

TRA 24-01 - Supply and Delivery of School Buses - Quote Form - Bus Unit Price: Type A2 Electric

Line Item	Bus Description	BYD Canada Company Ltd	Dynamic Specialty Vehicles
		Submission 1	Submission 1
		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.	\$362,000.00	\$342,780.00
2	Type A2 (MFSAB) Over 6350kg GVW Chassis. All units and components must meet Federal and Provincial regulations and requirements and current D250 standards.	\$362,000.00	\$353,230.00

TRA 24-01 - Supply and Delivery of School Buses - Quote Form - Option Pricing: Type A2 Electric

Line Item	BYD Canada Company Ltd			Dynamic Specialty Vehicles			
	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	No Charge	\$0.00	30 passengers are standard configuration	Additional	\$2,180.00	Base price is for 20 passenger bus. Additional row seating available for 24 & 28.
2	Power and Range upgrade / downgrade -Price for each range option available	Not 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		Available for quote. All standard AC-J1772 and/or DC-CCS combo chargers are compatible	Additional	\$3,900.00	Level 2 AC or Level 2 DC available with RFID. Price is an estimate for hardware only. Price does not include installation 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	\$850.00		Additional	\$545.00	Spare tire with rim shipped loose
5	Pre-wiring for 2-way radios thru noise suppression switch - power and antenna	Additional	\$400.00		Additional	\$115.00	
6	Driver's compartment storage overhead	Not Available			Additional	\$557.00	5lb weight limit
7	Driver's clipboard storage - assessable from drivers seat	No Charge	\$0.00	Standard configuration	Additional	\$70.00	
8	Traction control through ABS	No Charge	\$0.00	Standard configuration	No Charge		Included in OEM chassis
9	Limited Slip Rear Axle	Not Available			Additional		In stock chassis do not have this option. Can be ordered with new chassis. Additional charge to be determined with new chassis price.
10	Acoustic ceiling panels throughout	No Charge	\$0.00	Standard configuration	Additional	\$2,715.00	
11	Winter front and bug screen	Not Available			Additional	\$330.00	
12	Interior - Exterior intercom	Additional		Available for quote	Additional	\$720.00	Includes radio upgrade and external speaker.
13	Emergency hatch roof vent with exhaust fan	Additional	\$600.00		Additional	\$1,370.00	
14	Luggage racks (interior) - and seat belt equipped seats for 24 passenger or greater MFSAB activity bus only.	Additional	\$3,000.00	Luggage rack + Bench seats	Additional	\$10,450.00	Price includes luggage (parcel) racks and CE 3PT seat belts for 18 passengers (maximum capacity with this seating configuration)
15	Integrated child seat - specify options available	Additional	\$950.00		Additional	\$430.00	30" seat has one ICS position 430 per seat 39" seat has two ICS positions 850 per seat
16	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	\$13,500.00	RICON Wheelchair Lift	Additional	\$14,950.00	Price includes items required for a wheelchair lift bus which includes but not limited to: Lift lift doors reinforcement plates brake interlock Qstraint etc.
17	Track seating per wheelchair space	No Charge	\$0.00	Standard configuration	Additional	\$2,400.00	
18	Drivers side running board	Additional	\$200.00		Additional	\$360.00	
19	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		Available for quote (20 Passengers with Family seats or 24 bench seats with rack @\$3,000)	Additional	\$10,450.00	Price includes luggage (parcel) racks and CE 3PT seat belts for 18 passengers (maximum capacity with this seating configuration)
20	Stop Arm Camera	Additional	\$1,080.00	Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
21	Pedestrian Detection System	Additional		Available for quote	Additional	\$2,450.00	Mobileye Collision Avoidance System installed by Mobileye certified installer.
22	First Light Safety Products FULLY ILLUMINATED STOP ARM Electric Drive	Additional		Available for quote	Additional	\$1,977.00	Factory Installed
23	First Light Safety Products ILLUMINATED SCHOOL BUS SIGN	Additional		Available for quote	Additional	\$2,181.00	Aftermarket installation by Dynamic Specialty Vehicles.
24	CalAmp Synovia Solutions K12 GPS Vehicle Management System - Core System	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
25	CalAmp Student Ridership Tracking	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
26	CalAmp Here Comes The Bus	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
27	CalAmp Tablet with Integrated services	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
28	CalAmp Vision Dash Cam	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
29	Gatekeeper Y58 v3 Recorder 8-channel (4 AHD and 4 IP) hybrid DVR	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
30	Gatekeeper Y35 v3 Recorder 5-channel (4 AHD 1 IP) recorder	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
31	Gatekeeper AI Dash Cam (2 in-built cameras)	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
32	Geotab telematics device with applicable harness kit and connections	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
33	Safefleet Kit A - DH8. 8-Channel High-Definition DVR	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
34	Safefleet Kit B - DH6. 6-Channel High-Definition DVR	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
35	Safefleet Kit C - DH4. 4-Channel High-Definition DVR	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
36	Safety Vision Kit SV Bronze	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
37	Safety Vision Kit SV Gold	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
38	Safety Vision Kit SV Essential	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
39	Tyler Drive Tablet and applicable mount	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
40	Zonar GPS unit with EVIR handheld device and applicable accessories	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.
41	Zonar DashCam Kit with applicable accessories	Additional		Available for quote	Additional		Custom configurations will be coordinated and priced with customers upon finalizing purchases.

TRA 24-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Body - Type A2 Electric

<u>Line Item</u>	<u>Body Specifications</u>	<u>BYD Canada Company Ltd</u> <u>Submission 1</u>		<u>Dynamic Specialty Vehicles</u> <u>Submission 1</u>	
		<u>Yes/No</u>	<u>Additional Information</u>	<u>Yes/No</u>	<u>Additional Information</u>
1	Driver's Seat - Cloth Covered	Yes		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		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		Yes	
5	Eight (8) light warning system roof mounted white flashing strobe light	Yes		Yes	
6	Steering - Full Power and Tilt	Yes		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	Yes standard heaters can meet the desired temp but not without some impact on range in extreme weather conditions. If so desired, a diesel powered heater working in conjunction with our electric heat pump will provide the heating and cooling without impacting operating range more than what is allowed in the cabin area. Our larger battery will likely negate the need for a diesel powered heater in extreme weather conditions and provide the most robust and reliable heating and cooling solution for students in todays electric school bus market.	Yes	The G5 EV can maintain an interior temperature of more than 16°C when the outside temperature is 0°C. In extreme winter conditions, the heaters will operate at maximum heating capacity, which should affect the range by more than one percent. At -30°C outside temperature, we expect to maintain the interior temperature close to 0°C after a 30-minute warm-up. The heaters will work at maximum capacity, affecting the vehicle's range by 10 to 15%. (Values to be confirmed by testing).
8	73" minimum interior headroom at highest point	Yes		Yes	76" at center of aisle
9	Horns - Dual Electric	Yes		Yes	Dual note horn
10	Sun Visor - 6" X 30"	Yes		No	OEM supplied sun
11	One (1) roof emergency hatch/vent	Yes		Yes	
12	Min. 97dB Back up alarm	Yes		Yes	112 dba
13	Lights and Instrumentation - Specify Details	Yes		Yes	Lights are LED. Instrumentation include 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		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	BYD School bus has an electric PTC (Positive temperature coefficient) heater and an HVAC system to preheat the bus.	Yes	Fuel fired heaters currently not available.
16	INSULATION Body insulation including walls ceiling & roof bows - to be fiberglass or equivilant	Yes		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		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		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	Vandal Locks - Emergency and Entrance Doors	Yes		Yes	
21	Outward opening entrance door w/heavy duty control. Specify Control	Yes	Rocker switch	Yes	32" electric entrance door
22	Driver's and rear dome lights to be on separate switches	Yes		Yes	
23	AM/FM CD radio minimum four (4) speakers flush mounted	Yes		Yes	OEM radio AM/FM WITH MP3 (no CD)
24	EMERGENCY EQUIPMENT COMPARTMENT Above windshield with emergency equipment	Yes		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		Yes	
26	Each unit shall be equipped with a Sound Generator that complies with FMVSS and CMVSS 141	Yes		Yes	

TRA 24-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Chassis - Type A2 Electric

	BYD Canada Company Ltd Submission 1		Dynamic Specialty Vehicles Submission 1		
Line Item	Chassis Specifications	Yes/No	Additional Information	Yes/No	Additional Information
1	Chassis make year model.	Yes	BYD Achiever 2025	Yes	Ford 2025
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	1) The powertrain deferential ratio would NOT impact the range performance but the top speed and torque or we can say climbing speed by driving BYD bus. 2) Under extremely cold weather a diesel heater will be used for heating the cabin a 5% reduction is estimated. Under extremely hot weather AC will be used for cooling down the cabin. Range of 169km	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	100km/h max speed and up to 17 degree grade-ability	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	4.7 m	Yes	158" wheelbase
5	Wheels - Disc Hub Piloted	Yes		Yes	OEM Ford
6	Tires - Six (6) - specify OEM supplied	Yes	Michelin	Yes	LT225/75R16E Hankook
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	BYD school buses can 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 automatically.	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	1) 5-pack configuration has 156.4kW capacity. Battery chemistry is LFP (lithium-iron phosphate). 2) Using a DC fast charger full charge time at 120kW is 1-2 hrs. An AC charger's full charge time at 19.2 kW is 8-9 hrs.	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 optimise 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	2-4	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 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	The bus is compatible with any CCS1 (For DC) or J1772 standards (for AC) chargers; The maximum charging power for DC is 120 kW at 200 AMPs and for AC is 19.2 kW.	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. *Refer to Documents section for sample data report*	Yes	Telematics (HSM, An American partner platform) box is equipped as a standard configuration, which facilitates customers to monitor the bus for preventive maintenance and location tracking (Cloud web real-time service is an option for quote); Training will be provided.	Yes	Telemetry available onscreen and accessible remotely. See document: Micro Bird EV Telematics - New User rev1.1.pdf
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		Yes	
15	Supply line setting ticket	Yes	Supply line setting ticket is indicated by different colors	Yes	
16	Supply Driver Training and Orientation to ASTSBC Trainers to supply training for drivers upon bus delivery.	Yes		Yes	