

<b>TRA21-01 - Supply and Delivery of School Buses - Quote Form - Bus Unit Price: Type A2 Electric</b>				
Line Item	Bus Description	Dynamic Specialty Vehicles		Western Canada IC Bus Inc.
		Submission 1		Submission 1
		Unit Price	Unit Price	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.	\$271,614.00		\$290,000.00
2	Type A2 (MFSAB) Over 6350kg GVW Chassis. All units and components must meet Federal and Provincial regulations and requirements and current D250 standards.	\$268,649.00		\$290,000.00

<b>TRA21-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Body - Type A2 Electric</b>						
Line Item	Body Specifications	Dynamic Specialty Vehicles		Western Canada IC Bus Inc.		
		Submission 1		Submission 1		
		Yes/No	Additional Information	Yes/No	Additional Information	
1	Driver's Seat - Cloth Covered	Yes	OEM supplied	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	Heated remote self defrosting mirrors with timer.	Yes		
3	One (1) LED stop arm with strobe lights (red) - electric operated front mounted with wind guard.	Yes		Yes		
4	Wet arm windshield wipers intermittent / delay preferred	Yes	OEM supplied	Yes		
5	Eight (8) light warning system roof mounted white flashing strobe light	Yes		Yes		
6	Steering - Full Power and Tilt	Yes	OEM supplied	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	This is achieved with a fuel fired heating system (Espar heating system (diesel fired).	Yes	Previous production models in very cold operational conditions with continuous maximum heating in operation experienced a degradation of range up to 20%. Cold weather testing is currently underway in Detroit and changes are being integrated to improve heater range degradation to approximately 10% range degradation.	
8	73" minimum interior headroom at highest point	Yes	76" headroom at center aisle.	Yes		
9	Horns - Dual Electric	Yes	OEM dual horn	Yes		
10	Sun Visor - 6" X 30"	No	OEM supplied sun visor.	Yes		
11	One (1) roof emergency hatch/vent	Yes	Vent fan option available	Yes		
12	Min. 97dB Back up alarm	Yes	Back up alarm at 107dB	Yes		
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.	Yes	Motiv EV Instrumentation added to OEM Ford Instrumentation.	
14	Crossing arm deactivation switch	Yes		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	Heat will be generated from a liquid Espar diesel fired system.	Yes	Electric Battery Thermal Management System. No Cabin Preheater. Electric Heat.	
16	INSULATION Body insulation including walls ceiling & roof bows - to be fiberglass or equivalent	Yes	1 1/2" fiberglass insulation (roof walls front cab & roof bows)	Yes		

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.	Yes			
18	Lettering - Ext. Belt line both sides- Purchasers Name (Six Inch )	Yes	Included	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		Yes			
20	<b>Vandal Locks - Emergency and Entrance Doors</b>	Yes		Yes			
21	Outward opening entrance door w/heavy duty control. Specify Control	Yes	32" entrance door electrically Controlled	Yes	Electric		
22	Driver's and rear dome lights to be on separate switches	Yes	OEM Ford driver's dome light switch separate rear dome lights switch	Yes			
23	AM/FM CD radio minimum four (4) speakers flush mounted	Yes	OEM supplied radio with USB & PA	Yes			
24	EMERGENCY EQUIPMENT COMPARTMENT Above windshield with emergency equipment	No	Extinguisher and reflectors mounted to floor seat belt cutter on doghouse first aid kit on bulkhead	Yes			
25	Body fully undercoated for noise and enhanced rust protection. Please describe what is included and optional levels of protection available including costs	Yes	Sound Deadening Resin (SDR) for noise reduction and enhanced rust protection. Under body is sprayed with Tectyl base solution from behind the driver's compartment to the back of the unit. Front part of chassis can also be sprayed for an additional 102.	Yes			
26	Each unit shall be equipped with a Sound Generator that complies with FMVSS and CMVSS 141	Yes	Each unit comes with a sound generator. CMVSS testing to be completed.	Yes			

**TRA21-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Chassis - Type A2 Electric**

		Dynamic Specialty Vehicles		Western Canada IC Bus Inc.			
		Submission 1		Submission 1			
Line Item	Chassis Specifications	Yes/No	Additional Information	Yes/No	Additional Information		
1	Chassis make year model.	Yes	2022 Ford E450 cutaway	Yes	Ford E450 Motiv EV		
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)	Yes			
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: 27% at 20 kph constant speed at GVW (14500 lbs) Restartability: 18% hill start at GVW (14500 lbs)	Yes	Motiv E450 Chassis tested at 21% Grade and Max Operating Speed is 65mph		
4	Wheelbase info - up to 170"	Yes	158"	Yes	158"		
5	Wheels - Disc Hub Piloted	Yes	OEM Ford	Yes			
6	Tires - Six (6) - specify OEM supplied	Yes	LT225/75R16E Hankook Subject to change per OEM.	Yes	LT225/75R16E		
7	Vehicles should have the ability to change the powertrain differential 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.	No			

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	Yes	BMW Lithium-Ion i3 passenger car batteries. 127 kWh Total Capacity.		
9	Additional power supply feeds available to power end user devices	Yes		Yes			
10	Rear tow hooks	Yes		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 Level II 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.	Yes	Level 2 19.2 kW AC Charging. Level 3 CCS1 DC Fast Charging optional.		
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 km kms per trip average speed energy consumption and total kilometres. Training is included.	Yes			
13	Mud Flaps - Front and Rear. Rear with rubber fender skirts	Yes		Yes			
14	OWNER'S MANUAL AND DIAGNOSTIC SOFTWARE Supply those available for end users.	Yes	Included in the purchase	Yes			
15	Supply line setting ticket	Yes	Included in the purchase	Yes			
16	Electronic Stability Control	Yes		Yes			
17	Supply Driver Training and Orientation to ASTSBC Trainers to supply training for drivers upon bus delivery.	Yes	Driver Training and Orientation to ASTSBC Trainers to be coordinated prior to bus delivery.	Yes			

**TRA21-01 - Supply and Delivery of School Buses - Quote Form - Option Pricing: Type A2 Electric**

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	Dynamic Specialty Vehicles				Western Canada IC Bus Inc.				
	Submission 1				Submission 1				
Line Item	Optional Pricing	Charge Type	Unit Price	Additional Information	Charge Type	Unit Price	Additional Information		
1	Price per additional row of seating positions ranging from 24 - 29 passenger	Additional	\$1,575.00		Not Available		24 Pass Max Cap.		
3	Recommended Level 2 charging system for your bus	Additional	\$2,799.00	SCH100 EV Charger made by Clipper Creek. Price is hardware only. Installation and electrical infrastructure extra.  Option: NUVVE Smart Charger 2990 includes wall mount charger and software for smart charging. For more information please refer to file BC_RFSO-EV2021.pdf	Additional	\$2,500.00	Level 2 AC		
4	One (1) additional spare tire mounted	Additional	\$335.00	MBII Series - Ford Transit 335 (mounted) 270 (loose)  G5 Series - Tires ship loose mount not available Ford E450 354	Additional	\$900.00			
5	Current Gatekeeper digital video system supplied and installed with two (2) cameras	Additional	\$2,000.00	SD Card Recorder with 2 interior cameras.	Additional	\$2,350.00			
6	Current Seon digital video system supplied and installed with two (2) cameras	Additional	\$2,000.00	4 Camera DVR with hard drive with 2 interior cameras.	Additional	\$2,250.00			
7	Pre-wiring for 2-way radios thru noise suppression switch - power and antenna	Additional	\$90.00	Please provide preferred radio location. 2-way radio & antenna installation available upon request.	Additional	\$125.00			
8	Driver's compartment storage overhead	Additional	\$460.00	Available in the G5 Series. Maximum allowable weight: 11lbs.	No Charge				
9	Installed Zonar current GPS unit with EVIR and handheld device with all accessories. Please quote on the handheld devices available	Additional	\$750.00	Samsung tablet or Connect Kit extra if required. Does not include device activation from Zonar.	Additional	\$750.00			
10	Zonar current GPS device installed	Additional	\$510.00	Does not include device activation from Zonar.	Additional	\$525.00			
11	Driver's clipboard storage - assessable from drivers seat	Additional	\$50.00		No Charge				
12	Traction control through ABS	No Charge		Traction control is included.	No Charge				
13	Acoustic ceiling panels throughout	Additional	\$1,900.00		Additional	\$425.00			
14	Winter front and bug screen	Additional	\$275.00		Not Available				
15	Interior - Exterior intercom	Additional	\$565.00	Includes radio upgrade and external speakers.	Additional	\$235.00			
16	Emergency hatch roof vent with exhaust fan	Additional	\$465.00		Additional	\$525.00			
17	Luggage racks (interior) - and seat belt equipped seats for 24 passenger or greater MFSAB activity bus only.	Additional	\$11,163.00	Price includes luggage (parcel) racks and high back 3PT seat belts for 24 passenger.	Not Available				
18	Integrated child seat - specify options available	Additional	\$290.00	30" seat has one ICS position - add 290 per seat 39" seat has two ICS positions - add 570 per seat"	Additional	\$1,100.00			
19	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	\$8,480.00	Base model includes Braun Century 34X54 Ricon S5005-F1020100A option available. Add 555	Additional	\$6,400.00			
20	Track seating per wheelchair space	Additional	\$895.00		Additional	\$1,100.00			
21	Drivers side running board	Additional	\$298.00		Additional	\$175.00			
22	OPTION # 17 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	\$11,163.00	The total bus price for 24 Passenger MFSAB with high back bucket seats with 3pt seatbelts and parcel racks is 279812	Not Available				

23	Stop Arm Camera	Additional	\$375.00	Gatekeeper Stop Arm Camera with License Plate Recognition 990  Seon 1 Camera Stop Arm 375 2 Camera Stop Arm system 820  Stop arm camera prices are based on recorder able to accommodate extra cameras. DVR may need to be upgraded as more camera inputs are required.	Additional	\$900.00	Gatekeeper +900 Includes License Plate Reader Seon +300 Camera Only			
24	Pedestrian Detection System	Additional	\$2,450.00	Mobileye Collision Avoidance System. Please see file: Mobileye.pdf	Not Available					