

TRA 23-01 - Supply and Delivery of School Buses - Quote Form - Bus Unit Price: Type A2 Electric

		Dynamic Specialty Vehicles	
		Submission 1	
Line Item	Bus Description	Unit Price	
1	Type A2 Over 6350kg GVW Chassis. All units and components must meet Federal and Provincial regulations and requirements and current D250 standards.	\$ 346,097.0000	
2	Type A2 (MFSAB) Over 6350kg GVW Chassis. All units and components must meet Federal and Provincial regulations and requirements and current D250 standards.	\$ 344,209.0000	

TRA 23-01 - Supply and Delivery of School Buses - Quote Form - Option Pricing: Type A2 Electric

		Dynamic Specialty Vehicles		
		Submission 1		
Line Item	Optional Pricing	Charge Type	Unit Price	Additional Information
1	Price per additional row of seating positions ranging from 24 - 29 passenger	Additional	\$1,375.00	
2	Power and Range upgrade / downgrade -Price for each range option available	Not Available		See RFSO-Blue Bird EV Buses.pdf for details on Type A C and D Electric School Buses.
3	Recommended Level 2 charging system for your bus	Additional	\$3,900.00	In-Charge Level 2 AC or Level 2 DC available with RFID. Price does not include software and activation fees. See Energy Services and Charging Stations.pdf for details on charging options and services.
4	One (1) additional spare tire mounted	Additional	\$545.00	Shipped loose
5	Current Gatekeeper digital video system supplied and installed with two (2) cameras	Additional	\$2,360.00	
6	Current Seon digital video system supplied and installed with two (2) cameras	Additional	\$2,360.00	
7	Pre-wiring for 2-way radios thru noise suppression switch - power and antenna	Additional	\$113.00	
8	Driver's compartment storage overhead	Additional	\$557.00	
9	Installed Zonar current GPS unit with EVIR and handheld device with all accessories. Please quote on the hand held devices available	Additional	\$850.00	
10	Zonar current GPS device installed	Additional	\$615.00	
11	Driver's clipboard storage - assessable from drivers seat	Additional	\$70.00	
12	Traction control through ABS	No Charge		
13	Limited Slip Rear Axle	Additional	\$418.00	
14	Acoustic ceiling panels throughout	Additional	\$2,452.00	
15	Winter front and bug screen	Additional	\$330.00	
16	Interior - Exterior intercom	Additional	\$702.00	
17	Emergency hatch roof vent with exhaust fan	Additional	\$1,283.00	
18	Luggage racks (interior) - and seat belt equipped seats for 24 passenger or greater MFSAB activity bus only.	Additional	\$7,487.00	Price includes luggage (parcel) racks and CE 3PT seat belts for 18 passengers (maximum capacity with this seating configuration)
19	Integrated child seat - specify options available	Additional	\$422.00	30" seat has one ICS position - add 422 per seat 39" seat has two ICS positions - add 831 per seat
20	Wheelchair lift specify OEM in attached info. Supply and install wheelchair lift with one chair position across from lift inclusive of tie down system.	Additional	\$14,000.00	
21	Track seating per wheelchair space	Additional	\$2,907.00	
22	Drivers side running board	Additional	\$355.00	
23	OPTION # 18 CLARIFICATION: MFSAB PRICE IS FOR 24 CE WHITE FAMILY SEAT (HIGH BACK BUCKET WITH 3 POINT SEATBELT) VS. BENCH SEATS ON 177" WB GM 4500 GAS CHASSIS; PARCEL RACKS INCLUDED.	Additional	\$7,487.00	Price includes luggage (parcel) racks and CE 3PT seat belts for 18 passengers (maximum capacity with this seating configuration)
24	Stop Arm Camera	Additional	\$450.00	Seon camera only. 2 Camera Seon Stop Arm 1000. Gatekeeper Stop Arm Camera + License Reader 1085
25	Pedestrian Detection System	Additional	\$2,450.00	Mobiley System
26	First Light Safety Products FULLY ILLUMINATED STOP ARM Electric Drive	Additional	\$1,961.00	Factory installed.
27	First Light Safety Products ILLUMINATED SCHOOL BUS SIGN	Additional	\$2,181.00	Aftermarket installation.

TRA 23-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Body - Type A2 Electric

		Dynamic Specialty Vehicles <u>Submission 1</u>	
<u>Line Item</u>	<u>Body Specifications</u>	<u>Yes/No</u>	<u>Additional Information</u>
1	Driver's Seat - Cloth Covered	Yes	
2	MIRRORS Right and left side primary and convex mirrors; be remote adjustable Exterior convex crossovers self-defrosting mounted on right and left sides of hood	Yes	
3	One (1) LED stop arm with strobe lights (red) - electric operated front mounted with wind guard.	Yes	
4	Wet arm windshield wipers intermittent / delay preferred	Yes	
5	Eight (8) light warning system roof mounted white flashing strobe light	Yes	
6	Steering - Full Power and Tilt	Yes	
7	School buses must be equipped with heating units and be able to sustain 15.5 degrees C (plus or minus 2 degrees) inside the vehicle when the outside temperature is 0 degrees C ambient. Heaters should not decrease vehicle range by more than one percent. Please describe achievable in vehicle temperature when outside temperature is -30C and provide the expected impact of heating the interior cabin temperate on vehicle range especially when outside temperature conditions are very cold	Yes	
8	73" minimum interior headroom at highest point	Yes	76" at center of aisle
9	Horns - Dual Electric	Yes	
10	Sun Visor - 6" X 30"	No	OEM supplied sun visor
11	One (1) roof emergency hatch/vent	Yes	
12	Min. 97dB Back up alarm	Yes	112 dba
13	Lights and Instrumentation - Specify Details	Yes	Lights are LED. Instrumentation - DPI (driver performance indicator) SOC indicator (state of charge) transmission gear indicator various warning lights related to the electric drive train.
14	Crossing arm deactivation switch	Yes	
15	Vendors should describe their proposed heating systems including fuel source and flexibility to accommodate different fuel types as requested by local school district. " The use of electric heaters to pre-heat the vehicle cabin is not preferred; however using electric heat to keep the batteries warm is acceptable. Vendors should also describe their proposed system for pre-heating vehicle cabins.	Yes	Fuel fired heaters currently not available. Additional electric heaters to be added for extreme cold climates.
16	INSULATION Body insulation including walls ceiling & roof bows - to be fiberglass or equivilant	Yes	1 1/2" fibreglass insulation (roof walls front cab & roof bows)
17	FLOOR: 5/8" Plywood subfloor secured with screws only (no nails) water-proofed and sealed at joints with silicone sealer including floor to wall seams; floor covering and entry steps	Yes	5 layer floor with sealed rubber floor premium plywood sound deadening resin galvanized steel and rustproof undercoating.
18	Lettering - Ext. Belt line both sides- Purchasers Name (Six Inch)	Yes	
19	Bus # two front corners and opposite license plate rear. (Four Inch) Capacity GVW (Purchaser name) on side panel back of entrance door and side panel below driver. (Two Inch)	Yes	
20	Vandal Locks - Emergency and Entrance Doors	Yes	
21	Outward opening entrance door w/heavy duty control. Specify Control	Yes	32" entrance door electrically Controlled
22	Driver's and rear dome lights to be on separate switches	Yes	
23	AM/FM CD radio minimum four (4) speakers flush mounted	Yes	OEM supplied radio (no CD)
24	EMERGENCY EQUIPMENT COMPARTMENT Above windshield with emergency equipment	No	Extinguisher & reflectors mounted to floor seat belt cutter on doghouse first aid kit on bulkhead
25	Body fully undercoated for noise and enhanced rust protection. Please describe what is included and optional levels of protection available including costs	Yes	
26	Each unit shall be equipped with a Sound Generator that complies with FMVSS and CMVSS 141	Yes	

TRA 23-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Chassis - Type A2 Electric

		Dynamic Specialty Vehicles <u>Submission 1</u>	
<u>Line Item</u>	<u>Chassis Specifications</u>	<u>Yes/No</u>	<u>Additional Information</u>
1	Chassis make year model.	Yes	2024 Ford E450
2	Propulsion system - vehicle performance include: A sustained speed of 70 kph on a 2.5% grade; and 20 kph on a 20% grade. An ability to accelerate to 20 kilometers per hour (kph) in four seconds; to 40 kph in 10 seconds; 50 kph in 20 seconds and 70 kph in 35 seconds. Expectations are that the school bus shall be cable of a minimum of 160 kilometer range on a single battery charge on route measured with 50% city miles and 50% highway miles. Vehicles should be capable of operating at minus 30 degrees Celsius (-30C) to 35C with limited loss of range (no more than 10% reduction of documented range) in these variable conditions. This range rating must be tested with all normal accessories running in the conditions described including terrain encountered in BC.	Yes	160km range Test was conducted in winter weather (February 2021 in Quebec) 0-20 kph 1.4 sec. (empty) 0-40 kph 3.6 sec. (empty) 0-50 kph 5.2 sec. (empty) 0-70 kph 12 sec. (empty)
3	Describe vehicle performance while fully loaded in terms of maximum operating speed grade-ability and acceleration. Please provide documentation of for verifying submitted vehicle performance claims to meet above performance specifications.	Yes	Gradeability: 25% at 20 kph constant speed at GVW (14500 lbs) Restartability: 18% hill start at GVW (14500 lbs)
4	Wheelbase info - up to 170"	Yes	158" wheelbase
5	Wheels - Disc Hub Piloted	Yes	OEM Ford
6	Tires - Six (6) - specify OEM supplied	Yes	LT225/75R16E Hankook Subject to change per OEM.
7	Vehicles should have the ability to change the powertrain deferential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes. Please describe your process for achieving this?	Yes	A 2 speed transmission is used to achieve this. Subject to change per OEM.
8	BATTERY Vendors should describe their proposed energy storage/battery system including the number of battery packs and battery chemistry. " Battery efficiency (kilometers per kWh) " Time (in minutes) to charge batteries from 20% to 100% state of charge on a level 2 charger. " Time (in minutes) to charge batteries from 20% to 80% state of charge on a level 2 charger. " Battery capacity (amps per hour per cell) " Battery storage capacity (kWh) " Total usable battery energy storage capacity (kWh) " Total battery pack C-rate. " Total battery pack E-rate " Battery Cycle Life in number of charge-discharge cycles at a specific depth of discharge (DOD) " Battery thermal management type (describe battery maintenance and operational requirements when vehicle is in use and not in use	Yes	Total capacity is 88 kWh lithium ion (NMC) with nickel magnesium cobalt chemistry. 7 hours to charge from 20% to 100% 5.5 hours to charge from 20% to 80%. Total usable battery energy storage capacity is 85.6 kWh. Battery capacity will be 80% after 2000 cycles. Ex: if 50% is used during the day bringing the battery up to full charge will be considered ½ cycle.) When the vehicle is used in extreme heat weather conditions let the battery sit a few hours before charging. Doing so the battery temperature will decrease. When the vehicle has been used intensively (abrupt hills heavy weight etc.) it is preferable to wait a few hours before connecting the battery to the charge port. If the vehicle must be stored for a long period park it preferably in a cool area protected from freezing. To optimize the longevity of the battery it is recommended to always keep the charge at 50%. A heated mat is used to warm the batteries. No maintenance is required.
9	Additional power supply feeds available to power end user devices	Yes	
10	Rear tow hooks	Yes	
11	On-Board Charging Systems Vendors should describe their preferred charging/discharging systems including EVSE noting that the expectation is that vehicles will be fitted with on board AC (19.2 kW) bidirectional charging/discharging systems that conform to the most recent SAE J1772 standards and/or other relevant standards for V2B bi-directional power flow. The vehicles should also be fitted with DC charge/discharge coupler capable of a sustained maximum of 90kW of power transfer at a maximum of 200 AMPS. The coupler should conform to all current SAE standards. All charging system components shall have CSA certification or provide acceptable documentation. Charging systems shall be capable of operating from -30C to 40C with no more than 10% degradation in performance	Yes	Vehicle is equipped with SAE J1772 DC Level 2 Coupler (CCS Type 1 Charge Receptacle). Vehicle capacity is as follows: SAE J1772 AC Level 2 13.2kW SAE J1772 DC Level 2 50kW max with V2G capability*. *Note : V2G capable but feature not yet implemented to be unlocked at a later date via a software update. In all cases charger is the responsibility of the customer. As long as the EVSE is compliant with SAE J1772 which is widely recognized charge will be possible at a charging speed up to what listed above.
12	Data collection for performance and analytical comparisons must be available on a regular basis for both ASTSBC and the purchaser. Training must be provided	Yes	This function is controlled by an external charger. Not available inboard for driver however available via telemetry. Includes information on kilowatt - hour (kWh) per mile miles per trip average speed energy consumption and total miles. This is accessible via the manufacturer or dealer.
13	Mud Flaps - Front and Rear. Rear with rubber fender skirts	Yes	
14	OWNER'S MANUAL AND DIAGNOSTIC SOFTWARE Supply those available for end users.	Yes	
15	Supply line setting ticket	Yes	
16	Supply Driver Training and Orientation to ASTSBC Trainers to supply training for drivers upon bus delivery.	Yes	