

Department of Legislative Services  
Maryland General Assembly  
2020 Session

FISCAL AND POLICY NOTE  
First Reader

House Bill 1451 (Delegate Fraser-Hidalgo, *et al.*)  
Ways and Means and Environment and  
Transportation

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School Bus Purchasing – Zero-Emission Vehicle – Requirement

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This bill requires each school bus purchased by a local school system to be a zero-emission vehicle beginning October 1, 2023. In addition, beginning October 1, 2026, the bill requires each school bus purchased by a person for use under a contract with a local school system to be a zero-emission vehicle.

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Fiscal Summary

**State Effect:** None.

**Local Effect:** Local school system expenditures increase by a significant amount beginning in FY 2024. Revenues are not affected. **This bill imposes a mandate on a unit of local government.**

**Small Business Effect:** Potential meaningful.

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Analysis

**Current Law:** A “zero-emission” vehicle is any vehicle that (1) is determined by the Secretary of Transportation to be of a type that does not produce any tailpipe or evaporative emissions and (2) has not been altered from the manufacturer’s original specifications.

*Length of Use of School Buses in the State*

Unless it fails to meet applicable school bus and motor vehicle safety standards, a school vehicle may be operated for 12 years. In certain counties, a school vehicle may be operated

for 15 years (unless it fails to meet applicable school bus and motor vehicle safety standards). Those counties include Allegany, Calvert, Caroline, Cecil, Charles, Dorchester, Garrett, Kent, Queen Anne's, St. Mary's, Somerset, Talbot, Wicomico, and Worcester. In those counties, a school vehicle must also meet specified maintenance standards.

A school vehicle may be operated for additional years if (1) the vehicle is maintained under a preventative maintenance plan approved by the Motor Vehicle Administration (MVA) and the Maryland State Police that includes an inspection at the end of the 12th year and a minimum of two inspections by MVA each year thereafter; (2) any necessary structural repairs are certified by an independent expert approved by MVA to meet or exceed the manufacturer's original manufacturing standards; (3) the school vehicle is equipped with specified features; and (4) the State Superintendent grants approval.

### *Zero-Emission Vehicle School Bus Transition Grant Program*

Chapter 492 of 2019 established the Zero-Emission Vehicle School Bus Transition Grant Program within the Maryland Department of the Environment (MDE), and the Zero-Emission Vehicle School Bus Transition Fund to provide funding for the program. The purpose of the program is to provide grants to local boards of education (and entities that contract with local boards to provide transportation services) to (1) purchase school buses that are zero-emission vehicles; (2) install electric vehicle infrastructure for charging school buses that are zero-emission vehicles; (3) engage in planning for a transition to using school buses that are zero-emission vehicles; and (4) fund pilot programs to experiment with a transition to school buses that are zero-emission vehicles. MDE and the Maryland Department of Transportation must jointly provide technical assistance to local school boards and to private contractors who contract with local school boards, with transitioning to zero-emission school buses.

**Background:** Local school systems spent \$637.3 million on student transportation services in fiscal 2018 as shown in **Appendix 1**. Approximately 650,000 public school students receive transportation services. Local school systems in six counties (Baltimore, Frederick, Montgomery, Prince George's, Talbot, and Washington) primarily use government owned school vehicles to transport students; whereas, two local school systems (Caroline and Kent) use a combination of government owned and private contractors. Local school systems in the other jurisdictions primarily use private contractors to transport students. In total, local school systems use over 7,200 school vehicles for student transportation services.

### *Costs for Electric School Vehicles*

Electric school buses are a relatively new technology; thus, costs for these vehicles are changing. However, the Maryland State Department of Education advises that the cost of a traditional diesel-powered school bus can start at around \$90,000, while a comparable electric-powered school bus can cost over \$340,000. There are also additional capital costs related to electric school buses (*e.g.*, electric charging stations).

**Local Expenditures:** Local school system expenditures increase by a significant amount beginning in fiscal 2024 due to (1) higher cost to purchase school vehicles; (2) the need to implement additional school bus routes resulting in higher personnel and operating costs; and (3) additional capital costs for charging stations. The exact timing of the fiscal impact on each local school system depends in large part on whether the school system uses government owned school vehicles to transport students or private contractors. Local school systems that utilize government owned school vehicles are subject to the bill's requirements beginning in fiscal 2024, while school systems that use private contractors are not affected until fiscal 2027. While the Department of Legislative Services (DLS) is unable to provide an exact estimate for each jurisdiction in the State, DLS received information from several local school systems across various regions of the State with information regarding the fiscal and operational impact of the bill.

### *Anne Arundel County*

Anne Arundel County Public Schools (AACPS) advises that it anticipates a significant operational and fiscal impact as a result of the bill. First, AACPS notes that its existing bus routes are likely too long for electric school buses. As a result, routes would need to be shortened (or more buses purchased to accommodate current routes). In addition, AACPS notes that electric buses may not have enough time to recharge between morning and afternoon trips. More bus drivers may also be needed in the event that additional buses and/or routes are added.

In terms of capital costs, AACPS notes that a significant number of charging stations are needed under the bill. In total, AACPS estimates additional capital costs totaling between \$10 million and \$15 million under the bill. The school system may also need to acquire additional land to accommodate the charging stations.

AACPS estimates about \$9 million in additional annual operating costs under the bill to contract for electric buses. However, DLS advises that these costs are unlikely to begin accruing until fiscal 2027.

### *Garrett County*

Garrett County Public Schools (GCPS) advises that the school system utilizes 36 local school bus contractors that purchase all of its school buses. GCPS then reimburses the contractors based on a formula. Under the bill, GCPS anticipates additional annual costs of about \$200,000 for electric school buses. GCPS also anticipates purchasing about 50 charging stations (at a cost of about \$5,000 per station) in order to charge the new electric buses. However, the school system notes that it likely does not have space to place the charging stations, which may require additional land purchases.

GCPS further advises that some of its bus routes may be too long for an electric bus; as a result, bus routes may need to be modified. In that case, more bus drivers may be needed, thus further increasing operating costs.

### *Montgomery County*

Montgomery County Public Schools (MCPS) advises that it anticipates a significant increase in expenditures under the bill. As shown in Appendix 1, MCPS owns its school buses and, thus, is affected by the bill beginning in fiscal 2024. Assuming about 120 buses are replaced per year, MCPS anticipates expending an additional \$4 million annually beginning in fiscal 2024. These costs are based on six-year financing of the vehicles.

MCPS notes that there will also be significant infrastructure costs (*e.g.*, new charging stations) associated with the implementation of the bill. However, MCPS advises that it does not have adequate information to quantify the costs of the additional infrastructure. In addition, MCPS notes that obtaining a sufficient number of buses each year to replace the required buses may be challenging, as the technology is relatively new and production levels may not support the number of buses required to be purchased annually by the county.

### *Prince George's County*

Prince George's County Public Schools (PGCPS) advises that it purchases approximately 104 to 110 school buses annually and that it anticipates electric buses to cost at least \$235,000 more than a traditional diesel school bus. Thus, PGCPS expenditures likely increase by at least \$24.4 million annually beginning in fiscal 2024.

PGCPS anticipates purchasing additional charging stations at about \$5,000 each. This likely necessitates significant infrastructure improvements at current bus lots. PGCPS notes that, in the event that more than 15 electric school buses are placed at one location, major infrastructure changes are necessary to provide the needed electricity. The typical

bus lot in the county has 85 to 165 school buses assigned; the school system uses 13 bus lots throughout the district.

In terms of mileage, PGCPS advises that most combined morning, mid-day, and afternoon routes exceed the maximum range of an electric school bus. Therefore, it is not feasible for an electric school bus to cover many of the school system's routes on a single charge. Because of the mileage limitations, PGCPS anticipates needing additional school buses (and school bus drivers) to cover existing routes.

Finally, PGCPS notes that it is not feasible to fully recharge an electric school bus assigned to a morning, mid-day, and afternoon route. Fully recharging likely requires six to eight hours. Thus, an electric bus would need to recharge after normal business hours (during the evening and early morning) before the morning route.

### *Talbot County*

Talbot County Public Schools (TCPS) advises that it owns all of its school vehicles. Thus, TCPS is required under the bill to begin purchasing electric school buses in fiscal 2024. The total cost to replace all school buses in the county is expected to total \$10.9 million. However, over the initial five-year period after the bill takes effect, TCPS anticipates additional costs of about \$5.6 million. In addition, TCPS anticipates purchasing about 23 charging stations under the bill, which further increases the school system's capital costs.

TCPS further advises that, because of the limited range of electric school buses, it may need to significantly increase its bus fleet size. In addition, TCPS notes that there is likely not enough time to recharge buses between morning and afternoon trips in the county.

**Small Business Effect:** Small businesses in the State that sell or contract out electric school buses may receive additional revenues under the bill. However, small businesses that sell or contract out traditional diesel school buses may receive less revenues over the long-term as the bill phases out those types of school buses in the State.

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## **Additional Information**

**Prior Introductions:** A similar bill was introduced as HB 1255 in the 2019 session. As amended by the House Ways and Means Committee, the bill established the Zero-Emission Vehicle School Bus Transition Grant Program. The amended bill passed the House and the Senate and became Chapter 492 of 2019.

**Designated Cross File:** None.

**Information Source(s):** Maryland Association of Counties; Maryland State Department of Education; Maryland Department of Transportation; Maryland Energy Administration; Baltimore City Public Schools; Baltimore County Public Schools; Anne Arundel County Public Schools; Montgomery County Public Schools; Prince George's County Public Schools; Frederick County Public Schools; St. Mary's County Public Schools; Talbot County Public Schools; Department of Legislative Services

**Fiscal Note History:** First Reader - March 2, 2020  
mr/hlb

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# Appendix 1

## Student Transportation Statistics-Maryland Public Schools

School System	Number of Vehicles			Total Miles Traveled			Pupils Eligible for Transportation			Transportation Costs
	Public	Contracted	Total	Nondisabled	Disabled	Total	Nondisabled	Disabled	Total	Total Amount
Allegany	19	85	104	1,144,512	379,584	1,524,096	5,374	245	5,619	\$5,921,892
Anne Arundel	54	571	625	8,578,891	3,120,510	11,699,401	61,399	1,952	63,351	56,750,072
Baltimore City	36	398	434	2,136,194	492,962	2,629,156	29,931	2,980	32,911	47,046,560
Baltimore	670	138	808	10,345,431	5,091,900	15,437,331	80,036	3,980	84,016	69,316,982
Calvert	0	140	140	2,294,382	1,039,986	3,334,368	15,132	346	15,478	14,430,714
Caroline	23	35	58	801,289	176,288	977,577	4,745	100	4,845	4,172,816
Carroll	0	259	259	3,437,125	1,857,947	5,295,072	24,036	487	24,523	21,629,306
Cecil	10	143	153	2,130,694	479,062	2,609,756	13,940	263	14,203	10,745,460
Charles	4	285	289	4,681,416	2,541,322	7,222,738	23,789	845	24,634	27,650,247
Dorchester	8	49	57	772,236	217,591	989,827	4,145	113	4,258	3,882,282
Frederick	355	0	355	4,882,992	2,724,858	7,607,850	29,249	1,073	30,322	21,666,212
Garrett	0	62	62	789,480	182,130	971,610	3,782	44	3,826	4,116,990
Harford	97	334	431	5,433,816	2,174,665	7,608,481	31,643	901	32,544	31,633,212
Howard	0	468	468	2,971,080	2,429,100	5,400,180	41,989	1,709	43,698	39,011,564
Kent	18	10	28	415,413	128,257	543,670	1,630	27	1,657	1,954,490
Montgomery	1,191	0	1,191	10,546,110	9,611,959	20,158,069	98,625	5,930	104,555	115,706,066
Prince George's	1,025	8	1,033	11,779,757	7,938,167	19,717,924	82,406	4,733	87,139	103,469,529
Queen Anne's	14	73	87	1,603,667	489,600	2,093,267	7,642	107	7,749	7,115,765
St. Mary's	13	190	203	2,988,225	1,149,403	4,137,628	17,437	467	17,904	16,752,171
Somerset	0	32	32	664,081	115,254	779,335	2,746	85	2,831	3,074,050
Talbot	41	0	41	707,709	174,889	882,598	4,344	74	4,418	2,689,705
Washington	142	51	193	2,360,569	808,199	3,168,768	19,194	545	19,739	12,246,269
Wicomico	22	106	128	1,754,376	319,308	2,073,684	12,679	194	12,873	9,408,765
Worcester	0	69	69	1,512,469	141,389	1,653,858	6,248	107	6,355	6,886,663
<b>Total State</b>	<b>3,742</b>	<b>3,506</b>	<b>7,248</b>	<b>84,731,914</b>	<b>43,784,330</b>	<b>128,516,244</b>	<b>622,141</b>	<b>27,307</b>	<b>649,448</b>	<b>\$637,277,781</b>

Note: Data for number of school vehicles, miles traveled, and students transported is from fiscal 2019. Student transportation costs is from fiscal 2018.

Source: Maryland State Department of Education; Department of Legislative Services