacturer, determining a testing schedule, performing an initial safety check, and performing the manufacturer's recommended preventive maintenance. The bus manufacturer must certify that the bus meets all Federal regulations.

III. DISCUSSION

The check-in procedure is used to identify in detail the major components and configuration of the bus.

The test bus consists of an EIDorado National-Kansas, model Advantage 240. The bus has an OEM driver's door and passenger entrance rear of the front axle. A dedicated handicap entrance equipped with a Braun Corp. Model L919F1B platform lift is located rear of the rear axle. Power is provided by a gasoline-fueled, Ford 6.8 L V-10 engine coupled to a Ford Automatic 5-speed TorqShift transmission.

The measured curb weight is 3,410 lbs for the front axle and 5,370 lbs for the rear axle. These combined weights provide a total measured curb weight of 8,780 lbs. There are 17 seats including the driver and 2 wheelchair positions. Gross load is 150 lb x 17 = 2,550 lbs + 1,200 lbs (2 wheelchair positions) = 3,750. At full capacity, the measured gross vehicle weight is 12,500 lbs. **Note:** this test vehicle is not designed to accommodate standing passengers.

VEHICLE DATA FORM

Page 1 of 7

Bus Number: 1214	Arrival Date: 8-16-12
Bus Manufacturer: EIDorado	Vehicle Identification Number (VIN): 1FDDE4F52CDA26829
Model Number: Advantage 240	Date: 8-16-12
Personnel: T.S. & S.R.	Ford / F 450

WEIGHT:

Individual Wheel Reactions:

Weights (lb)	Front Axle		Middle Axle		Rear Axle	
	Right	Left	Right	Left	Right	Left
CW	1,780	1,630	N/A	N/A	2,830	2,540
SLW	1,760	1,920	N/A	N/A	4,280	4,540
GVW	1,760	1,920	N/A	N/A	4,280	4,540

Total Weight Details:

Weight (lb)	CW	SLW	GVW	GAWR
Front Axle	3,410	3,680	3,680	5,000
Middle Axle	N/A	N/A	N/A	N/A
Rear Axle	5,370	8,820	8,820	9,600
Total	8,780	12,500	12,500	GVWR: 14,500

Dimensions:

Length (ft/in)	24 / 8
Width (in)	96.0
Height (in)	113.0
Front Overhang (in)	35.0
Rear Overhang (in)	85.0
Wheel Base (in)	176.0
Wheel Track (in)	Front: 68.5
	Rear: 78.4

VEHICLE DATA FORM

Page 2 of 7

Bus Number: 1214	Date: 8-16-12
------------------	---------------

CLEARANCES:

Lowest Point Outside Front Axle	Location: Bumper Spoiler Clearance(in): 13.2
Lowest Point Outside Rear Axle	Location: Tailpipe Clearance(in): 11.9
Lowest Point between Axles	Location: Step well Clearance(in): 11.6
Ground Clearance at the center (in)	11.6
Front Approach Angle (deg)	20.7
Rear Approach Angle (deg)	8.0
Ramp Clearance Angle (deg)	7.5
Aisle Width (in)	19.7
Inside Standing Height at Center Aisle (in)	79.7

BODY DETAILS:

Body Structural Type	Integral		
Frame Material	Steel		
Body Material	Aluminum / Steel		
Floor Material	Plywood		
Roof Material	Fiberglass		
Windows Type	<input checked="" type="checkbox"/> Fixed	<input type="checkbox"/> Movable	
Window Mfg./Model No.	KTG / A53M3 DOT 620		
Number of Doors	2 Front	1 Rear	
Mfr. / Model No.	Ford Motor Co. / A&M Systems, Inc. 67CCC2-L-000606		
Dimension of Each Door (in)	Driver: 27.5 x 54.6	Rear: 45.1 x 69.9	Passenger: 30.9 x 79.9
Passenger Seat Type	<input type="checkbox"/> Cantilever	<input checked="" type="checkbox"/> Pedestal	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	Freedman Seating Co. / Featherweight		
Driver Seat Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input checked="" type="checkbox"/> Other (Cushion)
Mfr. / Model No.	Ford / OEM		
Number of Seats (including Driver)	17 seats + 2 wheelchair positions		

VEHICLE DATA FORM

Page 3 of 7

Bus Number: 1214	Date: 8-16-12
------------------	---------------

BODY DETAILS (Contd..)

Free Floor Space (ft ²)	17.1
Height of Each Step at Normal Position (in)	Front 1. <u>12.7</u> 2. <u>8.1</u> 3. <u>8.1</u>
	Middle 1. <u>N/A</u> 2. <u>N/A</u> 3. <u>N/A</u> 4. <u>N/A</u>
	Rear 1. <u>N/A</u> 2. <u>N/A</u> 3. <u>N/A</u> 4. <u>N/A</u>
Step Elevation Change - Kneeling (in)	N/A

ENGINE

Type	<input type="checkbox"/> C.I.	<input type="checkbox"/> Alternate Fuel	
	<input checked="" type="checkbox"/> S.I.	<input type="checkbox"/> Other (explain)	
Mfr. / Model No.	Ford / 6.9 L V10		
Location	<input checked="" type="checkbox"/> Front	<input type="checkbox"/> Rear	<input type="checkbox"/> Other (explain)
Fuel Type	<input checked="" type="checkbox"/> Gasoline	<input type="checkbox"/> CNG	<input type="checkbox"/> Methanol
	<input type="checkbox"/> Diesel	<input type="checkbox"/> LNG	<input type="checkbox"/> Other (explain)
Fuel Tank Capacity (indicate units)	55 Gals		
Fuel Induction Type	<input checked="" type="checkbox"/> Injected	<input type="checkbox"/> Carburetion	
Fuel Injector Mfr. / Model No.	Ford / 6.9 L V10		
Carburetor Mfr. / Model No.	Not equipped		
Fuel Pump Mfr. / Model No.	Ford / 6.9 L V10		
Alternator (Generator) Mfr. / Model No.	Motorcraft Ford / 6C22-10346-DCRM		
Maximum Rated Output (Volts / Amps)	12 / 225		
Air Compressor Mfr. / Model No.	N/A		
Maximum Capacity (ft ³ / min)	N/A		
Starter Type	<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> Pneumatic	<input type="checkbox"/> Other (explain)
Starter Mfr. / Model No.	Motorcraft Ford / 6c2z-11002-AA		

VEHICLE DATA FORM

Page 4 of 7

Bus Number: 1214	Date: 8-16-12
------------------	---------------

TRANSMISSION

Transmission Type	<input type="checkbox"/> Manual	<input checked="" type="checkbox"/> Automatic	
Mfr. / Model No.	Ford Motor Co. / Automatic 5-speed TorqShift		
Control Type	<input checked="" type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Other
Torque Converter Mfr. / Model No.	Ford Motor Co. / Automatic 5-speed TorqShift		
Integral Retarder Mfr. / Model No.	N/A		

SUSPENSION

Number of Axles	2		
Front Axle Type	<input checked="" type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	Ford Motor Co. / Independent Suspension		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	2		
Mfr. / Model No.	Motorcraft / H294E2		
Middle Axle Type	<input type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	N/A		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	N/A		
Mfr. / Model No.	N/A		
Rear Axle Type	<input type="checkbox"/> Independent	<input checked="" type="checkbox"/> Beam Axle	
Mfr. / Model No.	DANA / M70HD		
Axle Ratio (if driven)	4.56		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other (explain)
No. of Shock Absorbers	2		
Mfr. / Model No.	Motorcraft / H301E2G		

VEHICLE DATA FORM

Page 5 of 7

Bus Number: 1214	Date: 8/16/12
------------------	---------------

WHEELS & TIRES

Front	Wheel Mfr./ Model No.	Fumagalli / 16 x 6
	Tire Mfr./ Model No.	Michelin / LTX LT225/75R16
Rear	Wheel Mfr./ Model No.	Fumagalli / 16 x 6
	Tire Mfr./ Model No.	Michelin / LTX LT225/75R16

BRAKES

Front Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	FoMoCo / 8C2Z-2001-C		
Middle Axle Brakes Type	<input type="checkbox"/> Cam	<input type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	NA		
Rear Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	FoMoCo / 8C2Z-2001-C		
Retarder Type	N/A		
Mfr. / Model No.	N/A		

HVAC

Heating System Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Other
Capacity (Btu/hr)	Not available.		
Mfr. / Model No.	Pro Air / ENC 4420000F		
Air Conditioner	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Location	Front & rear		
Capacity (Btu/hr)	Front – Not available. Rear – 68,000		
A/C Compressor Mfr. / Model No.	ACT/ACT50 Compressor 4C-03998, OEM Compressor Risteon 9C24-19029-DA		

STEERING

Steering Gear Box Type	Hydraulic gear
Mfr. / Model No.	Ford / AC2Z-3504-A
Steering Wheel Diameter	15.5
Number of turns (lock to lock)	4.0

VEHICLE DATA FORM

Page 6 of 7

Bus Number: 1214	Date: 8/16/12
------------------	---------------

OTHERS

Wheel Chair Ramps	Location: N/A	Type: N/A
Wheel Chair Lifts	Location: Rear	Type: Folding Platform
Mfr. / Model No.	Braun Corp. / L919F1B	
Emergency Exit	Location: Windows Door	Number: 3 2

CAPACITIES

Fuel Tank Capacity (gallons)	55.0
Engine Crankcase Capacity (gallons)	1.3
Transmission Capacity (gallons)	4.5
Differential Capacity (gallons)	1.1
Cooling System Capacity (gallons)	8.1
Power Steering Fluid Capacity (quarts)	Not available.

COMPONENT/SUBSYSTEM INSPECTION FORM

Page 1 of 1

Bus Number: 1214	Date: 8-16-12
------------------	---------------

Subsystem	Checked	Initials	Comments
Air Conditioning Heating and Ventilation	✓	T.S.	
Body and Sheet Metal	✓	T.S.	
Frame	✓	T.S.	
Steering	✓	T.S.	
Suspension	✓	T.S.	
Interior/Seating	✓	T.S.	
Axles	✓	T.S.	
Brakes	✓	T.S.	
Tires/Wheels	✓	T.S.	
Exhaust	✓	T.S.	
Fuel System	✓	T.S.	
Power Plant	✓	T.S.	
Accessories	✓	T.S.	
Lift System	✓	T.S.	Inoperable by manufacturer.
Interior Fasteners	✓	T.S.	
Batteries	✓	T.S.	

CHECK - IN



**ELDORADO NATIONAL-KANSAS
MODEL ADVANTAGE 240**



CHECK - IN CONT.



**ELDORADO NATIONAL-KANSAS
MODEL ADVANTAGE 240
EQUIPPED WITH A BRAUN MODEL L919F1B HANDICAP LIFT**



CHECK - IN CONT.



OPERATOR'S AREA



ENGINE COMPARTMENT

CHECK - IN CONT.



INTERIOR FROM FRONT



INTERIOR FROM REAR

1. MAINTAINABILITY

1.1 ACCESSIBILITY OF COMPONENTS AND SUBSYSTEMS

1.1-I. TEST OBJECTIVE

The objective of this test is to check the accessibility of components and subsystems.

1.1-II. TEST DESCRIPTION

Accessibility of components and subsystems is checked, and where accessibility is restricted the subsystem is noted along with the reason for the restriction.

1.1-III. DISCUSSION

Accessibility, in general, was adequate. Components covered in Section 1.3 (repair and/or replacement of selected subsystems), along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted.

ACCESSIBILITY DATA FORM

Page 1 of 2

Bus Number: 1214	Date: 12-11-12
------------------	----------------

Component	Checked	Initials	Comments
ENGINE :			
Oil Dipstick	✓	J.P.	
Oil Filler Hole	✓	J.P.	
Oil Drain Plug	✓	J.P.	
Oil Filter	✓	J.P.	
Fuel Filter	✓	J.P.	
Air Filter	✓	J.P.	
Belts	✓	J.P.	
Coolant Level	✓	J.P.	
Coolant Filler Hole	✓	J.P.	
Coolant Drain	✓	J.P.	
Spark / Glow Plugs	✓	J.P.	
Alternator	✓	J.P.	
Diagnostic Interface Connector	✓	J.P.	
TRANSMISSION :			
Fluid Dip-Stick	✓	J.P.	
Filler Hole	✓	J.P.	Fill through dip tube
Drain Plug	✓	J.P.	
SUSPENSION :			
Bushings	✓	J.P.	
Shock Absorbers	✓	J.P.	
Air Springs	✓	J.P.	
Leveling Valves	✓	J.P.	
Grease Fittings	✓	J.P.	

ACCESSIBILITY DATA FORM

Page 2 of 2

Bus Number: 1214	Date: 12-11-12
------------------	----------------

Component	Checked	Initials	Comments
HVAC :			
A/C Compressor	✓	J.P.	
Filters	✓	J.P.	
Fans	✓	J.P.	
ELECTRICAL SYSTEM :			
Fuses	✓	J.P.	
Batteries	✓	J.P.	
Voltage regulator	✓	J.P.	Internal
Voltage Converters	✓	J.P.	
Lighting	✓	J.P.	
MISCELLANEOUS :			
Brakes	✓	J.P.	
Handicap Lifts/Ramps	✓	J.P.	
Instruments	✓	J.P.	
Axles	✓	J.P.	
Exhaust	✓	J.P.	
Fuel System	✓	J.P.	
OTHERS :			

1.2 SERVICING, PREVENTIVE MAINTENANCE, AND REPAIR AND MAINTENANCE DURING TESTING

1.2-I. TEST OBJECTIVE

The objective of this test is to collect maintenance data about the servicing, preventive maintenance, and repair.

1.2.-II. TEST DESCRIPTION

The test will be conducted by operating the NBM and collecting the following data on work order forms and a driver log.

1. Unscheduled Maintenance
 - a. Bus number
 - b. Date
 - c. Mileage
 - d. Description of malfunction
 - e. Location of malfunction (e.g., in service or undergoing inspection)
 - f. Repair action and parts used
 - g. Man-hours required

2. Scheduled Maintenance
 - a. Bus number
 - b. Date
 - c. Mileage
 - d. Engine running time (if available)
 - e. Results of scheduled inspections
 - f. Description of malfunction (if any)
 - g. Repair action and parts used (if any)
 - h. Man-hours required

The buses will be operated in accelerated durability service. While typical items are given below, the specific service schedule will be that specified by the manufacturer.

- A. Service
 1. Fueling
 2. Consumable checks
 3. Interior cleaning

- B. Preventive Maintenance
 4. Brake adjustments
 5. Lubrication
 6. 3,000 mi (or equivalent) inspection

7. Oil and filter change inspection
8. Major inspection
9. Tune-up

C. Periodic Repairs

1. Brake reline
2. Transmission change
3. Engine change
4. Windshield wiper motor change
5. Stoplight bulb change
6. Towing operations
7. Hoisting operations

1.2-III. DISCUSSION

Servicing and preventive maintenance were performed at manufacturer-specified intervals. The following Scheduled Maintenance Form lists the mileage, items serviced, the service interval, and amount of time required to perform the maintenance. Table 1 is a list of the lubricating products used in servicing. Finally, the Unscheduled Maintenance List along with Unscheduled Maintenance-related photographs is included in Section 5.7, Structural Durability. This list supplies information related to failures that occurred during the durability portion of testing. The Unscheduled Maintenance List includes the date and mileage at which the malfunction occurred, a description of the malfunction and repair, and the time required to perform the repair.

(Page 1 of 2)
SCHEDULED MAINTENANCE
 Eldorado (KS) Bus #1214

DATE	TEST MILES	SERVICE	ACTIVITY	DOWN TIME	HOURS
08-28-12	642	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
09-18-12	1,893	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
10-09-12	2,392	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
10-15-12	3,237	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
10-18-12	4,576	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
10-31-12	5,131	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
11-06-12	5,585	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
11-16-12	6,033	P.M. / Inspection Fuel Economy Prep	Linkage, tie rods, universals/u-joints all lubed. Oil changed. Oil, fuel, and air filters changed. Transmission oil and filter changed.	8.00	8.00

(Page 2 of 2)
SCHEDULED MAINTENANCE
Eldorado (KS) Bus #1214

DATE	TEST MILES	SERVICE	ACTIVITY	DOWN TIME	HOURS
11-28-12	6,320	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00
12-10-12	7,535	P.M. / Inspection	Linkage, tie rods, universals/u-joints all lubed; all fluids checked.	4.00	4.00

Table 1. STANDARD LUBRICANTS

The following is a list of Texaco lubricant products used in bus testing conducted by the Penn State University Altoona Bus Testing Center:

<u>ITEM</u>	<u>PRODUCT CODE</u>	<u>TEXACO DESCRIPTION</u>
Engine oil	#2112	URSA Super Plus SAE 30
Transmission oil	#1866	Automatic Trans Fluid Mercon/Dexron II Multipurpose
Gear oil	#2316	Multigear Lubricant EP SAE 80W90
Wheel bearing & Chassis grease	#1935	Starplex II

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS

1.3-I. TEST OBJECTIVE

The objective of this test is to establish the time required to replace and/or repair selected subsystems.

1.3-II. TEST DESCRIPTION

The test will involve components that may be expected to fail or require replacement during the service life of the bus. In addition, any component that fails during the NBM testing is added to this list. Components to be included are:

1. Transmission
2. Alternator
3. Starter
4. Batteries
5. Windshield wiper motor

1.3-III. DISCUSSION

During the test, one additional component was removed for repair or replacement. Following is a list of components and total repair/replacement time.

MAN HOURS

Tailpipe and hanger.	2.0
----------------------	-----

At the end of the test, the remaining items on the list were removed and replaced. The transmission assembly took 8.0 man-hours (two men 4.0 hrs) to remove and replace. The time required for repair/replacement of the four remaining components is given on the following Repair and/or Replacement Form.

REPLACEMENT AND/OR REPAIR FORM

Page 1 of 1

Subsystem	Replacement Time
Transmission	8.0 man hours
Wiper Motor	0.5 man hours
Starter	0.5 man hours
Alternator	1.0 man hours
Batteries	0.5 man hours

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS



**TRANSMISSION REMOVAL AND REPLACEMENT
(8.00 MAN HOURS)**



**WIPER MOTOR REMOVAL AND REPLACEMENT
(0.50 MAN HOURS)**

1.3 REPLACEMENT AND/OR REPAIR OF SELECTED SUBSYSTEMS CONT.



**STARTER REMOVAL AND REPLACEMENT
(0.50 MAN HOURS)**



**ALTERNATOR REMOVAL AND REPLACEMENT
(1.00 MAN HOURS)**

2. RELIABILITY - DOCUMENTATION OF BREAKDOWN AND REPAIR TIMES DURING TESTING

2-I. TEST OBJECTIVE

The objective of this test is to document unscheduled breakdowns, repairs, down time, and repair time that occur during testing.

2-II. TEST DESCRIPTION

Using the driver log and unscheduled work order forms, all significant breakdowns, repairs, man-hours to repair, and hours out of service are recorded on the Reliability Data Form.

CLASS OF FAILURES

Classes of failures are described below:

- (a) Class 1: Physical Safety. A failure that could lead directly to passenger or driver injury and represents a severe crash situation.
- (b) Class 2: Road Call. A failure resulting in an en route interruption of revenue service. Service is discontinued until the bus is replaced or repaired at the point of failure.
- (c) Class 3: Bus Change. A failure that requires removal of the bus from service during its assignments. The bus is operable to a rendezvous point with a replacement bus.
- (d) Class 4: Bad Order. A failure that does not require removal of the bus from service during its assignments but does degrade coach operation. The failure shall be reported by driver, inspector, or hostler.

2-III. DISCUSSION

A listing of breakdowns and unscheduled repairs is accumulated during the Structural Durability Test. The following Reliability Data Form lists all unscheduled repairs under classes as defined above. These classifications are somewhat subjective as the test is performed on a test track with careful inspections every two hours. However, even on the road, there is considerable latitude on deciding how to handle many failures.

The Unscheduled Repair List is also attached to provide a reference for the repairs that are included in the Reliability Data Forms.

The classification of repairs according to subsystem is intended to emphasize those systems which had persistent minor or more serious problems. There were no Class 1 or 2 failures. Of the three Class 3 failures, two involved body framework cracks (floor & ceiling) and the one remaining Class 3 involved the exhaust system. These, and the one remaining Class 4 failure is available for review in the Unscheduled Maintenance List, located in Section 5.7 Structural Durability.

3. SAFETY - A DOUBLE-LANE CHANGE (OBSTACLE AVOIDANCE)

3-I. TEST OBJECTIVE

The objective of this test is to determine handling and stability of the bus by measuring speed through a double lane change test.

3-II. TEST DESCRIPTION

The Safety Test is a vehicle handling and stability test. The bus will be operated at SLW on a smooth and level test track. The bus will be driven through a double lane change course at increasing speed until the test is considered unsafe or a speed of 45 mph is reached. The lane change course will be set up using pylons to mark off two 12 foot center to center lanes with two 100 foot lane change areas 100 feet apart. The bus will begin in one lane, change to the other lane in a 100 foot span, travel 100 feet, and return to the original lane in another 100 foot span. This procedure will be repeated, starting first in the right-hand and then in the left-hand lane.

3-III. DISCUSSION

The double-lane change was performed in both right-hand and left-hand directions. The bus was able to safely negotiate the test course in both the right-hand and left-hand directions up to the maximum test speed of 45 mph.

SAFETY DATA FORM

Page 1 of 1

Bus Number: 1214	Date: 11-5-12
Personnel: T.S., S.R. & C.S.	

Temperature (°F): 37	Humidity (%): 56
Wind Direction: NNW	Wind Speed (mph): 11
Barometric Pressure (in.Hg): 30.11	

SAFETY TEST: DOUBLE LANE CHANGE	
Maximum safe speed tested for double-lane change to left	45 mph
Maximum safe speed tested for double-lane change to right	45 mph
Comments of the position of the bus during the lane change: A safe profile was maintained through all portions of testing.	
Comments of the tire/ground contact patch: Tire/ground contact was maintained through all portions of testing.	

3. SAFETY



RIGHT - HAND APPROACH



LEFT - HAND APPROACH

4.0 PERFORMANCE

4.1 PERFORMANCE - AN ACCELERATION, GRADEABILITY, AND TOP SPEED TEST

4.1-I. TEST OBJECTIVE

The objective of this test is to determine the acceleration, gradeability, and top speed capabilities of the bus.

4.1-II. TEST DESCRIPTION

In this test, the bus will be operated at SLW on the skid pad at the PSBRTF. The bus will be accelerated at full throttle from a standstill to a maximum "geared" or "safe" speed as determined by the test driver. The vehicle speed is measured using a Correvit non-contacting speed sensor. The times to reach speed between ten mile per hour increments are measured and recorded using a stopwatch with a lap timer. The time to speed data will be recorded on the Performance Data Form and later used to generate a speed vs. time plot and gradeability calculations.

4.1-III. DISCUSSION

This test consists of three runs in both the clockwise and counterclockwise directions on the Test Track. Velocity versus time data is obtained for each run and results are averaged together to minimize any test variability which might be introduced by wind or other external factors. The test was performed up to a maximum speed of 50 mph. The fitted curve of velocity vs. time is attached, followed by the calculated gradeability results. The average time to obtain 50 mph was 19.34 seconds.

PERFORMANCE DATA FORM

Page 1 of 1

Bus Number: 1214		Date: 11-5-12	
Personnel: T.S., S.R. & C.S.			
Temperature (°F): 37		Humidity (%): 56	
Wind Direction: NNW		Wind Speed (mph): 11	
Barometric Pressure (in.Hg): 30.11			
		INITIALS:	
Ventilation fans-ON HIGH	✓Checked	S.R.	
Heater pump motor-Off	✓Checked	S.R.	
Defroster-OFF	✓ Checked	S.R.	
Exterior and interior lights-ON	✓ Checked	S.R.	
Windows and doors-CLOSED	✓ Checked	S.R.	
ACCELERATION, GRADEABILITY, TOP SPEED			
Counter Clockwise Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	2.11	2.41	2.32
20 mph	4.51	7.38	5.32
30 mph	7.42	11.57	9.51
40 mph	11.70	14.48	15.32
Top Test Speed(mph) 50	16.60	21.29	22.57
Clockwise Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	2.08	2.26	2.14
20 mph	4.98	4.36	4.61
30 mph	9.39	7.48	7.30
40 mph	15.39	11.42	11.26
Top Test Speed(mph) 50	22.72	16.64	16.23

1214.ACC

PERFORMANCE SUMMARY SHEET

BUS MANUFACTURER : ELDORADO-KANSAS
BUS MODEL : ADVANTAGE 240

BUS NUMBER : 1214
TEST DATE : 11/05/12

TEST CONDITIONS :

TEMPERATURE (DEG F) : 37.0
WIND DIRECTION : NNW
WIND SPEED (MPH) : 11.0
HUMIDITY (%) : 56
BAROMETRIC PRESSURE (IN. HG) : 30.1

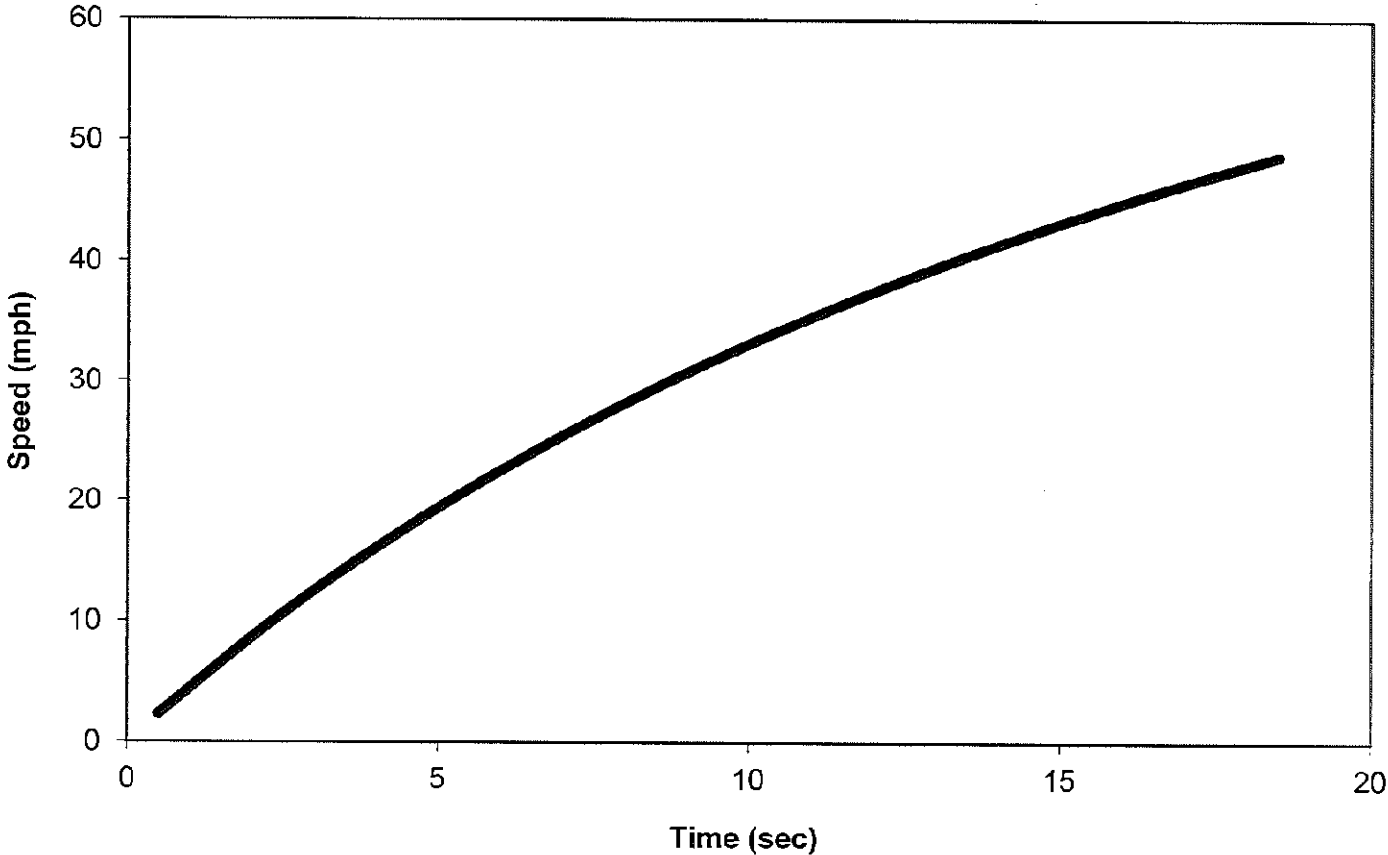
VEHICLE SPEED (MPH)	AVERAGE TIME (SEC)		
	CCW DIRECTION	CW DIRECTION	TOTAL
10.0	2.28	2.16	2.22
20.0	5.74	4.65	5.19
30.0	9.50	8.06	8.78
40.0	13.83	12.69	13.26
50.0	20.15	18.53	19.34

TEST SUMMARY :

VEHICLE SPEED (MPH)	TIME (SEC)	ACCELERATION (FT/SEC ²)	MAX. GRADE (%)
1.0	.22	6.7	21.2
5.0	1.13	6.3	19.8
10.0	2.35	5.7	18.0
15.0	3.70	5.2	16.3
20.0	5.19	4.7	14.7
25.0	6.85	4.2	13.1
30.0	8.71	3.7	11.6
35.0	10.83	3.2	10.1
40.0	13.25	2.8	8.8
45.0	16.06	2.4	7.5
50.0	19.37	2.0	6.3

NOTE : Gradeability results were calculated from performance
----- test data. Actual sustained gradeability performance
for vehicles equipped with auto transmission may be
lower than the values indicated here.

Velocity vs. Time
EIDorado Bus #1214



4.0 PERFORMANCE

4.2 Performance - Bus Braking

4.2 I. TEST OBJECTIVE

The objective of this test is to provide, for comparison purposes, braking performance data on transit buses produced by different manufacturers.

4.2 II. TEST DESCRIPTION

The testing will be conducted at the PTI Test Track skid pad area. Brake tests will be conducted after completion of the GVW portion of the vehicle durability test. At this point in testing the brakes have been subjected to a large number of braking snubs and will be considered well burnished. Testing will be performed when the bus is fully loaded at its GVW. All tires on each bus must be representative of the tires on the production model vehicle

The brake testing procedure comprises three phases:

1. Stopping distance tests
 - i. Dry surface (high-friction, Skid Number within the range of 70-76)
 - ii. Wet surface (low-friction, Skid Number within the range of 30-36)
2. Stability tests
3. Parking brake test

Stopping Distance Tests

The stopping distance phase will evaluate service brake stops. All stopping distance tests on dry surface will be performed in a straight line and at the speeds of 20, 30, 40 and 45 mph. All stopping distance tests on wet surface will be performed in straight line at speed of 20 mph.

The tests will be conducted as follows:

1. **Uniform High Friction Tests:** Four maximum deceleration straight-line brake applications each at 20, 30, 40 and 45 mph, to a full stop on a uniform high-friction surface in a 3.66-m (12-ft) wide lane.
2. **Uniform Low Friction Tests:** Four maximum deceleration straight-line brake applications from 20 mph on a uniform low friction surface in a 3.66-m (12-ft) wide lane.

When performing service brake stops for both cases, the test vehicle is accelerated on the bus test lane to the speed specified in the test procedure and this speed is maintained into the skid pad area. Upon entry of the appropriate lane of the skid pad area, the vehicle's service brake is applied to stop the vehicle as quickly as

possible. The stopping distance is measured and recorded for both cases on the test data form. Stopping distance results on dry and wet surfaces will be recorded and the average of the four measured stopping distances will be considered as the measured stopping distance. Any deviation from the test lane will be recorded.

Stability Tests

This test will be conducted in both directions on the test track. The test consists of four maximum deceleration, straight-line brake applications on a surface with split coefficients of friction (i.e., the wheels on one side run on high-friction SN 70-76 or more and the other side on low-friction [where the lower coefficient of friction should be less than half of the high one] at initial speed of 30 mph).

(I) The performance of the vehicle will be evaluated to determine if it is possible to keep the vehicle within a 3.66m (12 ft) wide lane, with the dividing line between the two surfaces in the lane's center. The steering wheel input angle required to keep the vehicle in the lane during the maneuver will be reported.

Parking Brake Test

The parking brake phase utilizes the brake slope, which has a 20% grade. The test vehicle, at its GVW, is driven onto the brake slope and stopped. With the transmission in neutral, the parking brake is applied and the service brake is released. The test vehicle is required to remain stationary for five minutes. The parking brake test is performed with the vehicle facing uphill and downhill.

4.2-III. DISCUSSION

The Stopping Distance phase of the Brake Test was completed with the following results; for the Uniform High Friction Test average stopping distances were 22.64' at 20 mph, 47.57' at 30 mph, 84.24' at 40 mph and 98.50' at 45 mph. The average stopping distance for the Uniform Low Friction Test was 21.96'. There was no deviation from the test lane during the performance of the Stopping Distance phase.

During the Stability phase of Brake Testing the test bus experienced no deviation from the test lane but did experience pull to the left during both approaches to the Split Friction Road surface.

The Parking Brake phase was completed with the test bus maintaining the parked position for the full five minute period with no slip or roll observed in both the uphill and downhill positions.

Table 4.2-6. Braking Test Data Forms

Page 1 of 3

Bus Number: 1214	Date: 9-27-12
Personnel: B.L., S.R., T.S. & M.R.	
Amb. Temperature (°F): 68	Wind Speed (mph): 9
Wind Direction: NE	Pavement Temp (°F) Start: 72.6 End: 73.4

TIRE INFLATION PRESSURE (psi):				
Tire Type: Front: Michelin LTX LT225/75R16 Rear: Michelin LTX LT225/75R16				
	Left Tire(s)		Right Tire(s)	
Front	75		75	
	Inner	Outer	Inner	Outer
Rear	80	80	80	80
Rear	N/A	N/A	N/A	N/A

AXLE LOADS (lb)		
	Left	Right
Front	1,920	1,760
Rear	4,540	4,280

FINAL INSPECTION	
Bus Number: 1214	Date: 9-27-12
Personnel: B.L., S.R., T.S. & M.R.	

Table 4.2-7. Record of All Braking System Faults/Repairs.

Page 2 of 3

Date	Personnel	Fault/Repair	Description
9-27-12	B.L. & T.S.	None	

Table 4.2-8.1. Stopping Distance Test Results Form

Page 3 of 3

Stopping Distance (ft)					
Vehicle Direction	CW	CW	CCW	CCW	
Speed (mph)	Stop 1	Stop 2	Stop 3	Stop 4	Average
20 (dry)	24.37	22.42	21.57	22.20	22.64
30 (dry)	46.88	49.56	46.04	47.78	47.57
40 (dry)	86.31	82.61	85.19	82.82	84.24
45 (dry)	106.50	97.65	94.37	95.47	98.50
20 (wet)	22.96	21.60	22.78	20.48	21.96

Table 4.2-8.2. Stability Test Results Form

Stability Test Results (Split Friction Road surface)		
Vehicle Direction	Attempt	Did test bus stay in 12' lane? (yes/no)
CW	1	Yes
	2	Yes
CCW	1	Yes
	2	Yes

Table 4.2-8.3. Parking Brake Test Form

PARKING BRAKE (Fully Loaded) – GRADE HOLDING						
Vehicle Direction	Attempt	Hold Time (min)	Slide (in)	Roll (in)	Did Hold	No Hold
Front up	1	5			✓	
	2					
	3					
Front down	1	5			✓	
	2					
	3					

5.1 STRUCTURAL INTEGRITY

5.1 STRUCTURAL STRENGTH AND DISTORTION TESTS – STRUCTURAL SHAKEDOWN TEST

5.1-I. DISCUSSION

The objective of this test is to determine certain static characteristics (e.g., bus floor deflection, permanent structural deformation, etc.) under static loading conditions.

5.1-II. TEST DESCRIPTION

In this test, the bus will be isolated from the suspension by blocking the vehicle under the suspension points. The bus will then be loaded and unloaded up to a maximum of three times with a distributed load equal to 2.5 times gross load. Gross load is 150 lb for every designed passenger seating position, for the driver, and for each 1.5 sq ft of free floor space. For a distributed load equal to 2.5 times gross load, place a 375-lb load on each seat and on every 1.5 sq ft of free floor space. The first loading and unloading sequence will “settle” the structure. Bus deflection will be measured at several locations during the loading sequences.

5.1-III. DISCUSSION

This test was performed based on a maximum passenger capacity of 17 people including the driver plus 2 wheelchair positions. The resulting test load is $(17 \times 375 \text{ lb}) = 6,375 \text{ lbs} + 1,220 \text{ lbs}$ (2 wheelchair positions) = 7,575 lbs. The load is distributed evenly over the passenger space. Deflection data before and after each loading and unloading sequence is provided on the Structural Shakedown Data Form.

The unloaded height after each test becomes the original height for the next test. Some initial settling is expected due to undercoat compression, etc. After each loading cycle, the deflection of each reference point is determined. The bus is then unloaded and the residual (permanent) deflection is recorded. On the final test, the maximum loaded deflection was 0.145 Inches at reference point 4. The maximum permanent deflection after the final loading sequence ranged from -0.004 Inches at reference point 1 to 0.003 inches at reference point 5.

STRUCTURAL SHAKEDOWN DATA FORM

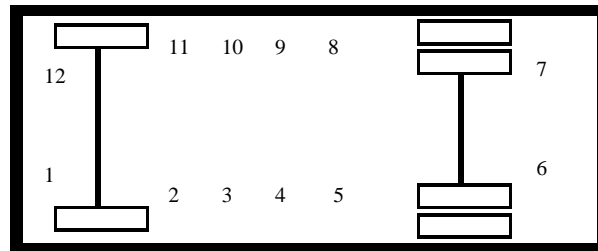
Page 1 of 2

Bus Number: 1214	Date: 8-20-12
Personnel: T.S., E.D. & S.R.	Temperature (°F): 72
Loading Sequence: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (check one)	
Test Load (lbs): 7,575 (17 seated & 2 wheelchair positions)	

Indicate Approximate Location of Each Reference Point

Right

Front
of
Bus



Left

Top View

Reference Point No.	A (in) Original Height	B (in) Loaded Height	B-A (in) Loaded Deflection	C (in) Unloaded Height	C-A (in) Permanent Deflection
1	0	-.041	-.041	.001	.001
2	0	.079	.079	.006	.006
3	0	.124	.124	.008	.008
4	0	.155	.155	.012	.012
5	0	.142	.142	.004	.004
6	0	-.018	-.018	-.008	-.008
7	0	-.017	-.017	-.005	-.005
8	0	.134	.134	.017	.017
9	0	.139	.139	.025	.025
10	0	.119	.119	.022	.022
11	0	.086	.086	.017	.017
12	0	-.074	-.074	-.003	-.003

STRUCTURAL SHAKEDOWN DATA FORM

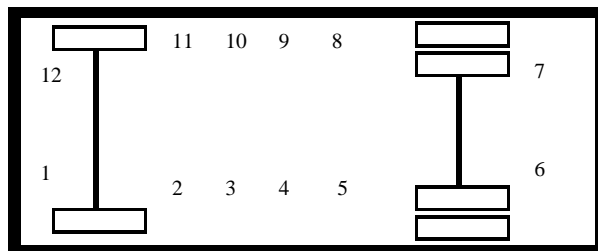
Page 2 of 2

Bus Number: 1214	Date: 8-20-12
Personnel: T.S., E.D & S.R.	Temperature (°F): 72
Loading Sequence: <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 (check one)	
Test Load (lbs): 7,575 (17 seated & 2 wheelchair positions)	

Indicate Approximate Location of Each Reference Point

Right

Front
of
Bus



Left

Top View

Reference Point No.	A (in) Original Height	B (in) Loaded Height	B-A (in) Loaded Deflection	C (in) Unloaded Height	C-A (in) Permanent Deflection
1	.001	-.040	-.039	-.003	-.004
2	.006	.079	-.073	.007	.001
3	.008	.124	.116	.009	.001
4	.012	.157	.145	.012	.000
5	.004	.145	.141	.007	.003
6	-.008	-.023	-.015	-.010	-.002
7	-.005	-.018	-.013	-.008	-.003
8	.017	.139	.122	.018	.001
9	.025	.144	.119	.027	.002
10	.022	.124	.102	.023	.001
11	.017	.090	.073	.019	.002
12	-.003	-.073	-.076	-.005	-.002

5.1 STRUCTURAL SHAKEDOWN TEST



DIAL INDICATORS IN POSITION



**BUS LOADED TO 2.5 TIMES GVL
(7,575 LBS)**

5.2 STRUCTURAL STRENGTH AND DISTORTION TESTS - STRUCTURAL DISTORTION

5.2-I. TEST OBJECTIVE

The objective of this test is to observe the operation of the bus subsystems when the bus is placed in a longitudinal twist simulating operation over a curb or through a pothole.

5.2-II. TEST DESCRIPTION

With the bus loaded to GVWR, each wheel of the bus will be raised (one at a time) to simulate operation over a curb and the following will be inspected:

1. Body
2. Windows
3. Doors
4. Roof vents
5. Special seating
6. Undercarriage
7. Engine
8. Service doors
9. Escape hatches
10. Steering mechanism

Each wheel will then be lowered (one at a time) to simulate operation through a pothole and the same items inspected.

5.2-III. DISCUSSION

The test sequence was repeated ten times. The first and last test is with all wheels level. The other eight tests are with each wheel 6 inches higher and 6 inches lower than the other three wheels.

All doors, windows, escape mechanisms, engine, steering and handicapped devices operated normally throughout the test. The undercarriage and body indicated no deficiencies. No water leakage was observed during the test. The results of this test are indicated on the following data forms.

DISTORTION TEST INSPECTION FORM

(Note: Ten copies of this data sheet are required)

Page 1 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input checked="" type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	No deficiencies.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	No deficiencies.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.
<input checked="" type="checkbox"/> Windows/ Body Leakage	No deficiencies.
<input checked="" type="checkbox"/> Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM

(Note: Ten copies of this data sheet are required)

Page 2 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	No deficiencies.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	No deficiencies.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.
<input checked="" type="checkbox"/> Windows/ Body Leakage	No deficiencies.
<input checked="" type="checkbox"/> Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 3 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	No deficiencies.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	No deficiencies.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.
<input checked="" type="checkbox"/> Windows/ Body Leakage	No deficiencies.
<input checked="" type="checkbox"/> Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 4 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	No deficiencies.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	No deficiencies.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.
■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 5 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input checked="" type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	No deficiencies.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	No deficiencies.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.
■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 6 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	No deficiencies.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	No deficiencies.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.
■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 7 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	No deficiencies.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	No deficiencies.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.
■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 8 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	No deficiencies.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	No deficiencies.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.
<input checked="" type="checkbox"/> Windows/ Body Leakage	No deficiencies.
<input checked="" type="checkbox"/> Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 9 of 10

Bus Number: 1214	Date: 8-2212
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input checked="" type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
■ Windows	No deficiencies.
■ Front Doors	No deficiencies.
■ Rear Doors	No deficiencies.
■ Escape Mechanisms/ Roof Vents	No deficiencies.
■ Engine	No deficiencies.
■ Handicapped Device/ Special Seating	No deficiencies.
■ Undercarriage	No deficiencies.
■ Service Doors	No deficiencies.
■ Body	No deficiencies.
■ Windows/ Body Leakage	No deficiencies.
■ Steering Mechanism	No deficiencies.

DISTORTION TEST INSPECTION FORM
 (Note: Ten copies of this data sheet are required)
 Page 10 of 10

Bus Number: 1214	Date: 8-22-12
Personnel: T.S., E.D., E.L., B.L., P.D., T.G & S.R.	Temperature(°F): 75

Wheel Position : (check one)		
All wheels level	<input type="checkbox"/> before	<input checked="" type="checkbox"/> after
Left front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right front	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Right rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower
Left rear	<input type="checkbox"/> 6 in higher	<input type="checkbox"/> 6 in lower

	Comments
<input checked="" type="checkbox"/> Windows	No deficiencies.
<input checked="" type="checkbox"/> Front Doors	No deficiencies.
<input checked="" type="checkbox"/> Rear Doors	No deficiencies.
<input checked="" type="checkbox"/> Escape Mechanisms/ Roof Vents	No deficiencies.
<input checked="" type="checkbox"/> Engine	No deficiencies.
<input checked="" type="checkbox"/> Handicapped Device/ Special Seating	No deficiencies.
<input checked="" type="checkbox"/> Undercarriage	No deficiencies.
<input checked="" type="checkbox"/> Service Doors	No deficiencies.
<input checked="" type="checkbox"/> Body	No deficiencies.
<input checked="" type="checkbox"/> Windows/ Body Leakage	No deficiencies.
<input checked="" type="checkbox"/> Steering Mechanism	No deficiencies.

5.2 STRUCTURAL DISTORTION TEST



RIGHT FRONT WHEEL SIX INCHES HIGHER



LEFT REAR WHEEL SIX INCHES LOWER

5.3 STRUCTURAL STRENGTH AND DISTORTION TESTS - STATIC TOWING TEST

5.3-I. TEST OBJECTIVE

The objective of this test is to determine the characteristics of the bus towing mechanisms under static loading conditions.

5.3-II. TEST DESCRIPTION

Utilizing a load-distributing yoke, a hydraulic cylinder is used to apply a static tension load equal to 1.2 times the bus curb weight. The load will be applied to both the front and rear, if applicable, towing fixtures at an angle of 20 degrees with the longitudinal axis of the bus, first to one side then the other in the horizontal plane, and then upward and downward in the vertical plane. Any permanent deformation or damage to the tow eyes or adjoining structure will be recorded.

5.3-III. DISCUSSION

The test bus submitted for testing was not equipped with any type of tow eyes or tow hooks, therefore the Static Towing Test was not performed.

5.4 STRUCTURAL STRENGTH AND DISTORTION TESTS - DYNAMIC TOWING TEST

5.4-I. TEST OBJECTIVE

The objective of this test is to verify the integrity of the towing fixtures and determine the feasibility of towing the bus under manufacturer specified procedures.

5.4-II. TEST DESCRIPTION

This test requires the bus be towed at curb weight using the specified equipment and instructions provided by the manufacturer and a heavy-duty wrecker. The bus will be towed for 5 miles at a speed of 20 mph for each recommended towing configuration. After releasing the bus from the wrecker, the bus will be visually inspected for any structural damage or permanent deformation. All doors, windows and passenger escape mechanisms will be inspected for proper operation.

5.4-III. DISCUSSION

The bus was towed using a heavy-duty wrecker. The towing interface was accomplished by incorporating a hydraulic under lift. A front lift tow was performed. Rear towing is not recommended. No problems, deformation, or damage was noted during testing.

DYNAMIC TOWING TEST DATA FORM

Page 1 of 1

Bus Number: 1214	Date: 11-29-12
Personnel: B.L. & S.R.	

Temperature (°F): 44	Humidity (%): 31
Wind Direction: W	Wind Speed (mph): 9.2
Barometric Pressure (in.Hg): 30.27	

Inspect tow equipment-bus interface.
Comments: A safe and adequate connection was made between the tow equipment and the bus.
Inspect tow equipment-wrecker interface.
Comments: A safe and adequate connection was made between the tow equipment and the wrecker.
Towing Comments: A front lift tow was performed incorporating a hydraulic under lift wrecker.
Description and location of any structural damage: None noted.
General Comments: No problems with the towing interface or towing procedures were encountered.

5.4 DYNAMIC TOWING TEST



TOWING INTERFACE



TEST BUS IN TOW

5.5 STRUCTURAL STRENGTH AND DISTORTION TESTS – JACKING TEST

5.5-I. TEST OBJECTIVE

The objective of this test is to inspect for damage due to the deflated tire, and determine the feasibility of jacking the bus with a portable hydraulic jack to a height sufficient to replace a deflated tire.

5.5-II. TEST DESCRIPTION

With the bus at curb weight, the tire(s) at one corner of the bus are replaced with deflated tire(s) of the appropriate type. A portable hydraulic floor jack is then positioned in a manner and location specified by the manufacturer and used to raise the bus to a height sufficient to provide 3-in clearance between the floor and an inflated tire. The deflated tire(s) are replaced with the original tire(s) and the jack is lowered. Any structural damage or permanent deformation is recorded on the test data sheet. This procedure is repeated for each corner of the bus.

5.5-III. DISCUSSION

The jack used for this test has a minimum height of 8.75 inches. During the deflated portion of the test, the jacking point clearances ranged from 9.1 inches to 17.1 inches. No deformation or damage was observed during testing. A complete listing of jacking point clearances is provided in the Jacking Test Data Form.

JACKING CLEARANCE SUMMARY

Condition	Frame Point Clearance
Front axle – one tire flat	9.2”
Rear axle – one tire flat	16.7”
Rear axle – two tires flat	15.0”

JACKING TEST DATA FORM

Page 1 of 1

Bus Number: 1214	Date: 8-17-12
Personnel: T.S. & S.R.	Temperature (°F): 74

Record any permanent deformation or damage to bus as well as any difficulty encountered during jacking procedure.

Deflated Tire	Jacking Pad Clearance Body/Frame (in)	Jacking Pad Clearance Axle/Suspension (in)	Comments
Right front	19.5 " I 16.8 " D	12.3 " I 9.2 " D	
Left front	19.5 " I 16.9 " D	12.3 " I 9.2 " D	
Right rear—outside	17.3 " I 17.1 " D	12.0 " I 11.6 " D	
Right rear—both	17.3 " I 15.3 " D	12.0 " I 9.1 " D	
Left rear—outside	17.0 " I 16.7 " D	12.0 " I 11.6 " D	
Left rear—both	17.0 " I 15.0 " D	12.0 " I 9.2 " D	
Right middle or tag—outside	NA	NA	
Right middle or tag—both	NA	NA	
Left middle or tag—outside	NA	NA	
Left middle or tag—both	NA	NA	

Additional comments of any deformation or difficulty during jacking:
None noted.

5.6 STRUCTURAL STRENGTH AND DISTORTION TESTS - HOISTING TEST

5.6-I. TEST OBJECTIVE

The objective of this test is to determine possible damage or deformation caused by the jack/stands.

5.6-II. TEST DESCRIPTION

With the bus at curb weight, the front end of the bus is raised to a height sufficient to allow manufacturer-specified placement of jack stands under the axles or jacking pads independent of the hoist system. The bus will be checked for stability on the jack stands and for any damage to the jacking pads or bulkheads. The procedure is repeated for the rear end of the bus. The procedure is then repeated for the front and rear simultaneously.

5.6-III. DISCUSSION

The test was conducted using four posts of a six-post electric lift and standard 19 inch jack stands. The bus was hoisted from the front wheel, rear wheel, and then the front and rear wheels simultaneously and placed on jack stands.

The bus easily accommodated the placement of the vehicle lifts and jack stands and the procedure was performed without any instability noted.

HOISTING TEST DATA FORM

Page 1 of 1

Bus Number: 1214	Date: 8-17-12
Personnel: T.S. & S.R.	Temperature (°F): 74

Comments of any structural damage to the jacking pads or axles while both the front wheels are supported by the jack stands:
None noted.
Comments of any structural damage to the jacking pads or axles while both the rear wheels are supported by the jack stands:
None noted.
Comments of any structural damage to the jacking pads or axles while both the front and rear wheels are supported by the jack stands:
None noted.

5.7 STRUCTURAL DURABILITY TEST

5.7-I. TEST OBJECTIVE

The objective of this test is to perform an accelerated durability test that approximates up to 25 percent of the service life of the vehicle.

5.7-II. TEST DESCRIPTION

The test vehicle is driven a total of 7,500 miles; approximately 5,000 miles on the PSBRTF Durability Test Track and approximately 2,500 miscellaneous other miles. The test will be conducted with the bus operated under three different loading conditions. The first segment will consist of approximately 3,000 miles with the bus operated at GVW. The second segment will consist of approximately 1,500 miles with the bus operated at SLW. The remainder of the test, approximately 3,000 miles, will be conducted with the bus loaded to CW. If GVW exceeds the axle design weights, then the load will be adjusted to the axle design weights and the change will be recorded. All subsystems are run during these tests in their normal operating modes. All recommended manufacturers servicing is to be followed and noted on the vehicle maintainability log. Servicing items accelerated by the durability tests will be compressed by 10:1; all others will be done on a 1:1 mi/mi basis. Unscheduled breakdowns and repairs are recorded on the same log as are any unusual occurrences as noted by the driver. Once a week the test vehicle shall be washed down and thoroughly inspected for any signs of failure.

5.7-III. DISCUSSION

The Structural Durability Test was started on August 22, 2012 and was conducted until December 10, 2012. The first 3,000 miles were performed at a GVW of 12,500 lbs. and completed on October 8, 2012. **Note:** this test bus is not designed to accommodate standing passengers, therefore GVW and SLW are the same 12,500 lbs. The next 1,500 mile SLW segment was performed at the same 12,50 lbs and completed on October 31, 2012, and the final 3,000 mile segment was performed at a CW of 8,780 lbs and completed on December 10, 2012.

The following mileage summary presents the accumulation of miles during the Structural Durability Test. The driving schedule is included, showing the operating duty cycle. A detailed plan view of the Test Track Facility and Durability Test Track are attached for reference. Also, a durability element profile detail shows all the measurements of the different conditions. Finally, photographs illustrating some of the failures that were encountered during the Structural Durability Test are included.

ELDORADO NATIONAL - KS BUS #1214

MILEAGE DRIVEN/RECORDED FROM DRIVER'S LOGS

Page 1 of 2

DATE	TOTAL DURABILITY TRACK	TOTAL OTHER MILES	TOTAL
08/20/12 TO 08/26/12	326.00	62.00	388.00
08/27/12 TO 09/02/12	800.00	37.00	837.00
09/03/12 TO 09/09/12	405.00	21.00	426.00
09/10/12 TO 09/16/12	230.00	12.00	242.00
09/17/12 TO 09/23/12	16.00	95.00	111.00
09/24/12 TO 09/30/12	147.00	20.00	167.00
10/01/12 TO 10/07/12	0.00	0.00	0.00
10/08/12 TO 10/14/12	413.00	542.00	955.00
10/15/12 TO 10/21/12	282.00	1261.00	1543.00
10/22/12 TO 10/28/12	245.00	22.00	267.00
10/29/12 TO 11/04/12	529.00	36.00	565.00
11/05/12 TO 11/11/12	65.00	113.00	178.00

ELDORADO NATIONAL - KS BUS #1214

MILEAGE DRIVEN/RECORDED FROM DRIVER'S LOGS

Page 2 of 2

DATE	TOTAL DURABILITY TRACK	TOTAL OTHER MILES	TOTAL
11/12/12 TO 11/18/12	318.00	118.00	436.00
11/19/12 TO 11/25/12	90.00	48.00	138.00
11/26/12 TO 12/02/12	475.00	71.00	546.00
12/03/12 TO 12/09/12	632.00	76.00	708.00
12/10/12 TO 12/16/12	27.00	1.00	28.00
TOTAL	5000.00	2535.00	7535.00

Table 4. Driving Schedule for Bus Operation on the Durability Test Track.

STANDARD OPERATING SCHEDULE			
Monday through Friday			
	HOUR	ACTION	
Shift 1	midnight	D	
	1:40 am	C	
	1:50 am	B	
	2:00 am	D	
	3:35 am	C	
	3:45 am	B	
	4:05 am	D	
	5:40 am	C	
	5:50 am	B	
	6:00 am	D	
	7:40 am	C	
	Shift 2	7:50 am	F
		8:00 am	D
9:40 am		C	
9:50 am		B	
10:00 am		D	
11:35 am		C	
11:45 am		B	
12:05 pm		D	
1:40 pm		C	
1:50 pm		B	
2:00 pm		D	
3:40 pm		C	
Shift 3		3:50 pm	F
	4:00 pm	D	
	5:40 pm	C	
	5:50 pm	B	
	6:00 pm	D	
	7:40 pm	C	
	7:50 pm	B	
	8:05 pm	D	
	9:40 pm	C	
	9:50 pm	B	
	10:00 pm	D	
	11:40 pm	C	
	11:50 pm	F	

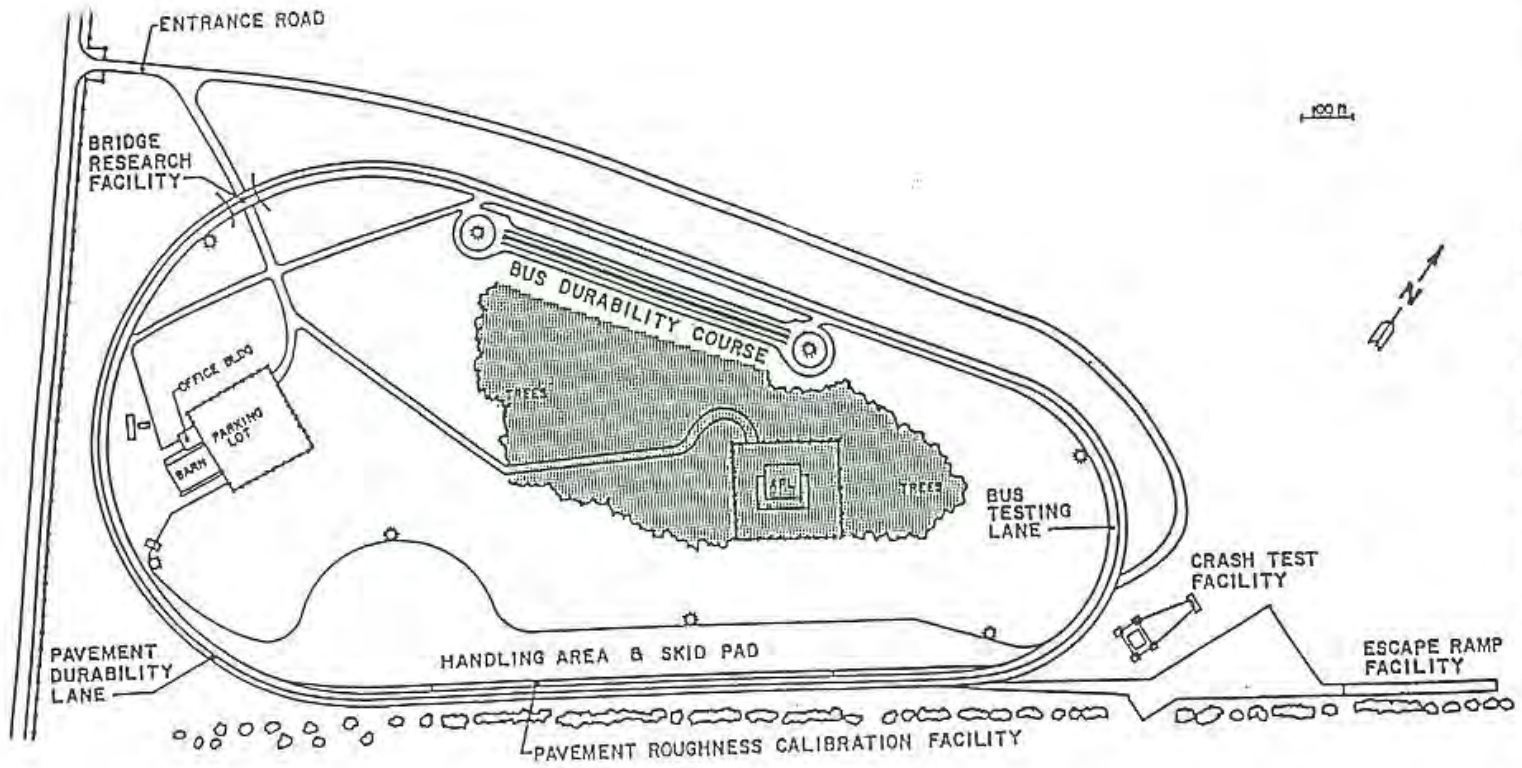
B—Break

C—Cycle all systems five times, visual inspection, driver's log entries

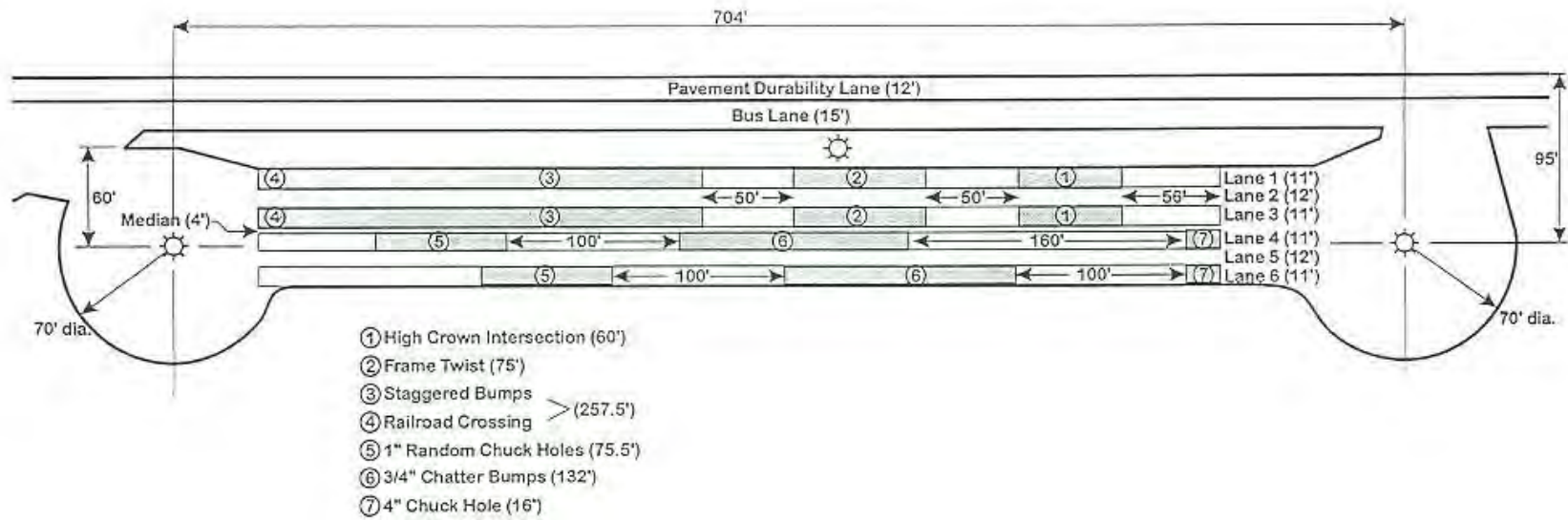
D—Drive bus as specified by procedure

F—Fuel bus, complete driver's log shift entries

“PLAN VIEW OF PENN STATE BUS TESTING AND RESEARCH FACILITY”



BUS TESTING AND RESEARCH TEST TRACK
UNIVERSITY PARK, PA

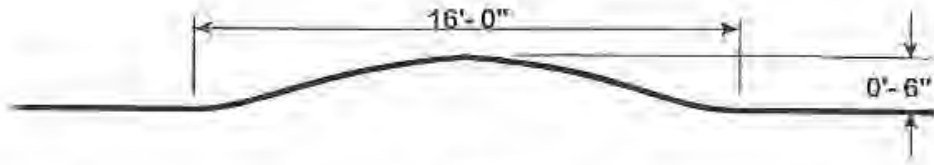


Plan View

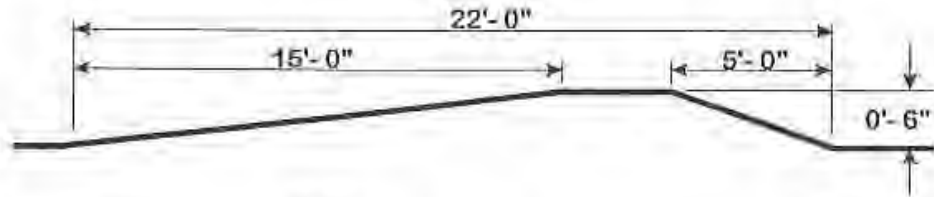
Vehicle Durability Test Track

The Pennsylvania Transportation Institute
Penn State

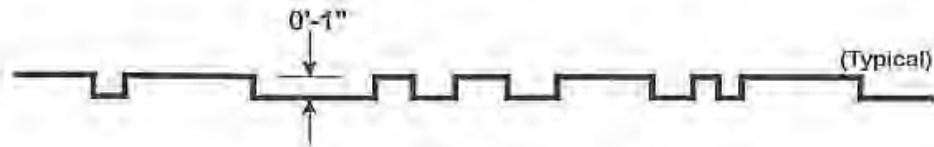
Staggered
Bumps
(10 mph)



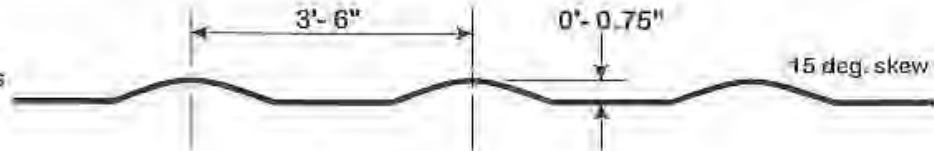
Railroad
Crossing
(8 mph)



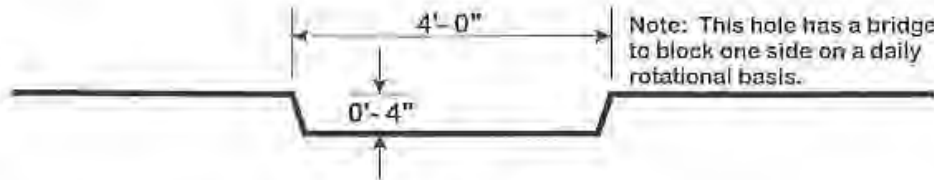
1" Random
Chuck Holes
(20 mph)



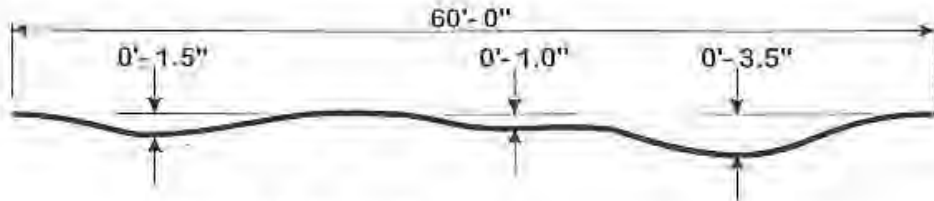
Chatter Bumps
(20 mph)



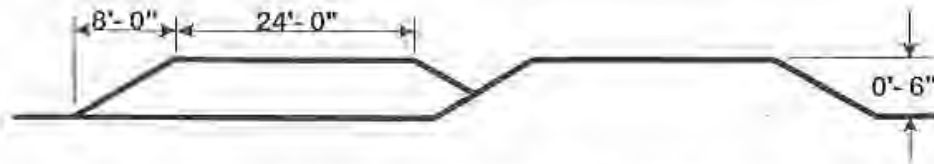
4" Chuck Hole
(5 mph)



High Crown
Intersection
(20 mph)



Frame Twist
(10 mph)



Durability Element Profiles

The Pennsylvania Transportation Institute
Penn State

(Page 1 of 1)
UNSCHEDULED MAINTENANCE
Eldorado (KS) Bus #1214

DATE	TEST MILES	SERVICE	ACTIVITY	MAN HOURS	DOWN TIME
08-27-12	476	The exhaust tail pipe is loose and the tail pipe hanger is broken.	Refit the tail pipe and replaced tail pipe hanger.	2.00	1.00
10-01-12	2,171	The floor structure forward and rear of the rear axle is cracking.	Welded/repared and reinforced cracks with angle brackets.	10.00	128.00
11-02-12	5,479	The stepwell handrail post/entrance door linkage post is loose.	Removed ceiling trim, drilled and installed ¼" bolts through the ceiling post mounts.	3.00	4.00
12-05-12	6,846	Numerous roof structure support brackets are cracked or broken.	Welded/repared cracked and broken brackets.	6.00	64.00

UNSCHEDULED MAINTENANCE



NUMEROUS FLOOR FRAME MEMBERS ARE CRACKED FORWARD & REAR OF THE REAR AXLE (2,171 TEST MILES)



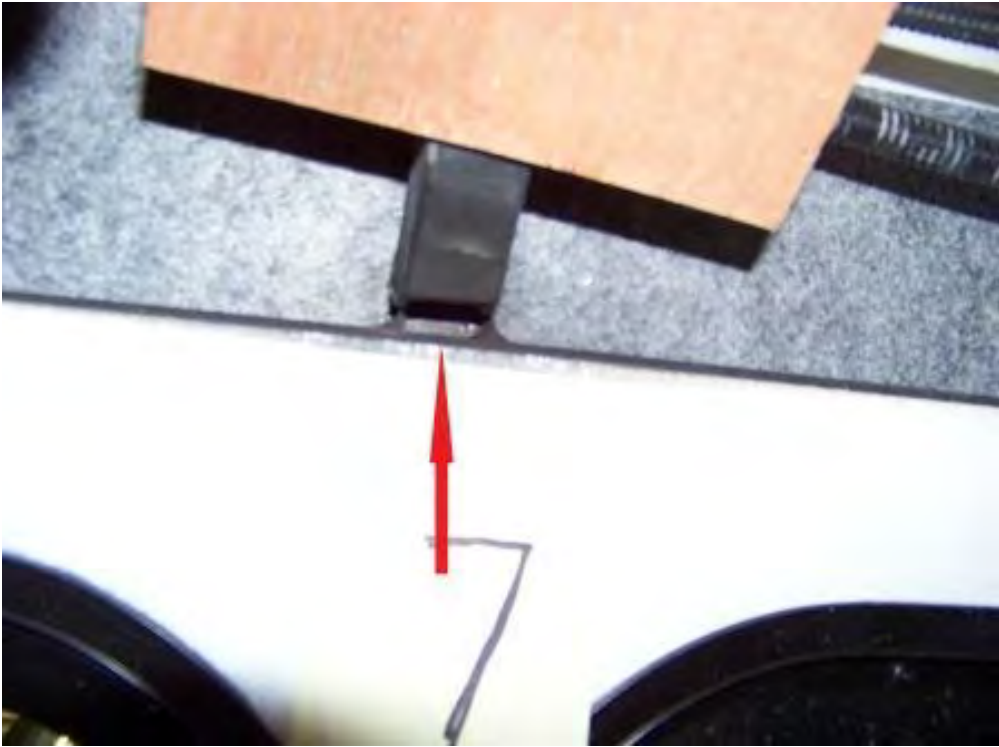
UNSCHEDULED MAINTENANCE CONT.



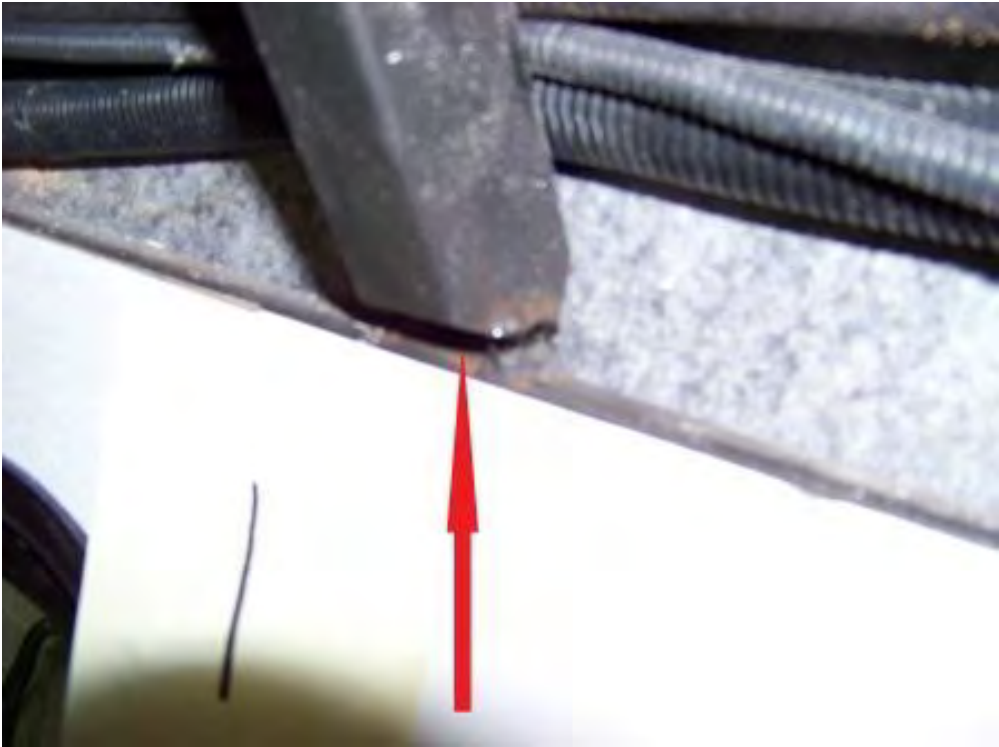
NUMEROUS FLOOR FRAME MEMBERS ARE CRACKED FORWARD & REAR OF THE REAR AXLE (2,171 TEST MILES)



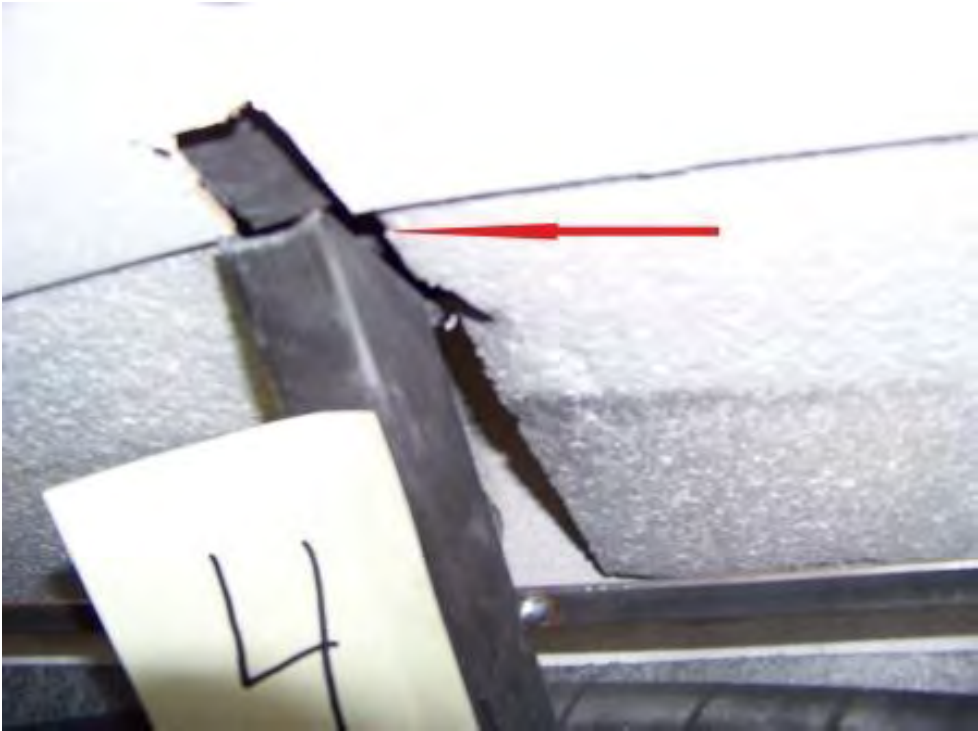
UNSCHEDULED MAINTENANCE CONT.



**NUMEROUS (7) ROOF SUPPORTS
ARE CRACKED OR BROKEN
(6,846 TEST MILES)**



UNSCHEDULED MAINTENANCE CONT.



**NUMEROUS (7) ROOF SUPPORTS
ARE CRACKED OR BROKEN
(6,846 TEST MILES)**



6. FUEL ECONOMY TEST - A FUEL CONSUMPTION TEST USING AN APPROPRIATE OPERATING CYCLE

6-I. TEST OBJECTIVE

The objective of this test is to provide accurate comparable fuel consumption data on transit buses produced by different manufacturers. This fuel economy test bears no relation to the calculations done by the Environmental Protection Agency (EPA) to determine levels for the Corporate Average Fuel Economy Program. EPA's calculations are based on tests conducted under laboratory conditions intended to simulate city and highway driving. This fuel economy test, as designated here, is a measurement of the fuel expended by a vehicle traveling a specified test loop under specified operating conditions. The results of this test will not represent actual mileage but will provide data that can be used by recipients to compare buses tested by this procedure.

6-II. TEST DESCRIPTION

This test requires operation of the bus over a course based on the Transit Coach Operating Duty Cycle (ADB Cycle) at seated load weight using a procedure based on the Fuel Economy Measurement Test (Engineering Type) For Trucks and Buses: SAE 1376 July 82. The procedure has been modified by elimination of the control vehicle and by modifications as described below. The inherent uncertainty and expense of utilizing a control vehicle over the operating life of the facility is impractical.

The fuel economy test will be performed as soon as possible (weather permitting) after the completion of the GVW portion of the structural durability test. It will be conducted on the bus test lane at the Penn State Test Facility. Signs are erected at carefully measured points which delineate the test course. A test run will comprise 3 CBD phases, 2 Arterial phases, and 1 Commuter phase. An electronic fuel measuring system will indicate the amount of fuel consumed during each phase of the test. The test runs will be repeated until there are at least two runs in both the clockwise and counterclockwise directions in which the fuel consumed for each run is within ± 4 percent of the average total fuel used over the 4 runs. A 20-minute idle consumption test is performed just prior to and immediately after the driven portion of the fuel economy test. The amount of fuel consumed while operating at normal/low idle is recorded on the Fuel Economy Data Form. This set of four valid runs along with idle consumption data comprise a valid test.

The test procedure is the ADB cycle with the following four modifications:

1. The ADB cycle is structured as a set number of miles in a fixed time in the following order: CBD, Arterial, CBD, Arterial, CBD, and Commuter. A separate idle fuel consumption measurement is performed at the beginning and end of the fuel economy test. This phase sequence permits the reporting of fuel consumption for each of these phases separately, making the data more useful to bus manufacturers and transit properties.
2. The operating profile for testing purposes shall consist of simulated transit type service at seated load weight. The three test phases (figure 6-1) are: a central business district (CBD) phase of 2 miles with 7 stops per mile and a top speed of 20 mph; an arterial phase of 2 miles with 2 stops per mile and a top speed of 40 mph; and a commuter phase of 4 miles with 1 stop and a maximum speed of 40 mph. At each designated stop the bus will remain stationary for seven seconds. During this time, the passenger doors shall be opened and closed.
3. The individual ADB phases remain unaltered with the exception that 1 mile has been changed to 1 lap on the Penn State Test Track. One lap is equal to 5,042 feet. This change is accommodated by adjusting the cruise distance and time.
4. The acceleration profile, for practical purposes and to achieve better repeatability, has been changed to "full throttle acceleration to cruise speed".

Several changes were made to the Fuel Economy Measurement Test (Engineering Type) For Trucks and Buses: SAE 1376 July 82:

1. Sections 1.1, and 1.2 only apply to diesel, gasoline, methanol, and any other fuel in the liquid state (excluding cryogenic fuels).

1.1 SAE 1376 July 82 requires the use of at least a 16-gal fuel tank. Such a fuel tank when full would weigh approximately 160 lb. It is judged that a 12-gal tank weighing approximately 120 lb will be sufficient for this test and much easier for the technician and test personnel to handle.

1.2 SAE 1376 July 82 mentions the use of a mechanical scale or a flowmeter system. This test procedure uses a load cell readout combination that provides an accuracy of 0.5 percent in weight and permits on-board weighing of the gravimetric tanks at the end of each phase. This modification permits the determination of a fuel economy value for each phase as well as the overall cycle.

2. Section 2.1 applies to compressed natural gas (CNG), liquefied natural gas (LNG), cryogenic fuels, and other fuels in the vapor state.

2.1 A laminar type flowmeter will be used to determine the fuel consumption. The pressure and temperature across the flow element will be monitored by the flow computer. The flow computer will use this data to calculate the gas flow rate. The flow computer will also display the flow rate (scfm) as well as the total fuel used (scf). The total fuel used (scf) for each phase will be recorded on the Fuel Economy Data Form.

3. Use both Sections 1 and 2 for dual fuel systems.

FUEL ECONOMY CALCULATION PROCEDURE

A. For diesel, gasoline, methanol and fuels in the liquid state.

The reported fuel economy is based on the following: measured test quantities-- distance traveled (miles) and fuel consumed (pounds); standard reference values-- density of water at 60EF (8.3373 lbs/gal) and volumetric heating value of standard fuel; and test fuel specific gravity (unitless) and volumetric heating value (BTU/gal). These combine to give a fuel economy in miles per gallon (mpg) which is corrected to a standard gallon of fuel referenced to water at 60EF. This eliminates fluctuations in fuel economy due to fluctuations in fuel quality. This calculation has been programmed into a computer and the data processing is performed automatically.

The fuel economy correction consists of three steps:

- 1.) Divide the number of miles of the phase by the number of pounds of fuel consumed

<u>phase</u>	<u>miles per phase</u>	<u>total miles per run</u>
CBD	1.9097	5.7291
ART	1.9097	3.8193
COM	3.8193	3.8193

$$FE_{o_{mi/lb}} = \text{Observed fuel economy} = \frac{\text{miles}}{\text{lb of fuel}}$$

- 2.) Convert the observed fuel economy to miles per gallon [mpg] by multiplying by the specific gravity of the test fuel G_s (referred to water) at 60°F and multiply by the density of water at 60°F

$$FE_{\text{mpg}} = FE_{\text{mi/lb}} \times G_s \times G_w$$

where G_s = Specific gravity of test fuel at 60°F (referred to water)
 G_w = 8.3373 lb/gal

- 3.) Correct to a standard gallon of fuel by dividing by the volumetric heating value of the test fuel (H) and multiplying by the volumetric heating value of standard reference fuel (Q). Both heating values must have the same units.

$$FE_c = FE_{\text{mpg}} \times \frac{Q}{H}$$

where

H = Volumetric heating value of test fuel [BTU/gal]
 Q = Volumetric heating value of standard reference fuel

Combining steps 1-3 yields

$$\Rightarrow FE_c = \frac{\text{miles}}{\text{lbs}} \times (G_s \times G_w) \times \frac{Q}{H}$$

- 4.) Convert the fuel economy from mpg to an energy equivalent of miles per BTU. Since the number would be extremely small in magnitude, the energy equivalent will be represented as miles/BTUx10⁶.

Eq = Energy equivalent of converting mpg to mile/BTUx10⁶.

$$Eq = ((\text{mpg})/(H)) \times 10^6$$

B. CNG, LNG, cryogenic and other fuels in the vapor state.

The reported fuel economy is based on the following: measured test quantities-- distance traveled (miles) and fuel consumed (scf); density of test fuel, and volumetric heating value (BTU/lb) of test fuel at standard conditions (P=14.73 psia and T=60°F). These combine to give a fuel economy in miles per lb. The energy equivalent

(mile/BTUx10⁶) will also be provided so that the results can be compared to buses that use other fuels.

- 1.) Divide the number of miles of the phase by the number of standard cubic feet (scf) of fuel consumed.

phase	miles per phase	total miles per run
CBD	1.9097	5.7291
ART	1.9097	3.8193
COM	3.8193	3.8193

$$FEO_{mi/scf} = \text{Observed fuel economy} = \frac{\text{miles}}{\text{scf of fuel}}$$

- 2.) Convert the observed fuel economy to miles per lb by dividing FEO by the density of the test fuel at standard conditions (Lb/ft³).

Note: The density of test fuel must be determined at standard conditions as described above. If the density is not defined at the above standard conditions, then a correction will be needed before the fuel economy can be calculated.

$$FEO_{mi/lb} = FEO / Gm$$

where Gm = Density of test fuel at standard conditions

- 3.) Convert the observed fuel economy (FEOmi/lb) to an energy equivalent of (miles/BTUx10⁶) by dividing the observed fuel economy (FEOmi/lb) by the heating value of the test fuel at standard conditions.

$$Eq = ((FEO_{mi/lb})/H) \times 10^6$$

where

Eq = Energy equivalent of miles/lb to mile/BTUx10⁶

H = Volumetric heating value of test fuel at standard conditions

6-III. DISCUSSION

This is a comparative test of fuel economy using gasoline fuel with a heating value of 14,025 btu/lb. The driving cycle consists of Central Business District (CBD), Arterial (ART), and Commuter (COM) phases as described in 6-II. The fuel consumption for each driving cycle and for idle is measured separately. The results are corrected to a reference fuel with a volumetric heating value of 126,700.0 btu/gal.

An extensive pretest maintenance check is made including the replacement of all lubrication fluids. The details of the pretest maintenance are given in the first three Pretest Maintenance Forms. The fourth sheet shows the Pretest Inspection. The next sheet shows the correction calculation for the test fuel. The next four Fuel Economy Forms provide the data from the four test runs. Finally, the summary sheet provides the average fuel consumption. The overall average is based on total fuel and total mileage for each phase. The overall average fuel consumption values were; CBD – 9.81 mpg, ART – 9.57 mpg, and COM – 15.06 mpg. Average fuel consumption at idle was 0.36 gph.

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Page 1 of 3

Bus Number: 1214	Date: 11-6-12	SLW (lbs): 12,500
Personnel: P.D., E.L., T.S. & S.R.		

FUEL SYSTEM	OK	Date	Initials
Install fuel measurement system	✓	11-15-12	T.S.
Replace fuel filter	✓	11-15-12	T.S.
Check for fuel leaks	✓	11-15-12	T.S.
Specify fuel type (refer to fuel analysis)	Gasoline		
Remarks: None noted.			
BRAKES/TIRES	OK	Date	Initials
Inspect hoses	✓	11-6-12	P.D.
Inspect brakes	✓	11-6-12	P.D.
Relube wheel bearings	✓	11-6-12	P.D.
Check tire inflation pressures (mfg. specs.)	✓	11-6-12	P.D.
Remarks: None noted.			
COOLING SYSTEM	OK	Date	Initials
Check hoses and connections	✓	11-6-12	E.L.
Check system for coolant leaks	✓	11-6-12	E.L.
Remarks: None noted.			

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Page 2 of 3

Bus Number: 1214	Date: 11-6-12		
Personnel: P.D., E.L., T.S. & S.R.			
ELECTRICAL SYSTEMS	OK	Date	Initials
Check battery	✓	11/6/12	S.R.
Inspect wiring	✓	11/6/12	S.R.
Inspect terminals	✓	11/6/12	S.R.
Check lighting	✓	11/6/12	S.R.
Remarks: None noted.			
DRIVE SYSTEM	OK	Date	Initials
Drain transmission fluid	✓	11/6/12	E.L.
Replace filter/gasket	✓	11/6/12	E.L.
Check hoses and connections	✓	11/6/12	E.L.
Replace transmission fluid	✓	11/6/12	E.L.
Check for fluid leaks	✓	11/6/12	E.L.
Remarks: None noted.			
LUBRICATION	OK	Date	Initials
Drain crankcase oil	✓	11/6/12	P.D.
Replace filters	✓	11/6/12	P.D.
Replace crankcase oil	✓	11/6/12	P.D.
Check for oil leaks	✓	11/6/12	P.D.
Check oil level	✓	11/6/12	P.D.
Lube all chassis grease fittings	✓	11/6/12	P.D.
Lube universal joints	✓	11/6/12	P.D.
Replace differential lube including axles	✓	11/6/12	P.D.
Remarks: None noted.			

FUEL ECONOMY PRE-TEST MAINTENANCE FORM

Page 3 of 3

Bus Number: 1214	Date: 11-6-12		
Personnel: P.D., E.L., T.S. & S.R.			
EXHAUST/EMISSION SYSTEM	OK	Date	Initials
Check for exhaust leaks	✓	11/6/12	T.S.
Remarks: None noted.			
ENGINE	OK	Date	Initials
Replace air filter	✓	11/6/12	E.L.
Inspect air compressor and air system	✓	11/6/12	E.L.
Inspect vacuum system, if applicable	✓	11/6/12	E.L.
Check and adjust all drive belts	✓	11/6/12	E.L.
Check cold start assist, if applicable	✓	11/6/12	E.L.
Remarks: None noted.			
STEERING SYSTEM	OK	Date	Initials
Check power steering hoses and connectors	✓	11/6/12	T.S.
Service fluid level	✓	11/6/12	T.S.
Check power steering operation	✓	11/6/12	T.S.
Remarks: None noted.			
	OK	Date	Initials
Ballast bus to seated load weight	✓	11/6/12	T.S./S.R.
TEST DRIVE	OK	Date	Initials
Check brake operation	✓	11/6/12	P.D.
Check transmission operation	✓	11/6/12	P.D.
Remarks: None noted.			

FUEL ECONOMY PRE-TEST INSPECTION FORM

Page 1 of 1

Bus Number: 1214	Date: 11-16-12
Personnel: T.S., S.R. & M.R.	
PRE WARM-UP	If OK, Initial
Fuel Economy Pre-Test Maintenance Form is complete	T.S.
Cold tire pressure (psi): Front <u>75</u> Middle <u>N/A</u> Rear <u>80</u>	T.S.
Tire wear:	T.S.
Engine oil level	M.R.
Engine coolant level	M.R.
Interior and exterior lights on, evaporator fan on	T.S.
Fuel economy instrumentation installed and working properly.	T.S.
Fuel line -- no leaks or kinks	T.S.
Speed measuring system installed on bus. Speed indicator installed in front of bus and accessible to TECH and Driver.	S.R.
Bus is loaded to SLW	S.R.
WARM-UP	If OK, Initial
Bus driven for at least one hour warm-up	M.R.
No extensive or black smoke from exhaust	M.R.
POST WARM-UP	If OK, Initial
Warm tire pressure (psi): Front <u>75</u> Middle <u>N/A</u> Rear <u>80</u>	T.S.
Environmental conditions Average wind speed <12 mph and maximum gusts <15 mph Ambient temperature between 30°F(-1C°) and 90°F(32°C) Track surface is dry Track is free of extraneous material and clear of interfering traffic	T.S.

FUEL ECONOMY DATA FORM (Liquid Fuels)

Page 1 of 4

Bus Number: 1214		Manufacturer: Eldorado (KS)		Date: 11-16-12	
Run Number: 1		Personnel: T.S., S.R. & M.R.			
Test Direction: <input type="checkbox"/> CW or <input checked="" type="checkbox"/> CCW		Temperature (°F): 34		Humidity (%): 78	
SLW (lbs): 12,500		Wind Speed (mph) & Direction: Calm		Barometric Pressure (in.Hg): 30.38	

Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Flow Meter Reading (gals)		Fuel Used (gals)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:12	8:12	8.6	0	.2910	.2910
ART #1	0	3:49	3:49	8.4	0	.2932	.2932
CBD #2	0	8:11	8:11	7.6	0	.2915	.2915
ART #2	0	3:48	3:48	9.3	0	.2991	.2991
CBD #3	0	8:09	8:09	8.3	0	.2875	.2875
COMMUTER	0	5:55	5:55	8.9	0	.3690	.3690
Total Fuel = 1.8313 gals							

20 minute idle : Total Fuel Used = 0.1920 gals
Heating Value = 14,025 BTU/LB
Comments: None noted.

FUEL ECONOMY DATA FORM (Liquid Fuels)

Page 2 of 4

Bus Number: 1214		Manufacturer: Eldorado (KS)		Date: 11-16-12			
Run Number: 2		Personnel: T.S., S.R. & M.R.					
Test Direction: <input checked="" type="checkbox"/> CW or <input type="checkbox"/> CCW		Temperature (°F): 39		Humidity (%): 61			
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 8 / NE		Barometric Pressure (in.Hg): 30.37			
Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Flow Meter Reading (gals)		Fuel Used (gals)
	Start	Finish			Start	Finish	
CBD #1	0	8:08	8:08	8.3	0	.2921	.2921
ART #1	0	3:46	3:46	9.8	0	.3011	.3011
CBD #2	0	8:04	8:04	9.1	0	.2821	.2821
ART #2	0	3:46	3:46	9.8	0	.3005	.3005
CBD #3	0	8:14	8:14	9.9	0	.2936	.2936
COMMUTER	0	5:53	5:53	9.9	0	.3856	.3856
Total Fuel = 1.8550 gals							
20 minute idle : Total Fuel Used = N/A gals							
Heating Value = 14,025 BTU/LB							
Remarks/comments/recommended changes: None noted.							

FUEL ECONOMY DATA FORM (Liquid Fuels)

Page 3 of 4

Bus Number: 1214		Manufacturer: Eldorado (KS)		Date: 11-16-12	
Run Number: 3		Personnel: T.S., S.R. & M.R.			
Test Direction: <input type="checkbox"/> CW or <input checked="" type="checkbox"/> CCW		Temperature (°F): 42		Humidity (%): 53	
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 8 / ENE		Barometric Pressure (in.Hg): 30.36	

Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Flow Meter Reading (gals)		Fuel Used (gals)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:14	8:14	11.4	0	.2895	.2895
ART #1	0	3:51	3:51	11.4	0	.2950	.2950
CBD #2	0	8:15	8:15	11.4	0	.2809	.2809
ART #2	0	3:50	3:50	12.4	0	.2891	.2891
CBD #3	0	8:10	8:10	11.7	0	.2797	.2797
COMMUTER	0	5:55	5:55	12.5	0	.3796	.3796
Total Fuel = 1.8138 gals							
20 minute idle : Total Fuel Used = N/A gals							
Heating Value = 14,025 BTU/LB							
Remarks/comments/recommended changes: None noted.							

FUEL ECONOMY DATA FORM (Liquid Fuels)

Page 4 of 4

Bus Number: 1214		Manufacturer: Eldorado (KS)		Date: 11-16-12			
Run Number: 4		Personnel: T.S., S.R. & M.R.					
Test Direction: <input checked="" type="checkbox"/> CW or <input type="checkbox"/> CCW		Temperature (°F): 49		Humidity (%): 45			
SLW (lbs): 12,500		Wind Speed (mph) & Direction: 4 / NE		Barometric Pressure (in.Hg): 30.3.3			
Cycle Type	Time (min:sec)		Cycle Time (min:sec)	Fuel Temperature (°C)	Flow Meter Reading (gals)		Fuel Used (gals)
	Start	Finish		Start	Start	Finish	
CBD #1	0	8:10	8:10	11.8	0	.2827	.2827
ART #1	0	3:52	3:52	13.4	0	.2876	.2876
CBD #2	0	8:11	8:11	12.5	0	.2873	.2873
ART #2	0	3:55	3:55	14.4	0	.2836	.2836
CBD #3	0	8:11	8:11	13.5	0	.2795	.2795
COMMUTER	0	5:53	5:53	14.5	0	.3602	.3602
Total Fuel = 1.7809 gals							
20 minute idle : Total Fuel Used = 0.1608 gals							
Heating Value = 14,025 BTU/LB							
Remarks/comments/recommended changes: None noted.							

FUEL ECONOMY SUMMARY SHEET

BUS MANUFACTURER :Eldorado (KS) BUS NUMBER :1214
 BUS MODEL :Advantage 240 TEST DATE :11/16/12
 FUEL TYPE : GASOLINE
 SP. GRAVITY : .7400
 HEATING VALUE : 14025.00 BTU/Lb
 FUEL TEMPERATURE : 51.80 deg F
 Standard Conditions : 60 deg F and 14.7 psi
 Density of Water : 8.3373 lb/gallon at 60 deg F

 CYCLE TOTAL FUEL TOTAL MILES FUEL ECONOMY FUEL ECONOMY
 USED (GAL) MPG (Measured) MPG (Corrected)

Run # :1, CCW
 CBD .870 5.73 6.586 9.69
 ART .592 3.82 6.449 9.49
 COM .369 3.82 10.352 15.23
 TOTAL 1.831 13.37 7.301 10.74

Run # :2, CW
 CBD .868 5.73 6.603 9.72
 ART .602 3.82 6.350 9.34
 COM .386 3.82 9.907 14.58
 TOTAL 1.855 13.37 7.208 10.61

Run # :3, CCW
 CBD .850 5.73 6.740 9.92
 ART .584 3.82 6.540 9.62
 COM .380 3.82 10.063 14.81
 TOTAL 1.814 13.37 7.371 10.85

Run # :4, CW
 CBD .850 5.73 6.745 9.93
 ART .571 3.82 6.688 9.84
 COM .360 3.82 10.605 15.61
 TOTAL 1.781 13.37 7.507 11.05

 IDLE CONSUMPTION (MEASURED)

First 20 Minutes Data: .19GAL Last 20 Minutes Data: .16GAL
 Average Idle Consumption: .53GAL/Hr

RUN CONSISTENCY: % Difference from overall average of total fuel used

 Run 1 : -.6 Run 2 : -1.9 Run 3 : .4 Run 4 : 2.2

SUMMARY (CORRECTED VALUES)

Average Idle Consumption : .36 G/Hr
 Average CBD Phase Consumption : 9.81 MPG
 Average Arterial Phase Consumption : 9.57 MPG
 Average Commuter Phase Consumption : 15.06 MPG
 Overall Average Fuel Consumption : 10.81 MPG
 Overall Average Fuel Consumption :124.94 Miles/ Million BTU

7. NOISE

7.1 INTERIOR NOISE AND VIBRATION TESTS

7.1-I. TEST OBJECTIVE

The objective of these tests is to measure and record interior noise levels and check for audible vibration under various operating conditions.

7.1-II. TEST DESCRIPTION

During this series of tests, the interior noise level will be measured at several locations with the bus operating under the following three conditions:

1. With the bus stationary, a white noise generating system shall provide a uniform sound pressure level equal to 80 dB(A) on the left, exterior side of the bus. The engine and all accessories will be switched off and all openings including doors and windows will be closed. This test will be performed at the ABTC.
2. The bus accelerating at full throttle from a standing start to 35 mph on a level pavement. All openings will be closed and all accessories will be operating during the test. This test will be performed on the track at the Test Track Facility.
3. The bus will be operated at various speeds from 0 to 55 mph with and without the air conditioning and accessories on. Any audible vibration or rattles will be noted. This test will be performed on the test segment between the Test Track and the Bus Testing Center.

All tests will be performed in an area free from extraneous sound-making sources or reflecting surfaces. The ambient sound level as well as the surrounding weather conditions will be recorded in the test data.

7.1-III. DISCUSSION

This test is performed in three parts. The first part exposes the exterior of the vehicle to 80.0 dB(A) on the left side of the bus and the noise transmitted to the interior is measured. The overall average of the six measurements was 48.0 dB(A); ranging from 47.4 dB(A) in line with the front speaker to 48.6 dB(A) in line with the middle speaker. The interior ambient noise level for this test was < 30.0 dB(A).

The second test measures interior noise during acceleration from 0 to 35 mph. This noise level ranged from 68.2 dB(A) at the rear passenger seats to 70.5 dB(A) at the driver's seat. The overall average was 69.3 dB(A). The interior ambient noise level for this test was < 30.0 dB(A).

The third part of the test is to listen for resonant vibrations, rattles, and other noise sources while operating over the road. No vibrations or rattles were noted.

INTERIOR NOISE TEST DATA FORM
Test Condition 1: 80 dB(A) Stationary White Noise

Page 1 of 3

Bus Number: 1214	Date: 8-16-12
Personnel: T.S. & S.R.	
Temperature (°F): 71	Humidity (%): 61
Wind Speed (mph): Calm	Wind Direction: Calm
Barometric Pressure (in.Hg): 30.03	
Initial Sound Level Meter Calibration: ■ checked by: T.S.	
Interior Ambient Noise Level dB(A): < 30.0	Exterior Ambient Noise Level dB(A): 49.8
Microphone Height During Testing (in): 29" above seat cushion.	

Measurement Location	Measured Sound Level dB(A)
Driver's Seat	47.5
Front Passenger Seats	47.9
In Line with Front Speaker	47.4
In Line with Middle Speaker	48.6
In Line with Rear Speaker	48.5
Rear Passenger Seats	48.1

Final Sound Level Meter Calibration: ■ checked by: T.S.

Comments: All readings taken in the center aisle.
Remarks/comments/recommended changes: None noted.

INTERIOR NOISE TEST DATA FORM
Test Condition 2: 0 to 35 mph Acceleration Test

Page 2 of 3

Bus Number: 1214	Date: 11-5-12
Personnel: T.S., S.R. & C.S.	
Temperature (°F): 37	Humidity (%): 56
Wind Speed (mph): 11	Wind Direction: NNW
Barometric Pressure (in.Hg): 30.11	
Initial Sound Level Meter Calibration: <input checked="" type="checkbox"/> checked by: S.R.	
Interior Ambient Noise Level dB(A): < 30.0	Exterior Ambient Noise Level dB(A): 33.5
Microphone Height During Testing (in): 29" above seat cushion	

Measurement Location	Measured Sound Level dB(A)
Driver's Seat	70.5
Front Passenger Seats	69.8
Middle Passenger Seats	68.8
Rear Passenger Seats	68.2

Final Sound Level Meter Calibration: <input checked="" type="checkbox"/> checked by: S.R.

Comments: All readings taken in the center aisle.
Remarks/comments/recommended changes: None noted.

INTERIOR NOISE TEST DATA FORM
Test Condition 3: Audible Vibration Test

Page 3 of 3

Bus Number: 1214	Date: 11-5-12
Personnel: T.S., S.R. & C.S.	
Temperature (°F): 37	Humidity (%): 56
Wind Speed (mph): 11	Wind Direction: NNW
Barometric Pressure (in.Hg): 30.11	

Describe the following possible sources of noise and give the relative location on the bus.

Source of Noise	Location
Engine and Accessories	None noted.
Windows and Doors	None noted.
Seats and Wheel Chair lifts	None noted.

Comment on any other vibration or noise source which may have occurred that is not described above: None noted.
Remarks/comments/recommended changes: None noted.

7.1 INTERIOR NOISE TEST



**TEST BUS SET-UP FOR 80 dB(A)
INTERIOR NOISE TEST**

7.2 EXTERIOR NOISE TESTS

7.2-I. TEST OBJECTIVE

The objective of this test is to record exterior noise levels when a bus is operated under various conditions.

7.2-II. TEST DESCRIPTION

In the exterior noise tests, the bus will be operated at a SLW in three different conditions using a smooth, straight and level roadway:

1. Accelerating at full throttle from a constant speed at or below 35 mph and just prior to transmission up shift.
2. Accelerating at full throttle from standstill.
3. Stationary, with the engine at low idle, high idle, and wide open throttle.

In addition, the buses will be tested with and without the air conditioning and all accessories operating. The exterior noise levels will be recorded.

The test site is at the PSBRTF and the test procedures will be in accordance with SAE Standards SAE J366b, Exterior Sound Level for Heavy Trucks and Buses. The test site is an open space free of large reflecting surfaces. A noise meter placed at a specified location outside the bus will measure the noise level.

During the test, special attention should be paid to:

1. The test site characteristics regarding parked vehicles, signboards, buildings, or other sound-reflecting surfaces
2. Proper usage of all test equipment including set-up and calibration
3. The ambient sound level

7.2-III. DISCUSSION

The Exterior Noise Test determines the noise level generated by the vehicle under different driving conditions and at stationary low and high idle, with and without air conditioning and accessories operating. The test site is a large, level, bituminous paved area with no reflecting surfaces nearby.

With an exterior ambient noise level of 38.4 dB(A), the average test result obtained while accelerating from a constant speed was 71.8 dB(A) on the right side and 71.8 dB(A) on the left side.

When accelerating from a standstill with an exterior ambient noise level of 38.4 dB(A), the average of the results obtained were 70.5 dB(A) on the right side and 70.3 dB(A) on the left side.

With the vehicle stationary and the engine, accessories, and air conditioning on, the measurements averaged 44.2 dB(A) at low idle, 53.7 dB(A) at high idle, and 66.0 dB(A) at wide open throttle. With the accessories and air conditioning off, the readings averaged 2.6 dB(A) lower at low idle, 1.4 dB(A) lower at high idle, and 0.3 dB(A) lower at wide open throttle. The exterior ambient noise level measured during this test was 38.2 dB(A).

EXTERIOR NOISE TEST DATA FORM

Accelerating from Constant Speed

Page 1 of 3

Bus Number: 1214	Date: 11-5-12
Personnel: T.S., S.R. & C.S.	
Temperature (°F): 37	Humidity (%): 56
Wind Speed (mph): 11	Wind Direction: NNW
Barometric Pressure (in.Hg): 30.11	
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■ checked by: S.R.	
Initial Sound Level Meter Calibration: ■ checked by: S.R.	
Exterior Ambient Noise Level dB(A): 38.4	

Accelerating from Constant Speed Curb (Right) Side		Accelerating from Constant Speed Street (Left) Side	
Run #	Measured Noise Level dB(A)	Run #	Measured Noise Level dB(A)
1	72.7	1	71.2
2	70.7	2	69.4
3	70.8	3	70.1
4	69.9	4	72.4
5	69.9	5	69.8
Average of two highest actual noise levels = 71.8 dB(A)		Average of two highest actual noise levels = 71.8 dB(A)	

Final Sound Level Meter Calibration Check: ■ checked by: S.R.
Remarks/Comments/recommended changes: None noted.

EXTERIOR NOISE TEST DATA FORM Accelerating from Standstill

Page 2 of 3

Bus Number: 1214	Date: 11-5-12
Personnel: T.S., S.R. & C.S.	
Temperature (°F): 37	Humidity (%): 56
Wind Speed (mph): 11	Wind Direction: NNW
Barometric Pressure (in.Hg): 30.11	
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■ checked by: S.R.	
Initial Sound Level Meter Calibration: ■ checked by: S.R.	
Exterior Ambient Noise Level dB(A): 38.4	

Accelerating from Standstill Curb (Right) Side		Accelerating from Standstill Street (Left) Side	
Run #	Measured Noise Level dB(A)	Run #	Measured Noise Level dB(A)
1	71.4	1	69.9
2	68.2	2	69.5
3	69.0	3	70.4
4	69.2	4	70.2
5	69.5	5	69.7
Average of two highest actual noise levels = 70.5 dB(A)		Average of two highest actual noise levels = 70.3 dB(A)	

Final Sound Level Meter Calibration Check: ■ checked by: S.R.
Remarks/comments/recommended changes: None noted.

EXTERIOR NOISE TEST DATA FORM

Stationary

Page 3 of 3

Bus Number: 1214		Date: 11-5-12	
Personnel: T.S., S.R. & C.S.			
Temperature (°F): 37		Humidity (%): 56	
Wind Speed (mph): 11		Wind Direction: NNW	
Barometric Pressure (in. Hg): 30.11			
Verify that microphone height is 4 feet, wind speed is less than 12 mph and ambient temperature is between 30°F and 90°F: ■ checked by: S.R.			
Initial Sound Level Meter Calibration: ■ checked by: S.R.			
Exterior Ambient Noise Level dB(A): 38.2			
Accessories and Air Conditioning ON			
Throttle Position	Engine RPM	Curb (Right) Side dB(A)	Street (Left) Side db(A)
		Measured	Measured
Low Idle	600	44.2	44.1
High Idle	1,500	53.5	53.9
Wide Open Throttle	3,500	66.3	65.7
Accessories and Air Conditioning OFF			
Throttle Position	Engine RPM	Curb (Right) Side dB(A)	Street (Left) Side db(A)
		Measured	Measured
Low Idle	600	41.7	41.5
High Idle	1,500	51.8	52.7
Wide Open Throttle	3,500	65.3	66.0
Final Sound Level Meter Calibration Check: ■ checked by: S.R.			
Remarks/Comments/recommended changes: None noted.			

7.2 EXTERIOR NOISE TESTS



**TEST BUS UNDERGOING
EXTERIOR NOISE TESTING**



8. EMISSIONS TEST – DYNAMOMETER-BASED EMISSIONS TEST USING TRANSIT DRIVING CYCLES

8-I. TEST OBJECTIVE

The objective of this test is to provide comparable emissions data on transit buses produced by different manufacturers. This chassis-based emissions test bears no relation to engine certification testing performed for compliance with the Environmental Protection Agency (EPA) regulation. EPA's certification tests are performed using an engine dynamometer operating under the Federal Test Protocol. This emissions test is a measurement of the gaseous engine emissions CO, CO₂, NO_x, HC and particulates (diesel vehicles) produced by a vehicle operating on a large-roll chassis dynamometer. The test is performed for three differed driving cycles intended to simulate a range of transit operating environments. The cycles consist of Manhattan Cycle, the Orange County Bus driving cycle, and the Urban Dynamometer Driving Cycle (UDDS). The test is performed under laboratory conditions in compliance with EPA 1065 and SAE J2711. The results of this test may not represent actual in-service vehicle emissions but will provide data that can be used by recipients to compare buses tested under different operating conditions.

8-II. TEST DESCRIPTION

This test is performed in the emissions bay of the LTI Vehicle Testing Laboratory. The Laboratory is equipped with a Schenk Pegasus 300 HP, large-roll (72 inch diameter) chassis dynamometer suitable for heavy-vehicle emissions testing. The dynamometer is located in the end test bay and is adjacent to the control room and emissions analysis area. The emissions laboratory provides capability for testing heavy-duty diesel and alternative-fueled buses for a variety of tailpipe emissions including particulate matter, oxides of nitrogen, carbon monoxide, carbon dioxide, and hydrocarbons. It is equipped with a Horiba full-scale CVS dilution tunnel and emissions sampling system. The system includes Horiba Mexa 7400 Series gas analyzers and a Horiba HF47 Particulate Sampling System. Test operation is automated using Horiba CDTCS software. The computer controlled dynamometer is capable of simulating over-the-road operation for a variety of vehicles and driving cycles.

The emissions test will be performed as soon as permissible after the completion of the GVW portion of the structural durability test. The driving cycles are the Manhattan cycle, a low average speed, highly transient urban cycle (Figure 1), the Orange County Bus Cycle which consists of urban and highway driving segments (Figure 2), and the

EPA UDDS Cycle (Figure 3). An emissions test will comprise of two runs for the three different driving cycles, and the average value will be reported. Test results reported will include the average grams per mile value for each of the gaseous emissions for gasoline buses, for all the three driving cycles. In addition, the particulate matter emissions are included for diesel buses, and non-methane hydrocarbon emissions (NMHC) are included for CNG buses. Testing is performed in accordance with EPA CFR49, Part 1065 and SAE J2711 as practically determined by the FTA Emissions Testing Protocol developed by West Virginia University and Penn State University.

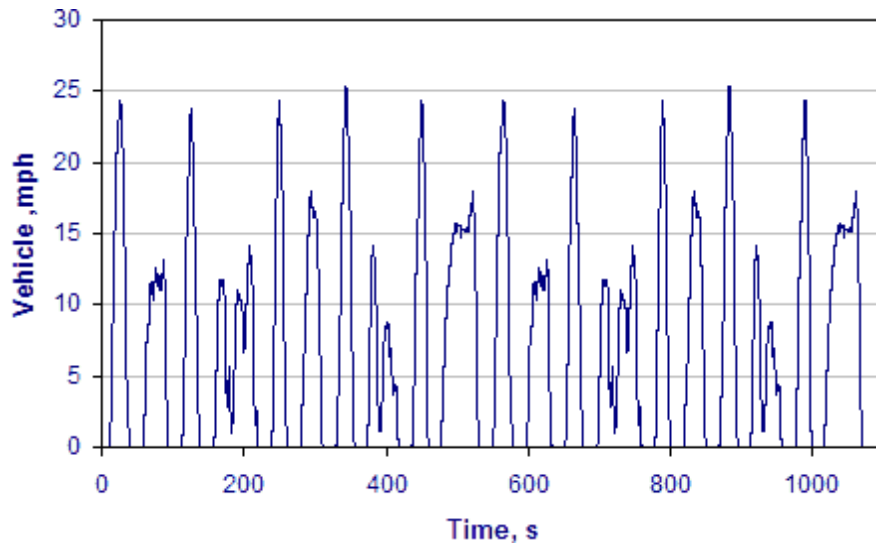


Figure 1. *Manhattan Driving Cycle (duration 1089 sec, Maximum speed 25.4mph, average speed 6.8mph)*

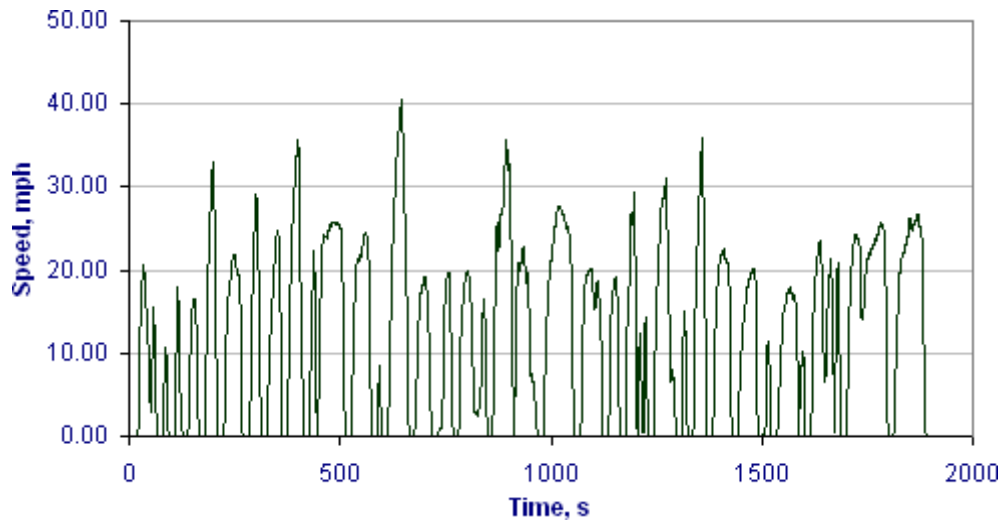


Figure 2. Orange County Bus Cycle (Duration 1909 Sec, Maximum Speed 41mph, Average Speed 12mph)

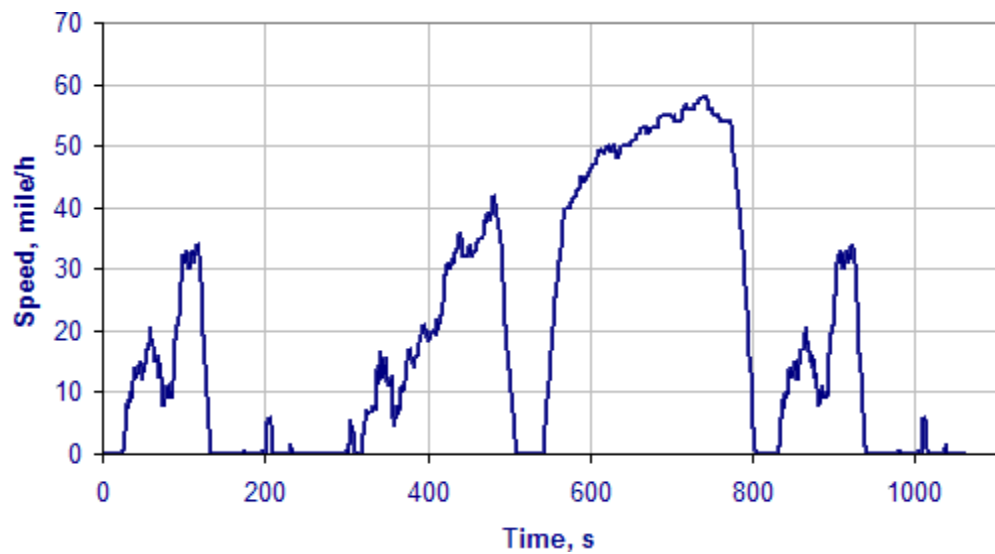


Figure 3. HD-UDDS Cycle (duration 1060seconds, Maximum Speed 58mph, Average Speed 18.86mph)

8-III. TEST ARTICLE

The test article is an EIDorado National-Kansas model Advantage 240 transit bus equipped with gasoline fueled Ford 6.8 L V10 engine. The bus was tested on December 14, 2012.

8-IV. TEST EQUIPMENT

Testing is performed in the LTI Vehicle Testing Laboratory emissions testing bay. The test bay is equipped with a Schenk Pegasus 72-inch, large-roll chassis dynamometer. The dynamometer is electronically controlled to account for vehicle road-load characteristics and for simulating the inertia characteristics of the vehicle. Power to the roller is supplied and absorbed through an electronically controlled 3-phase ac motor. Absorbed power is dumped back onto the electrical grid.

Vehicle exhaust is collected by a Horiba CVS, full-flow dilution tunnel. The system has separate tunnels for diesel and gasoline/natural gas fueled vehicles. In the case of diesel vehicles, particulate emissions are measured gravimetrically using 47mm Teflon filters. These filters are housed in a Horiba HF47 particulate sampler, per EPA 1065 test procedures.. Heated gaseous emissions of hydrocarbons and NOx are sampled by Horiba heated oven analyzers. Gaseous emissions for CO, CO2 and cold NOx are measured using a Horiba Mexa 7400 series gas analyzer. System operation, including the operation of the chassis dynamometer, and all calculations are controlled by a Dell workstation running Horiba CDCTS test control software. Particulate Filters are weighed in a glove box using a Sartorius microbalance accurate to 1 microgram.

8-V. TEST PREPARATION AND PROCEDURES

All vehicles are prepared for emissions testing in accordance with the Fuel Economy Pre-Test Maintenance Form. (In the event that fuel economy test was performed immediately prior to emissions testing this step does not have to be repeated) This is done to ensure that the bus is tested in optimum operating condition. The manufacturer-specified preventive maintenance shall be performed before this test. The ABS system and when applicable, the regenerative braking system are disabled for operation on the chassis dynamometer. Any manufacturer-recommended changes to the pre-test maintenance procedure must be noted on the revision sheet. The Fuel Economy Pre-Test Inspection Form will also be completed before performing. Both the Fuel Economy Pre-Test Maintenance Form and the Fuel Economy Pre-Test Inspection Form are found on the following pages.

Prior to performing the emissions test, each bus is evaluated to determine its road-load characteristics using coast-down techniques in accordance with SAE J1263. This data is used to program the chassis dynamometer to accurately simulate over-the-road operation of the bus.

Warm-up consists of driving the bus for 20 minutes at approximately 40 mph on the chassis dynamometer. The test driver follows the prescribed driving cycle watching the speed trace and instructions on the Horiba Drivers-Aid monitor which is placed in front of the windshield. The CDCTS computer monitors driver performance and reports any errors that could potentially invalidate the test.

All buses are tested at half seated load weight. The base line emissions data are obtained at the following conditions:

1. Air conditioning off
2. Evaporator fan or ventilation fan on
3. One Half Seated load weight
4. Appropriate test fuel with energy content (BTU/LB) noted in CDTCS software
5. Exterior and interior lights on
6. Heater Pump Motor off
7. Defroster off
8. Windows and Doors closed

The test tanks or the bus fuel tank(s) will be filled prior to the fuel economy test with the appropriate grade of test fuel.

8-VI DISCUSSION

The following Table 1 provides the emissions testing results on a grams per mile basis for each of the exhaust constituents measured and for each driving cycle performed.

TABLE 1 Emissions Test Results

Driving Cycle	Manhattan	Orange County Bus	UDDS

CO₂, gm/mi	1,768	1,254	1,013
CO, gm/mi	0.65	0.55	1.06
THC, gm/mi	0.26	0.12	0.17
NMHC, gm/mi	na	na	na
NO_x, gm/mi	0.08	0.003	0.03
Particulates. gm/mi	0.15	0.06	0.10
Fuel consumption mpg	4.97	7.01	8.68

FUEL ECONOMY/EMISSIONS PRE-TEST MAINTENANCE FORM

Page 1 of 3

Bus Number: 1214	Date: 11-6-12	SLW (lbs): 12,500
Personnel: P.D., E.L., T.S. & S.R.		

FUEL SYSTEM	OK	Date	Initials
Install fuel measurement system	✓	11-15-12	T.S.
Replace fuel filter	✓	11-15-12	T.S.
Check for fuel leaks	✓	11-15-12	T.S.
Specify fuel type (refer to fuel analysis)	Gasoline		
Remarks: None noted.			
BRAKES/TIRES	OK	Date	Initials
Inspect hoses	✓	11-6-12	P.D.
Inspect brakes	✓	11-6-12	P.D.
Relube wheel bearings	✓	11-6-12	P.D.
Check tire inflation pressures (mfg. specs.)	✓	11-6-12	P.D.
Remarks: None noted.			
COOLING SYSTEM	OK	Date	Initials
Check hoses and connections	✓	11-6-12	E.L.
Check system for coolant leaks	✓	11-6-12	E.L.
Remarks: None noted.			

FUEL ECONOMY/EMISSIONS PRE-TEST MAINTENANCE FORM

Page 2 of 3

Bus Number: 1214	Date: 11-6-12		
Personnel: P.D., E.L., T.S. & S.R.			
ELECTRICAL SYSTEMS	OK	Date	Initials
Check battery	✓	11/6/12	S.R.
Inspect wiring	✓	11/6/12	S.R.
Inspect terminals	✓	11/6/12	S.R.
Check lighting	✓	11/6/12	S.R.
Remarks: None noted.			
DRIVE SYSTEM	OK	Date	Initials
Drain transmission fluid	✓	11/6/12	E.L.
Replace filter/gasket	✓	11/6/12	E.L.
Check hoses and connections	✓	11/6/12	E.L.
Replace transmission fluid	✓	11/6/12	E.L.
Check for fluid leaks	✓	11/6/12	E.L.
Remarks: None noted.			
LUBRICATION	OK	Date	Initials
Drain crankcase oil	✓	11/6/12	P.D.
Replace filters	✓	11/6/12	P.D.
Replace crankcase oil	✓	11/6/12	P.D.
Check for oil leaks	✓	11/6/12	P.D.
Check oil level	✓	11/6/12	P.D.
Lube all chassis grease fittings	✓	11/6/12	P.D.
Lube universal joints	✓	11/6/12	P.D.
Replace differential lube including axles	✓	11/6/12	P.D.
Remarks: None noted.			

FUEL ECONOMY/EMISSION PRE-TEST MAINTENANCE FORM

Page 3 of 3

Bus Number: 1214		Date: 11-6-12		
Personnel: P.D., E.L., T.S. & S.R.				
EXHAUST/EMISSION SYSTEM		OK	Date	Initials
Check for exhaust leaks		✓	11/6/12	T.S.
Remarks: None noted.				
ENGINE		OK	Date	Initials
Replace air filter		✓	11/6/12	E.L.
Inspect air compressor and air system		✓	11/6/12	E.L.
Inspect vacuum system, if applicable		✓	11/6/12	E.L.
Check and adjust all drive belts		✓	11/6/12	E.L.
Check cold start assist, if applicable		✓	11/6/12	E.L.
Remarks: None noted.				
STEERING SYSTEM		OK	Date	Initials
Check power steering hoses and connectors		✓	11/6/12	T.S.
Service fluid level		✓	11/6/12	T.S.
Check power steering operation		✓	11/6/12	T.S.
Remarks: None noted.				
		OK	Date	Initials
Ballast bus to seated load weight		✓	11/6/12	T.S./S.R.
TEST DRIVE		OK	Date	Initials
Check brake operation		✓	11/6/12	P.D.
Check transmission operation		✓	11/6/12	P.D.
Remarks: None noted.				

FUEL ECONOMY/EMISSIONS PRE-TEST INSPECTION FORM

Page 1 of 1

Bus Number: 1214	Date: 11-16-12
Personnel: T.S., S.R. & M.R.	
PRE WARM-UP	If OK, Initial
Fuel Economy Pre-Test Maintenance Form is complete	T.S.
Cold tire pressure (psi): Front <u>75</u> Middle <u>N/A</u> Rear <u>80</u>	T.S.
Tire wear:	T.S.
Engine oil level	M.R.
Engine coolant level	M.R.
Interior and exterior lights on, evaporator fan on	T.S.
Fuel economy instrumentation installed and working properly.	T.S.
Fuel line -- no leaks or kinks	T.S.
Speed measuring system installed on bus. Speed indicator installed in front of bus and accessible to TECH and Driver.	S.R.
Bus is loaded to SLW	S.R.
WARM-UP	If OK, Initial
Bus driven for at least one hour warm-up	M.R.
No extensive or black smoke from exhaust	M.R.
POST WARM-UP	If OK, Initial
Warm tire pressure (psi): Front <u>75</u> Middle <u>N/A</u> Rear <u>80</u>	T.S.
Environmental conditions Average wind speed <12 mph and maximum gusts <15 mph Ambient temperature between 30°F(-1C°) and 90°F(32°C) Track surface is dry Track is free of extraneous material and clear of interfering traffic	T.S.

Gilliland, Dianna

From: Gilliland, Dianna
Sent: Thursday, February 09, 2017 3:31 PM
To: 'Amy Monroe'
Cc: Mike Baumgartner (mbaumgartner@masterstransportation.com); 'jmadura@masterstransporation.com'; 'bbeck@masterstransportation.com'
Subject: RE: Clarification Needed - 5509 OF

Amy,

Thank you.

Thank you,

Dianna Gilliland

Buyer II | MATERIEL DIVISION - STATE PURCHASING BUREAU

Nebraska Department of Administrative Services
1526 K Street, Suite 130, Lincoln NE 68508

OFFICE 402-471-4193

FRONT DESK 402-471-6500

FAX 402-471-2089

Dianna.gilliland@nebraska.gov

das.nebraska.gov | [Facebook](#) | [Twitter](#)

Documents attached to this e-mail are the copies of original documents. The original documents are housed at State Purchasing Bureau in the associated file.

From: Amy Monroe [mailto:amonroe@masterstransportation.com]
Sent: Thursday, February 09, 2017 2:56 PM
To: Gilliland, Dianna <Dianna.Gilliland@nebraska.gov>
Cc: Mike Baumgartner <mbaumgartner@masterstransportation.com>; Jeff Madura <jmadura@masterstransportation.com>; Bill Beck <bbeck@masterstransportation.com>
Subject: FW: Clarification Needed - 5509 OF

Dianna,
Sorry for the confusion on the wheelchair and securements.

Master's complies with specifications K. 2. Pages 46-47 & K. 4. Page 47. We will provide the Millennium lift and the QRT-360 securements system. Attached is the documentation for each.

Please let us know if you have any additional questions.

Thank you.

Amy Monroe
Contract Specialist - Government

Direct: 816-979-3478
Toll Free: 800-783-3613
Email: amonroe@masterstransportation.com
Email: bids@maserstransportation.com

Master's Transportation

800 Quik Trip Way
Belton, MO 64012
www.MastersTransportation.com



From: Mike Baumgartner [mailto:mbaumgartner@masterstransportation.com]
Sent: Thursday, February 9, 2017 11:34 AM
To: Amy Monroe <amonroe@masterstransportation.com>; Jeff Madura <jmadura@masterstransportation.com>
Subject: Fwd: Clarification Needed - 5509 OF

Amy,
Could you Clarify?

Thanks

Mike Baumgartner

Regional Sales Manager
Direct: 308-236-6363
Toll Free: 800-783-3613
Cell: 308-440-5006
Email: mbaumgartner@masterstransportation.com

Master's Transportation

3710, Central Ave, Suite 5
Kearney, Nebraska 68847
www.MastersTransportation.com



----- Forwarded message -----

From: **Gilliland, Dianna** <Dianna.Gilliland@nebraska.gov>

Date: Thu, Feb 9, 2017 at 10:37 AM

Subject: Clarification Needed - 5509 OF

To: "Mike Baumgartner (mbaumgartner@masterstransportation.com)"

<mbaumgartner@masterstransportation.com>

Mike,

Additional clarification is need for the following items for the Goshen bid response submitted for 5509 OF – Small Transit Buses 12+2.

1. Section VI.K.2. FRONT WHEELCHAIR ACCOMMODATIONS/Wheelchair Lift; fourth paragraph, page 46-47 of the specifications.

This question is asked for Goshen bid.

The specifications require that the wheelchair lift be equipped with a hydraulic powered automatic outboard roll stop barrier. The Goshen bid is marked as providing a wheelchair lift with a hydraulic powered outboard roll stop (Millennium 2 NL); however the material provided for the wheelchair lift and Master's Transportation specification sheets indicates a Century lift identified as a NCL919 that has a spring activated outer roll stop barrier. Please clarify which lift is being bid.

2. Section VI.K.4. FRONT WHEELCHAIR ACCOMMODATIONS/Wheelchair Securement; page 47 of the specifications.

This question is asked for Goshen bid.

The Wheelchair Securement specifications request wheelchair restraint system to be WC 18 compliant. The bid was marked as YES but the material provided for the Q'straint wheelchair securement system is for QRT-1 series securement system (which isn't WC 18 compliant); instead of the WC 18 compliant securement system

QRT-360. Please clarify if the bid will meet the specifications by providing the QRT-360 wheelchair securement system and provide the brochures for the bid package.

A copy of your submitted bid is attached for 5509 OF.

Thank you,

Dianna Gilliland

Buyer II | MATERIEL DIVISION - STATE PURCHASING BUREAU

Nebraska Department of Administrative Services
1526 K Street, Suite 130, Lincoln NE 68508

OFFICE [402-471-4193](tel:402-471-4193)

FRONT DESK [402-471-6500](tel:402-471-6500)

FAX [402-471-2089](tel:402-471-2089)

Dianna.gilliland@nebraska.gov

das.nebraska.gov | [Facebook](#) | [Twitter](#)

Documents attached to this e-mail are the copies of original documents. The original documents are housed at State Purchasing Bureau in the associated file.

This message and any attachments are governed by Master's Transportation information security rules and may contain information that is legally privileged or confidential. If you are not the intended recipient, distribution is prohibited - notify the sender immediately and delete this message from your system.

Simplicity... Redefined

NHTSA **BRAUN MILLENNIUM 2 SERIES™**



THE BRAUN CORPORATION.
mobility products

BRAUN

MILLENNIUM² SERIES

- fully automatic NHTSA compliant lift, operated by an attendant
- loading position - either direction
- interfaces with OEM interlocks
- lift mounted lights - active when interlocks are met and lift is powered
- hand-held control box with illuminated functions
- locking mechanical Inboard Barrier (IB), powder coated yellow for safety and high visibility, prevents operation if occupied
- pump design prevents platform folding when occupied, quiet operation & low current draw
- durable redesigned baseplate reduces lift weight and allows for quicker and easier service of hose/wiring
- easily installed, step-by-step installation instructions, no peripheral hardware required
- platform movement prevented during unsafe operation
- hydraulic outer barrier that will be in the fully up position before the platform leaves the ground, complete with durable rubber nose guard
- transition areas marked with durable high-gloss yellow powder coating for safety & visibility
- side or rear door application
- several platform widths and lengths
- dual handrails for security and convenience
- bridging feature permits the wheelchair user to board the lift from sidewalks or inclines
- floor to ground travel is 42" or 48"
- lifting capacity is 800 lbs
- integrated back-up pump
- equipped with an adjustable anti-rattle feature to avoid unpleasant noise in the vehicle during transit
- durable high-gloss powder coated finish
- Lift-Tite system stows the lift platform securely while the vehicle is in transit
- pump module with removable cover offers easy access to all components



Integrated dual handrails provide added security for wheelchair users and standees



Visual and audible warnings alert both passengers and attendants to unsafe conditions



Hydraulic roll stop engages and locks before the platform leaves the ground



THE BRAUN CORPORATION.
www.braunlift.com



1-800-THE LIFT
For The Dealer Nearest You

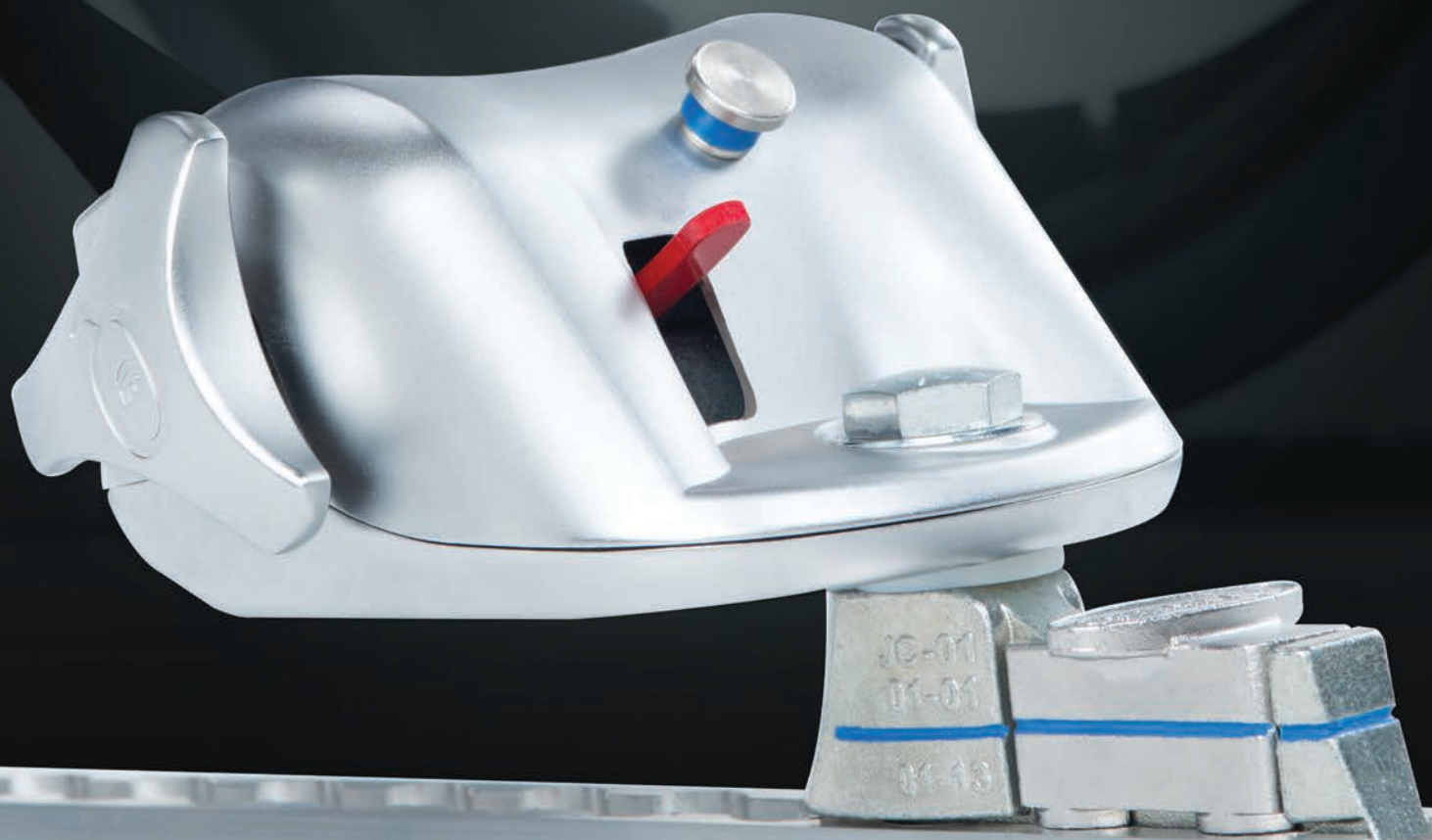
International Corporate Hdqrs: P.O. Box 310 Winamac, IN 46996 USA
1-800-843-5438 (574) 946-6153 FAX: (574) 946-4670



Thinking *Beyond* Safety

QRT™ SERIES

The New Standard
in Wheelchair Securement and Passenger Safety



QRT-3 SERIES



Meets the Requirements of **WC18**
Compatible with **WC19** Wheelchairs



QRT-360

MEETING TOMORROW'S STANDARDS, TODAY

Introducing the **QRT-3 SERIES** Wheelchair and Occupant Securement System:

The first 4-point, heavy duty, fully automatic retractable tie-downs designed, engineered and built to perform in wheelchair crash tests under **WC19** as well as withstand the higher loads of the **WC18** standard.

More impressively, the new **QRT-360** meets these increased standards years ahead of their effective date in 2015.



WC18/WC19 at a Glance

As WC19 wheelchairs become increasingly popular, the countdown has already begun for wheelchair tie-downs to be compatible. Year-end 2015 will see the effective date of the revised RESNA WC18 standard for Wheelchair Tie-downs and Occupant Restraint Systems (WTORS).

The most significant implication of the revised standard is that wheelchair tie-downs must be stronger. WC19 covers the design and testing of wheelchairs for use in passenger transportation, and it brings about much needed passenger protection as well as some challenges for WTORS manufacturers.

These crash tested wheelchairs will feature lap belts that are integrally mounted onto the wheelchair frame, as opposed to relying on traditional WTORS equipment where the passenger belts are mounted separately. During a collision, this new dynamic produces higher loading on the WTORS as much as 60%. Enter the QRT-360, the first retractor to meet these new requirements.

AN ALL NEW DESIGN FROM THE FLOOR UP

SOLUTIONS
FOR EVERY
TRANSPORTATION
APPLICATION

Stronger than any previous retractors, the QRT-360 utilizes innovative energy management designs and material technologies to deliver the system's full strength for maximum load capacity.

An energy-absorbing steel frame, new high strength 58 mm webbing and fine-adjust self tensioning from 25 high-strength teeth, the QRT-360 retractors achieve a surrogate wheelchair rating that meets the requirements of WC18. The geometry of the teeth and an innovative new locking bar design provide perpendicular alignment for maximum strength. A re-engineered Positive Locking Interface contributes to the system's ability to secure extremely heavy loads.

With many more safety features than manual straps and significantly lighter and more practical than 6-point systems, space-efficient QRT-360 retractors safely secure both the chair and occupant in an easy-to-use 4-point restraint. This not only meets the new WC18 standard for combined occupant and chair securement, but it eliminates the need, cost and additional securement time associated with having four anchorages dedicated to the rear securement.

Compatible with Most Vehicles and Chairs

The QRT-360 offers a shortened retractor footprint that allows placement flexibility and better accommodates large chairs by increasing the available space in the securement location. Like other Q'Straint systems, it's compatible with the widest variety of wheelchairs and scooters.

A More Secure Connection, Every Time

With Q'Straint J-hook attachments, operators can achieve a secure attachment on virtually any wheelchair. An updated Positive Lock Indicator provides the operator with clear and certain visual confirmation that the retractor is locked and the vehicle is ready to go. Our patented design eliminates the guesswork when passenger safety is involved. When the indication mark is in-line, the attachment is secure.

Automatic Tightening Increases Safety

Q'Straint's industry-leading self-tensioning system automatically tightens the straps to eliminate any slack created by small wheelchair movements. The belts continue to tighten during low-g vehicle movements, which reduce the potential for dangerous excursions in the event of a collision.

Automatic Release Makes it Easy to Use

Securement is simplified by the compact and ergonomically designed knob. Thanks to Q'Straint auto-release, operators and attendants can pull and secure the wheelchair hook in one step without having to press a release button.

Personal
Mobility

Para-Transit

School/Pupil
Transportation

Transit

Motorcoach

Taxi



QRT-1 SERIES

THE SECUREMENT SYSTEM THAT CHANGED EVERYTHING

The original 4-point wheelchair securement system, QRT-1 Series retractors defined the way passenger safety devices are designed and tested.

Solutions for Every Need and Budget

Today, QRT-1 Series retractors provide a full range of options for simple, safe and effective securement of wheelchairs in Para-Transit vehicles, mini-van, rail, city bus, coach bus, and school bus applications.



QRT Max

is a **fully automatic**, knobless retractor offering innovative features that maximize ease of use and ensure passenger safety.



QRT Deluxe

is the world-class original **self-locking** and **self-tensioning** retractable system. The Max and Deluxe models feature a new ergonomic streamlined housing.



QRT Standard

is simple and economical semi-automatic retractor system appropriate for many applications.

QRT-1 Series Specifications

Compatible Anchorages:
Slide 'N Click and L-Track floor anchorages, or may be directly mounted to vehicle floors, seat legs or barriers

Warranty:
3 years (QRT Max, QRT Deluxe);
2 years (QRT Standard)

Testing:
Crash tested to 30mph/20g
Impact Test Criteria

Meets or exceeds the following standards and regulations:

- SAE J2249
- ISO 10542
- FMVSS 209, 302, 210, 222
- CMVSS 209
- CSA Z605
- ADA

QRT SERIES-1 FEATURES COMPARISON

	QRT MAX	QRT DELUXE	QRT STANDARD
Knobless, One-Handed Operation No knobs to interfere with wheels and footrests.	●		
Dual Tensioning Knobs Provides additional tensioning if needed.		●	
Single Tensioning Knob Provides additional tensioning if needed.			●
Automatic, Self-Locking Allows easy, one-handed hook-up.	●	●	
Self-Tensioning Retractors automatically take up 'slack'.	●	●	
Positive Lock Indicator Patented feature clearly indicates when fitting is locked in anchorage.	●	●	●
Interchangeable Eliminates confusion: no right, left, front or rear locations.	●	●	●
Low Profile & Compact Elimination of mounting bracket allows retractors to fit under most footrests.	●	●	●
Accommodates Larger Wheelchairs Reduced overall retractor length leaves more room for wheelchairs.	●	●	
Universal Design Accommodates virtually all wheelchair designs, including scooters.	●	●	●
Durable Constructed from hardened steel and coated in zinc for maximum corrosion resistance.	●	●	●
J-Hook Reduces twisting of belts and ensures proper securement with a quarter turn accommodating virtually all wheelchair designs.	●	●	●
Foot Release Lever Easy release.	●	●	●



Qstraint.com

Q'Straint America
5553 Ravenswood Road, #110
Ft. Lauderdale, FL 33312
Tel: 800-987-9987
Fax: 954-986-0021
Email: qstraint@qstraint.com

Q'Straint Europe
72-76 John Wilson Business Park
Whitstable, Kent, CT5 3QT
United Kingdom
Tel: +44 (0)1227 773035
Fax: +44 (0)1227 770035
Email: info@qstraint.co.uk

Q'Straint Australia
Tramanco Pty Ltd.
21 Shoebury Street,
Rocklea, Australia, QLD. 4106
Tel: +61 7 3892 2311
Fax: +61 7 3892 1819
Email: info@tramanco.com.au

Q'Straint Canada
18-100 Sheldon Dr.
Cambridge, ON N1R 7S7
Tel: 1-800-987-9987
Email: qstraint@qstraint.com

MKM4821 - QRT3

Pete Ricketts, Governor

ADDENDUM ONE QUESTIONS and ANSWERS

Date: January 23, 2017

To: All Bidders

From: Dianna Gilliland, Buyer
AS Materiel State Purchasing Bureau

RE: Addendum for Invitation to Bid Number 5509 OF
to be opened February 1, 2017 at 2:00 p.m. Central Time

Questions and Answers

Following are the questions submitted and answers provided for the above mentioned Invitation to Bid. The questions and answers are to be considered as part of the Invitation to Bid. It is the Bidder's responsibility to check the State Purchasing Bureau website for all addenda or amendments.

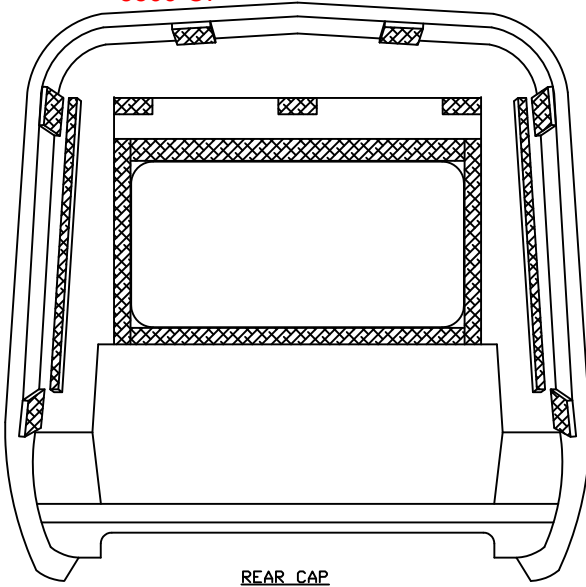
Question Number	ITB Section Reference	ITB Page Number	Question	State Response
1.	G Bus Body	Page 43	Respectfully request approval of our body construction: A Diamond Coach's body is comprised of vacuum-cured honeycomb fiberglass with wood core reinforcement at all corner stress points. The wood core and honeycomb fiberglass are combined to create a uni-body design. This construction type is extremely strong yet its flexibility is what allows it to maintain its structure even after enduring tremendous weight stresses, like a rollover accident. The "spring back" property of the body is a true asset to the safety of the bus. The molded vacuum-cured panels consist of an outer layer of .02" thickness of gelcoat over a three-sixteenth inch (3/16") minimum thickness of resin-	Specifications will remain as written.

Question Number	ITB Section Reference	ITB Page Number	Question	State Response
			<p>hardened fiber reinforced composite material. The interior panel is a one-inch (1") thick phenolic impregnated hexel honeycomb center with three-eighth inch (3/8") cells. Panels are treated for fire retardance and resistance to fungus and insect infestation, laid on edge to provide maximum column strength. The interior surface is a minimum of one eighth inch (1/8") thick resin-hardened fiber reinforced composite material. All panels are vacuum-cured to ensure the complete bonding of all materials.</p> <p>Window and door openings are manufactured into the body structure. No cutting of the body structure is required. Diamond Coaches meet both Federal Motor Vehicle Safety Standard (FMVSS) #220(School Bus Rollover Protection) and FMVSS #221 (School Bus Body Joint Strength). Full Altoona testing has been completed. The design and assembly process of the Diamond Coach produce a quiet, comfortable ride for passenger and driver.</p> <p>Please see the attached body structure diagram.</p>	
2.	I Entrance Door and Stepwell	Page 45	Respectfully request approval of the Diamond Coach entrance door stepwell: The step well of each bus will be constructed of Nidacore and Hardwire reinforced fiberglass. Securely fastened to the floor and sidewall substructure. It is deflection tested and highly resistance to road salt and chemicals. Ground to first step is approximately 12". Will vary +/- one half inch due to chassis.	Specifications will remain as written.
3.	B General Requirements, Item 1: ISO Certification	Page 39	Respectfully request requirement for ISO certification be omitted, or not required to participate in this RFP. The ISO certification is a self-governed process that allows the entity to set the end goal. All though compliance is tracked by outside auditing, adherence to ISO guidelines can be subjective. A company with an ISO rating does not necessarily possess the ability to produce a product with superior quality, or deliver on promised target dates.	Specifications will remain as written.

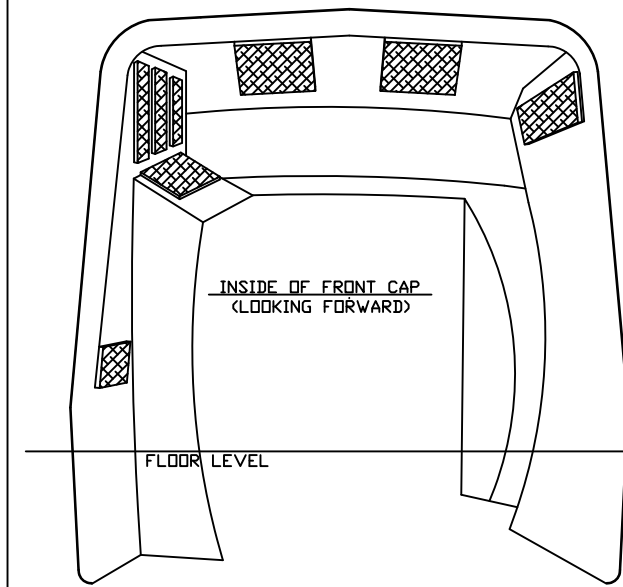
<u>Question Number</u>	<u>ITB Section Reference</u>	<u>ITB Page Number</u>	<u>Question</u>	<u>State Response</u>
4.	I Price Adjustment	Page 3	Respectfully request clarification on Price Adjustment. If the State decides to extend the contract for the additional years as stated on page #1 of the invitation. The contractor/manufacture will most likely incur price increases due to commodity and raw material costs escalating. Would the State please clarify an acceptable percentage increase per year, or use of PPI table to calculate increases for additional contract years?	Please refer to the following sections in relation to price change: 1. Section II.H. Price Adjustments During Contract Term, page 3; 2. Section III.HH. Prices, page 17; first year will not exceed 5% increase. 3. Section VI.T. Prices, page 51. The Producer Price Index may be used as supporting documentation for price change.
5.	G. BUS BODY, 5. FLOOR	44	We would propose that 5/8" Marine tech plywood (specs attached) decking with metal underbelly be used ilo Thermo-Lite Board Model 2651a fiber-reinforced urethane composite material by Space Age Synthetics.	Specifications will remain as written.
6.	M. FINISHES, 1. INTERIOR FINISH	49	We would like to propose GERFLOR flooring ilo of Altro. (specs attached)	Specifications will remain as written.
7.			Do you have the attached in a word document that can be filled out instead of hand written? Please advise.	The Invitation to Bid (pages 1-3) is PDF only. A Word version of the specifications is now available on the Bid Opportunities webpage. http://das.nebraska.gov/materiel/purchasing/5509/5509.html

This addendum will become part of the ITB and should be acknowledged with the Invitation to Bid.

5509 OF



REAR CAP

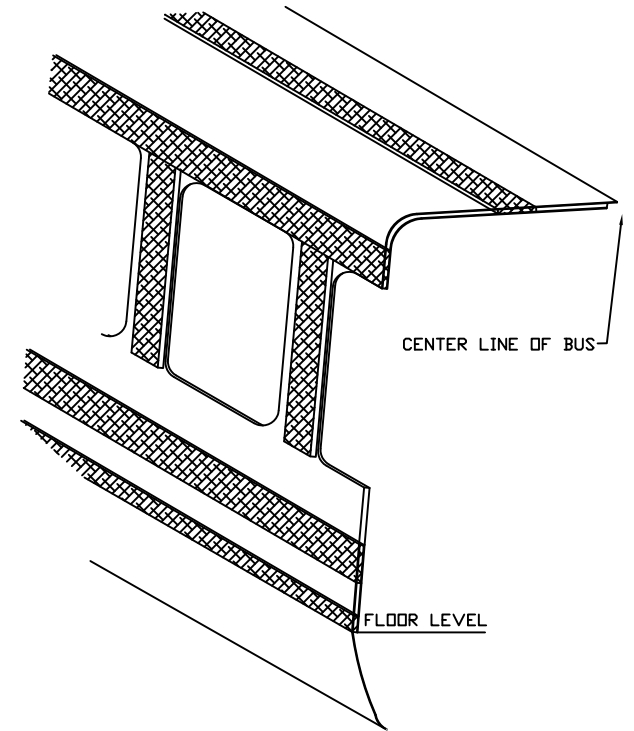


INSIDE OF FRONT CAP
(LOOKING FORWARD)

FLOOR LEVEL

FRONT CAP

Vendor Attachment for Question 1

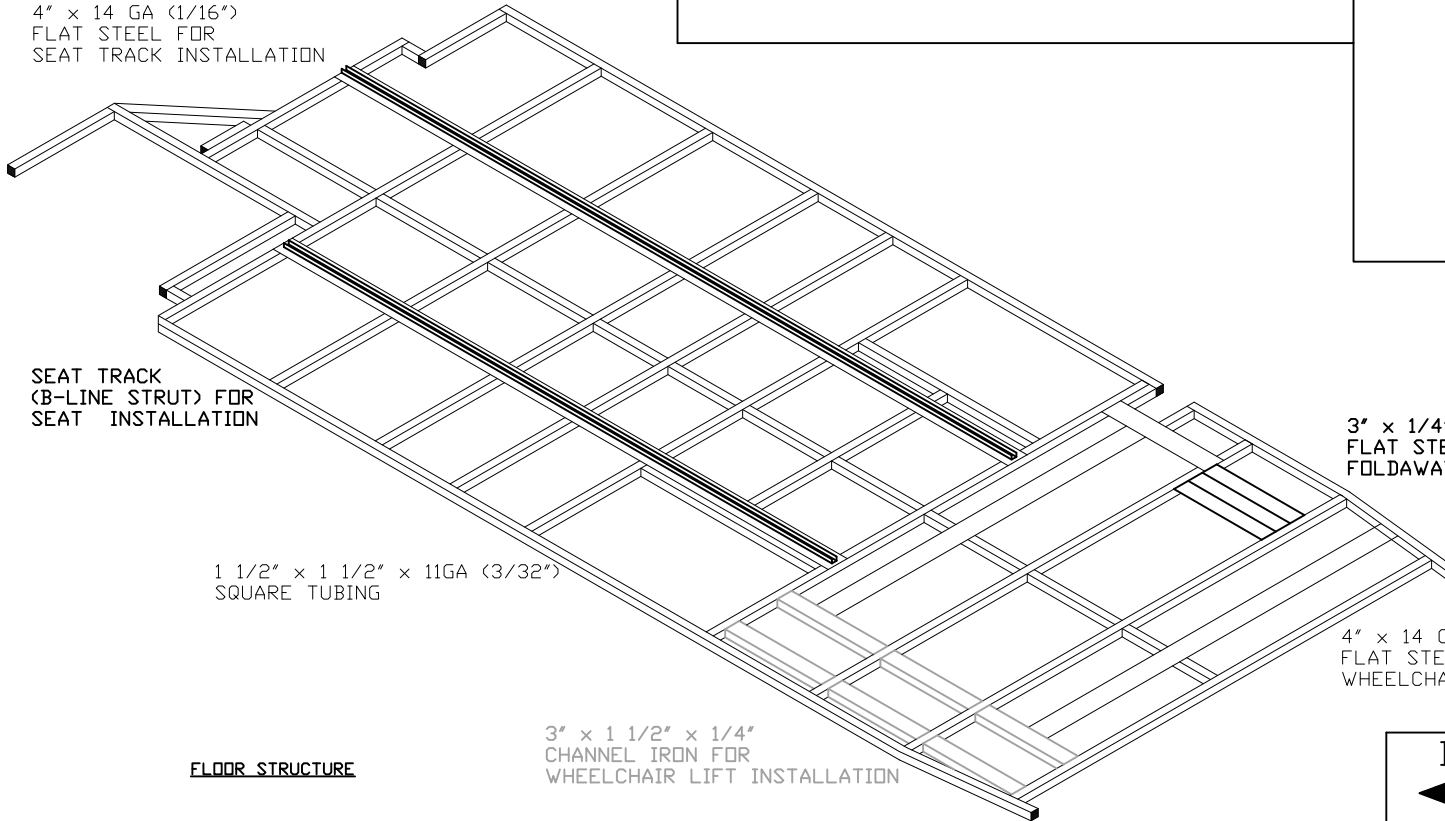


CENTER LINE OF BUS

FLOOR LEVEL

WALL

4" x 14 GA (1/16")
FLAT STEEL FOR
SEAT TRACK INSTALLATION



SEAT TRACK
(B-LINE STRUT) FOR
SEAT INSTALLATION

1 1/2" x 1 1/2" x 11GA (3/32")
SQUARE TUBING

FLOOR STRUCTURE

3" x 1 1/2" x 1/4"
CHANNEL IRON FOR
WHEELCHAIR LIFT INSTALLATION

3" x 1/4"
FLAT STEEL FOR
FOLDAWAY SEAT INSTALLATION

4" x 14 GA (1/16")
FLAT STEEL FOR
WHEELCHAIR TRACK INSTALLATION

DIAMOND COACH CORPORATION



P.O. BOX 489, 2300 WEST FOURTH STREET
OSWEGO, KANSAS 67356 (620) 795-2191 FAX 4816

TITLE:

STRUCTURAL ELEVATIONS OF
WALL, CEILING, & FLOOR

DRAWN BY: C.Strickland

DATE: 02/10/15

The following spec sheet was graciously supplied by Plum Creek, the manufacturer of Marine Tech plywood.

Plum Creek

PRODUCT DESCRIPTION MARINE TECH

GENERAL:

- Designed For Rigorous Marine Use With Superior "B" Face Grades
- All Struc 1, Group 1 Species Construction
- Produced With "Ultra Core" Tight "High C" Grade Cross Bands & Centers
- Standard 5/8" 5 Ply (7 Ply Available Upon Request) 3 3/4" 7 Ply
- Available With Solid Core And/Or "B" Faces - 2 Sides Upon Request
- APA Industrial Panel Selection Guide - ICI No. 9344

FACES:

- "B" And Better Face(s) Grade With No Open Holes Or Defects
- Splits Over 1/16" Are Filled. Only Sound, Tight Pin Knots Allowed
- Fully Sanded Faces Using 60 Grit Paper

BACKS:

- Single Faced Panels - "High C" Grade Chosen For Minimal Knotholes & Splits
- Optional 2 Sided Panel Has a B-Plugged Back - No Open Knotholes Or Defects
- Splits Over 1/16" Are Filled. Only Sound Tight Knots Up to 1" Are Allowed
- Back is Touch Sanded With 60 Grit Paper

CORES / CENTERS:

- All Composed "High C" Grade Core Eliminates Laps And Gaps
- 1 Piece "High C" Centers Used

CONSTRUCTION & THICKNESS:

- Available in 4'x 8' - Scarfed Lengths Up To 16' Long
- Thickness:
 - 1/4" - 3 Ply
 - 3/8" - 4 Ply
 - 1/2" - 5 Ply
 - 5/8" - 5 or 7 Ply
 - 3/4" - 7 Ply
- Tongue & Groove Available For Pontoon Boat Flooring
- Thicker Transom Panels Up to 1 1/2" Available

PRESERVATIVE TREATING (PTP):

- Available with CCA Treating To .40 Minimum Retention

Customer Service: Plum Crook Timber Co. Po Box 1990, Columbia Falls, MT 69912, 800-841-0032

[Wood-Plywood Index](#)

Floor covering: (ideal for Tarabus)

The floor surface shall be covered with Tarabus Helios Rhodium 8806 or approved equal.

Floor covering: (if writer does not specify trade names)

The floor covering shall meet FMVSS302.

The floor covering thickness shall be minimum 2.25 mm.

The floor covering shall have a non slip surface that remains effective in all weather conditions and complies with all ADA requirements. The wear layer shall be constructed with silicon carbide particles and shall not contain aluminium oxide or quartz.

Any decorative pattern shall be made with PVC colored chips and shall be consistent throughout the wear layer of the floor covering.

Intermediate layer shall be a fiberglass reinforced grid to ensure dimensional stability $\leq 0.2\%$ according to ASTM D 1204

Backing shall be felt textured with minimum thickness of 0.1 mm to ensure good mechanical adhesion on all types of substrates.

Installation:

Prior to the application of the floor covering, the seams, joints, imperfections and fastener holes shall be filled and the filler material allowed to fully cure. The entire floor shall be thoroughly sanded to smooth. After sanding, the floor shall be thoroughly and completely cleaned of all sanding dust and any foreign materials.

Installation of the floor covering shall be done in a manner so that the flooring rolls up the side wall of the vehicle to the seat track.

All seams in flat areas shall be hot welded with the use of a 5 mm diameter round welding rod and thoroughly flushed. Angle welds shall be hot performed with a triangular 7.2 mm wide welding rod. All edges must be sealed with a colour matching PU sealant to prevent moisture intrusion.

A standee line shall be required and shall be of contrasting color extending across the bus aisle.

Landing area and step edgings shall have aluminium step edge with a band of 1.34 inch bright yellow or white safety vinyl inserted into the step edge. This insert shall be recessed into the aluminium step to prevent trip hazard.

The floor covering, as well as transitions of flooring material to the main floor and to the entrance and exit area, shall be smooth and present no tripping hazards.

All flooring shall be covered after installation to protect it from inadvertent damage during the remaining phases of assembly. Any damage to the floor covering material shall require complete removal of the damaged section and installation of new material.

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	1/4/17	Page	1 of 3
Solicitation Number	5509 OF		
Opening Date and Time	02/01/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

____ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. " Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

____ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

Contract to supply and deliver 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 to the State of Nebraska as per the attached specifications for a one (1) year period from date of award. The contract may be renewed for four (4) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

(fc 01/04/17)

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	SMALL TRANSIT BUS 12 PLUS 2 FORD CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2017 OR CURRENT PRODUCTION YEAR BUS MANUFACTURER: _____ PRODUCTION YEAR: _____ DELIVERY TIME AFTER RECEIPT OF ORDER: _____ MSRP AS BID: _____	50.0000	EA		

BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: _____% _____ DAYS

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within _____ days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign _____
Here (Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

Enter Contact Information Below

VENDOR# _____
VENDOR: _____
Address: _____

Contact _____
Telephone _____
Facsimile _____
Email _____

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	1/4/17	Page	2 of 3
Solicitation Number	5509 OF		
Opening Date and Time	02/01/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.				

2	GAS SMALL TRANSIT BUS 12 PLUS CHEVROLET CHASSIS STANDARD VEHICLE AND FLOOR PLAN AS SHOWN IN FIGURE 1, PAGE 55. 2017 OR CURRENT PRODUCTION YEAR	50.0000	EA	_____	_____
---	--	---------	----	-------	-------

BUS MANUFACTURER: _____

PRODUCTION YEAR: _____

DELIVERY TIME AFTER RECEIPT OF ORDER: _____

MSRP AS BID: _____

THE ORIGINAL MANUFACTURER' S SERVICE AND WARRANTY POLICY SHALL ACCOMPANY EACH BUS WHEN DELIVERED.

OPTIONS

THE OPTIONS SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS, WHICH ARE EXCEPTIONS TO SPECIFICATIONS AND MUST BE FACTORY-INSTALLED. QUOTES MUST BE FURNISHED, IF AVAILABLE, FOR BELOW LIST AND IF NOT INCLUDED AS STANDARD EQUIPMENT OR REQUESTED IN MAIN PART OF THIS SPECIFICATION.

ALL EXCEPTIONS TO OPTIONS MUST BE CLEARLY INDICATED. EXAMPLE: UNITS ORDERED WITH AIRBAGS MAY NOT BE AVAILABLE WITH A TILT WHEEL AND AUTOMATIC SPEED CONTROL.

FOR DEDUCTION LINES: THE BID PRICE SUBMITTED SHOULD BE THE SUBTRACTED PRICE DIFFERENCE FROM THE BUS BID PRICE.

BIDDER MUST SUPPLY LITERATURE ON OPTIONAL ITEMS TO BE SUPPLIED.

3	RAISED FLOOR	50.0000	EA	_____	_____
---	---------------------	---------	----	-------	-------

4	COMPRESSED NATURAL GAS	50.0000	EA	_____	_____
---	-------------------------------	---------	----	-------	-------

CNG OPTION

PROVIDE PRICING FOR AN OPTIONAL CNG PACKAGE WITH CT1000 AND/OR CT5000 NOZZLE FUEL PORTS(S) WITH DRIVER SIDE ENTRY. A MINIMUM OF 38 GALLON EQUIVALENT (GGE) TYPE 3 TANKS SHALL BE INSTALLED BETWEEN THE FRAME RAILS OF THE CHASSIS. ALL FITTINGS AND HOSES ARE TO BE STAINLESS STEEL OR FLEX TUBING APPROVED FOR USE WITH CNG. CONVERSION SHALL INCLUDE DUST AND GRAVEL SHIELDS TO PROTECT TANKS AND VALVES.

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	1/4/17	Page	3 of 3
Solicitation Number	5509 OF		
Opening Date and Time	02/01/17	2:00 pm	
Buyer	DIANNA GILLILAND (AS)		

DESTINATION OF GOODS
MULTIPLE DELIVERY LOCATIONS
PLEASE REFER TO DOCUMENTATION
FOR DELIVERY ADDRESSES.

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
	NOTE: WHEN BIDDING THIS OPTION, AN ALTOONA TEST REPORT FOR THE CNG FUELING VEHICLE MUST BE SUPPLIED WITH THE BID.				
5	ADDITIONAL WHEELCHAIR POSITION WITH SECUREMENT ADDITIONAL WHEELCHAIR POSITIONS WILL BE ON DRIVER SIDE OF VEHICLE. FOR EACH ADDITIONAL WHEELCHAIR POSITIONS, TWO (2) " L" TRACK MINIMUM 35 INCHES EACH IN LENGTH, WILL BE INSTALLED SIDE-TO-SIDE, A MINIMUM OF 52 INCHES APART. ADDITIONAL WHEELCHAIR SPACES WILL HAVE " L" TRACK 12 TO 14 INCHES IN LENGTH INSTALLED ABOVE THE SIDE WINDOWS TO ACCOMMODATE THE ADJUSTMENT OF THE OCCUPANT RESTRAINT.	50.0000	EA	_____	_____
6	DEDUCT FOR REMOVAL OF TWO PASSENGER SEAT TO ADD WHEELCHAIR POSITION OR TO ADD OPTIONAL INTEGRATED CHILD SEAT WITH COMPANION SEAT.	50.0000	EA	_____	_____
7	ONE INTERGRATED CHILD SEAT WITH COMPANION SEAT AISLE SIDE FLIP-UP U.S. ARMREST AND UNDER-SEAT RETRACTOR SEAT BELTS.	50.0000	EA	_____	_____
8	ONE FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) (CRS) CHILD RESTRAINT SYSTEMS (CRS) LATCH HOOK PER DOUBLE SEAT (HOOK INSTALLED ON PASSENGER SEAT NEAR VEHICLE WALL).	50.0000	EA	_____	_____
9	MID TO HI FEATHER WEIGHT TWO PASSENGER FLIP SEAT WITH BLACK MOLDED U.S. FLIP-UP ARMS, ABS PLASTIC BACKS, AND SEAT BELTS. SEAT COVERING TO BE THE SAME AS OTHER PASSENGER SEATS. FLIP SEAT TO BE PLACED ALONG BACK WALL IN WHEELCHAIR SECUREMENT AREA.	50.0000	EA	_____	_____
10	RETRACTABLE SAFETY PLATFORM LIFT BELT	50.0000	EA	_____	_____
11	24 INCH BLACK ADJUSTABLE PASSENGER SEATBELT EXTENSION FOR AMBULATORY PASSENGER SEATS.	50.0000	EA	_____	_____
12	DROP SHIPMENT CHARGE OUTSIDE THE LINCOLN AREA ADDITIONAL COSTS OF CHARGES FOR VEHICLE DROP SHIPMENT OUTSIDE THE LINCOLN AREA. DROP SHIPMENT CHARGES WOULD BE FOR VEHICLES BOUGHT BY POLITICAL ENTITIES AND OTHER DIVISIONS OF GOVERNMENT.	50.0000	EA	_____	_____

TABLE OF CONTENTS

GLOSSARY OF TERMS..... iv

I. SCOPE OF THE INVITATION TO BID (ITB)..... 1

A. SCHEDULE OF EVENTS 1

II. PROCUREMENT PROCEDURES..... 2

A. PROCURING OFFICE AND CONTACT PERSON 2

B. GENERAL INFORMATION..... 2

C. COMMUNICATION WITH STATE STAFF AND EVALUATORS 2

D. WRITTEN QUESTIONS AND ANSWERS..... 2

E. SUBMISSION OF BIDS 3

F. IMPORTANT NOTICE LANGUAGE 3

G. DISCOUNTS..... 3

H. PRICE ADJUSTMENTS DURING CONTRACT TERM 3

I. PAYMENT 3

J. BID EXECUTION..... 3

K. BID OPENING 3

L. ELECTRONIC DOCUMENTS/FACSMILIE SUBMISSIONS 4

M. VALID BID TIME 4

N. ALTERNATE/EQUIVALENT BIDS..... 4

O. LATE BIDS 4

P. NO BID 4

Q. LUMP SUM OR ALL OR NONE BIDS 4

R. REJECTION OF BIDS 4

S. EVALUATION OF BIDS..... 4

T. BID TABULATIONS 4

U. MANDATORY REQUIREMENTS 5

V. REFERENCE CHECKS..... 5

W. RECYCLING 5

X. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS..... 5

Y. RESIDENT BIDDER 5

Z. EVALUATION CRITERIA AND AWARD..... 5

AA. POLITICAL SUB-DIVISIONS 6

BB. VIOLATION OF TERMS AND CONDITIONS 6

III. INVITATION TO BID - TERMS AND CONDITIONS..... 7

A. GENERAL..... 7

B. DEBARMENT 7

C. SPECIFICATIONS..... 8

D. PERFORMANCE AND DEFAULT 8

E. DRUG POLICY 8

F. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION8

G. PERMITS, REGULATIONS, LAWS 9

H. COOPERATION WITH OTHER CONTRACTORS 9

I. CONTRACTOR RESPONSIBILITY 9

K. FUNDING OUT CLAUSE OR LOSS OF APPROPRIATIONS 10

L. RIGHT TO AUDIT 10

M. CONFLICT OF INTEREST 11

N. BID PREPARATION COSTS 11

O. ERRORS AND OMISSIONS..... 11

P. ASSIGNMENT BY THE STATE..... 11

Q. ASSIGNMENT BY THE CONTRACTOR 12

R. GOVERNING LAW 12

S. ATTORNEY'S FEES..... 12

T. ADVERTISING 12

U. NOTIFICATION 12

V. EARLY TERMINATION 13

W. BREACH BY CONTRACTOR..... 14

X. ASSURANCES BEFORE BREACH..... 14

Y.	ACCEPTANCE AND PAYMENT OF GOODS	14
Z.	FORCE MAJEURE	15
AA.	PROHIBITION AGAINST ADVANCE PAYMENT	15
BB.	PAYMENT	15
CC.	INVOICES.....	15
DD.	TAXES	16
EE.	SEVERABILITY	16
FF.	PROPRIETARY INFORMATION	16
GG.	CERTIFICATION OF INDEPENDENT PRICE DETERMINATION/COLLUSIVE BIDDING	17
HH.	PRICES	17
II.	ETHICS IN PUBLIC CONTRACTING	18
JJ.	INDEMNIFICATION	18
KK.	ANTITRUST.....	19
LL.	EMPLOYEE WORK ELIGIBILITY STATUS.....	19
IV.	SCOPE OF WORK	20
A.	SCOPE	20
B.	AMENDMENT.....	20
C.	REVISIONS	20
V.	PROCUREMENT REQUIREMENTS FOR SMALL BUSES	21
A.	FLOOR PLAN	21
B.	WARRANTY PROVISIONS	21
C.	ROYALTIES AND LICENSE FEES	21
D.	FEDERAL MOTOR VEHICLE SAFETY STANDARD AND AMERICANS WITH DISABILITIES ACT (ADA).....	21
E.	MANUALS, MANUFACTURER'S STATEMENT OF ORIGIN (MSO) AND ETC.....	22
F.	PRIOR TO DELIVERY, EACH VEHICLE SHALL BE COMPLETELY SERVICED	22
G.	VEHICLE DELIVERY	22
H.	IF VEHICLE DOES NOT COMPLY	23
I.	GRIEVANCES AND PROTESTS	23
J.	TERMINATION FOR CONVIENANCE	24
K.	TERMINATION FOR DEFAULT	24
L.	NO OBLIGATION BY THE FEDERAL GOVERNMENT.....	24
M.	PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS	24
N.	FEDERAL CHANGES.....	25
O.	INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS.....	25
P.	CIVIL RIGHTS	25
Q.	CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS	26
R.	ENERGY CONSERVATION REQUIREMENTS	27
S.	CLEAN WATER REQUIREMENTS	27
T.	CLEAN AIR REQUIREMENTS	28
U.	BUS TESTING.....	28
V.	PRE-AWARD AND POST-DELIVERY AUDIT REQUIREMENTS	28
W.	RESTRICTIONS ON LOBBYING	29
X.	BUY AMERICA.....	29
Y.	DISADVANTAGED BUSINESS ENTERPRISES (DBE)	29
Z.	ACCESS TO RECORDS	30
AA.	DISPUTE, BREACHES AND OTHER LITIGATION.....	31
BB.	CARGO PREFERENCE	31
CC.	FLY AMERICA.....	32
DD.	OVERTIME REQUIREMENTS	32
EE.	VIOLATION; LIABILITY FOR UNPAID WAGES' LIQUIDATED DAMAGES	32
FF.	WITHHOLDING FOR UNPAID WAGES AND LIQUIDATED DAMAGES	33
GG.	SUBCONTRACTS	33
HH.	PAYROLLS AND BASIC RECORDS.....	33
II.	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT	34
JJ.	SUBCONTRACTS	34
KK.	ADA ACCESS.....	34
LL.	SPECIAL NOTIFICATION REQUIREMENTS FOR STATES	35
MM.	NEW EMPLOYEE WORK ELIGIBILITY STATUS	35
NN.	SPECIAL PROVISION-TEXT MESSAGING WHILE DRIVING.....	36

OO.	ASSIGNMENT AND SUBCONTRACTING	37
PP.	LICENSING REQUIREMENTS.....	37
QQ.	FACTORY INSPECTION.....	37
VI.	INVITATION TO BID - TECHNICAL SPECIFICATIONS.....	38
A.	NON-COMPLIANCE STATEMENT	38
B.	GENERAL REQUIREMENTS.....	39
C.	GENERAL DIMENSIONS AND CAPACITIES	40
D.	CHASSIS AND RELATED SYSTEMS	40
E.	AUXILIARY SYSTEMS, MISCELLANEOUS PARTS, AND ACCESSORIES	42
F.	EMERGENCY EQUIPMENT	43
G.	BUS BODY	43
H.	WINDSHIELD AND WINDOWS.....	44
I.	DOORS.....	45
J.	SEATS AND AISLE	45
K.	FRONT WHEELCHAIR ACCOMMODATIONS.....	46
L.	STANCHIONS, MODESTY PANELS AND HANDRAILS.....	48
M.	FINISHES	48
N.	MOTOR VEHICLE INDUSTRIES REGULATION ACT	49
O.	SUSTAINABILITY	50
R.	ORDERS	50
X.	WITHDRAWAL OF BID	52
	FIGURE 1 Floor Diagram.....	54
	BIDDER'S CHECKLIST	55
	CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS.....	56
	CERTIFICATION REGARDING LOBBYING	57
	BUY AMERICA	58
	DISADVANTAGED BUSINESS ENTERPRISES CERTIFICATION	59
	FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION.....	60
	FORM A BIDDER CONTACT SHEET	61

GLOSSARY OF TERMS

Acceptance Test Procedure: Benchmarks and other performance criteria, developed by the State of Nebraska or other sources of testing standards, for measuring the effectiveness of products or services and the means used for testing such performance.

Addendum: Something to be added or deleted to an existing document; a supplement.

After Receipt of Order (ARO): After Receipt of Order

Agency: Any state agency, board, or commission other than the University of Nebraska, the Nebraska State colleges, the courts, the Legislature, or any other office or agency established by the Constitution of Nebraska.

Agent/Representative: A person authorized to act on behalf of another.

Amend: To alter or change by adding, subtracting, or substituting.

Amendment: A written correction or alteration to a document.

Appropriation: Legislative authorization to expend public funds for a specific purpose. Money set apart for a specific use.

Award: All purchases, leases, or contracts which are based on competitive bids will be awarded according to the provisions in the Invitation to Bid. The State reserves the right to reject any or all bids, wholly or in part, or to award to multiple bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid, and do not improve the bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State.

Bid/Proposal: The offer submitted by a vendor in a response to written solicitation.

Bid Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the vendor will not withdraw the bid.

Bidder: A vendor who submits an offer bid in response to a written solicitation.

Business: Any corporation, partnership, individual, sole proprietorship, joint-stock company, joint venture, or any other private legal entity.

Business Day: Any weekday, except State-recognized holidays.

Calendar Day: Every day shown on the calendar including Saturdays, Sundays, and State/Federal holidays.

Cancellation: To call off or revoke a purchase order without expectation of conducting or performing it at a later time.

Central Processing Unit (CPU): Any computer or computer system that is used by the State to store, process, or retrieve data or perform other functions using Operating Systems and applications software.

Change Order: Document that provides amendments to an executed purchase order.

Collusion: An agreement or cooperation between two or more persons or entities to accomplish a fraudulent, deceitful, or unlawful purpose.

Commodities: Any equipment, material, supply or goods; anything movable or tangible that is provided or sold.

Commodities Description: Detailed descriptions of the items to be purchased; may include information necessary to obtain the desired quality, type, color, size, shape, or special characteristics necessary to perform the work intended to produce the desired results.

Competition: The effort or action of two or more commercial interests to obtain the same business from third parties.

Confidential Information: Unless otherwise defined below, "Confidential Information" shall also mean proprietary trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. §84-712.05(3)). In accordance with Nebraska Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive.

Contract: An agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law; the writing that sets forth such an agreement.

Contract Administration: The management of the contract which includes and is not limited to contract signing, contract amendments and any necessary legal actions.

Contract Management: The management of day to day activities at the agency which includes and is not limited to ensuring deliverables are received, specifications are met, handling meetings and making payments to the Contractor.

Contract Period: The duration of the contract.

Contractor: Any individual or entity having a contract or awarded purchase order to furnish commodities or services.

Cooperative Purchasing: The combining of requirements of two or more political entities to obtain advantages of volume purchases, reduction in administrative expenses or other public benefits.

Copyright: A property right in an original work of authorship fixed in any tangible medium of expression, giving the holder the exclusive right to reproduce, adapt and distribute the work.

Critical Program Error: Any Program Error, whether or not known to the State, which prohibits or significantly impairs use of the Licensed Software as set forth in the documentation and intended in the contract.

Customer Service: The process of ensuring customer satisfaction by providing assistance and advice on those products or services provided by a Contractor.

Default: The omission or failure to perform a contractual duty.

Deviation: Any proposed change(s) or alteration(s) to either the terms and conditions or deliverables within the scope of the written solicitation or contract.

Evaluation: The process of examining an offer after opening to determine the vendor's responsibility, responsiveness to requirements, and to ascertain other characteristics of the offer that relate to determination of the successful award.

Evaluation Committee: Committee(s) appointed by the requesting agency that advises and assists the procuring office in the evaluation of bids/proposals (offers made in response to written solicitations).

Extension: Continuance of a contract for a specified duration upon the agreement of the parties beyond the original Contract Period. Not to be confused with "Renewal Period".

Free on Board (F.O.B.) Destination: The delivery charges are included in the quoted price and prepaid by the vendor. Vendor is responsible for all claims associated with damages during delivery of product.

Free on Board (F.O.B.) Point of Origin: The delivery charges are not included in the quoted price and are the responsibility of the agency. Agency is responsible for all claims associated with damages during delivery of product.

Foreign Corporation: A foreign corporation that was organized and chartered under the laws of another state, government, or country.

Installation Date: The date when the procedures described in "Installation by Contractor", and "Installation by State", as found in the RFP, ITB (written solicitation) or contract are completed.

Late Bid/Proposal: An offer received after the Opening Date and Time.

Licensed Software Documentation: The user manuals and any other materials in any form or medium customarily provided by the Contractor to the users of the Licensed Software which will provide the State with sufficient information to operate, diagnose, and maintain the Licensed Software properly, safely, and efficiently.

Mandatory/Must: Required, compulsory, or obligatory.

May: Discretionary, permitted; used to express possibility.

Module (see System): A collection of routines and data structures that perform a specific function of software.

Must: See Shall/Will/Must.

National Institute for Governmental Purchasing (NIGP): National Institute of Governmental Purchasing – Source used for assignment of universal commodity codes to goods and services.

Open Market Purchase: Authorization may be given to an agency to purchase items above direct purchase authority due to the unique

nature, price, quantity, location of the using agency, or time limitations by the AS Materiel Division, State Purchasing Bureau.

Opening Date and Time: Specified date and time for the public opening of received, labeled, and sealed formal bids.

Operating System: The control program in a computer that provides the interface to the computer hardware and peripheral devices, and the usage and allocation of memory resources, processor resources, input/output resources, and security resources.

Outsourcing: The contracting out of a business process which an organization may have previously performed internally or has a new need for, to an independent organization from which the process is purchased back.

Payroll & Financial Center (PFC): Electronic procurement system of record.

Performance Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the Contractor fulfills any and all obligations under the contract.

Platform: A specific hardware and Operating System combination that is different from other hardware and Operating System combinations to the extent that a different version of the Licensed Software product is required to execute properly in the environment established by such hardware and Operating System combination.

Pre-Bid/Pre-Proposal Conference: A meeting scheduled for the purpose of clarifying a written solicitation and related expectations.

Product: Something that is distributed commercially for use or consumption and that is usually (1) tangible personal property, (2) the result of fabrication or processing, and (3) an item that has passed through a chain of commercial distribution before ultimate use or consumption.

Program Error: Code in Licensed Software which produces unintended results or actions, or which produces results or actions other than those described in the specifications. A program error includes, without limitation, any Critical Program Error.

Program Set: The group of programs and products, including the Licensed Software specified in the RFP, plus any additional programs and products licensed by the State under the contract for use by the State.

Project: The total scheme, program, or method worked out for the accomplishment of an objective, including all documentation, commodities, and services to be provided under the contract.

Proposal: See Bid/Proposal.

Proprietary Information: Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and service no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific named competitor(s) advantaged by release of the information and the demonstrated advantage the named competitor(s) would gain by the release of information.

Protest/Grievance: A complaint about a governmental action or decision related to an Invitation to Bid or resultant contract, brought by a vendor who has timely submitted a bid response in connection with the award in question, to AS Materiel Division or another designated agency with the intention of achieving a remedial result.

Public Proposal/Bid Opening: The process of opening correctly submitted offers at the time and place specified in the written solicitation and in the presence of anyone who wished to attend.

Recommended Hardware Configuration: The data processing hardware (including all terminals, auxiliary storage, communication, and other peripheral devices) to the extent utilized by the State as recommended by the Contractor.

Release Date: The date of public release of the written solicitation to seek offers

Renewal Period: Optional contract periods subsequent to the original Contract Period for a specified duration with previously agreed to terms and conditions. Not to be confused with Extension.

Request for Information (RFI): A general invitation to vendors requesting information for a potential future solicitation. The RFI is typically used as a research and information gathering tool for preparation of a solicitation.

Request for Proposal (RFP): A written solicitation utilized for obtaining competitive offers.

Responsible Bidder: A bidder who has the capability in all respects to perform fully and lawfully all requirements with integrity and reliability to assure good faith performance.

Responsive Bidder: A bidder who has submitted a bid which conforms to all requirements of the solicitation document.

Shall/Will/Must: An order/command; mandatory.

Should: Expected; suggested, but not necessarily mandatory.

Software License: Legal instrument with or without printed material that governs the use or redistribution of licensed software.

Sole Source – Commodity: When an item is available from only one source due to the unique nature of the requirement, its supplier, or market conditions.

Sole Source – Services: A service of such a unique nature that the vendor selected is clearly and justifiably the only practical source to provide the service. Determination that the vendor selected is justifiably the sole source is based on either the uniqueness of the service or sole availability at the location required.

Specifications: The detailed statement, especially of the measurements, quality, materials, and functional characteristics, or other items to be provided under a contract.

System (see Module): Any collection or aggregation of two (2) or more Modules that is designed to function, or is represented by the Contractor as functioning or being capable of functioning, as an entity.

Termination: Occurs when either party, pursuant to a power created by agreement or law, puts an end to the contract prior to the stated expiration date. All obligations which are still executory on both sides are discharged but any right based on prior breach or performance survives.

Trade Secret: Information, including, but not limited to, a drawing, formula, pattern, compilation, program, device, method, technique, code, or process that (a) derives independent economic value, actual or potential, from not being known to, and not being ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy (see Neb. Rev. Stat. § 87-502(4)).

Trademark: A word, phrase, logo, or other graphic symbol used by a manufacturer or vendor to distinguish its product from those of others, registered with the U.S. Patent and Trademark Office.

Upgrade: Any change that improves or alters the basic function of a product of service.

Vendor: An individual or entity lawfully conducting business in the State of Nebraska, or licensed to do so, who seeks to provide goods or services under the terms of a written solicitation.

Vendor Performance Report: A report issued to the Contractor by State Purchasing Bureau when products or services delivered or performed fail to meet the terms of the purchase order, contract, and/or specifications, as reported to State Purchasing Bureau by the agency. The State Purchasing Bureau shall contact the Contractor regarding any such report. The vendor performance report will become a part of the permanent record for the Contractor. The State may require vendor to cure. Two such reports may be cause for immediate termination.

Will: See Shall/Will/Must.

Work Day: See Business Day.

I. SCOPE OF THE INVITATION TO BID (ITB)

The State of Nebraska, Administrative Services (AS), Materiel Division, State Purchasing Bureau (hereafter known as State Purchasing Bureau or SPB), is issuing this Invitation To Bid, Number 5509 OF for the purpose of selecting a qualified Contractor to provide 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2.

A contract resulting from this Invitation To Bid will be issued approximately for a period of one (1) year effective the date of award. The contract has the option to be renewed for four (4) additional one (1) year periods as mutually agreed upon by all parties.

ALL INFORMATION PERTINENT TO THIS INVITATION TO BID CAN BE FOUND ON THE INTERNET AT:
<http://das.nebraska.gov/materiel/purchasing.html>

A. SCHEDULE OF EVENTS

The State expects to adhere to the tentative procurement schedule shown below. It should be noted, however, that some dates are approximate and subject to change.

ACTIVITY		DATE/TIME
1.	Release Invitation To Bid	January 4, 2017
2.	Last day to submit written questions	January 18, 2017
3.	State responds to written questions through Invitation To Bid "Addendum" and/or "Amendment" to be posted to the Internet at: http://das.nebraska.gov/materiel/purchasing.html	January 23, 2017
4.	Bid opening Location: State Purchasing Bureau 1526 K Street, Suite 130 Lincoln, NE 68508	February 1, 2017 2:00 PM Central Time
5.	Review for conformance of mandatory requirements	To Be Determined
6.	Review period	To Be Determined
7.	Post "Letter of Intent to Award" to Internet at: http://das.nebraska.gov/materiel/purchasing.html	To Be Determined
8.	Contract finalization period	To Be Determined
9.	Contract award	To Be Determined
10.	Contract start date	To Be Determined

II. PROCUREMENT PROCEDURES

A. PROCURING OFFICE AND CONTACT PERSON

Procurement responsibilities related to this Invitation To Bid reside with the State Purchasing Bureau. The point of contact for the procurement is as follows:

Name: Dianna Gilliland
Agency: State Purchasing Bureau
Address: 1526 K Street, Suite 130
Lincoln, NE 68508

B. GENERAL INFORMATION

The Invitation To Bid (ITB) is designed to solicit bids from qualified vendors who will be responsible for providing 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 at a competitive and reasonable cost. Bids that do not conform to the mandatory items as indicated in the Invitation To Bid will not be considered.

Bids shall conform to all instructions, conditions, and requirements included in the Invitation To Bid. Prospective Bidders are expected to carefully examine all documentation, schedules, and requirements stipulated in this Invitation To Bid, and respond to each requirement in the format prescribed.

In addition to the provisions of this Invitation To Bid and the awarded bid, which shall be incorporated by reference in the contract, any additional clauses or provisions required by the terms and conditions will be included as an amendment to the contract.

A fixed-price contract will be awarded as a result of this Invitation to Bid.

C. COMMUNICATION WITH STATE STAFF AND EVALUATORS

From the date the Invitation To Bid is issued until a determination is announced regarding the contract award, contact regarding this project between potential Contractors and individuals employed by the State is restricted to only written communication with the staff designated above as the point of contact for this Invitation To Bid. Bidders shall not have any communication with, or attempt to communicate with or influence in any way, any evaluator involved in this ITB.

Once a Contractor is preliminarily selected, as documented in the intent to award, that Contractor is restricted from communicating with State staff until a contract is signed. The following exceptions to these restrictions are permitted:

1. Written communication with the person(s) designated as the point(s) of contact for this Invitation To Bid or procurement;
2. Contacts made pursuant to any pre-existing contracts or obligations; and
3. State-requested presentations, key personnel interviews, clarification sessions or discussions to finalize a contract.

Violations of these conditions may be considered sufficient cause to reject a Bidder's bid and/or selection irrespective of any other condition. No individual member of the State or employee of the State is empowered to make binding statements regarding this Invitation To Bid. The Buyer will issue any clarifications or opinions regarding this Invitation To Bid in writing.

D. WRITTEN QUESTIONS AND ANSWERS

Any explanation desired by a Bidder regarding the meaning or interpretation of any Invitation To Bid provision must be submitted in writing to the State Purchasing Bureau and clearly marked "ITB Number 5509 OF; 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 Questions". It is preferred that questions be sent via e-mail to as.materielpurchasing@nebraska.gov. Questions may also be sent by facsimile to 402-471-2089, and must include a cover sheet clearly indicating that the transmission is to the attention of Dianna Gilliland, showing the total number of pages transmitted, and clearly marked "ITB Number 5509 OF 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 Questions".

It is recommended that Bidders submit questions sequentially numbered and include the Invitation To Bid reference and page number.

Written answers will be provided through an addendum to be posted on the Internet at <http://das.nebraska.gov/materiel/purchasing.html> on or before the date shown in the Schedule of Events.

<u>Question Number</u>	<u>ITB Section References</u>	<u>ITB Page Number</u>	<u>Question</u>

E. SUBMISSION OF BIDS

The following describes the requirements related to bid submission, bid handling, and review by the State.

To facilitate the evaluation process, one (1) original of the entire bid should be submitted. Bids must be submitted by the bid due date and time. **A separate sheet must be provided that clearly states which sections, if applicable, have been submitted as proprietary or have copyrighted materials.** All proprietary information the Bidder wishes the State to withhold must be submitted in accordance with the instructions outlined in Section III, Proprietary Information. If a recipient phone number is required for delivery purposes, 402-471-6500 should be used. The Invitation To Bid number must be included in all correspondence.

F. IMPORTANT NOTICE LANGUAGE

Bid responses should include the completed Form A and Bidder Contact Sheet. Bids must reference the Invitation To Bid number and be sent to the specified address. Please note that the address label should appear as specified in Section II part A on the page of the calendar or bidder's bid response packet. Rejected late bids will return to the bidder unopened.

IMPORTANT NOTICE: Pursuant to Neb. Rev. Stat. § 84-602.02, all State contracts in effect as of January 1, 2014 will be posted to a public website beginning July 1, 2014. All non-proprietary or confidential information as defined by State Law **WILL BE POSTED FOR PUBLIC VIEWING.**

G. DISCOUNTS

Prices quoted shall be inclusive of ALL trade discounts. Cash discount terms of less than thirty (30) days will not be considered as part of the bid. Cash discount periods will be computed from the date of receipt of a properly executed claim voucher or the date of completion of delivery of all items in a satisfactory condition, whichever is later.

H. PRICE ADJUSTMENTS DURING CONTRACT TERM

Any request for a price adjustment must be submitted in writing to the State Purchasing Bureau, a minimum of thirty (30) days prior to proposed effective date of increase, and must show cause with supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. No price increases are to be billed to any State Agencies without prior written approval by the State Purchasing Bureau. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.

I. PAYMENT

Payment will be made by the responsible agency in accordance with the State of Nebraska Prompt Payment Act, Neb. Rev. Stat. §§ 81-2401 through 81-2408. The State may request that payment be made electronically instead of by state warrant.

J. BID EXECUTION

Bids must be signed in ink by the Bidder on the State of Nebraska's Invitation To Bid form. All bids must be typewritten or in ink on the State of Nebraska's Invitation To Bid form. Erasures and alternations must be initialed by the Bidder in ink. No telephone or voice bids will be accepted. Failure to comply with these provisions may result in the rejection of the bid.

K. BID OPENING

The sealed bids will be publicly opened and the bidding entities announced on the date, time, and location shown in the Schedule of Events. Bids will be available for viewing by those present at the bid opening. Vendors may also contact the State to schedule an appointment for viewing bids after the Intent to Award has been posted to the website.

L. ELECTRONIC DOCUMENTS/FACSMILIE SUBMISSIONS

The State Purchasing Bureau will not accept electronic responses to an Invitation To Bid for a commodity contract at any dollar amount. However, an exception applies to one-time purchase bids under \$25,000. These one-time purchase bids may be submitted by electronic means, but cannot exceed ten (10) pages.

Sealed responses to an Invitation To Bid that contain a two party bid, may include electronic pages transmitted between the two parties, but these documents cannot be submitted to the State Purchasing Bureau by electronic means. No direct electronic solicitation responses will be accepted for a commodity contract of any estimated value.

M. VALID BID TIME

Bids shall be firm for a minimum of sixty (60) calendar days after the opening date, unless otherwise stipulated by either party in the Invitation To Bid.

N. ALTERNATE/EQUIVALENT BIDS

Bidder may offer bids which are at variance from the express specifications of the Invitation To Bid. The State reserves the right to consider and accept such bids if, in the judgment of the State Procurement Manager, the bid will result in goods and/or services equivalent to or better than those which would be supplied in the original bid specifications. Bidders must indicate on the Invitation To Bid the manufacturer's name, number and shall submit with their bid, sketches, descriptive literature and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. Bids which do not comply with these requirements are subject to rejection. In the absence of any stated deviation or exception, the bid will be accepted as in strict compliance with all terms, conditions and specification, and the Bidder shall be held liable therefore.

O. LATE BIDS

Bids received after the time and date of the bid opening will be considered late bids. Rejected late bids will be returned to the Bidder unopened. The State is not responsible for bids that are late or lost due to mail service inadequacies, traffic, or any other reason(s).

P. NO BID

If not submitting a bid, respond by returning the Invitation To Bid form explaining the reason in the space provided. NOTE: To qualify as a respondent, Bidder must submit a "NO BID" and it must be received no later than the stated bid opening date and time.

Q. LUMP SUM OR ALL OR NONE BIDS

The State reserves the right to purchase item-by-item, by groups or as a total when the State may benefit by so doing. Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a bid on an item-by-item basis. The term "all or none" means a conditional bid which requires the purchase of all items on which bids are offered and Bidder declines to accept award on individual items; a "lump sum" bid is one in which the Bidder offers a lower price than the sum of the individual bids if all items are purchased but agrees to deliver individual items at the prices quoted.

R. REJECTION OF BIDS

The State reserves the right to reject any or all bids, wholly or in part, or to award to multiple Bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid and do not improve the Bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State. The State reserves the right to reject any or all bids and re-advertise for bids; and further reserves the right to waive any informality or irregularity.

S. EVALUATION OF BIDS

All responses to this Invitation To Bid which fulfill all mandatory requirements will be evaluated for conformance to requested specifications. Elements that may also be considered include but are not limited to:

1. The ability, capacity, and skill of the Bidder to deliver and implement the system or project, or provide the requested goods, that meet the requirements of the Invitation to Bid;
2. The character, integrity, reputation, judgment, experience, and efficiency of the Bidder;
3. Whether the Bidder can perform the contract within the specified time frame;
4. The quality of Bidder performance on prior contracts; and
5. Such other information that may be secured and that has a bearing on the decision to award the contract.

T. BID TABULATIONS

Bid tabulations are available on the website at: <http://www.das.state.ne.us/materiel/purchasing/bidtabs.htm>.

Bid tabulations will not be provided by telephone or facsimile. Bid files may be examined, after the evaluation period is over, during normal business hours by appointment.

U. MANDATORY REQUIREMENTS

The bids will first be examined to determine if all mandatory requirements listed below have been addressed to warrant further evaluation. Bids not meeting mandatory requirements will be excluded from further evaluation. The mandatory requirement items are as follows:

1. Invitation To Bid for Commodity Contract form, signed in ink; and
2. The completed Invitation To Bid document.

V. REFERENCE CHECKS

The State reserves the right to check any reference(s), regardless of the source of the reference information, including but not limited to, those that may be identified by the company in the bid, those indicated through the explicitly specified contacts, those that are identified during the review of the bid, or those that result from communication with other entities involved with similar projects. The State may use a third party to conduct reference checks.

W. RECYCLING

As outlined in Neb. Rev. Stat. § 81-15,159, a preference shall be given to those Bidders that provide products, materials, or supplies which are manufactured or produced from recycled material or that can be readily reused or recycled after its normal use. Preference will also be given to purchases of corn-based biodegradable plastics and road deicers. No preference shall be given if such preference would result in the purchase of products, materials, or supplies that are of inadequate quality or of substantially higher cost.

X. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS

All Bidders should be authorized to transact business in the State of Nebraska. All Bidders are expected to comply with all Nebraska Secretary of State Registration requirements. It is the responsibility of the Bidder to comply with any registration requirements pertaining to types of business entities (e.g. person, partnership, foreign or domestic limited liability company, association, or foreign or domestic corporation or other type of business entity). The Bidder who is the recipient of an Intent to Award will be required to certify that it has complied and produce a true and exact copy of its current (within ninety (90) calendar days), valid Certificate of Good Standing or Letter of Good Standing; or in the case of a sole proprietorship, provide written documentation of sole proprietorship. This must be accomplished prior to the award of the contract. Construction Contractors are expected to meet all applicable requirements of the Nebraska Contractor Registration Act and provide a current, valid certification of registration. Further, all Bidders shall comply with any and all other applicable Nebraska statutes regarding transacting business in the State of Nebraska. Bidders should submit the above certification(s) with their bid.

Y. RESIDENT BIDDER

Pursuant to Neb. Rev. Stat. §§ 73-101.01 through 73-101.02, a Resident Bidder shall be allowed a preference against a Nonresident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the Nonresident Bidders. Where the lowest responsible bid from a resident bidder is equal in all respects to one from a nonresident bidder from a state which has no preference law, the resident bidder shall be awarded the contract. The provision of this preference shall not apply to any contract for any project upon which federal funds would be withheld because of the provisions of this preference.

Z. EVALUATION CRITERIA AND AWARD

The State of Nebraska reserves the right to evaluate bids in a manner, and utilizing methods, selected in the State of Nebraska's best interest and discretion. The State of Nebraska may waive informalities or irregularities in bids if the waiver is in the best interest of the State of Nebraska and such waiver does not prejudice other bidders in the State of Nebraska's discretion. After evaluation of the bids, the State of Nebraska may take, in the State's discretion, one or more of the following actions:

- Accept or reject a portion of or all of a bid;
- Accept or reject all bids;
- Withdraw the Invitation to Bid;
- Elect to rebid the Invitation to Bid;
- Award single lines or multiple lines to one or more bidders; or,
- Award one or more complete contracts.

The State of Nebraska reserves the right to make awards that are in the best interest of the State of Nebraska. The State of Nebraska may consider, but is not limited to, one or more of the following award criteria:

Price;
Location;
Quality;
Delivery time; and,
State contract management requirements or costs.
[Additional criteria may be added]

By submitting a bid in response to this Invitation to Bid, the Bidder grants to the State the right to contact or arrange a visit in person with any or all of the Bidder's clients.

Once an Intent to Award decision has been determined, it will be posted to the Internet at:
<http://das.nebraska.gov/materiel/purchasing.html/>

AA. POLITICAL SUB-DIVISIONS

The Contractor may extend the contract to political sub-divisions conditioned upon the honoring of the prices charged to the State. Terms and conditions of the Contract must be met by political sub-divisions. Under no circumstances shall the State be contractually obligated or liable for any purchases by political sub-divisions or other public entities not authorized by Neb. Rev. Stat. § 81-145, listed as "all officers of the state, departments, bureaus, boards, commissions, councils, and institutions receiving legislative appropriations." A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

BB. VIOLATION OF TERMS AND CONDITIONS

Violation of the terms and conditions contained in this Invitation To Bid or any resultant contract, at any time before or after the award, shall be grounds for action by the State which may include, but is not limited to, the following:

1. Rejection of a bidder's proposal;
2. Withdrawal of the Intent to Award
3. Termination of the resulting contract.
4. Legal action.
5. Suspension of the bidder from further bidding with the State for the period of time relative to the seriousness of the violation, such period to be within the sole discretion of the State.

III. INVITATION TO BID - TERMS AND CONDITIONS

By signing the "Invitation To Bid" form, the Bidder guarantees compliance with the provisions stated in this Invitation To Bid, agrees to the Terms and Conditions unless otherwise agreed to, and certifies Bidder maintains a drug free work place environment.

Bidders are expected to closely read the Terms and Conditions and provide a binding signature of intent to comply with the Terms and Conditions; provided, however, a Bidder may indicate any exceptions to the Terms and Conditions by one (1) clearly identifying the term or condition by subsection, and two (2) including an explanation for the Bidder's inability to comply with such term or condition which includes a statement recommending terms and conditions the Bidder would find acceptable. Rejection in whole or in part of the Terms and Conditions may be cause for rejection of a Bidder's bid. Bidders must include completed Section III with their ITB response.

The State of Nebraska is soliciting bids in response to the ITB. The State of Nebraska will not consider bids that propose the substitution of the bidder's contract, agreements, or terms for those of the State of Nebraska's. Any License, Service Agreement, Customer Agreement, User Agreement, Bidder Terms and Conditions, Document, or Clause purported or offered to be included as a part of this ITB must be submitted as individual clauses, as either a counter-offer or additional language, and each clause must be acknowledged and accepted in writing by the State. If the Bidder's clause is later found to be in conflict with the ITB or resulting contract the Bidder's clause shall be subordinate to the ITB or resulting contract.

A. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contract resulting from this Invitation To Bid shall incorporate the following documents:

1. Amendment to Contract Award with the most recent dated amendment having the highest priority;
2. Contract Award and any attached Addenda;
3. The Invitation To Bid form and the Contractor's Bid Response signed in ink
4. Amendments to ITB and any Questions and Answers; and
5. The original ITB document and any Addenda.

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to Contract Award with the most recent dated amendment having the highest priority, 2) Contract Award and any attached Addenda, 3) the signed Invitation To Bid form and the Contractor's Bid Response 4) Amendments to ITB and any Questions and Answers, 5) the original ITB document and any Addenda.

Any ambiguity in any provision of this contract which shall be discovered after its execution shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

Once bids are opened they become the property of the State of Nebraska and will not be returned.

B. DEBARMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor, by signature to the Invitation To Bid, certifies that the contractor is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or

agency from participating in transactions (debarred). The contractor also agrees to include the above requirements in any and all subcontracts into which it enters. The contractor also agrees to include the above requirements in any and all subcontracts into which it enters. The contractor shall immediately notify the Department if, during the term of this contract, contractor becomes debarred. The Department may immediately terminate this contract by providing contractor written notices if contractor becomes debarred during the term of this contract.

C. SPECIFICATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for reference and not intended to limit competition, but will be used as the standard by which equivalent material offered will be judged. The State Procurement Manager will be the sole judge of equivalency. The Bidder may offer any brands which meets or exceeds the specification. When a specific product is required, the Invitation to Bid will so state. Any item bid is to be the latest current model under standard production at the time of order. No used or refurbished equipment will be accepted, unless otherwise stated.

D. PERFORMANCE AND DEFAULT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State reserves the right to require a performance bond from the successful Bidder, as provided by law, without expense to the State. Otherwise, in case of default of the Contractor, the State may procure the articles from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

E. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Bidder certifies that it maintains a drug free workplace environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

F. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of

race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §§ 48-1101 t 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all subcontracts for services to be covered by any contract resulting from this Invitation To Bid.

G. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor shall procure and pay for all permits, licenses, and approvals necessary for the execution of the contract. The Contractor shall comply with all applicable local, state, and federal laws, ordinances, rules, orders, and regulations.

H. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State may already have in place or choose to award supplemental contracts related to this Invitation To Bid or any portion thereof.

1. The State reserves the right to award the contract jointly between two or more potential Contractors, if such an arrangement is in the best interest of the State.
2. The Contractor shall agree to cooperate with such other Contractors, and shall not commit or permit any act which may interfere with the performance of work by any other Contractor.
3. The State reserves the right to award multiple contracts or to award line by line contract.

I. CONTRACTOR RESPONSIBILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor is solely responsible for fulfilling the contract, with responsibility for all services offered and products to be delivered as stated in the Invitation To Bid, the Contractor's bid, and the resulting contract. The Contractor shall be the sole point of contact regarding all contractual matters.

J. CONTRACT CONFLICTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Contractor shall insure that contracts or agreements with sub-contractors and agents, and the performance of services in relation to this contract by sub-contractors and agents, does not conflict with this contract.

K. FUNDING OUT CLAUSE OR LOSS OF APPROPRIATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State may terminate the contract, in whole or in part, in the event funding is no longer available. The State's obligation to pay amounts due for fiscal years following the current fiscal year is contingent upon legislative appropriation of funds for the contract. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal years for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of any termination, and advise the Contractor of the location of any related equipment. All obligations of the State to make payments after the termination date will cease and all interest of the State in any related equipment will terminate. In no event shall the Contractor be paid for a loss of anticipated profit.

L. RIGHT TO AUDIT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Contractor shall establish and maintain a reasonable accounting system that enables the State to readily audit contract. The State and its authorized representatives shall have the right to audit, to examine, and to make copies of or extracts from all financial and related records (in whatever form they may be kept, whether written, electronic, or other) relating to or pertaining to this contract kept by or under the control of the Contractor, including, but not limited to those kept by the Contractor, its employees, agents, assigns, successors, and Subcontractors. Such records shall include, but not be limited to, accounting records, written policies and procedures; all paid vouchers including those for out-of-pocket expenses; other reimbursement supported by invoices; ledgers; cancelled checks; deposit slips; bank statements; journals; original estimates; estimating work sheets; contract amendments and change order files; backcharge logs and supporting documentation; insurance documents; payroll documents; timesheets; memoranda; and correspondence.

Contractor shall, at all times during the term of this contract and for a period of five (5) years after the completion of this contract, maintain such records, together with such supporting or underlying documents and materials. The Contractor shall at any time requested by the State, whether during or after completion of this contract and at Contractor's own expense make such records available for inspection and audit (including copies and extracts of records as required) by the State. Such records shall be made available to the State during normal business hours at the Contractor's office or place of business. In the event that no such location is available, then the financial records, together with the supporting or underlying documents and records, shall be made available for audit at a time and location that is convenient for the State. Contractor shall ensure the State has these rights with Contractor's assigns, successors, and Subcontractors, and the obligations of these rights shall be explicitly included in any subcontracts or agreements formed between the Contractor and any Subcontractors to the extent that those subcontracts or agreements relate to fulfillment of the Contractor's obligations to the State.

Costs of any audits conducted under the authority of this right to audit and not addressed elsewhere will be borne by the State unless certain exemption criteria are met. If the audit identifies overpricing or overcharges (of any nature) by the Contractor to the State in excess of one-half of one percent (.5%) of the total contract billings, the Contractor shall reimburse the State for the total costs of the audit. If the audit discovers substantive findings related to fraud, misrepresentation, or non-performance, the Contractor shall reimburse the State for total costs of audit. Any adjustments and/or payments that must be made as a result of any such audit or inspection of the Contractor's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the State's findings to Contractor.

M. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

By submitting a bid, Bidder certifies that there does not now exist any relationship between the Bidder and any person or entity which is or gives the appearance of a conflict of interest related to this Invitation To Bid or project.

The Bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or appearance of conflict of interest.

The Bidder certifies that it will not employ any individual known by Bidder to have a conflict of interest.

N. BID PREPARATION COSTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State shall not incur any liability for any costs incurred by Bidders in replying to this Invitation To Bid, including any activity related to bidding on this Invitation To Bid.

O. ERRORS AND OMISSIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Bidder shall not take advantage of any errors and/or omissions in this Invitation To Bid or resulting contract. The Bidder must promptly notify the State of any errors and/or omissions that are discovered.

P. ASSIGNMENT BY THE STATE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State shall have the right to assign or transfer the contract or any of its interests herein to any agency, board, commission, or political subdivision of the State of Nebraska. There shall be no charge to the State for any assignment hereunder.

Q. ASSIGNMENT BY THE CONTRACTOR

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor may not assign, voluntarily or involuntarily, the contract or any of its rights or obligations hereunder (including without limitation rights and duties of performance) to any third party, without the prior written consent of the State, which will not be unreasonably withheld.

R. GOVERNING LAW

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contract shall be governed in all respects by the laws and statutes of the State of Nebraska. Any legal proceedings against the State of Nebraska regarding this Invitation To Bid or any resultant contract shall be brought in the State of Nebraska administrative or judicial forums as defined by State law. The Contractor must be in compliance with all Nebraska statutory and regulatory law.

S. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Contractor agrees to pay all expenses of such action, as permitted by law, including attorney's fees and costs, if the State is the prevailing party.

T. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. News releases pertaining to the project shall not be issued without prior written approval from the State.

U. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

During the bid process, all communication between the State and a Bidder shall be between the Bidder's representative clearly noted in its bid and the buyer noted in Section II Part A., Procuring Office and Contact Person, of this ITB. Bidder is at all times to keep its point of contact updated with the most current information. After the award of the contract, all notices under the contract shall be deemed duly given upon delivery to the staff designated as the point of contact for this ITB, in person, or upon delivery by U.S. Mail, facsimile, or e-mail. Each Bidder should provide in its bid the name, title, and complete address of its designee to receive notices.

1. Except as otherwise expressly specified herein, all notices, requests, or other communications shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth above, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or three (3) calendar days following deposit in the mail.
2. Whenever the Contractor encounters any difficulty which is delaying or threatens to delay its timely performance under the contract, the Contractor shall immediately give notice thereof in writing to the State reciting all relevant information with respect thereto. Such notice shall not in any way constitute a basis for an extension of the delivery schedule or be construed as a waiver by the State of any of its rights or remedies to which it is entitled by law or equity or pursuant to the provisions of the contract. Failure to give such notice, however, may be grounds for denial of any request for an extension of the delivery schedule because of such delay.

Either party may change its address for notification purposes by giving notice of the change, and setting forth the new address and an effective date.

For the duration of the contract, all communication between Contractor and the State regarding the contract shall take place between the Contractor and individuals specified by the State in writing. Communication about the contract between Contractor and individuals not designated as points of contact by the State is strictly forbidden.

V. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar days written notice. Written notice to the contractor shall not relieve the Contractor of warranty or other obligations incurred under the terms of the contract. In the event of cancellation the Contractor shall be entitled to payment, for those products received and accepted by the State.
3. The State may terminate the contract immediately for the following reasons:
 - a. if directed to do so by statute;
 - b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
 - c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
 - d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
 - e. an involuntary proceeding has been commenced by any party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;

- f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
- g. Contractor intentionally discloses confidential information;
- h. Contractor has or announces it will discontinue support or provision of the deliverable;
- i. second or subsequent documented "vendor performance report" form deemed acceptable by the State Purchasing Bureau; or
- j. Contractor engaged in collusion or ones' actions which could have provided Contractor an unfair advantage in obtaining this contract.

W. BREACH BY CONTRACTOR

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State may terminate the contract, in whole or in part, if the Contractor fails to perform its obligations under the contract in a timely and proper manner. The State may, by providing a written notice of default to the Contractor, allow the Contractor to cure a failure or breach of contract within a period of thirty (30) calendar days (or longer at State's discretion considering the gravity and nature of the default). Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing the Contractor time to cure a failure or breach of contract does not waive the State's right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the goods from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

X. ASSURANCES BEFORE BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

If any document or deliverable required pursuant to the contract does not fulfill the requirements of the Intent To Bid/resulting contract, upon written notice from the State, the Contractor shall deliver assurances in the form of additional Contractor resources at no additional cost to the project in order to complete the deliverable, and to ensure that other project schedules will not be adversely affected.

Y. ACCEPTANCE AND PAYMENT OF GOODS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

In the event that the Contractor fails to provide the goods requested by the State, the State will not pay for such products until the same has been received and accepted by the State.

Z. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Neither party shall be liable for any costs or damages resulting from its inability to perform any of its obligations under the contract due to a natural disaster, or other similar event outside the control and not the fault of the affected party ("Force Majeure Event"). A Force Majeure Event shall not constitute a breach of the contract. The party so affected shall immediately give notice to the other party of the Force Majeure Event. The State may grant relief from performance of the contract if the Contractor is prevented from performance by a Force Majeure Event. The burden of proof for the need for such relief shall rest upon the Contractor. To obtain release based on a Force Majeure Event, the Contractor shall file a written request for relief with the State Purchasing Bureau. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event and will not suspend performance requirements under the contract.

AA. PROHIBITION AGAINST ADVANCE PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

BB. PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §§ 81-2401 through 81-2408). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any goods provided by the Contractor prior to the Effective Date, and the Contractor hereby waives any claim or cause of action for any such claims.

CC. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Invoices for payments must be submitted by the Contractor to the agency requesting the goods with sufficient detail to support payment. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

DD. TAXES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State is not required to pay taxes of any kind and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

EE. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular provision held to be invalid.

FF. PROPRIETARY INFORMATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Data contained in the bid and all documentation provided therein, become the property of the State of Nebraska and the data becomes public information upon opening the bid. If the Bidder wishes to have any information withheld from the public, such information must fall within the definition of proprietary information contained within Nebraska's public record statutes. **All proprietary information the Bidder wishes the State to withhold must be submitted in a sealed package, which is separate from the remainder of the bid, and provide supporting documents showing why such documents should be marked proprietary.** The separate package must be clearly marked PROPRIETARY on the outside of the package. **Bidders may not mark their entire Invitation To Bid as proprietary.** Pricing submitted in Bidder's ITB may not be marked as proprietary information. Failure of the Bidder to follow the instructions for submitting proprietary and copyrighted information may result in the information being viewed by other Bidders and the public. Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, Bidders submitting information as proprietary may be required to prove specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive. Although every effort will be made to withhold information that is properly submitted as proprietary and meets the State's definition of proprietary information, the State is under no obligation to maintain the confidentiality of proprietary information and accepts no liability for the release of such information.

GG. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION/COLLUSIVE BIDDING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

By submission of this bid, the bidder certifies, that it is the party making the foregoing bid and that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further that the bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

HH. PRICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

All prices, costs, and terms and conditions outlined in the proposal shall remain fixed and valid commencing on the opening date of the proposal until an award is made or the Request for Proposal is cancelled.

Prices quoted on the Cost Proposal form shall remain fixed for the first year of the contract period. Any request for a price increase subsequent to the first year shall not exceed five percent (5%) of the previous Contract period and must be submitted in writing to the State Purchasing Bureau and be accompanied by documentation justifying the price increase. Further documentation may be required by the State to justify the increase. The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

The State will be given full proportionate benefit of any price decrease during the term of the contract. Contractor represents and warrants that all prices for services, now or subsequently specified, are as low as and no higher than prices which the Contractor has charged or intends to charge customers other than the State for the same or similar products and services of the same or equivalent quantity and quality for delivery or performance during the same periods of time. If, during the term of the contract, the Contractor shall reduce any and/or all prices charged to any customers other than the State for the same or similar products or services specified herein, the Contractor shall make an equal or equivalent reduction in corresponding prices for said specified products or services.

Contractor also represents and warrants that all prices set forth in the contract and all prices in addition, which the Contractor may charge under the terms of the contract, do not and will not violate any existing federal, state, or municipal law or regulations concerning price discrimination and/or price fixing. Contractor agrees to hold the State harmless from any such violation. Prices quoted shall not be subject to increase throughout the contract period unless specifically allowed by these specifications.

II. ETHICS IN PUBLIC CONTRACTING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

No Bidder shall pay or offer to pay, either directly or indirectly, any fee, commission compensation, gift, gratuity, or anything of value to any State officer, legislator, employee or evaluator based on the understanding that the receiving person's vote, actions, or judgment will be influenced thereby. No Bidder shall give any item of value to any employee of the State Purchasing Bureau or any evaluator.

Bidders shall be prohibited from utilizing the services of lobbyists, attorneys, political activists, or consultants to secure the contract. It is the intent of this provision to assure that the prohibition of state contact during the procurement process is not subverted through the use of lobbyists, attorneys, political activists, or consultants. It is the intent of the State that the process of evaluation of bids and award of the contract be completed without external influence. It is not the intent of this section to prohibit Bidders from seeking professional advice, for example consulting legal counsel, regarding terms and conditions of this Invitation To Bid or the format or content of their bid.

If the Bidder is found to be in non-compliance with this section of the Invitation To Bid, they may forfeit the contract if awarded to them or be disqualified from the selection process.

JJ. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

1. GENERAL

The Contractor agrees to defend, indemnify, hold, and save harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. INTELLECTUAL PROPERTY

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this ITB.

3. SELF-INSURANCE

The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 *et seq.* and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

KK. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

LL. EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at <http://das.nebraska.gov/materiel/purchasing.html>
The completed United States Attestation Form should be submitted with the Invitation To Bid response.
2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

IV. SCOPE OF WORK

The Bidder must provide the following information in response to this Invitation To Bid.

The following terms, conditions, and specifications shall apply to the purchase of small bus type passenger vehicles by the Nebraska Department of Roads.

A. SCOPE

It is the intent of this bid invitation to establish a contract to supply 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 per the attached specifications from date of award for a period of one (1) year with the option to renew for an additional four (4), one (1) year periods when mutually agreeable to the vendor and the State of Nebraska. The State reserves the right to extend the period of this contract beyond the end date when mutually agreeable to the vendor and the State of Nebraska.

All items bid shall be of the latest manufacture in production as of the date of the Invitation To Bid and be of proven performance and under standard design complete as regularly advertised and marketed. All necessary materials for satisfactory performance of the supplies shall be incorporated into the 2017 OR CURRENT PRODUCTION YEAR SMALL TRANSIT BUSES 12+2 whether or not they may be specifically mentioned below.

Complete specifications, manufacturer's descriptive literature and/or advertising data sheets with cuts or photographs may be required prior to an award and should be included with the bid on the IDENTICAL items proposed. Literature should be complete and the latest published. Any information necessary to show compliance with these specifications not given on the manufacturer's descriptive literature and/or advertising data sheets should be supplied in writing on or attached to the bid document. If manufacturer's specifications sheets, descriptive literature, advertising data sheets or information necessary to show compliance with these specifications is not supplied in writing on or attached to the bid document, the Bidder will be required to submit requested information within three (3) business days of a written request. Failure to submit requested descriptive literature or advertising data sheets may be grounds to reject the bid.

B. AMENDMENT

This Contract may be amended at any time in writing upon the agreement of both parties.

C. REVISIONS

In the event any product is discontinued or replaced with a newer version during the contract period, the State of Nebraska reserves the right to amend this contract to include the new product.

V. PROCUREMENT REQUIREMENTS FOR SMALL BUSES

A. FLOOR PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

A detailed floor plan showing all dimensions of the proposed vehicle should be submitted with the bid, but must be submitted prior to bid award; this should include but is not limited to location of access doors, seating, wheel wells, wheelchair lift and wheelchair positions, if applicable.

B. WARRANTY PROVISIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Each bidder should state in detail the warranty provisions covering the bid item(s), and the bidder's policy on freight charges for parts. This must be provided prior to bid award. The bidder to whom the contract is awarded shall assume full responsibility for all parts, materials, accessories and equipment - standard, optional or specialty - used in the vehicle, and for their proper installation, whether manufactured by the contractor or purchased from another source. Under no condition shall the contractor delegate this responsibility to suppliers and/or other sources. The contractor shall also provide full and competent engineering services to handle any, and correct all problems associated with the performance of the vehicle during its useful life. The contractor's warranty shall cover parts, materials, and workmanship and shall apply for not less than a period of twelve (12) months or 12,000 miles, whichever occurs first. The 12,000 miles shall be in addition to any mileage shown by the vehicle's odometer upon delivery. If the contractor's or manufacturer's standard warranty exceeds this, the standard warranty shall apply. The warranty shall include repair and/or replacement of defective parts (except tires and tubes) and labor. The warranty period shall begin upon delivery of the vehicle(s) by the Nebraska Department of Roads to the recipient agency, and the warranty described above shall run between the contractor and the recipient agency.

C. ROYALTIES AND LICENSE FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor shall pay all royalties and license fees. He shall defend at his own cost all suits or claims for infringements of any patent rights, shall pay all awards of damages and all settlement agreements, and shall indemnify and save the U.S. Department of Transportation (DOT), the State of Nebraska, and the recipient agency to which the Nebraska Department of Roads delivers the vehicle(s) harmless from any loss on account of any such infringement, suit or claim.

D. FEDERAL MOTOR VEHICLE SAFETY STANDARD AND AMERICANS WITH DISABILITIES ACT (ADA)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The vehicles shall conform to all applicable Federal Motor Vehicle Safety Standards (FMVSS), Title 49 CFR Part 38, Subpart B ADA specs for Transportation Vehicles (or current Title 49 CFR Subpart 38) and Federal Motor Carrier Safety Regulations (FMCSR) as established by DOT (complete and submit certification provided). It shall also meet all applicable requirements of the Occupational Safety and Health Administration and of the Environmental Protection Agency. Failure of these specifications to identify explicitly each such regulation shall not relieve the contractor of the responsibility for compliance.

E. MANUALS, MANUFACTURER'S STATEMENT OF ORIGIN (MSO) AND ETC.

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor shall, prior to or upon delivery of any bid item(s) to the Department of Roads, provide the Department with copies of complete parts books, copies of maintenance manuals, copies of operating manuals, copies of drawings showing wiring schematics including all auxiliary systems, and all other manufacturer's prints necessary for the maintenance of the bid item(s) (CDs or flash drives are acceptable with this information). At the same time, the contractor shall provide the Department with detailed maintenance and inspection schedules incorporating the required maintenance and inspection of the basic vehicle and of each of its subsystems (e.g., wheelchair lifts) as prescribed by the respective manufacturers. In addition, the contractor shall, upon delivery of the bid item(s), provide the Department with copies of the contractor's warranty, the manufacturer's Original Statement of Origin or title to new vehicle, and all other documents necessary for securing title to the vehicle(s) in the name of the Nebraska Department of Roads. Title shall pass to the Department free and clear of all liens, mortgages and encumbrances, financing statements, securing agreements, claims; or demands of any character.

F. PRIOR TO DELIVERY, EACH VEHICLE SHALL BE COMPLETELY SERVICED

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The servicing program shall not include less than the following operations: engine tune-up, lubrication, wheel alignment, front wheel balancing, wiring check, body conditioning, and all other inspections and tests normally performed on a new vehicle. Parts of this servicing program may be performed at the manufacturer's assembly plant if proper facilities are available there. However, delivery and final servicing checkup, including final body cleanup, must be made in an adequately equipped shop provided by the contractor in the State of Nebraska or a contiguous State. The contractor shall furnish a completed checklist on the above items with each vehicle at the time of delivery.

G. VEHICLE DELIVERY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The bid item(s) shall be delivered to the Nebraska Department of Roads at 5001 South 14th Street, Lincoln, Nebraska, in first class condition, complete and ready for operation, and the contractor shall assume all responsibility and liability incident to said delivery. Delivery shall be made between 8:00 a.m. and 3:00 p.m. local time on a day other than Saturday, Sunday or a holiday. The vehicle(s) shall have been serviced and shall be in road-ready condition with not less than a **HALF** tank of gasoline when delivered, and the odometer(s) shall not reflect more than 1,250 miles driven.

Prior to delivery of any vehicles to the Department of Roads, the successful bidder must notify the appropriate individual(s) in the Public Transportation Section of the Nebraska Department of Roads at least two working days

before the delivery of vehicles. The contact person(s) will be established in the post award meeting with the successful bidder.

A maximum of five completed vehicles shall be allowed to be delivered to the Nebraska Department of Roads at one time. All appropriate documents must accompany each vehicle in order that the Nebraska Department of Roads can take possession of each vehicle after it has passed inspection by the State.

No other vehicle will be allowed to be delivered until previous vehicles have passed inspection and all appropriate documents have satisfied the State's requirements in order that possession can be taken by the State.

H. IF VEHICLE DOES NOT COMPLY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

In the event any bid item delivered by the contractor does not comply with these specifications, conditions and requirements as, accepted by the contractor, said bid item shall not be considered as being delivered. Further, if any bid item is delivered incomplete or contains any defective or damaged parts, said parts shall be removed and new parts shall be furnished by the contractor. The new parts furnished, including the transportation charges for same plus the labor for the removal and installation of said parts shall be free of all costs to the Nebraska Department of Roads or to the recipient agency to which the Department delivers the vehicle. Acceptance of delivery of the bid item(s) shall not release the contractor from liability for faulty workmanship or materials appearing even after final payment has been made.

I. GRIEVANCES AND PROTESTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Administrative procedures for filing grievances/protests, by a vendor, relating to the contract award are as follows:

1. Within ten (10) business days of the posting of the intent to award, grievances/protests are to be expressed in writing to the Materiel Division Administrator, Administrative Services, 1526 K Street, Suite 130, Lincoln, NE 68508. The letter should state the bid number and specific issues that are to be addressed.
2. A response will be made by the Materiel Division Administrator.
3. If the response from the Materiel Division Administrator has not satisfied the grievance of the vendor, a protest letter is to be sent to the Director of Administrative Services, 1526 K Street, Suite 250, Lincoln, Nebraska 68508.
4. A meeting will be scheduled with the vendor, the ordering agency (optional) the Materiel Division Administrator and the Director of Administrative Services to discuss the issues.
5. A written response of the final decision by the Director of Administrative Services will be sent to the vendor.
6. Step 3 may be eliminated if the vendor opts to grieve simultaneously to both the Materiel Division Administration and the Director of Administrative Services.

If the vendor protesting the award of contract does not agree with the final decision in the administrative process, the vendor may then protest to the Federal Transit Administration (FTA) in accordance with FTA Circular 4220.1F (or current Circular).

J. TERMINATION FOR CONVIENANCE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State of Nebraska may terminate this contract, in whole or in part, at any time with a 30-day written notice to the contractor. The contractor shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. The contractor shall promptly submit its termination claim to be paid the contractor. If the contractor has any property in its possession belonging to the State, the contractor shall account for the same, and dispose of it in the manner the State Purchasing Administrator directs.

K. TERMINATION FOR DEFAULT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

If the contractor does not deliver bid items in accordance with the contract delivery schedule, or if the contractor fails to perform in the manner called for in the contract, or if the contractor fails to comply with any other provisions of the contract, the State of Nebraska may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the contractor is in default. The contractor will only be paid the contract price for items delivered and accepted.

L. NO OBLIGATION BY THE FEDERAL GOVERNMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The purchaser and contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the purchaser, contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

M. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986 as amended, 31 U.S.C. 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this project. Upon execution of the underlying contract, the contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or cause to be made, pertaining to the underlying contract of the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the contractor further acknowledges that if it makes, or causes to be made, a false, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to

impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the contractor to the extent the Federal Government deems appropriate.

N. FEDERAL CHANGES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the current FTA Master Agreement between purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. contractor’s failure to so comply shall constitute a material breach of this contract.

O. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F (or current Circular), are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The contractor shall not perform any act, fail to perform any act, or refuse to comply with any State requests, which would cause the State to be in violation of the FTA terms and conditions.

P. CIVIL RIGHTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The following requirements apply to the underlying contract:

1. NONDISCRIMINATION

In accordance with Title VI of the Civil Rights Act, 42 U.S.C. 2000d, Section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. 6102, Section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. 12132, and Federal transit law at 49 U.S.C. 5332, the contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

2. EQUAL EMPLOYMENT OPPORTUNITY

The following equal employment opportunity requirements apply to the underlying contract:

a. Race, Color, Creed, National Origin, Sex (including pregnancy), Mental/Physical Disability, Age (40 or over), Genetic Information or any other basis prohibited by law

In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. 2000e, and Federal transit laws at 49 U.S.C. 5332, the contractor agrees to comply with all applicable equal opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor,” 41 C.F.R. Parts 60 et seq., (which implement Executive Order No.11246, “Equal Employment

Opportunity,” as amended by Executive Order No. 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” 42 U.S.C. 2000e note), and with any applicable Federal Statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the project. The contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the contractor agrees to comply with any implementing requirements FTA may issue.

b. Age

In accordance with Section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. 623 and Federal transit law at 49 U.S.C. 5332, the contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the contractor agrees to comply with any implementing requirements FTA may issue.

c. Disabilities

In accordance with Section 102 of the Americans with Disabilities Act, as amended, U.S.C. 12112, the contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, “Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act,” 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the contractor agrees to comply with any implementing requirements FTA may issue.

3. The contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

Q. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Instructions for Certification

By signing and submitting this bid or proposal, the prospective lower tier participant certifies to the following:

1. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the State may pursue available remedies, including suspension and/or debarment.
2. The prospective lower tier participant shall provide immediate written notice to the State if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
3. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “lower tier covered transaction,” “participant,” “persons,” “principal,” “proposal” and “voluntarily excluded,” as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact the State for assistance in obtaining a copy of those regulations.
4. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the State.
5. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction”, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the

- method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non Procurement List issued by U.S. General Service Administration.
7. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
 8. Except for transactions authorized under paragraph 4 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the State may pursue available remedies including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction”

- a. The prospective lower tier participant certifies, by submission of this bid or proposal,] that neither it nor its “principals” [as defined at 49 C.F.R. 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- b. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

R. ENERGY CONSERVATION REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

By signing and submitting this bid or proposal, the prospective lower tier participant certifies that it will comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

S. CLEAN WATER REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

By signing and submitting this bid or proposal, the prospective lower tier participant certifies that it will comply with all applicable standards, orders or regulations issued to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The contractor agrees to report each violation to the purchaser and understands and agrees that the purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

T. CLEAN AIR REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

By signing and submitting this bid or proposal, the prospective lower tier participant certifies that it will comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. The contractor agrees to report each violation to the purchaser and understands and agrees that the purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

U. BUS TESTING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor [Manufacturer] agrees to comply with 49 U.S.C. A 5323(c) and FTA's Implementing regulation at 49 CFR Part 665 and shall perform the following:

1. A manufacturer of a new bus model or a bus produced with a major change in components or configuration shall provide a copy of the final test report to the Department of Roads.
2. A manufacturer who releases a report under paragraph 1 above shall provide notice to the operator of the testing facility that the report is available to the public.
3. If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the recipient prior to recipient's final acceptance of the first vehicle. If the configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing.
4. If the manufacturer represents that the vehicle is "grandfathered" (has been used in mass transit service in the United States before October 1, 1988, and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle's configuration and major components.

V. PRE-AWARD AND POST-DELIVERY AUDIT REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor agrees to comply with 49 U.S.C. 5323(1) and FTA's implementing regulation at 49 CFR Part 663 and to submit the following certifications:

1. **BUY AMERICA REQUIREMENTS**
The contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America with their bid. If the Bidder/Offeror certifies compliance with Buy America, it shall submit documentation, prior to bid award, which lists a) component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and b) the location

of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and cost of final assembly.

2. SOLICITATION SPECIFICATION REQUIREMENTS

The contractor shall submit evidence that it will be capable of meeting the bid specifications.

3. FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS)

The contractor shall submit the manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS.

W. RESTRICTIONS ON LOBBYING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The Lobbying Certification must be signed by a legally authorized representative of the Bidder's firm and returned with the bid.

X. BUY AMERICA

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor agrees to comply with 49 U.S.C. 5323 (j)(2)(C) and 49 CFR Part 661.11, rolling stock not subject to a general waiver must be manufactured in the United States and meet the percent of domestic content requirements of the Fixing America's Surface Transportation (FAST) Act provisions for date of delivery of rolling stock. Thus, for vehicles delivered in FY-2018 and FY2019, the domestic content must be more than 65 percent domestic content, and for vehicles delivered in FY2020 and beyond, the domestic content must be more than 70 percent. The certification must be signed by a legally authorized representative of the bidder's firm and returned with the bid.

Y. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

In accordance with Title 49 of the Code of Federal Regulations, Part 26, Subpart C, Section 26.49 Special Provisions for Transit Vehicle Manufacturers, it is a requirement that each vehicle manufacturer must certify compliance with this section as a condition of authorization to bid on transit vehicle purchases, which are utilizing Federal Transit Administration funds. The regulation provides that the Transit Vehicle Manufacturer will certify that:

1. They have submitted annual overall DBE goals to FTA; and that,
2. FTA has either approved their overall goals, or that FTA has not disapproved their overall goals.

The certification must be signed by a legally authorized representative of the bidder's firm and returned with the bid. A Transit Vehicle Manufacturer failing to make this certification is considered non-responsive and cannot be awarded the contract.

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) days from receipt of each payment the prime contractor receives from the State. The prime contractor agrees further to return retainage withheld to ensure satisfactory completion of the work, to

each subcontractor within 30 days after the subcontractor achieves the specified work as verified by payment from the State.

Any disputes that arise regarding the satisfactory completion of work by a subcontractor may be brought to the attention of the State, which will make a determination. Any delay of payment from the above-referenced time frame may occur only for good cause following written approval from the State. This clause applies to both DBE and non-DBE subcontractors.

The failure by the prime contractor to carry out the requirements of the Prompt Payment Clause and/or timely return of retainage, without just cause, is a material breach of this contract, which may result in the State withholding payment from the prime contractor until all delinquent payments have been made (no interest will be paid for the period that payment was withheld), termination of this contract, or other such remedy as the State deems appropriate.

Note: The prime contractor may withhold payment only for just cause, and must notify the State in writing of its intent to withhold payment prior to actually withholding payment. The prime contractor shall not withhold, delay or postpone payment without first receiving written approval from the State.

Z. ACCESS TO RECORDS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

ACCESS TO RECORDS

49 C.F.R. 19.48

49 U.S.C. 5325(a)

49 U.S.C. 5302(a)1

49 CFR 18.39(i)(11)

Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.

Where any Purchaser which is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

The contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR Part 18.

FTA does not require the inclusion of these requirements in subcontracts.

AA. DISPUTE, BREACHES AND OTHER LITIGATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

DISPUTE/BREACHES/OTHER LITIGATION

49 CFR Part 18

FTA Circular 4220.1E

In the event of any dispute between the State and contractor with respect to the interpretation of this contract, any required payment under or the performance required by this contract, including any dispute which may result in a claim, (a "Dispute"), the aggrieved Party shall notify the other in writing of the Dispute then existing (the "Dispute Notice"). In order for a Party to proceed under this Section, the Dispute Notice must specifically state that the aggrieved Party is invoking the Dispute procedure of this Section. The Parties shall then make a good faith attempt to resolve the Dispute, first through direct discussions between their respective designated representatives. In the event the designated representatives are unable to reach agreement then upon the written request of either Party, each of the Parties will appoint a designated executive whose task it will be to meet for the purpose of endeavoring to resolve such dispute. The designated executives shall meet in Lincoln, Nebraska, as often as the Parties reasonably deem necessary in order to gather and furnish to the other all information with respect to the matter in issue which the Parties believe to be appropriate and germane in connection with its resolution. Such executives will discuss the problem and/or negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding relating thereto. No action for the resolution of such dispute outside of these procedures shall be taken by either Party until one of the designated executives concludes in good faith that amicable resolution through continued negotiation of the matter in issue does not appear likely and so notifies the other designated executive in writing either party in its sole discretion may invoke litigation, provided that failure to invoke litigation shall not be a waiver of any such Dispute except as otherwise provided in the contract. During any mediation or litigation which arises out of a Dispute, all parties will continue to perform pursuant to the contract, without prejudice to the express rights of either Party set forth in this Section to terminate the contract.

BB. CARGO PREFERENCE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

CARGO PREFERENCE

Master Agreement §14.b

The contractor agrees:

1. To use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels.
2. To furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market

Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.)

3. To include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

CC. FLY AMERICA

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

FLY AMERICA
49 U.S.C. 40118
41 CFR Part 301-10

The contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and sub-recipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

DD. OVERTIME REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT
29 CFR 5.5(a)(1)(iv)
40 U.S.C. section 333
29 C.F.R. Part 1926

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

EE. VIOLATION; LIABILITY FOR UNPAID WAGES' LIQUIDATED DAMAGES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

In the event of any violation of the clause set forth in Section V.DD. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in Section V.DD. of this section, in the sum of \$ 10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in Section V.DD. of this section.

FF. WITHHOLDING FOR UNPAID WAGES AND LIQUIDATED DAMAGES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The State shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in Section V.EE. of this section.

GG. SUBCONTRACTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section.

HH. PAYROLLS AND BASIC RECORDS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs

and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

II. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor agrees to comply with section 107 of the Contract Work Hours and Safety Standards Act, 40 U.S.C. section 333, and applicable DOL regulations, " Safety and Health Regulations for Construction " 29 C.F.R. Part 1926. Among other things, the contractor agrees that it will not require any laborer or mechanic to work in unsanitary, hazardous, or dangerous surroundings or working conditions.

JJ. SUBCONTRACTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

The contractor also agrees to include the requirements of this section in each subcontract. The term "subcontract" under this section is considered to refer to a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. A person who undertakes to perform a portion of a contract involving the furnishing of supplies or materials will be considered a "subcontractor" under this section if the work in question involves the performance of construction work and is to be performed: (1) directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials which will become an integral part of the construction is a "subcontractor" if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a "subcontractor." The requirements of this section do not apply to contracts or subcontracts for the purchase of supplies or materials or articles normally available on the open market.

KK. ADA ACCESS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

ADA ACCESS
49 U.S.C. § 5301 (d)
29 U.S.C. § 794
42 U.S.C. §§ 12101 et seq.
42 U.S.C. §§ 4151 et seq.

The contractor agrees to comply with the requirements of 49 U.S.C. § 5301 (d), which states the Federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement that policy. The contractor also agrees to comply with all applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent

amendments to that Act, and with the Architectural Barriers act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to persons with disabilities, including any subsequent amendments to that Act. In addition, the contractor agrees to comply with any and all applicable requirements issued by the FTA, DOT, DOJ, U.S. GSA, U.S. EEOC, U.S. FCC, any subsequent amendments thereto and any other nondiscrimination statute(s) that may apply to the Project.

LL. SPECIAL NOTIFICATION REQUIREMENTS FOR STATES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

SPECIAL NOTIFICATION REQUIREMENT FOR STATES
Master Agreement §36

To the extent required by Federal law, the State agrees that, in administering any Federal assistance Program or Project supported by the Grant Agreement or Cooperative Agreement, any request for proposals, solicitation, grant application, form, notification, press release, or other publication involving the distribution of FTA assistance for the Program or the Project shall indicate that FTA is the Federal agency that is providing the Federal assistance, the Catalog of Federal Domestic Assistance Number of the program from which the Federal assistance is authorized, as may be applicable, and the amount of Federal assistance FTA provided.

MM. NEW EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

NEW EMPLOYEE WORK ELIGIBILITY STATUS
8 U.S.C. 1324a
Neb. Rev. Stat. §4-108

The contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

If the contractor is an individual or sole proprietorship, the following applies:

1. The contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at www.das.state.ne.us.
2. If the contractor indicates on such attestation form that he or she is a qualified alien, the contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The contractor understands and agrees that lawful presence in the United States is required and the contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

NN. SPECIAL PROVISION-TEXT MESSAGING WHILE DRIVING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

ADDITIONAL FEDERAL REQUIREMENTS

SPECIAL PROVISION – TEXT MESSAGING WHILE DRIVING
23 U.S.C.A. § 402 note

In accordance with Executive Order No. 13513, Federal Leadership on Reducing Text Messaging While Driving, October 1, 2009, 23 U.S.C.A. § 402 note, and DOT Order 3902.10, Text Messaging While Driving December 30, 2009, the Grantee is encouraged to comply with the terms of the following Special Provision.

1. **Definitions** - As used in this Special Provision:
 - a. **Driving** - Means operating a motor vehicle on a roadway, including while temporarily stationary because of traffic, a traffic light, stop sign, or otherwise. Driving does not include being in your vehicle (with or without the motor running) in a location off the roadway where it is safe and legal to remain stationary.
 - b. **Text Messaging** - Means reading from or entering data into any handheld or other electronic device, including for the purpose of short message service texting, e-mailing, instant messaging, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication. The term does not include the use of a cell phone or other electronic device for the limited purpose of entering a telephone number to make an outgoing call or answer an incoming call, unless the practice is prohibited by State or local law.

2. **Safety** - The Grantee is encouraged to:
 - a. Adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers including policies to ban text messaging while driving-
 - i. Grantee-owned or Grantee-rented vehicles or Government-owned, leased or rented vehicles;
 - ii. Privately-owned vehicles when on official Project related business or when performing any work for or on behalf of the Project; or
 - iii. Any vehicle, on or off duty, and using an employer supplied electronic device.
 - b. Conduct workplace safety initiatives in a manner commensurate with the Grantee's size, such as:
 - i. Establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving; and
 - ii. Education, awareness, and other outreach to employees about the safety risks associated with texting while driving.
 - c. Include this Special Provision in its sub-agreements with its sub-recipients and third party contracts and also encourage its sub-recipients, lessees, and third party contractors to comply with the terms of this Special Provision, and include this Special Condition in each sub-agreement, lease, and third party contract at each tier financed with Federal assistance provided by the Federal Government.

OO. ASSIGNMENT AND SUBCONTRACTING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

NDOR reserves the right to assign all or any portion of the vehicles awarded under this contract including option quantities provided that

1. Such units are no longer required by NDOR; and,
2. NDOR written approval to assign its options is obtained by the interested party(s) prior to issuing a purchase order, obligating funds, etc.

NDOR's right of assignment shall remain in force throughout the term of the contract or until all options have been executed, whichever occurs first.

PP. LICENSING REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act, Nebraska Revised Statutes, Chapter 60, Article 14. The licensing requirements must be met at time of bid opening for the bid to be valid. Bidder must include copy of current Nebraska Motor Vehicle Dealer License prior to bid award.

QQ. FACTORY INSPECTION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:

Prior to the completion of the first vehicle at the factory, two Department of Roads' representatives and the successful bidder's authorized representative will do an inspection of the bid vehicle at the successful bidder's manufacturer. Adequate indoor facilities shall be available to conduct the inspection without interference of the weather. The vehicle must meet the requirements of the specifications prior to any further units being produced under the awarded contract.

Travel costs for transportation, meals and lodging for each representative of the Department of Roads shall be at the vendor's expense until inspection is complete. Travel arrangements to the inspection must be at the convenience and approval of the appropriate Department of Roads' officials.

Travel beyond 200 miles will be by commercial airline.

VI. INVITATION TO BID - TECHNICAL SPECIFICATIONS

BIDDER INSTRUCTIONS

Bidder must respond to each of the following statements. Specifications listed are minimum conditions that must be met in order for a Bidder to qualify for the award.

“YES” response means the Bidder guarantees they can meet this condition.

“NO” response means the Bidder cannot meet this condition and will not be considered.

“NO & PROVIDE ALTERNATIVE” responses should be used only with a narrative response in the NOTES/COMMENTS section explaining in detail any deviation from the Bidder’s ability to meet the condition, and an explanation of how this would be determined to be an acceptable alternative to meeting the condition. Alternatives must be detailed in such a way that allows such deviations to be fully evaluated. The State of Nebraska shall determine at its sole discretion whether or not the Bidder's alternative is an acceptable alternative.

DEFINITIONS

The following are definitions of special terms used in these technical specifications:

1. **CURB WEIGHT**
The "as delivered" weight of the vehicle with all equipment required for operation, all equipment required by these specifications, and with maximum fuel, oil, and coolant, but without driver or passengers.
2. **HEAVY-DUTY**
Where used in these specifications, the term "heavy-duty" shall mean that the item to which it is applied is to exceed the usual quality or capacity of similar items normally supplied as standard equipment, and that the item shall be capable of withstanding unusual stress, temperature, wear, exposure, and/or use.
3. **CRASHWORTHINESS**
The body and roof structure of the vehicle shall withstand a static load equal to 150 percent of the curb weight, as defined in Item 1 above, evenly distributed on the roof with no more than a 6-inch reduction in any interior dimension. When the roof is fully loaded as specified above, each emergency exit of the vehicle provided in accordance with FMVSS No. 217 shall still be capable of opening as specified in that standard.
4. **GROSS VEHICLE WEIGHT RATING (GVWR)**
Gross vehicle weight rating shall be no less than the sum of curb weight as defined in Item 1 above plus 150 pounds for the driver and for each passenger seating position other than a folding jump seat plus 300 pounds for each wheelchair space provided.
5. **SEATING CAPACITY**
The vehicle must be capable of accommodating a wheelchair lift, the driver, at least two standard wheelchairs with seated passengers, and no fewer than nine ambulatory passengers seated in regular passenger seats installed as specified in Section IV.J.2.

A. NON-COMPLIANCE STATEMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Read these specifications carefully. Any and all exceptions to these specifications must be written on or attached to quotation request. Any noncompliance may void your quotation. Non-compliance to any single specification can void your bid.
			2. It is the responsibility of Bidders to obtain information and clarifications as provided below. The State of Nebraska is not responsible for any erroneous or incomplete understandings or wrongful interpretations of this Invitation to Bid by any Bidder.

			<p>3. No interpretation related to the meaning of bid specifications or other pre-bid documents will be made orally to any Bidder by the State of Nebraska. Any Invitation To bid interpretation must be put in writing and faxed by the Bidder to: the State Purchasing Bureau, Fax (402) 471-2089 or e-mailed to AS Materiel Purchasing as.materielpurchasing@nebraska.gov by the last day to submit written questions that is specified in the Schedule of Events. (Inquiries received after the last day to submit written questions may not be addressed).</p>
NOTES/COMMENTS:			

B. GENERAL REQUIREMENTS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. The manufacturer of the bus body must be certified to be in compliance with Quality Standards of the ISO (International Organization for Standardization) 9001:2000 with regard to the sale, design and manufacture of the bus. Bidder must provide proof that bus manufacturer is certified by ISO and a copy of the manufacturer's ISO Certification should accompany bid, but must be submitted prior to bid award.</p> <p>The vehicle to be procured must provide suitable public transportation in light transit or paratransit service. It must serve the needs of the physically and mentally handicapped, including those who must travel in wheelchairs. It will be operated primarily in rural and small urban areas.</p> <p>At times, the vehicle may be operated at or near maximum legal speeds on highways or on rural roads. Consequently, crashworthiness and operating safety are of paramount importance. Passenger comfort and convenience are also highly important, and the vehicle must provide increased headroom, a low entrance step, and a high-quality interior trim and seating package. Seating must afford adequate hip-to-knee room and leg room for arthritic or rheumatic passengers of the physical dimensions given for a 95th percentile male by SAE Recommended Practice J833.</p> <p>The vehicle must operate reliably in ambient temperatures ranging from -25° to +115° F, and must be equipped with climate control and engine cooling systems that will cope with such extremes for extended periods. In addition, oils, greases, and fluids used in subsystems such as wheelchair lifts must be suitable for such temperatures.</p> <p>The vehicle may be operated by transportation providers who lack a backup vehicle. To preclude unnecessarily extended down times, complete warranty and after-sales service must be available in Nebraska for the completed vehicle and for all installed subsystems, including air conditioning systems, wheelchair lifts, and so on. Bidders should furnish with their bids the name and address of the agency that will be responsible for such service activities but must be submitted prior to bid award.</p>
NOTES/COMMENTS:			

C. GENERAL DIMENSIONS AND CAPACITIES

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Interior Width Minimum 85 inches.
			2. Interior Headroom Minimum 73 inches.
			3. Overall Width (excluding mirrors) Maximum 96 inches.
			4. Overall Height (including safety vent) Maximum 118 inches. A vehicle clearance sticker indicating the maximum height of the vehicle in feet and inches shall be provided and located in easy view of the driver, preferably above the windshield directly in front of the driver.
			5. Wheelbase Minimum 158 inches.
NOTES/COMMENTS:			

D. CHASSIS AND RELATED SYSTEMS

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Chassis 2017 or Current Production Year Ford cutaway minimum GVWR of 14,500 pounds; 2017 or Current Production Year Chevrolet cutaway minimum GVWR 14,200 pounds.
			2. Engine Minimum 6.0L gasoline.
			3. Cooling Manufacturer's heavy duty, increased capacity. Permanent ethylene glycol-base antifreeze protection to 30 degrees below zero Fahrenheit required.
			4. Steering Manufacturer's recommended power steering.
			5. Brakes Manufacturer's recommended power service brakes designed for the GVWR of the vehicle.
			6. Transmission Automatic.
			7. Differential Manufacturer's recommended gear ratio.
			8. Shock Absorbers Heavy-duty shock absorbers are required, both front and rear, if available by manufacturer.
			9. Wheels and Tires Dual rear wheels shall be provided on vehicle. The inner dual will be equipped with a solid brass air valve extension or braided stainless steel "live stem" air valve extension hose (minimum rating of 120 psi) with securement clamps. Valve extensions should not extend beyond the outer edge of the rim of the outside dual. The vehicle shall be equipped

			with two front and four rear matching wheels and tires. Wheels and tires shall be adequate to comply with manufacturer's GVWR of vehicle. All wheels' color shall be compatible to the exterior color of the vehicle. Radial tires required.
			10. Fuel Tank Minimum 30 gallons.
			11. Bumpers and Tow Hooks Manufacturer's standard bumper is acceptable. Rear tow hooks required.
			12. Throttle An auto-throttle system that senses when the electrical current draw exceeds alternator output and increases the engine idle RPM while the vehicle is stationary.
			13. Alternator Minimum 130 amperes
			14. Batteries Manufacturer's heavy-duty dual batteries with at least one mounted on a slide-out battery tray, such as that produced by Kwikkee Products Co., Drain, Oregon or equivalent. The sliding tray shall be enclosed with entry through a key lock door and located under the body behind the entry door on the passenger side of the vehicle.
			15. Speed Control/Tilt Steering Wheel Manufacturer's required.
			16. Back-up Alarm Back-up alarm required.
			17. Back-up Camera High definition color camera able to process excellent images at all light conditions, even in complete darkness. The camera's field of vision shall be a minimum of 120 degrees for superb coverage behind the vehicle. The system shall be weather proof with an IP67 rating, shock resistant with a minimum of a one year warranty and complies with the latest NHTSA 49 C.F.R. Parts 571 and 585. Backing camera shall be mounted at the top of the rear end cap of the vehicle. A 6"X16" internal rear view mirror with a 7" monitor for rear back up camera is to be provided and mounted above the windshield. Mirror is to afford a view of the passenger and roadway to the rear.
			18. Emergency Flashers The wiring for emergency flashers shall utilize the turn signal bulbs in lieu of the brake light bulbs, so the emergency flash will work when the brake pedal is depressed.
			19. Mud Flaps Mud flaps front and rear required.
			20. Exhaust Vehicle shall have street side exhaust system (exits the left side of vehicle) behind rear axle and a minimum of 3" ahead of the rear bumper. Exhausts that run closer than 8" to the fuel tank must have metal heat shields or clamp on heat shield jacket between the exhaust and fuel tank.
			21. Rear Suspension Rear suspension shall be equipped with MORryde rubber suspension or approved equivalent.
NOTES/COMMENTS:			

E. AUXILIARY SYSTEMS, MISCELLANEOUS PARTS, AND ACCESSORIES

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Exterior Lighting The exterior lighting system shall conform to the requirements of FMVSS No. 108 and 49 CFR Part 38 Subpart B 38.31.</p>
			<p>2. Interior Lighting The interior lighting system shall provide bright floor surface illumination in the entryway and aisle, when required. A separate overhead lamp shall be provided for the driver's use. All lamps shall operate with or without the engine running, and the entrance steps shall be automatically illuminated whenever the entrance doors are open, day or night and conform to 49 CFR Part 38 Subpart B 38.31.</p>
			<p>3. Heating and Defrosting System The heating system shall have at least two unit type heaters, one located in the driver's area and one in the passenger area. The output of each heater shall be individually adjustable by means of controls easily reached by the seated driver. There shall also be a standard windshield defrosting and defogging system that meets or exceeds the performance requirements of SAE J382.</p>
			<p>4. Air-conditioning System The system shall have two separate air conditioners (dual compressor) a factory installed dash-mounted unit (13,000 BTU min.) and an auxiliary unit for the passenger area. The auxiliary unit shall have its own compressor, a skirt mounted condenser with a free blowing evaporator and a minimum output of 52,000 BTU/hr. The output of each unit shall be individually adjustable by means of controls easily reached by the seated driver. A detailed description of the air-conditioning units should be submitted with each bid, but must be submitted prior to bid award.</p>
			<p>5. Windshield Wipers and Washers Dual, electrically driven wipers (with intermittent wipe) and washers shall be furnished, and the washing fluid reservoir shall have a capacity of no less than one quart.</p>
			<p>6. Rearview Mirrors The OEM rear view mirror mounted on the windshield will be provided. A 6"X16" internal rear view mirror mounted above the windshield with a 7" monitor for rear back up camera is to be provided. Mirror is to afford a view of the passenger and roadway to the rear. External rear vision mirrors on right and left side of vehicle shall be heated, power adjustable type with 15" Mirror Head Standard (2 in 1) Flat and Convex Glass.</p>
			<p>7. Sun Visor A fully adjustable interior sun visor shall be provided for the driver. The sun visor shall not interfere with the driver's view of the rearview mirrors.</p>
			<p>8. Horn The vehicle shall be equipped with an OEM horn.</p>
			<p>9. Controls and Instruments All controls shall be within the driver's arm reach with seat belt fastened. Instrumentation shall include an oil pressure gauge, a coolant temperature gauge, a charge indicator with graduated charge-discharge scale, and an engine hour meter.</p>
			<p>10. AM-FM Radio and Speaker System A good quality, 10-watt minimum power output, push-button AM-FM stereo clock radio with a minimum of four speakers shall be provided. The speakers shall be positioned to allow for balanced audio coverage within the vehicle. At least two speakers shall be mounted in the forward area and a minimum of two speakers shall be mounted at least halfway to the back of the vehicle. The speakers shall be enclosed so as to</p>

			provide protection from damage and all wiring shall be concealed. A balance control for the front and rear speaker shall be provided and located within easy reach of the driver.
NOTES/COMMENTS:			

F. EMERGENCY EQUIPMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. First Aid Kit A 12-unit first aid kit provided with instruction for the use of its contents shall be securely mounted in a location readily accessible to the driver.
			2. Fire Extinguisher A UL approved fire extinguisher shall be bracket mounted in a location readily accessible to the driver. Size shall be no less than five-pound with a total rating of not less than 2A, 10-B:C or UL approved equivalent.
			3. Warning Devices A kit of three folding bi-directional emergency reflective triangles that conform to the requirements of FMVSS No. 125 shall be provided.
			4. Safety Vent A Dual Purpose Safety Low Profile roof vent such as the Transpec Econovent roof hatch or equivalent shall be provided. Safety vent exterior height shall not exceed 2" above vehicle roof. This will be mounted according to the directions of the manufacturer near the middle of the passenger compartment. Installation of roof hatch shall include gasket to seal out moisture.
			5. Blood-borne Pathogens Kit Will be provided with a minimum of the following items. Latex Gloves, CPR Mask, Goggles, Apron, Disinfectant Wipes, Absorbent and Scoop, and an I.D. tag and red plastic bag.
NOTES/COMMENTS:			

G. BUS BODY

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Structure The body structure shall be steel reinforced fiberglass or steel reinforced plastic that will withstand flexing or fatigue that would make the vehicle unfit for safe and weather-tight operation. The exterior body panels shall be constructed of gel-coated fiberglass reinforced plastic. The body structure shall form an integrated unit. All points, such as joints and corners, at which stress concentrations may occur shall be reinforced as needed to carry required loads and withstand road shock. All structural framing shall be designed and constructed so that each member carries its proportionate share of stresses. Framing members shall be of durable channel, box, hat, zee, or similar cross section. End posts shall be designed to resist shear, and vertical members shall be securely fastened to under frame components so that the entire structure shall act as one unit without any movement at the joints.

			<p>2. Body Exterior Fiberglass reinforced plastic shall be used for the construction of the bus body securely fastened to the interior structural members. The entire body shall be thoroughly tested by the final-stage manufacturer and made as nearly dust-proof and watertight as practicable.</p>
			<p>3. Roof Roof construction may employ steel, aluminum, or fiberglass panels. The requirements must meet the definition of CRASHWORTHINESS, page 38 Item 3.</p>
			<p>4. Body Interior Inner lining panels shall be gel-coated fiberglass reinforced plastic. Wood or fiber panels shall not be used. To minimize the need for vertical seams, all interior panels shall extend full-length longitudinally, where practical. Where seams are unavoidable, all exposed edges shall be beaded, hemmed, or flanged with the rearward components lapped over the forward components.</p>
			<p>5. Floor A 3/4 inch thick underlayment shall be applied over a lower metal floor structure. The 3/4" underlayment shall be Thermo-Lite Board Model 2651a fiber-reinforced urethane composite material by Space Age Synthetics or plywood underlayment completely fiberglass gel coat sealed to prevent moisture infiltration. All plywood edges are to be sealed prior to being attached. The underlayment floor shall be laid with no gaps or openings.</p>
			<p>6. Wheel Housings The housings shall provide ample clearance for operating the fully loaded vehicle with tire chains and with unrestricted steering. Splash aprons and fenders shall be provided if tires extend beyond the sides of the vehicle.</p>
			<p>7. Access Hatches Access panels or hatches shall be provided where needed to service transmission, engine, radiator, battery, air conditioning components, etc.</p>
			<p>8. Anti-corrosion Treatment All metallic body components, including the surfaces of those interior body panels and posts that are to be covered by insulation or trim materials, shall be thoroughly protected against corrosion by means such as bonderizing or the application of multiple coats of anti-corrosive primer. All nuts, bolts, clips, washers, clamps, and like fasteners shall be plated or phosphate-coated to prevent corrosion.</p>
			<p>9. Insulation The ceiling and all inside walls of the vehicle shall be moisture proof and contain thermal and acoustic insulating characteristics. The insulating material shall have a minimum of R-5 rating.</p>
			<p>10. Undercoating The entire body/frame under-structure of the vehicle shall be fully undercoated with nonflammable resin-type material, poly-oleum, or the equivalent in accordance with vehicle chassis standards.</p>
NOTES/COMMENTS:			

H. WINDSHIELD AND WINDOWS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Safety Requirements All glazing materials shall conform to the requirements of FMVSS No. 205. All windows shall conform to the requirements of FMVSS No. 217, and emergency egress shall be provided as specified in that standard.</p>

			<p>2. Side Windows At least 3,700 square inches of window space shall be furnished in addition to windows installed in doors. Windows shall be T side panel type. All side windows shall be top vented (except for left rear window above tailpipe) to allow for ventilation and all side windows shall provide a clear view to the outside from each passenger seat position. All windows shall be tinted.</p>
			<p>3. Rear Windows A rear window surface area of no less than 390 square inches shall be provided and must provide emergency egress from the vehicle.</p>
<p>NOTES/COMMENTS:</p>			

I. DOORS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Entrance Door and Stepwell The vehicle shall be equipped with a two section, jackknife or split type main entrance door located opposite the driver. The door shall be at least 80 inches high. The door control shall be manually operated with over center linkage of the self-locking type, and shall be easily operated by the seated driver with seat belt fastened. The stepwell shall be corrosion-resistant steel. Step treads shall be at least 9 inches deep. The entry step shall be 12 inches (plus or minus 1 inch) above ground level and subsequent step risers shall be no greater than 10 inches.</p>
			<p>2. Driver's Door and Running Board A front-hinged, sedan type door with roll-down window and exterior key lock shall be provided at the left-hand side of the driver's seat. A driver's side running board that runs from the front wheel mud flap to a minimum of 4 inches past the back of the driver's door that will accommodate a driver weighing up to 325 pounds shall be provided. Running board at a minimum shall be 8 inches wide at the mid area of the driver door to allow adequate surface for safe entry and exit of vehicle. Running board shall be secured to the vehicle with steel braces that are rust resistant. Running board deflection shall not be greater than ¼ inch when used to enter and exit vehicle by driver.</p>
<p>NOTES/COMMENTS:</p>			

J. SEATS AND AISLE

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Driver's Seat Multi-position cloth driver's seat, such as Evolution G2ELP series cut-away driver seat by Freedman Seating Company of Chicago, Illinois, with PIM mechanical suspension, two-way, mechanically adjustable lumbar, 45 to 100 degree adjustable back, four-way adjustable headrest, fore/aft adjustments, and front adjustable flip-up right side armrest or approved equivalent shall be provided. The seatbelt assembly shall be a combination of pelvic and upper torso-restraint (Type 2) with retractors. The seatbelt assembly and seatbelt anchorages shall conform to the requirements of FMVSS Nos. 207, 208, 209, and 210.</p>

			<p>2. Passenger Seats All cloth double passenger seats with flip up aisle US armrest, aisle side seat grab handles on top of mid-back or mid-hi seats with lumbar support mounted on track. Seat back height from the top of the seat cushion will be a minimum of 22 inches. Each passenger seating position shall be equipped with an under seat retractor seat belt assembly and belt anchorages that conform to the requirements of FMVSS Nos. 209 and 210. Leg room, the horizontal distance forward from the front surface of a seat cushion to the rear of another seat or other obstruction shall be no less than 10 inches.</p>
			<p>3. Color and Fabric for Passenger Seats Color of fabric shall be NPF by CMI #831 Pinwheel Mono Blue treated with Nanocide by Freedman Seating Company or approved equivalent.</p>
			<p>4. Aisle Aisle width shall be no less than 14 inches.</p>

NOTES/COMMENTS:

K. FRONT WHEELCHAIR ACCOMMODATIONS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Lift Access Doors Split type outward-opening lift access doors located on the right-hand side (curb side) of the vehicle to the rear of the right rear wheel well as shown in FIGURE 1, page 55, shall be provided. The lift access doors shall be constructed so as to be equivalent in strength and materials to other areas of the body and shall be fitted with weather seals at all edges so as to exclude dust and moisture. Minimum vertical opening of the doors shall be 68 inches. The minimum door clear opening width when doors are fully opened shall be 44 ½ inches. The doors shall be equipped with windows with bottoms approximately aligned with those of the main side windows and of the maximum width appropriate to the width of the doors. The windows shall conform to the requirements of Section H.1. above. Both doors shall be fitted with latching mechanisms to secure each door when closed. One door shall have a locking latch which allows both doors to be securely locked when closed. Gas shocks or spring resistant door restraints shall be provided to hold the doors in the fully open position while the lift is in operation. An interlock shall also be provided to disable all lift controls whenever the doors are closed.</p>
			<p>2. Wheelchair Lift A front pump 12-volt, fully automatic, electrohydraulic or electromechanical, folding platform wheelchair lift with a design load of not less than 600 pounds shall be installed inside the lift access doors. Installation of the lift shall not diminish the vehicle's structural integrity.</p> <p>The platform lift shall be certified by the manufacturer to meet the requirements of DOT 49 CFR Part 38. The brand name and model number of the lift to be provided should be identified and manufacturer's literature should be included with the bid, but must be submitted prior to bid award.</p> <p>When in the stowed configuration, all parts of the lift shall be completely housed within the vehicle.</p> <p>The platform shall measure at least 34 inches wide by 51 inches long. The platform shall be equipped with a hydraulic powered automatic outboard roll stop. The barrier shall be erected automatically by means</p>

			<p>that prevent deactivation of the barrier while the platform is unfolded and is more than four inches above the ground or curb.</p> <p>The platform shall rise and descent smoothly with no sudden acceleration, deceleration, or jerking motion while bearing any load up to and including 100% of the design load in ambient temperatures of -25° to +115° F.</p> <p>The entire lift electrical system shall be protected by a master circuit breaker. Maximum operating current shall not exceed 180 amps. Lift control switches housed in a hand-held, weatherproof switch box shall be provided. The switch box shall permit remote control of all lift functions and shall be connected to the end of a flexible, cut-resistant electrical cable of sufficient length to allow safe, convenient lift operation by an attendant in the vehicle or standing on the ground beside the lift door. There shall be two mounting areas for securing the handheld control box when not in use. One shall be provided for access from within the vehicle and the other from outside the vehicle when lift doors are open. All lift controls shall be clearly labeled so as to be easily understood. Wheelchair lift and installation shall comply with Federal Motor Vehicle Safety Standards 403 and 404.</p>
			<p>3. Wheelchair Transport Space At least two functional wheelchair transport spaces shall be provided. The spaces shall be located as shown in FIGURE 1, page 55. Each such space shall be at least 30 inches wide and 48 inches long.</p>
			<p>4. Wheelchair Securement Each wheelchair space shall be equipped with auto-tensioning, auto locking retractor style restraint system with knobs that allows for final tightening of the securement if necessary. Securement system must meet the requirements of DOT 49 CFR Part 38, SAE J2249, WC 18, along with all recognized government standards. This system shall be installed according to the manufacturer's instructions and specification. Securement system should consist of the following items produced by Sure-Lok or equivalent.</p> <ul style="list-style-type: none"> a. Kit No. AL812S-4C-7 securement system. Kit contains: <ul style="list-style-type: none"> i. Four (4) - AL800855S - Auto-tensioning retractors with L track fitting, tightening knobs, stud fitting and J hook. ii. One (1) - AL700868 - 4 Occupant restraint buckle connector assembly with stud fitting. iii. One (1) - AL700771 - Fixed-point mount occupant restraint retractor with height adjuster and stud fitting. b. 8705 Web Cutter; c. FE200750 Quick Strap - 4 per position; d. FE2001145 Mesh Storage Container; Location of the mesh storage containers for the two rear wheelchair positions are to be anchored to the back wall, the bottom of the bags are to be a minimum of fifteen inches above the floor. e. SLCE03 Training Program CD (one per vehicle) f. AL700842 Integrated Lap Belt Length 96 inches; g. Floor anchorages will be recessed L-Track of a 6061-T6 compound (OMI), or approved equivalent. Track shall be provided for each wheelchair position. Two L- Track 65 inches in length are to be installed in the rear of the vehicle from the street side to the curb side a minimum of 52 inches apart (54 inches preferred if possible) as recommended by the supplier's installation instructions. Each rear wheelchair space shall have L-Track 12 inches to 14 inches long installed side to side on the back wall for the upper anchor of the occupant restraint, to accommodate adjusting for oversized wheelchairs.

NOTES/COMMENTS:

L. STANCHIONS, MODESTY PANELS AND HANDRAILS

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Stanchions Vertical, floor-to-ceiling stanchions shall be installed on the right hand side of the aisle behind the stepwell and behind the rearmost position of the driver's seat. Stanchion behind the driver seat must allow driver seat to recline to maximum extent possible with seat position slid back to the rear-most position. A clear Plexiglas or Lexan shield shall be located behind the driver above the lower panel of the stanchion separating the driver compartment from the passenger compartment. The shield shall provide handholds for support as passengers are walking up the aisle.</p>
			<p>2. Modesty Panels A horizontal guardrail and sheet metal barrier panel or hardboard laminate panel shall be installed as shown in Figure 1, page 55. The guardrails shall not be less than 30 inches above the floor, and the barrier panels shall extend from the guardrails to within 8 inches of the floor.</p> <p>All stanchions, handrails and guardrails shall be constructed of corrosion resistant steel tubing with a minimum outside diameter of 1.25 inches. Urethane foam padding with a minimum 3/8-inch wall thickness shall be applied to the tubing so that guardrails are fully padded and stanchions are padded from within 3 inches of the ceiling to within 3 inches of the floor.</p>
			<p>3. Handrails and Stanchions Handrails and stanchions must be provided to meet the requirements of 49 CFR Part 38 Subpart B 38.29.</p> <p>All stanchions, handrails, and guardrails shall be securely anchored to frame members or to solid bracing. Any sharp edges or protruding fasteners or brackets that might harm passengers or clothing shall be eliminated or protected.</p> <p>There shall be handrails on each side of the passenger doorway. A minimum of one handrail shall run parallel to the steps and be easily accessible to aide passengers when negotiating the entry steps.</p>
			<p>4. Priority Seating Sign Shall be furnished as required by 49 CFR Part 38 Subpart B 38.27.</p>

NOTES/COMMENTS:

M. FINISHES

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. Interior Finish All materials used in the passenger compartment, including upholstery, padding, floor covering, and insulation shall conform to the requirements of FMVSS No. 302, and materials that emit toxic gases as byproducts of</p>

			<p>combustion shall not be used.</p> <p>Floor covering shall be slip resistant exceeding the ADA minimum slip resistance standard rating of .06 static coefficient of friction, under dry or wet conditions. Floor covering shall be constructed with aluminum oxide, silicon carbide, quartz and optional PVC chip blended throughout a high quality vinyl wear surface (top coating is not acceptable). Backing to be polyester cellulose material with fiberglass fiber reinforced center scrim for additional durability. Floor covering shall be Meta 2.2 mm or greater, color TFM22903 Storm by Altro Transflor or approved equivalent.</p> <p>The whole floor will be a uniform thickness throughout the vehicle, eliminating the need for ribbed surfaces. Seams are to be heat welded to provide a permanent waterproof seal against water penetration. All trim edges (if used) are to be sealed by heat welding or with mastic/caulk by the manufacturer's instructions before installation.</p> <p>Floor covering is to be installed on the passenger entrance steps and risers according to the manufacture's recommendations. Step edging shall be yellow vinyl step nosing installed according to the floor covering manufacture's recommendations.</p> <p>Those interior surfaces that are not padded or covered with a decorative vinyl surface shall be appropriately primed and finished with a top quality Acrylic enamel. Color of paint and other interior finishing materials shall harmonize with the vehicle's exterior finish.</p>
			<p>2. Exterior Finish The exterior color shall be white. All exterior surfaces shall be smooth and free of visible wrinkles and dents. To assure a proper bond between the basic surface and successive coats of paint, exterior surfaces to be painted shall be properly cleaned and primed, as appropriate for the paint used, prior to application of the paint. Exterior surfaces to be painted shall be finished with a top-quality Acrylic paint applied according to the recommendations of its manufacturer. The paint shall be applied smoothly and evenly with the finished surface free of dirt, runs, orange peel, and other imperfections.</p>
			<p>3. Optional Raised Floor for Wheelchair Positions This option calls for a true raised floor, not a double floor, to provide a flat surface from behind the driver to the rear of the vehicle eliminating the protrusion of the wheel wells in the vehicle, for the purpose of additional wheelchair positions. The headroom provided in this area should be a minimum of 72 inches.</p>
NOTES/COMMENTS:			

N. MOTOR VEHICLE INDUSTRIES REGULATION ACT

YES	NO	NO & PROVIDE ALTERNATIVE	
			<p>1. All Bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Regulation Act, Nebraska Revised Statutes, § Chapter 60, Article 14 at time of bid. Bids will only be accepted from Bidders who are fully compliant with the Motor Vehicle Industries Regulation Act, Chapter 60, Article 14.</p>

NOTES/COMMENTS:

O. SUSTAINABILITY

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. If any part or component of the vehicle bid contains recycled or bio-based materials(s), please list and provide detailed information on the environmental attributes.

NOTES/COMMENTS:

P. ANNUAL USAGE, ESTIMATED

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Annual usage figures provided are estimates and are not to be construed as either a minimum or maximum purchase quantity. The orders shall be for the actual quantities of each item ordered by or for any agency during the life of the contract. Vendor shall not impose minimum order requirements.

NOTES/COMMENTS:

Q. USAGE REPORT

YES	NO	NO & PROVIDE ALTERNATIVE	
			A. The vendor shall, upon request by the State of Nebraska, provide an annual usage report of this contract by state agencies. Information will include agency name, item, and dollar amount. Information may be requested at any time by the State Purchasing Bureau, but may typically be requested at the end of the contract period or upon renewal of the contract, or at other intervals (monthly, quarterly, etc.) as determined by the State.

NOTES/COMMENTS:

R. ORDERS

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Orders will be placed either by, phone, fax, e-mail or Internet (if available and not to the exclusion of the other methods). All orders must reference a purchase order number and the purchase order number must be referenced on the packing slip, and invoice. Invoices are to be sent to the "Invoice to" address on the purchase order.

			Once contract is awarded, purchase orders issued by ordering agencies should include vehicle description, number of units ordering, shipping and billing location, agency delivery contact name and phone number and related information.
NOTES/COMMENTS:			

S. QUALITY

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Product quality must meet specifications and be consistent for the term of the contract. A guarantee of satisfactory performance by the supplier and meeting delivery dates are considered to be an integral part of the purchase contract resulting from this bid invitation. All materials must be of first quality, under standard production by the manufacturer and be of standard design, complete as regularly advertised and marketed and be of proven performance. Products are to be fully guaranteed and may be returned for full credit or replacement (at the State's option) for any reason during the initial warranty period with no additional charges for shipping or restocking.
NOTES/COMMENTS:			

T. PRICES

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Price quoted shall be unit price and shall be firm for 180 days from date of an award and are to be net; including transportation and delivery charges fully prepaid by the Bidder F.O.B. Destination as specified. No additional charges will be allowed for packing, handling, fuel surcharge, or partial delivery costs. Any Invitation To an increase must be submitted in writing to the State Purchasing Bureau a minimum of 30 days prior to proposed effective date of increase, and must show cause and be accompanied by supporting documentation (such as notification letter from manufacturer). Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract. The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined to be in the best interest of the State. The State will be given full proportionate benefit of any decrease for the term of the contract. No price increases are to be billed to any State Agencies without prior written approval by the State Purchasing Bureau. Contract supplier or suppliers may honor pricing and extend the contract to political sub-divisions, cities, and counties. Terms and conditions of the contract must be met by political sub-divisions, cities, and counties.
NOTES/COMMENTS:			

U. AUTHORIZED DEALER & WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. To the extent required by the manufacturer, the Bidder shall be an authorized dealer. Bidder may be required to substantiate that he/she is an authorized dealer. Proof, if required, must be submitted to the State Purchasing Bureau within three (3) days of the request and prior to the award of any contract. The terms of the original manufacturer's standard warranty shall apply to all equipment acquired from this solicitation for the entire warranty period.
NOTES/COMMENTS:			

V. WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Contractor must warrant the average life expectancy supplies hereunder to be not less than that stated in the manufacturer's price list and agree to replace, without cost, all supplies failing to meet this requirement, except where the reduced life is due to conditions beyond the control of the Contractor. Defective parts or those damaged in shipment must be replaced by the Contractor at no charge to the State of Nebraska. The manufacturer's standard warranty shall apply and be in effect for at least one year from the date the equipment was placed in service.
NOTES/COMMENTS:			

W. SUBSTITUTIONS

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. Vendor will not substitute any item that has been awarded without prior written approval of State Purchasing Bureau.
NOTES/COMMENTS:			

X. WITHDRAWAL OF BID

YES	NO	NO & PROVIDE ALTERNATIVE	
			1. The vendor is responsible for reviewing their bid(s) before submission for accuracy and completeness, to include price. The vendor may without penalty withdraw their bid within five (5) business days of bid opening by notifying the SPB Buyer in writing.

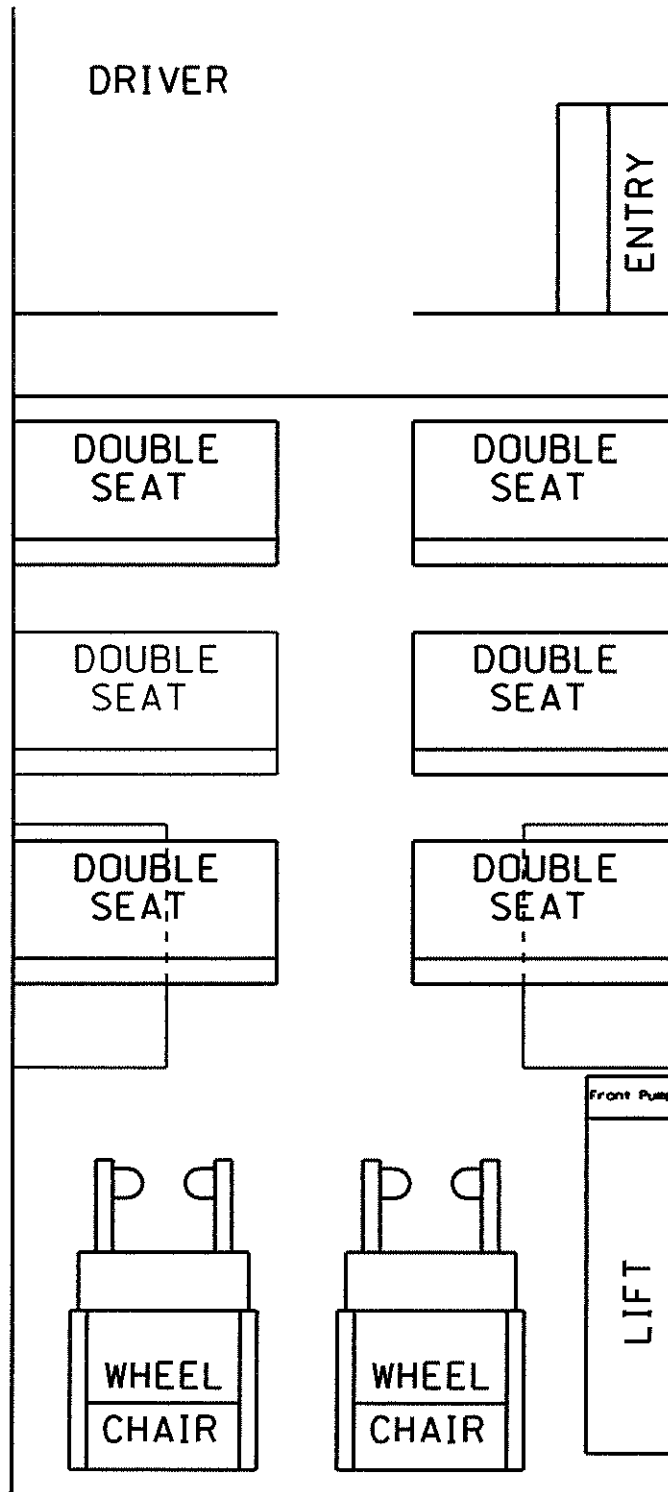
NOTES/COMMENTS:

Y. SECRETARY OF STATE REGISTRATION REQUIREMENTS

YES	NO	NO & PROVIDE ALTERNATIVE	*Prior to contract award and/or upon request of SPB, potential award recipient(s) will be asked to certify compliance with Nebraska Secretary of State Registration by providing a true and exact copy of current (dated within 90 days) valid Certificate of Good Standing or Letter of Good Standing.
			<p>1. Bidder is a SOLE PROPRIETORSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required)</p> <p>If the Bidder is an Individual or Sole Proprietorship, the following applies:</p> <p>a. The Bidder must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html</p> <p>The completed United States Attestation Form should be submitted with the Invitation to Bid response.</p> <p>b. If the Bidder indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.</p> <p>c. The Bidder understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.</p>
			<p>2. Bidder is a GENERAL PARTNERSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required).</p>
			<p>3. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State is provided within bid submission documents.</p>
			<p>4. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State will be provided in a timely manner upon request prior to award.</p>

NOTES/COMMENTS:

FIGURE 1
Floor Diagram



BIDDER'S CHECKLIST

A. The following items must be submitted with the bid.

- _____ 1. Submit signed certifications.
 - a. Buy America certification as per 49 CFR, Part 663.25
 - b. Purchaser's requirements certification as per 49 CFR, Part 663.27
 - c. A manufacturer's Federal Motor Vehicle Safety Certification as per 49 CFR, Part 663.41

B. The following items should be submitted with the bid, but must be submitted prior to bid award.

- _____ 1. Copy of the Altoona Bus Testing Report for vehicle bid.
- _____ 2. Furnish a copy of the current Nebraska Motor Vehicle Dealer License.
- _____ 3. A detailed floor plan showing all dimensions of the proposed vehicle.
- _____ 4. Each bidder should state in detail warranty provisions covering the bid item(s).
- _____ 5. Furnish name and address of the agency that will be responsible for after-sale service.
- _____ 6. A detailed description of the air conditioning units.
- _____ 7. The brand name and model number of the lift to be provided should be identified and manufacturer's literature should be included with the bid.
- _____ 8. Furnish ISO Certification.
- _____ 9. Pre-Award Requirements submitted.

CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

The undersigned [contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. 5323 and FTA's implementing regulation at 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

CERTIFICATE OF COMPLIANCE WITH PRE-AWARD AND POST-DELIVERY AUDITS OF ROLLING STOCK

The bidder will supply the items called for in the specifications.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

CERTIFICATION REGARDING LOBBYING

The undersigned {contractor} certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal Grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds or other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contracts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

[Note: Pursuant to 31 U.S.C. 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure. In addition, the contractor understands and agrees that the provisions of 31 U.S.C. A 3801, et seq., apply to this certification and disclosure, if any.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

BUY AMERICA

Certificate of Compliance With 49 U.S.C. 5323(j).

The bidder hereby certifies that it will comply with the requirements of Section of 49 U.S.C. 5323(j) and the regulations at 49 CFR Part 661 as amended by the FAST Act.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

Certificate for Non-Compliance With 49 U.S.C. 5323(j)(2)(C)

The bidder hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(2)(C) but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C) or and the applicable regulations in 49 CFR, 661.11.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

DISADVANTAGED BUSINESS ENTERPRISES CERTIFICATION

The following certification must be signed by a legally authorized representative of the Bidder's firm and returned with the bid.

The Bidder certifies that the transit vehicle(s) to be provided under this quotation will be provided by a manufacturer which is in compliance with Special Provisions for Transit Vehicle Manufacturers, Title 49 of the Code of Federal Regulations, Part 26, Subpart C, Section 26.49.

Date: _____

Company Name: _____

Signature of contractor's Authorized Official: _____

Name and Title of contractor's Authorized Official: _____

FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION

I, _____ certify that the vehicle bid will meet the following FMVSS:
(Name of Vendor/Agent)

- 101 Controls location and identification
- 102 Transmission shift lever sequence
- 103 Windshield defrosting and defogging
- 104 Windshield wiping and washing system
- 105 Hydraulic brake system
- 106 Brake hoses
- 108 Lights and reflectors
- 111 Rear view mirrors
- 113 Hood latch system
- 115 Vehicle identification number
- 116 Hydraulic brake fluids
- 119 New pneumatic tires
- 120 Tire selection and wheels for buses
- 124 Accelerator control system
- 204 Steering system reward movement
- 205 Glazing materials (window glass)
- 206 Door lock and door retention components
- 207 Anchorage of seats
- 208 Occupant restraints
- 209 Seat belt assemblies
- 210 Seat belt assembly anchorage
- 217 Bus window strength and emergency release
- 220 School bus rollover protection
- 301 Fuel system integrity
- 302 Flammability of interior materials
- 403 Platform lift systems for motor vehicles
- 404 Platform lift installation in motor vehicles

Signature

Date

**FORM A
 BIDDER CONTACT SHEET
 Invitation To Bid Number 5509 OF**

Form A should be completed and submitted with each response to this Invitation to Bid. This is intended to provide the State with information on the Bidder's name and address, and the specific person(s) who are responsible for preparation of the Bidder's response.

Preparation of ITB Contact Information	
Bidder Name:	
Bidder Address:	
Contact Person & Title:	
E-mail Address:	
Telephone Number (Office):	
Telephone Number (Cellular):	
Fax Number:	

Each Bidder shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the Bidder's response should become necessary.

Communication with the State Contact Information	
Bidder Name:	
Bidder Address:	
Contact Person & Title:	
E-mail Address:	
Telephone Number (Office):	
Telephone Number (Cellular):	
Fax Number:	