

Department of Legislative Services  
 Maryland General Assembly  
 2020 Session

FISCAL AND POLICY NOTE  
 First Reader

Senate Bill 423 (Senator Zucker, *et al.*)  
 Education, Health, and Environmental Affairs  
 and Budget and Taxation

Maryland Transit Administration - Conversion to Electric Buses (Electric Bus Transition Act)

This bill prohibits the Maryland Transit Administration (MTA), beginning in fiscal 2022, from entering into a contract to purchase buses for its transit bus fleet that are not electric buses. The bill also requires MTA to submit a report by January 1, 2021, and each January 1 thereafter, regarding the conversion of its bus fleet to electric buses.

Fiscal Summary

**State Effect:** Transportation Trust Fund (TTF) expenditures increase by *at least* \$20.6 million annually beginning in FY 2023. Revenues are not affected.

(\$ in millions)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Revenues	\$0	\$0	\$0	\$0	\$0
SF Expenditure	0	0	20.6	20.6	20.6
Net Effect	\$0.0	\$0.0	(\$20.6)	(\$20.6)	(\$20.6)

*Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate increase; (-) = indeterminate decrease*

**Local Effect:** The bill does not directly affect local government operations or finances.

**Small Business Effect:** Minimal.

Analysis

**Bill Summary:** “Electric bus” means a bus that is propelled solely by an electric motor that draws electricity from a battery that is capable of being recharged from an external source of electricity.

The annual report submitted by MTA must include:

- a schedule for converting MTA's transit bus fleet exclusively to electric buses;
- an evaluation of the charging infrastructure needed for MTA to create and maintain the electric bus fleet;
- a plan for transitioning any State employees adversely affected by the conversion to an electric bus fleet to similar or other employment within MTA or the Maryland Department of Transportation (MDOT) that has commensurate seniority, pay, and benefits;
- in coordination with other appropriate State agencies, an estimate of the reduction in the amount of carbon dioxide emissions, measured in pounds, that will be obtained through the use of electric buses each year until the fleet is fully converted; and
- a financial analysis comparing the projected cost of continuing to operate a diesel-powered transit bus fleet to the projected cost of purchasing, maintaining, and providing charging infrastructure for the electric bus transit fleet, as specified.

**Current Law/Background:** MTA is a modal unit within MDOT, and it operates a comprehensive transit system throughout the Baltimore-Washington metropolitan area, including more than 50 local bus lines in Baltimore and other services such as the light rail, Baltimore Metro subway, commuter buses, Maryland Area Regional Commuter trains, and mobility/paratransit vehicles. With the exception of the District of Columbia Metrorail system, MDOT and MTA are generally the agencies responsible for the construction and operation of transit lines in the State.

MTA's bus fleet is comprised of about 775 total buses. MTA advises that it is currently in the middle of a contract for the purchase of 70 clean diesel buses each year through fiscal 2022. Additionally, MTA is currently studying the feasibility of converting the bus fleet to zero-emissions vehicles (such as the electric buses required by the bill) with a focus on the cost of the vehicles, the reliability of the vehicles, and the infrastructure necessary to accommodate such a fleet.

**State Expenditures:** TTF expenditures are not affected in fiscal 2021 or 2022 because MTA has an existing contract to purchase buses in those years. MTA plans to sign a new contract for the purchase of 70 buses each year from fiscal 2023 through 2027 in order to replace many of the older buses in its fleet. For purposes of this analysis, it is assumed that MTA maintains its current plan but purchases 70 new electric buses annually instead of diesel buses as a result of the bill. As MTA's fleet is comprised of two types of buses (standard 40-foot long buses and articulated 60-foot long buses), it is also assumed that 35 of each type of bus is purchased each year.

Therefore, TTF expenditures increase by approximately \$20.6 million annually beginning in fiscal 2023 to purchase electric buses instead of diesel buses. **Exhibit 1** illustrates the cost difference for MTA between purchasing a diesel bus and an electric bus of each type. The estimate includes the cost of charging equipment for each bus, which, while not included with the bus purchase, is necessary to be able to recharge the buses when not in use.

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**Exhibit 1**  
**Estimated MTA Purchasing Cost**  
**Diesel Bus vs. Electric Bus**

	<u>Cost Per</u> <u>Diesel Bus</u>	<u>Cost Per</u> <u>Electric Bus</u>	<u>Difference</u>
40' Bus	\$570,000	\$850,000	\$280,000
Charging Equipment	0	98,750	98,750
<b>Total</b>	<b>\$570,000</b>	<b>\$948,750</b>	<b>\$378,750</b>
60' Articulated Bus	\$840,000	\$950,000	\$110,000
Charging Equipment	0	98,750	98,750
<b>Total</b>	<b>\$840,000</b>	<b>\$1,048,750</b>	<b>\$208,750</b>

MTA: Maryland Transit Administration

Source: Maryland Transit Administration; Department of Legislative Services

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The estimate does not include additional costs for MTA to (1) upgrade or retrofit its four bus garages to accommodate charging stations (the cost of doing so ranges from \$10 million to \$140 million per garage) or (2) train existing staff or hire new staff to maintain and repair the new buses. Additionally, the estimate does not include any difference in other operating costs (such as electricity or diesel fuel), which cannot be reliably estimated at this time. Accordingly, costs are higher than the minimum estimate provided above.

MTA can complete the annual report using existing budgeted resources. Other appropriate agencies can assist MTA with the report using existing budgeted resources.

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## Additional Information

**Prior Introductions:** None.

**Designated Cross File:** HB 432 (Delegate Korman, *et al.*) - Environment and Transportation and Appropriations.

**Information Source(s):** Maryland Department of Transportation; Maryland Department of the Environment; Department of Natural Resources; Department of Legislative Services

**Fiscal Note History:** First Reader - February 12, 2020  
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