

Department of Legislative Services  
Maryland General Assembly  
2019 Session

FISCAL AND POLICY NOTE  
First Reader

House Bill 1255 (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, 2022. In addition, beginning October 1, 2025, 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 2023. 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: Calvert, Caroline, Cecil, Charles, Dorchester, 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 twelfth 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.

**Background:** Local school systems spent \$620.6 million on student transportation services in fiscal 2017 as shown in **Appendix 1**. Over 640,000 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 2023 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 2023, while school systems that use private contractors are not affected until fiscal 2026. 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 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 2026.

#### *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 2023. Assuming about 120 buses

are replaced per year, MCPS anticipates expending an additional \$30 million annually beginning in fiscal 2023.

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 2023.

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 2023. 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:** None.

**Cross File:** None.

**Information Source(s):** Maryland Association of Counties; Maryland State Department of Education; Maryland Department of Transportation; 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; Garrett County Public Schools; Talbot County Public Schools; Department of Legislative Services

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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	Non-disabled	Disabled	Total	Non-disabled	Disabled	Total	Total Amount
Allegany	22	88	110	1,269,594	345,312	1,614,906	5,398	267	5,665	\$5,850,495
Anne Arundel	54	550	604	9,067,159	1,647,977	10,715,136	59,347	1,741	61,088	55,903,491
Baltimore City	33	407	440	1,810,839	447,869	2,258,708	32,142	2,784	34,926	53,097,524
Baltimore	670	138	808	10,043,580	4,943,914	14,987,494	77,594	3,712	81,306	65,595,607
Calvert	0	139	139	2,548,645	783,880	3,332,525	15,156	327	15,483	13,853,914
Caroline	23	35	58	798,011	176,488	974,499	4,595	94	4,689	3,915,557
Carroll	0	262	262	3,496,507	1,791,115	5,287,622	24,110	496	24,606	21,057,977
Cecil	9	145	154	2,058,398	485,261	2,543,659	14,137	238	14,375	10,057,070
Charles	4	284	288	4,678,095	2,246,111	6,924,206	23,034	948	23,982	26,359,748
Dorchester	8	49	57	785,899	205,674	991,573	4,103	91	4,194	3,695,074
Frederick	351	0	351	4,594,266	2,907,679	7,501,945	28,931	1,026	29,957	20,428,809
Garrett	0	62	62	753,120	266,130	1,019,250	3,772	40	3,812	4,063,587
Harford	100	347	447	4,968,012	2,331,077	7,299,089	31,663	895	32,558	30,934,598
Howard	0	453	453	3,160,440	2,365,380	5,525,820	41,359	1,596	42,955	37,876,468
Kent	10	13	23	521,025	135,824	656,849	1,624	32	1,656	1,938,757
Montgomery	1,176	0		10,336,782	9,540,481	19,877,263	96,415	5,652	102,067	107,541,885
Prince George's	1,042	7		11,778,799	7,701,936	19,480,735	82,161	4,628	86,789	103,193,328
Queen Anne's	15	73	88	1,562,126	514,980	2,077,106	7,679	104	7,783	6,820,554
St. Mary's	12	190	202	2,974,423	1,156,140	4,130,563	17,516	472	17,988	15,821,355
Somerset	0	32	32	694,322	120,186	814,508	2,739	88	2,827	3,051,939
Talbot	41	0	41	629,928	206,113	836,041	3,710	80	3,790	2,622,903
Washington	136	56	192	2,356,257	749,961	3,106,218	18,597	516	19,113	11,388,160
Wicomico	18	106	124	1,590,444	333,233	1,923,677	12,295	211	12,506	8,909,383
Worcester	0	69	69	1,516,949	112,362	1,629,311	6,272	95	6,367	6,578,128
<b>Total State</b>	<b>3,724</b>	<b>3,505</b>	<b>7,229</b>	<b>83,993,620</b>	<b>41,515,083</b>	<b>125,508,703</b>	<b>614,349</b>	<b>26,133</b>	<b>640,482</b>	<b>\$620,556,313</b>

Note: Data for number of school vehicles, miles traveled, and students transported is from fiscal 2018. Student transportation costs is from fiscal 2017.

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