

December 15, 2022

Board of Commissioners
Clackamas County

Members of the Board:

Approval of a Board Order authorizing the Purchase of Six (6) Shuttle Buses from Northwest Bus Sales for the Last Mile Shuttle Program. Total purchase order value is \$752,772. Funding is through the State Transit Improvement Funds.
No County General Funds are involved.

Purpose/Outcomes	Approval of the issuance of Purchase Order for Six (6) Category D Ford E450 Shuttle Buses for the Last Mile Shuttle Program.
Dollar Amount and Fiscal Impact	Total value not to exceed \$752,772.
Funding Source	State Transit Improvement Funds are provided under agreement with TriMet. No County General Funds.
Duration	The estimated delivery date of December 2023
Previous Board Action	Item at County issues 12-13-22.
Strategic Plan Alignment	1. This funding aligns with H3S's strategic priority to increase self-sufficiency for our clients. 2. This funding aligns with the County's strategic priority to ensure safe, healthy, and secure communities by addressing transportation needs for seniors, persons with disabilities, and low-income job seekers
Counsel Review	Date of Counsel Review: 11/7/22 Andrew Naylor
Procurement Review	1. Was the item processed through Procurement? Yes 2. If no, provide a brief explanation:
Contact Person	Brenda Durbin, Social Services Director (503)655-8641
Agreement Number	H3S # 10957

BACKGROUND:

The Social Services Division (SSD) of the Health, Housing, and Human Services Department requests the approval of a board order to purchase six (6) new transit vans for the Last Mile Shuttle program. Last mile shuttles currently operate in Oregon City and the Clackamas Industrial area and provide rides to residents not served by other public transit options. These vehicles will ensure the continuity of operations.

The Board Order is for \$752,772, with delivery expected in December 2023. No County General Funds are required.

County Counsel reviewed and approved this Board Order.

RECOMMENDATION:

Staff recommends the Board approve the attached Board Order.

Healthy Families. Strong Communities.

Respectfully submitted,

Rodney A. Cook

Rodney A. Cook, Director
Health, Housing & Human Services Department

Attachment:

Board Order: In the Matter of Approving the Issuance of a Purchase Order to Purchase Six Ford E450 Shuttle Buses

**BEFORE THE BOARD OF COUNTY COMMISSIONERS
OF CLACKAMAS COUNTY, STATE OF OREGON**

In the Matter of Approving
Issuance of Purchase Order to
Purchase Six Ford E450 Shuttle
Buses



Board Order No. _____

Page 1 of 2

Whereas, the Clackamas County Board of County Commissioners (the “Board”) has authority to sign all contracts and any amendments or renewals of the same;

Whereas, Oregon Revised Statutes (“ORS”) chapter 279A.200-220 and Local Contract Review Board Rule C-046-0400 permit Clackamas County to purchase goods or services using a cooperative procurement;

Whereas, Northwest Bus Sales, Inc. established a cooperative contract with the State of Oregon cooperative, contract #DASPS-2234-19, price agreement #9475 (the “Contract”), for the purchase of Ford E450 Shuttle Buses;

Whereas, the Clackamas County Department of Health, Housing, and Human Services, Social Services Division, desires to purchase six (6) Ford E450 Shuttle Buses through the Contract for a total contract price of \$752,772.00, as further described in Northwest Bus Sales, Inc.’s quote, attached hereto as Exhibit A and incorporated by this reference herein;

Whereas, the Clackamas County Department of Finance requests authority to utilize the Contract to purchase the aforementioned equipment by issuance of a purchase order (“PO”);

Whereas, a PO is issued directly through the Department of Finance’s management software with no signature required or available;

NOW THEREFORE, the Clackamas County Board of County Commissioners resolves as follows:

1. The requested use of the Contract to purchase six (6) Ford E450 Shuttle Buses in the amount of \$752,772.00 is hereby approved;
2. The Clackamas County Department of Finance is hereby delegated limited authority to issue a PO to purchase the six (6) Ford E450 Shuttle Buses using the Contract.

[Signatures to Follow]

**BEFORE THE BOARD OF COUNTY COMMISSIONERS
OF CLACKAMAS COUNTY, STATE OF OREGON**

In the Matter of Approving
Issuance of Purchase Order to
Purchase Six Ford E450 Shuttle
Buses



Board Order No. _____
Page 2 of 2

DATED this ____ day of _____, 2022

BOARD OF COUNTY COMMISSIONERS

Chair

Recording Secretary

EXHIBIT A
VENDORS REQUEST FOR QUOTE RESPONSE



Northwest Bus Sales, Inc
33207 Pacific Highway South
Federal Way, WA 98003
Phone (253) 841-9997
Fax (253) 845-9384
www.nwbus.com

September 8, 2022

To: Kristina Babcock
Clackamas County

From: Tyler Todhunter – Northwest Bus Sales

Re: New Bus Quote

Hi Kristina,

Thank you for the opportunity to participate in your RFQ for Category D shuttle buses. Northwest Bus Sales aims to be the most competitively priced provider of quality buses, but where we really shine is in our support- both during *and after* the sale. Attached you will find our quote for your custom-built buses. We appreciate your business and look forward to working with you on this purchase. If you have any questions regarding this quote, please do not hesitate to call me at 253-841-9997.

Best Regards,

Tyler Todhunter
Northwest Bus Sales
tyler@nwbus.com
www.nwbus.com

REQUEST FOR TRANSIT VEHICLE PRICE QUOTE (RFQ)

This is (check appropriate):

- Initial Request for Quote (from Requesting Agency to Vendors)
Due Date: 09/09/22
 - Response to RFQ (from Responding Vendor back to Requesting Agency)
 - Grant Funded Purchase STIF Funds
-

VENDOR (Business Name): Northwest Bus Sales, Inc.

Vendor Contact Person: Tyler Todhunter Phone: 253-841-9997

Email Address: tyler@nwbus.com Alt Phone: 206-786-9244

Meets Buy America Standards (49 USC § 5323(j); 49 CFR part 661)

REQUESTING AGENCY INFORMATION

Agency: Clackamas County Date: August 3, 2022

Contact Person: Kristina Babcock Phone: 971-349-0481

Email Address: kbabcock@clackamas.us Fax: 503-655-8889

Agency Address: PO BOX 2950, Oregon City, OR 97045

The above Agency, through its Public Transit program or public transit affiliate, is requesting price quotes from Oregon State Price Agreement Contract Vendors for the purchase of the following vehicle(s):

From (circle): Oregon State Price Agreement / Other No. of Vehicles Required: 6

PTD Vehicle Category (Check): (Please see *PTD Vehicle Descriptions and Useful Life Standards*)

Cat A Cat B Cat C Cat D Cat E ____ (select from 1 to 3)

Length: 20-25 Regular Seats: 10+2 fold down ADA Stations/Tiedowns: 2

Fuel Type: Gasoline Diesel Bio-fuel Hybrid CNG Propane

High Floor Low Floor Other Comment: _____

The general specification for vehicle is as follows:

A. VENDOR'S VEHICLE BASE PRICE INFORMATION	VEHICLE BASE PRICE
<i>This Section to be completed by Vendor</i>	<i>Enter base price from State Price Agreement below</i>
Vehicle Make/Model: Ford E450 Endera (Formerly Metro Link)	\$86,880
Length: 24'	
Fuel Type: Gasoline	
Floor: <input checked="" type="checkbox"/> High Floor <input type="checkbox"/> Low Floor Other:	
No. of Regular Passenger Seats: 12 base, 14 as bid	
No. of ADA Stations w/Tiedowns Desired: 2	
Other Special Note:	
B. VEHICLE REQUIRED SPECIFICATIONS	
<i>Requesting Agency completes Description column</i> <i>Vendor completes "Vendor Response" columns</i>	VENDOR RESPONSE
<i>Requesting Agency's Required Specifications Description</i>	<i>Vendor Suggestions (related to vehicle specs)</i>
<p>Please provide 3 previous Oregon Transit customers reference contact numbers who have purchased similar model units, we will inquire:</p> <ol style="list-style-type: none"> 1. How responsive the vendor has been to warranty issues? 2. Were the vehicles delivered on time? 3. Were the vehicles delivered per the specifications in the RFQ? 4. Are there any other issues, concerns, or information regarding the vendor, shop staff, vehicle delivery, etc that you'd like to let me know about? <p>Note: Negative feedback may disqualify your bid from consideration.</p>	Attached
All standard specs per State Price Agreement - please include a list of vendor provided standard specs with RFQ response	Attached
<u>APPROVED EQUAL</u>	
Items bid other than specified must be determined by the Buyer as an approved equal. Include in final bid detailed specifications, cut-sheets, and modifications necessary that would make the proposed item equal to the desired specifications. Determination of approved equal will be made by the Buyer, and the decision is final.	
Altoona Test Executive Summary	Attached

<p align="center">Requesting Agency's Required Specifications Description (Continued)</p>	<p align="center">VENDOR RESPONSE</p>
	<p align="center"><i>Vendor Suggestions (related to vehicle specs)</i></p>
External color standard white	Standard
The vehicle should be approximately 22 feet in length	24'
6.8 liter gasoline engine or equivalent	Ford 7.3L V8 Gasoline engine
<p>14-passenger floor plan with front mounted lift system. Actual knee room for each fixed or foldaway seat of at least 10" measured from the front of the seat cushion to back of the seat back or barrier.</p> <p><u>Passenger side:</u> 3 double fixed seats behind the lift. <u>Driver side:</u> two (2) wheelchair stations (two [2] double passenger foldaway seats) behind the driver. Then two fixed double seats.</p>	Included in final price
Two (2) ADA securement stations	Standard
Braun Century Wheelchair Lift with 1,000 pound lifting capacity and 34" by 54" platform, or equivalent	Standard
Fast idle, part of wheelchair lift package	Standard
Slide 'N' Click wheelchair securement system	Included in final price
QRT-360 Wheelchair securements for two (2) wheelchair stations with standard non retractable adjustable lap/shoulder belt or equivalent	Included in final price
Minimum 65,000 BTU heater mounted under seat location approved on floor plan by agency	Standard
Minimum 68,000 BTU rear air conditioner	Included in final price
Heater booster pump	Standard
Minimum 195 AMP alternator	Standard
Circuit breakers in the electrical panel (no fuses)	Standard
Dual batteries, mounted together in stainless steel battery box w/ s.s. slides and locking cover	Batteries located securely in stepwell
Stainless steel stanchion and modesty panel behind driver Plexiglas barrier above stanchion; with aluminum hand rail above.	Standard
Battery master disconnect switch (driver side stepwell)	Standard, located above driver
Stainless steel stanchion w/ modesty panel at entrance door	Standard
Heated, remotely operated exterior mirrors with integrated turn signals (controls must be in reach of driver which allow adjustments while in a normal sitting position)	Included in final price
LED ADA light package, includes all exterior ADA lights (door activated)	Standard
Daytime running lights (LED) 7"	Included in final price
LED amber flashing lights, front and rear 7" or larger triggered with front door, lift and rear door to flash	Included in final price
LED light package for all standard/required rear stop, tail, and backup lights	Standard
LED step well lights	Standard
Fuel sender access cover	Standard

Requesting Agency's Required Specifications Description (Continued)	VENDOR RESPONSE
	<i>Vendor Suggestions (related to vehicle specs)</i>
Back-up alarm (outside vehicle)	Standard
Locking fuel fill door, aluminum or equivalent (not plastic, vinyl, or fiberglass)	Included in final price
Raised flat floor (yellow with track lighting on riser if applicable)	Included in final price
Mor/ryde suspension system or approved equivalent	Standard
Exposed exterior screws must be stainless steel or equivalent, not coated or galvanized steel	Included in final price
Street-side exhaust*** Pipe needs to send exhaust to street side and not cause any rear clearance issues. Do not run exhaust pipe under the rear bumper	Standard
Running board driver's door, aluminum, 12" wide	Included in final price
Locking exterior handle on wheelchair door	Standard
Wheelchair door ajar light	Included in final price
Rear emergency door w/ 2 windows w/ door ajar light and buzzer	Included in final price
Electric passenger entrance Option to open electric front door from outside vehicle (key)	Standard
Wide angle lens, rear door window	Included in final price
Dual windows One (1) on each side of rear emergency door	Not available
Grab handles LH and RH of entry way, angled to match entry steps and yellow powder coated.	Included in final price
FRP Ceiling and Walls	Standard
Power base for driver seat	Included in final price
Driver's seat to be cloth and have equivalent features to Seats Inc. Legacy LO	USSC G2 driver seat, standard
17" mid-back standard seats (Freedman or equivalent)	Standard
Seat belt extension for driver (longest available up to 12")	Standard
Aisle side seats to have armrests and grab handles	Standard
All except driver's seat to be vinyl / level 4 upholstery or higher	Included in final price
Seat back grab handles on aisle and window seats	Included in final price
Four (4) 12 inch seatbelt extensions	Included in final price
Yellow standee line and sign	Included in final price
Yellow step nosing	Standard
Drip moldings over all passenger windows (stainless steel or equivalent)	N/A, bonded windows
Passenger side overhead railing (with straps)	Included in final price
Full view curb window	Standard

Requesting Agency's Required Specifications Description (Continued)	VENDOR RESPONSE	
	<i>Vendor Suggestions (related to vehicle specs)</i>	
Front and Rear Romeo bumper or equivalent	Included in final price	
Altro non-skid floor coved to seat rail or equivalent	Included in final price	
FAK, Fire Ext, and BBP Kit mounted	Standard	
Triangle Reflector Kit-secured to the floor behind driver seat	Standard	
Seat Belt Cutter, Flashlight, mounted within reach of driver	Included in final price	
Four (4) scooter tie-down loops	Included in final price	
Matrix listing all warranties, component, company, contact information and duration.	Standard	
Inner dual tires air valve extender kit	Included in final price	
Interior passenger view mirror above the driver (adjustable)	Standard	
AM/FM/CD with color backup camera, Bluetooth and hands free technology. Exterior mounted camera 4 Speakers	Radio standard, backup cam display in rearview mirror.	
Full body/cab undercoating	Standard	
Armored light guards on marker lights	N/A, recessed lighting	
LED exterior light package	Standard	
Skirt mounted rear LED docking lights	Included in final price	
LED exterior entry door light, door activated	Standard	
LED side marker/turn signals	Standard	
Rear LED brake lights under rear body windows	Standard	
Door actuated LED interior ceiling lights	Standard	
Ad rails in front 2/3 of each side	Standard	
Pull cord stop request system w/transition stop request sign & buzzer - auditory & visual	Included in final price	
Bike rack for 3 bikes	Included in final price	
Front license plate bracket	Standard	
Single Switch Intermittent Wipers	Ford OEM	
Full vehicle wrap (graphics included in email) from Gillespie Graphics or equivalent	Included in final price	
Subtotal Cost of Required Options:		\$37,972
Total Vehicle Cost With All Required Options and TAX:		\$124,852

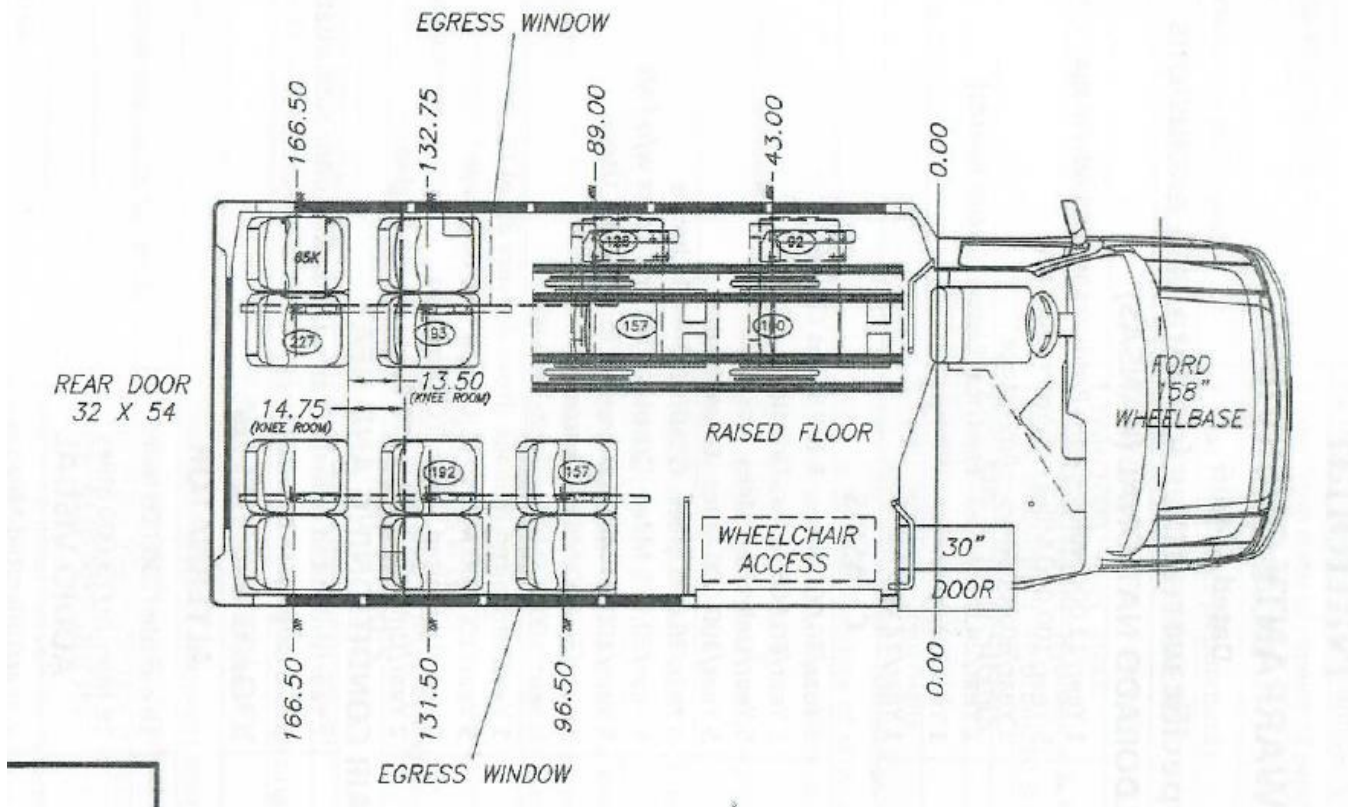
C. VEHICLE PREFERRED OPTIONS

Requesting Agency's Preferred Options Description	Included in Base Price? YES / NO	\$Additional Cost for Option\$ (or Note Not Available)	Vendor Suggestions (related to vehicle specs)
Exterior height clearance decal (above driver)	NO	\$40	
4 Sets of keys, or fobs (split into sets) lift door and rear door, keyed alike	NO	\$350	
Engine & transmission powertrain warranty at least 5 yrs/60,000 miles	YES		
Front and rear mud flaps	YES		
Locking bulkhead above driver	YES		
LED yield signs with driver activation switch on dash (match TriMet yield sign ORS 811.167)	YES		
Extension for Oil dipstick (allows for easy access)	NO	Not Available	New 7.3L motor is much more accessible
Install TDSS systems under fold-away seats	NO	\$220	\$110/ea
Interior 4 Camera CCTV system (Seon or equivalent) with minimum 250gb HD	YES		
As built wiring diagrams and parts manual	YES		
Subtotal Cost of Preferred Options:		\$610	

Vendor's Signature:  Date Sent: 9/8/22

Vendor's Response Back to RFQ – Please sign and date your response here.

Sample Floor plan (Attach or cut-and-paste new plan here, or attach on back)



VENDOR INFORMATION

Vendors are strongly encouraged to submit price quotes using the format provided. Vendors should specifically note if and how they meet the above specifications, and note any differences in what has been called out above, in their price quotes. This may be done on the form, or on an attached sheet. The vehicle(s) will be purchased with funding from the Oregon Department of Transportation, Public Transit Division and the Requesting Agency, and will follow applicable Federal and State procurement guidelines.

Price Quote shall be submitted to the Requesting Agency contact person named on the first page on this form.

Price Quotes may be sent by U.S. Mail, emailed, or faxed to the addresses for Requesting Agency noted on page 1 of this form.

Vendors are required to submit the following certification attachments with each Quote response:

Attachment 1 – Certificate of Compliance with Bus Testing Requirement

Attachment 2 – Pre-Award FMVSS and Buy America Certification

Attachment 3 – Transit Vehicle Manufacturer (TVM) Certification (DBE)

VEHICLE SELECTION INFORMATION

Selection of the vehicle and successful price quote will be based on:

- Lowest Cost with Required Specifications** (*Lifecycle costs may be considered in price determination and may affect lowest bid determination*)
- Best Value Determination (ODOT PTD pre-approval required.)**

The Best Value Determination criteria are as follows:

- Vehicle includes all required specifications (pass / fail)
- Lowest pricing will all required options – sliding scale (40 pts)
- Preferred options offered (20 pts)
- Estimated date of delivery (15 pts)
- Agency's past experience with Vendor (25 pts)

The vendor with the highest overall score will be selected.

Attachment 1

BUS TESTING CERTIFICATION

The undersigned bidder [Contractor/Manufacturer] certifies that the vehicle model or vehicle models offered in this bid submission complies with 49 CFR Part 665.

A copy of the test report (for each bid ITEM) prepared by the Federal Transit Administration's (FTA) Altoona, Pennsylvania Bus Testing Center is attached to this certification and is a true and correct copy of the test report as prepared by the facility.

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 U.S. 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.

Northwest Bus Sales, Inc.

Name of Bidder/Company Name

Tyler Todhunter

Type or print name

[Signature]

Signature of authorized representative

Ashley E Voigt
Signature of notary and SEAL

Date of Signature

08 19 2022



Attachment 2

PRE-AWARD CERTIFICATION FOR PROCUREMENT OF ROLLING STOCK (VENDOR)

PRE-AWARD AUDIT REQUIREMENTS

A recipient purchasing revenue service rolling stock with FTA funds must ensure that a pre-award audit under this part is complete before the recipient enters into a formal contract for the purchase of such rolling stock.

DESCRIPTION OF PRE-AWARD AUDIT

A pre-award audit under this part includes— (a) A Buy America certification; (b) A purchaser's requirements certification; and (c) Where appropriate, a manufacturer's Federal Motor Vehicle Safety certification information.

PRE-AWARD BUY AMERICA CERTIFICATION

For purposes of this part, a pre-award Buy America certification is a certification that the recipient keeps on file that:

- a. There is a letter from FTA which grants a waiver to the rolling stock to be purchased from the Buy America requirements under section 165(b) (1), (b)(2), or (b)(4) of the Surface Transportation Assistance Act of 1982, as amended; or
- b. The recipient is satisfied that the rolling stock to be purchased meets the requirements of section 165(a) or (b)(3) of the Surface Transportation Assistance Act of 1982, as amended, after having reviewed itself or through an audit prepared by someone other than the manufacturer or its agent documentation provided by the manufacturer which lists:
 1. The Component and subcomponent parts of the rolling stock that are produced in the United States is more than 60% for FY2016 and 2017, more than 65% for FY2018 and 2019, more than 70% for FY2020 of the cost of all components and subcomponents of the vehicle identified by the manufacturer; and
 2. The location of the final assembly must take place in the United States (49 CFR 661.11), including a description of the activities that will take place at the final assembly point and the cost of final assembly.

PRE-AWARD PURCHASERS REQUIREMENTS CERTIFICATION

For purposes of this part, a pre-award purchaser's requirements certification is a certification a recipient keeps on file that:

- a. The rolling stock the recipient is contracting for is the same product described in the purchaser's solicitation specification; and
- b. The proposed manufacturer is a responsible manufacturer with the capability to produce a vehicle that meets the recipient's specification set forth in the recipient's solicitation.

If buses or other rolling stock (including train control, communication, and traction power equipment) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder in accordance with the requirements in 49 CFR 661.13(b).

PRE-AWARD FMVSS COMPLIANCE CERTIFICATION

As required by Title 49 of the CFR, Part 663 – Subpart D, the recipient certifies that it received, at the pre-award stage, a copy of the manufacturers self-certification information stating that the buses will comply with the relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 of the Code of Federal Regulations, Part 571.

Bidder or offeror Certificate of:

COMPLIANCE with Buy America and FMVSS Rolling Stock Requirements

As required by 49 CFR Part 663, the bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.

Company Northwest Bus Sales, Inc.

Name Tyler Todhunter Title Sales

Signature [Signature] Date 8/19/22

Bidder or offeror Certificate of:

NON-COMPLIANCE with Buy America and FMVSS Rolling Stock Requirements

As required by 49 CFR Part 663, the bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.

Company _____

Name _____ Title _____

Signature _____ Date _____

Attachment 3

TRANSIT VEHICLE MANUFACTURER (TVM) CERTIFICATION

Pursuant to the provisions of Section 105(f) of the Surface Transportation Assistance Act of 1982, each bidder for this contract must certify that it has complied with the requirements of 49 CFR Part 26.49, regarding the participation of Disadvantaged Business Enterprises (DBE) in FTA assisted procurements of transit vehicles. Absent this certification, properly completed and signed, a bid shall be deemed non-responsive.

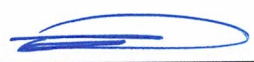
Certification:

I hereby certify, for the bidder named below, that it has complied with the provisions of 49 CFR Part 26.49 and that I am duly authorized by said bidder to make this certification.

Name of Bidder/Company *Northwest Bus Sales, Inc.*

Name Type or print *Tyler Tadhunter*

Signature of Authorized Representative _____

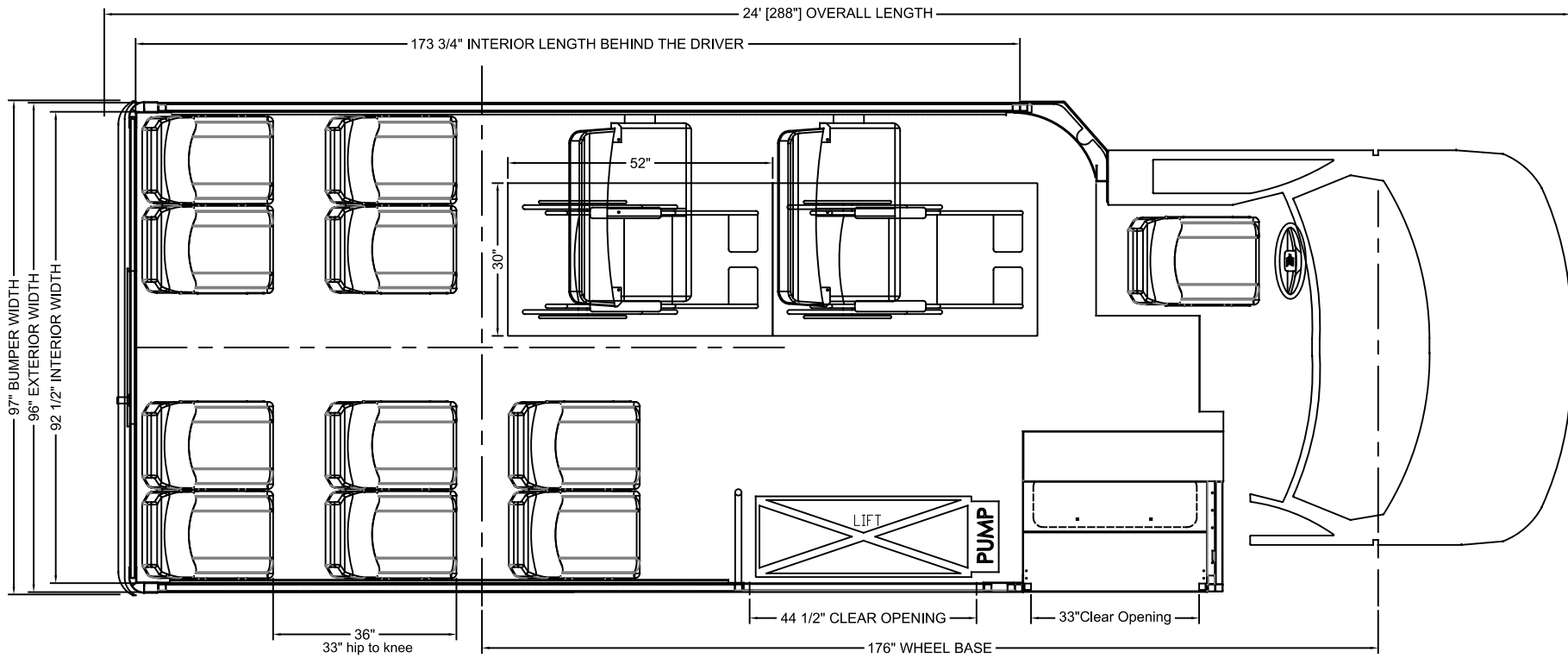


Date *8/19/22*

Signature of notary and SEAL

Ashley E Voigt





DRAWN	MAB	9/7/22						
MATERIAL	-	-						
FINISH	-	-	TITLE: 24 fwcl 10p 2wc 2 dbl folds 176 90722-1					
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL +/-1/4 ANGULAR:MACH+/-1 TWO PLACE DECIMAL+/-0.03 THREE PLACE DECIMAL+/-0.01			SIZE B	DWG. NO. 24 fwcl 10p 2wc 2 dbl folds 176 90722-1	REV -			
DO NOT SCALE DRAWING			SCALE:	NONE	WEIGHT:	-	SHEET	1 OF 1



Northwest Bus Sales, Inc
33207 Pacific Highway South
Federal Way, WA 98003
Phone (253) 841-9997
Fax (253) 845-9384
www.nwbus.com

To: Kristina Babcock
From: Tyler Todhunter – Northwest Bus Sales
Re: Altoona Test Report

Hi Kristina,

Thank you for the opportunity to participate in your RFP for a Category D shuttle bus. To follow, you will find the Altoona Test Report for the recently rebranded Endera shuttle bus. This bus was originally designed by Winnebago Industries as a venture into the shuttle bus market. Winnebago eventually sold their design to Metro Worldwide, who marketed it as the Metro Link shuttle bus.

Recently, Metro Worldwide was acquired by Endera Automotive and was again rebranded. The structure of the bus has not changed through the transitions, and the reports applicability to the buses being produced remains unchanged.

Please let me know if you have any questions regarding this or any other matter in the RFQ. Thank you.

Best Regards,

Tyler Todhunter
Northwest Bus Sales
253-841-9997
tyler@nwbus.com

STURAA TEST

7 YEAR

200,000 MILE BUS

from

WINNEBAGO INDUSTRIES, INC.

MODEL E-450

DECEMBER 2012

PTI-BT-R1212

PENNSSTATE



**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

Winnebago Industries Inc. submitted a model E-450, gasoline-powered 13 seat (including the driver) 24-foot bus, for a 7 yr/200,000 mile STURAA test. The odometer reading at the time of delivery was 1,627 miles. Testing started on July 2, 2012 and was completed on October 29, 2012. 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 July 11, 2012 and was completed on October 17, 2012.

The interior of the bus is configured with seating for 13 passengers including the driver. Free floor space will accommodate 8 standing passengers resulting in a potential load of 21 persons. At 150 lbs per person, this load results in a measured gross vehicle weight of 13,540 lbs. **Note: at GVL the rear axle weight is 570 lbs over the rear GAWR.** The first segment of the Structural Durability Test was performed with the bus loaded to a GVW of 13,540 lbs. The middle segment was performed at a seated load weight of 12,360 lbs and the final segment was performed at a curb weight of 9,250 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 6 reported failures, 5 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 14.83 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 25.10' at 20 mph, 48.85' at 30 mph, 81.76' at 40 mph and 102.00' at 45 mph. The average stopping distance for the Uniform Low Friction Test was 24.82'. 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 0.001 to 0.005 inches under a distributed static load of 9,075 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 submitted for testing was not equipped with any type of tow eyes or tow hooks, therefore the Static Tow 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 9.0 inches.

A Fuel Economy Test was run on simulated central business district, arterial, and commuter courses. The results were 8.83 mpg, 9.24 mpg, and 15.21 mpg respectively; with an overall average of 10.18 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.



ENDERA ORDER FORM

+1 419.523.3593
804 N. Pratt St.
Ottawa, OH 45875

Date:
Form revision date 01/12/22

Sales: 805-689-4430
jblack@enderacorp.com
Warranty / Parts: 419-523-3593

CUSTOMER INFORMATION

Customer: Northwest Bus Sales, Inc.
Address: 33207 Pacific Hwy S
City, St. Zip: Federal Way, WA 98003
Contact: Tyler Todhunter
Phone: 253-841-9997
Fax: 253-845-9384
P.O. #:

SHIPPING / PAYMENT INFORMATION

Customer Pick Up: Ship Best Way to Location Below:

Ship To:
Address:
City, St. Zip:
Contact:
Phone:
Payment:

Additional Shipping Instructions

ARE FTA FUNDS USED?		FTA INFO REQUIRED
YES or NO	YES	

Is this for a contract?	YES or NO	Model Number:	Number of units in this order:
	YES	Description:	
<i>If YES please complete the fields to the right</i>		Seating Capacity:	

End User Information

Name: State of Oregon - Agency Name
Address:
City, St. Zip:

Applicable FIN / FAN Code: QS045

CHASSIS

QTY	CHASSIS ADDED		
21-E4F-S158	1	Ford E450, 158" WB, 7.3L V-8 Gas Engine, 14,500 GVWR, Door Delete	
	1	Chassis Transfer Fee	
	1	Less: Applicable Government Bid Assistance	
		Less: Applicable Fleet Allowance	
		Less: Applicable Commercial Retail Allowance	
		Less: Commercial Upfit Allowance	
	1	Less: Mobility Allowance	
		Less: PNI Allowance	
51A - ORDOT Base	1	Spare Tire & Wheel	

BASE CONVERSION

QTY			
		Endera - FORD E450 - Standard Floor	
ORDOT Base	1	2021 - 24', E450, 158" WB, 14,500 GVWR	

BODY / CONVERSION OPTIONS

Option #	QTY	Option Description		
PARATRANSIT OPTIONS				
ORDOT Base	1	Lift - ADA with Double Wheel Chair Doors, Windows, Shift Interlock & Lights		
ORDOT Base	1	Priority seating and wheelchair decals		

		BRAUN WHEELCHAIR LIFTS			
ORDOT Base	1	Braun Century - NCL3454-2 Lift, 34"x54", 1000# with Rear Pump & Safety Belt			
		Q-STRAINT W.C. SECUREMENT KITS			
ORDOT Base	2	Q-8300-A1-L - QRT MAX - Retractable Shoulder / Lap Belt Combo - L Track			
		MISCELLANEOUS PARATRANSIT ACCESSORIES			
ORDOT Base	1	Q-Straint Lap Belt Extension, 20" (Q5-6340-20-INT)			
ORDOT Base	1	Q-Straint Belt Cutter (Ship Loose)			
		FLOORING			
ORDOT Base	1	Profusion KoroTrans Grey, Ribbed Aisle			
ORDOT Base	1	Standee Line Behind Driver at Entrance Stanchion w/ Decal	Color		
ORDOT Base	1	Cove Flooring on Sidewall to Bottom of Seat Track			
		ELECTRICAL			
ORDOT Base	1	Battery Disconnect Switch Mounted in Bulkhead Above Driver			
ORDOT Base	1	Pre-wire +/- Ignition at Doghouse			
ORDOT Base	1	Back Up Alarm			
ORDOT Base	1	Engine Compartment Light			
ORDOT Base	1	Circuit Breaker Fuses			
ORDOT Base	1	Install 5 camera system - NWB to supply			
		EXTERIOR LIGHTS			
ORDOT Base	1	Illuminated Flashing Yield Light wired to Turn Signal on Rear of Bus			
ORDOT Base	1	Midship Turning Lights			
		AUDIO / VISUAL			
ORDOT Base	1	Rosco Rearview Monitor with display in rearview mirror			
ORDOT Base	1	Intermotive Fast Idle (AFIS), No Interlock			
ORDOT Base	1	Internal Speakers w/wire - 2 rear with OEM AM/FM Radio			
		DOORS / WINDOWS			
ORDOT Base	1	Key Switch for Entrance Door			
ORDOT Base	5	Vented Windows with Flush Side Slider (Each)			
		CHASSIS / EXTERIOR			
ORDOT Base	1	6" Extruded Aluminum Running Boards with Intergrated Front Mud Flaps			
ORDOT Base	1	MorRyde RS Rear Suspension			
ORDOT Base	1	Exterior Mirrors, Rosco Remote Power - Heated, RH & LH, Black Arms (Exchange)			
ORDOT Base	1	Valve Stem Extender Inner Dual Rear Wheel, pair			
ORDOT Base	1	Alignment Certification Post-Production			
		SIDEWALL / CEILING / HATCH			
ORDOT Base	1	Sidewall: White Paneling (Black is Standard)			
		INTERIOR			
ORDOT Base	1	Interior Convex Mirror 6" x 9"			
		LUGGAGE RACKS / STORAGE			
ORDOT Base	1	Key Locks for Driver Storage and Electrical Cabinet			
		CLIMATE CONTROL			
		ACC CLIMATE CONTROL A/C SYSTEMS			
		ACC DUAL COMPRESSOR SYSTEMS - SKIRT CONDENSER			
ORDOT Base	1	55K BTU Total - ACC-R2262T - Tie In, Skirt Cond., Ceiling Evap.			
		Pro Air HEATERS			
ORDOT Base	1	Pro Air #465LP Rear Heater-65K BTU, 3 Speed-Mounted Under Seat With Shut Off Valves			
		MISCELLANEOUS - HEATER & A/C ACCESSORIES & FANS			
ORDOT Base	1	Heater Booster Pump, Includes Electric Water Valve in lieu of Manual Valves			
		SAFETY OPTIONS			
ORDOT Base	1	5 Lb. ABC Fire Extinguisher w/ Bracket			
ORDOT Base	1	Bi-Directional Reflective Triangles			
ORDOT Base	1	25 Unit First Aid Kit w/ Plastic Waterproof Case, ANSI 2009			
ORDOT Base	1	Decal - "Please Fasten Your Seat Belt"			
		GRAB RAIL / STANCHION / PANELS			
ORDOT Base	1	Ceiling Grab Rail Curbside (ADA requirement)			
ORDOT Base	1	Ceiling Grab Rail Streetside			
ORDOT Base	1	Angled Stanchion Behind Driver with 1/4" Plexiglass Panel			
ORDOT Base	1	Modesty Stanchion in Front of Rear Lift			

**MISC OPTIONS
SEATING**

		DRIVER'S SEATING			
ORDOT Base	1	USSC G2 ELP with Arm Rest, Tilt, and Lumbar			
		OEM DRIVER SEAT RE-COVERED TO MATCH PASSENGER SEATS FREEDMAN SHIELD & LO CAM DRIVER SEAT FABRICS **EUROPEAN OR AMERICAN WOOL QUOTED AT TIME OF ORDER**			
ORDOT Base	1	Driver Seat Cover - Level 3	color # & name		
		PASSENGER SEAT FABRICS **EUROPEAN OR AMERICAN WOOL QUOTED AT TIME OF ORDER**			
ORDOT Base	12	Seat Cover - Level 3	color # & name		
		PASSENGER SEATING FREEDMAN FEATHERWEIGHT STANDARD RIGID SEATS			
ORDOT Base	6	Featherweight Mid-High Double Seat			
		SEAT OPTIONS			
ORDOT Base	6	AV Grab Handle, Black - Each	on: Aisle		
ORDOT Base	6	Flip-Up US Armrest, Black - Each	on: Specify Location		
		SEAT BELTS			
ORDOT Base	4	Seat Belt, Non-Retractable (SPECIFY QUANTITY)			
ORDOT Base	8	Seat Belt, USR Freedman Retractable (Per Person) N/A Foldaway or Flip Seats			
ORDOT Base	3	Seat Belt Extension, 12"			
ORDOT Base	1	<i>Non-Retractable belts along rear wall</i>			

OTHER OPTIONAL EQUIPMENT & FEATURES

ORDOT Base	1	Minimum 27" Knee to Hip			
ORDOT Base	1	Weight Slip included with bus			
ORDOT Base	1	Alignment printout included with bus			
ORDOT Base	1	Redundant Ground between chassis and power unit			
ORDOT Base	1	Circuit panel legend on access door			
ORDOT Base	1	Water test; 2gpm@40psi for 15 minutes, report included with bus			

PRODUCTION NOTES / INSTRUCTIONS					

Suggested

E45F SD COMMERCIAL CUTAWAY VAN
 SPECIAL DEALER ACCOUNT ADJUSTM
 SPECIAL FLEET ACCOUNT CREDIT
 158 INCH WHEELBASE
 2021 MODEL YEAR
 YZ OXFORD WHITE
 XE MEDIUM FLINT NO UPHOLSTERY
 PREFERRED EQUIPMENT PKG.782A
 .STANDARD TRIM
 572 .AIR COND FRT ONLY-CFC FREE
 587 .ELEC AM/FM STEREO W/CLOCK
 646 .16X6 WHITE PAINTED STEEL WHLS
 99N 7.3L V8 PREMIUM-RATED ENG.
 44P ELEC 6-SPD AOD W/TOW-HAUL
 T68 .LT225/75R16E DRW HANKOOK
 X83 4.56 RATIO REGULAR AXLE X83
 516 SPARE TIRE/WHEEL NOT INCLUDED
 47B SHUTTLE BUS PREP PACKAGE
 .FRONT LICENSE PLATE BRACKET
 .ENGINE BLOCK HEATER
 .FRAME PUCKS (ISOLATORS)
 18A HIGH-SERIES EXT UPGRADE PKG
 JOB #2 ORDER
 FORD FLEET SPECIAL ADJUSTMENT
 SHUT BUS DIS-158/176 99L/S
 162 VINYL FLOOR COVERING, FRONT
 20F 14500# GVWR PACKAGE
 21S DRIVER CAPTAIN CHAIR W/O TRIM
 425 50 STATE EMISSIONS
 43D DRIVESHAFT UPGRADE
 525 CRUISE CONTROL
 54F EXTERIOR MIRROR DELETE
 57J AUX HEATER CONNECTOR PKG
 60X RIGHT HAND DOOR NOT INCLUDED
 .PASSENGER AIR BAG DELETE
 625 INSIDE REARVIEW MIRROR
 630 ALTERNATOR (240 AMP)
 656 FUEL TANK 55 GALLON CAPACITY
 672 FRONT MAX GAWR
 X NO TRIM
 942 DAYTIME RUNNING LIGHTS
 981 GASEOUS ENGINE PREP PACKAGE

 * NOT FOR AMBULANCE USE. *
 * FORD WARRANTY IS VOID IF *
 * USED AS AN AMBULANCE *

This Invoice may not reflect the final cost of the vehicle in view of the possibility of future rebates, allowances, discounts and incentive awards from Ford Motor Company to the dealer.

Sold to							
		Order Type	Ramp Code	Batch ID	Price Level		
Ship to (if other than above)		Date Inv. Prepared		Item Number		Transit Days	
		Ship Through					
Invoice & Unit Identification NO.		Final Assembly Point		Finance Company and/or Bank			
HB	Invoice Total	A & Z Plan	D Plan	X Plan	FPA	AA	



Northwest Bus Sales, Inc
33207 Pacific Highway South
Federal Way, WA 98003
Phone (253) 841-9997
Fax (253) 845-9384
www.nwbus.com

To: Kristina Babcock
Clackamas County
From: Tyler Todhunter – Northwest Bus Sales
Re: RFQ for Category D shuttle buses – References

Hi Kristina,

Thank you for the opportunity to participate in your RFQ for Category D buses. Please find, below, references for the Endera (Formerly Metro Link) shuttle bus sold to Oregon agencies

Curry Public Transit Dana Hall 541-412-8806	Mid Columbia Economic Development District Jessica Metta 541-296-2266 x 1001
Star of Hope Activity Center Theresa Collins 541-888-8893	Central Oregon Intergovernmental Council Drew Orr 541-771-9909

If you have any questions regarding our response, please do not hesitate to call me at 253-841-9997.

Best Regards,

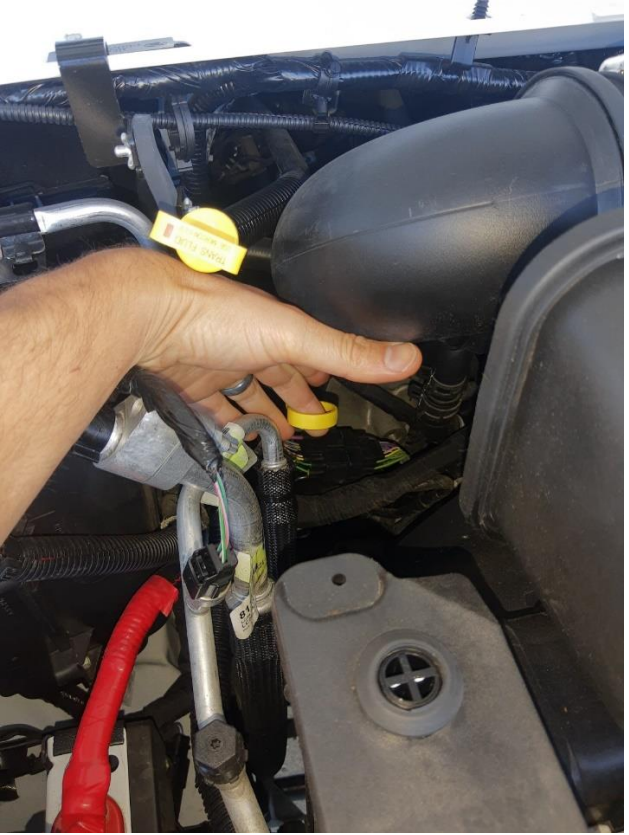
Tyler Todhunter
Northwest Bus Sales
tyler@nwbus.com
www.nwbus.com

Oil Dipstick Locations

Old



New



COVER SHEET

- New Agreement/Contract
- Amendment/Change/Extension to _____
- Other _____

Originating County Department: _____

Other party to contract/agreement: _____

Document Title:

After filing please return to: _____

County Admin

Procurement

If applicable, complete the following:

Board Agenda Date/Item Number: _____