

EPS Component Review Report of Findings
Transportation: School Bus Replacement Programs in the US

Report to Maine Department of Education

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Table of Contents

Introduction	1
Background	1
I. State Funding for School Bus Purchases in US	2
II. The Maine School Bus Purchase Program	3
III. Selected State Bus Purchasing Programs	7
IV. Policy Options for Maine	9
Appendix	11
<i>Factors to Consider in the Use of Electric School Buses</i>	11
<i>Technical Notes on the 2017 NASDPTS survey</i>	12

Review of EPS Transportation Component: A Comparison of Maine's School Bus Replacement Program and Other School Bus Procurement Processes in the US

Introduction

This report was prepared under an ongoing contract with Maine's Commissioner of Education to review components of the Essential Programs and Services school funding model. The following goals were identified for the FY2021 review of the Transportation model in order to inform ongoing policy conversations about how best to improve upon Maine's system for school bus purchases:

- How do other states provide funding for school bus replacement?
- What are the criteria for determining how funds are prioritized/allocated, and what types of transportation providers are eligible to apply (e.g. districts, regional consortia, private contractors, etc.)?
- What support and/or requirements do states provide for selecting and procuring school buses?

Background

In compiling the information for this report, MEPRI researchers first conducted a scan of available resources and reports made available through national professional organizations and state agencies. In particular, we relied upon resources disseminated through the National Association of State Directors of Pupil Transportation Services (NASDPTS). The NASDPTS conducted a survey in 2017 in which states reported how they were supported in their efforts to procure school buses; this survey was a key resource in compiling the national scan for our study. We supplemented their survey findings with targeted information gathering from other state agency websites, and then grounded it within the current Maine regulatory and policy system for context. The report is organized in four sections to address the overarching study goals: a general overview of how other states provide funding for school buses, a description of Maine's current system (including concerns that have been raised about adequacy), a compilation of states using various methods, and delineation of policy options for amending Maine's system. An appendix to the main report contains additional details on the NASDPTS survey that served as a major source in this report, as well as some general background to describe the emerging interest in the use of electric school buses.

I. State Funding for School Bus Purchases in US

Most states provide some form of funding for bus purchases. There are several ways that states support the purchase of public school buses. Some states including Maine provide an allocation specifically for school bus purchases. Some states provide overall funding allocations for transportation. Others have grant programs, earmarked funds, capital funds, or general funds available that may be used for school bus purchases. Some state school transportation directors have reported that their districts receive no funding for school bus purchases.

In a 2017 survey, the NASDPTS collected information from 36 states on how they were supported in procuring school bus replacements.¹ The survey collected information around funding, bus specifications and options, and state and local replacement requirements. A breakdown of the results of funding is shown in Table 1. Like Maine, nine states provide a separate allocation for funding school bus purchases. In 12 states school bus purchases are funded within an overall transportation funding allocation. Other state funding used for multiple purposes, including capital funding that allowed school bus purchases, was reported by seven states. In one state school buses are owned and replaced by the state. And states reporting no funding allocated to districts for school bus replacement totaled 12. Information on specific state responses to the survey are provided in the appendix to this report.

Table 1. State Funding of school bus replacements

Type of Funding	States
A separate allocation is provided by the state for funding school bus purchases. (Maine)	9
School bus purchases are funded within an overall transportation funding allocation.	12
Other state funding used for multiple purposes, including capital funding, may be used for school bus purchases.	7
State owns and replaces school buses.	1
State funding is not provided to districts for school bus purchases.	12

Data Source: NASDPTS Bus Replacement Survey Results, 2017

¹ <https://nasdpts.org/resources/Documents/Bus-Replacement-Survey-Results-ALL-2017.pdf>

The survey also collected information on school bus specifications and options. The 16th National Congress on School Transportation enacted the *National School Transportation Specifications and Procedures 2015*. Maine adopted those standards with some minor exceptions and additions. The exceptions and additions can be found in the *Maine Uniform School Bus Specifications (Chapter 86)*².

Table 2 shows how state transportation directors received guidance relating to bus specifications and options. As in Maine, specifications and a menu of approved options were provided to 20 states. School bus specifications only were provided by 12 states. And four states reported no specifications for school buses being provided.

Table 2. School Bus Specifications and Options Provided to Districts

Bus Specifications and Approved Options	States
School bus specifications are provided, including a menu of approved options (Maine)	20
School bus specifications are provided by the state with no menu of options	12
No specifications for school buses	4
Total	36

Data Source: NASDPTS Bus Replacement Survey Results, 2017

II. The Maine School Bus Purchase Program

The Maine School Bus Purchase Program³ (MDOE Rule Chapter 85) is an annual program offering priority-ranked subsidies to SAUs for purchase of public school buses. SAUs use an online system to request commissioner approval for bus purchases and subsidies.

The State of Maine School Bus Bid⁴ is a transparent bid process which occurs in a yearly or multi-year cycle. Only SAU owned buses are eligible for the Maine School Bus Purchase Program and the State of Maine School Bus Bid. Contractor owned buses are not eligible for the

² <https://www.maine.gov/doe/schools/transportation/laws>

³ <https://www.maine.gov/sos/cec/rules/05/chaps05.htm>

⁴ <https://www.maine.gov/doe/schools/transportation/programs/busbidmodule>

Maine School Bus Purchase Program or the State of Maine School Bus Bid. Vendors receive an Invitation to Bid on stock buses meeting state requirements. They then submit bids via the School Bus Bid module online.

The Maine School Bus Purchase Program operates with an annually determined budget. The 2021-22 amount is \$9 million. This amount has been consistent since FY18. Part of the budgeted amount is needed for payments on prior lease-purchase agreements. The rest is available for new bus purchases in cash or new lease-purchase agreements. The \$9 million includes prior year lease-purchase commitments totaling \$5 million, which means new cash or lease-purchases will be made with the remaining \$4 million. The maximum bus approval amount is the amount from the state bid for bus type and capacity.

The \$9 million budget amount includes both state share and a local share. It is part of the statewide total allocation used to determine the 55% state share and the 45% local share and to calculate the mill rate expectation. The state subsidy for each SAU is determined based on the SAU Total Allocation, the local property tax base, and the mill rate expectation. The entire approved amount for cash purchases and/or the yearly payment amount for lease-purchases is added to the ED279 and included in the SAU Total Allocation.

SAUs may purchase buses through the State of Maine School Bus Bid or use their own competitive bid process. Table 3 presents a summary of Master Agreements⁵ with four school bus vendors for this cycle. School bus bid prices range from \$45,475 through \$63,630 for Type A, Gasoline fueled buses with capacities ranging from 12-30 students. Type C bus capacities range from 35-81 students and are fueled by gasoline, propane, diesel, or electricity. Prices of gasoline, propane, or diesel Type C buses range from \$76,487 to \$98,200. And the Type C Electric school bus is \$341,229. Type D front or rear engine buses have a capacity of 66-90 and range in price from \$91,604, to \$107,410 with rear engine bus prices on the higher end.

⁵ <https://www.maine.gov/dafs/bbm/procurementservices/reports/contract-search>

Table 3: Maine Bus Contract Bid Pricing Summary

Type	Passenger Capacity Range	Fuel Type	Price Range
A1 A-2	12 - 30	Gasoline	\$45,475 - \$63,630
Type C	66 - 77	Gasoline	\$83,168 - \$89,000
	66 - 77	Propane	\$92,614 - \$98,200
	35 - 81	Diesel	\$76,487 - \$84,720
	77	Electric	\$341,229
Type D front engine	66 - 90	Diesel	\$91,604 - \$97,575
Type D rear engine	66 - 90	Diesel	104,353 - 107,410

Current SAU bus fleets consist primarily of diesel-fueled vehicles. Table 4 shows the fuel types and percentages in 2019. Diesel fueled buses comprise 81% of the fleet, gasoline 23%, LPG and Compressed Natural Gas total 4%. There is one (1) electric school bus in Maine that was purchased in 2021 by Mount Desert Island High School with VW settlement funds.

Table 4. Percentages of Buses by Fuel Types

Diesel	81%
Gasoline	23%
LPG	3%
CNG	1%
Electric	1 bus*

**MDI High School acquired September 2021*

Note: The Federal Infrastructure Law, between 2022-2026, will provide the EPA \$500 Million per year for electric school buses and related infrastructure and \$500 Million yearly for cleaner alternative fueled buses.⁶

⁶ See <https://www.epa.gov/dera/rebates>

Annual requests to Maine’s School Bus Purchase Program are accepted in November. School buses may be purchased with cash, loans, or lease-purchases for terms no longer than five years. Subsidies are granted by ranked priority. There are three categories of bus purchases which are listed by funding priority below:

1. emergency bus replacement (requests also accepted throughout year)
2. additional bus added to a fleet
3. replacement bus

Buses to be replaced must meet minimum replacement qualifications of age and miles by vehicle type. Table 5 shows minimum replacement qualifications. Vans must be seven years or older and have at least 100,000 accrued miles. Type C school buses must be 10 years or older and have 125,000 miles. Type D school buses are required to be at least 14 years in age and have 245,000 accrued miles.

Table 5. Minimum Replacement Qualifications of Year and Miles by Vehicle Type

	Years	Miles
Van	7	100,000
Type C school bus	10	125,000
Type D school bus	14	245,000

Data Source: MDOE: Maine SBPP_Update_062121.pptx.pdf

Table 6 shows the historical record of available funding, amounts requested, and approved applications for school bus purchases for FY 2017 through 2022. In 2017 and 2018, 35% of bus applications were approved. Between 2019 and 2021 between 41-45% of bus applications were approved; in 2022, 92% of bus purchases were approved. The increase in approvals for FY22 may be a result of SAUs using federal COVID relief monies to replace their buses.

Table 6. Bus Purchase Applications Vs. Approved

Fiscal Year	Bus Applications	Buses Approved	Percent	Amount Requested (\$million)	Budget (\$million)	Percent
2022	157	145	92%	\$14	\$9	64%
2021	177	80	45%	\$20	\$9	45%
2020	186	87	47%	\$17	\$9	53%
2019	217	89	41%	\$19	\$9	47%
2018	256	89	35%	\$22	\$9	41%
2017	262	91	35%	\$23	\$8	35%

Data Source: MDOE: Maine SBPP_Update_062121.pptx.pdf

III. Selected State Bus Purchasing Programs

The following list provides a more detailed look at selected states and their methods of funding school bus purchases by category. The 2017 NASDPTS survey provided some of the details. Others are from state websites, handbooks, reports, and statutes.

1. Allocation for school bus purchases

Maine- See Maine School Bus Purchase Program in Section II

Vermont- School bus depreciation is an allowable transportation expense and falls under Series 9300-Allowable and Extraordinary Transportation Expenditures⁷, of the Vermont State Board of Education Manual of Rules and Practices. Depreciation of 1/7th of bus purchase price begins the year of purchase. The depreciation from daily transportation of students to and from school. In the case of leases, depreciation is based on fair market value. Buses are considered fully depreciated after 7 years.

Montana-⁸ Bus Depreciation Reserve Fund. A fund may be established by districts that may be used for rebuilding, remodeling, conversions, or replacement. Up to 20% of bus price and certain options may be added to yearly budget. Budgeted amounts cannot exceed 150% of cost of bus and installed options. Bus replacements and additions to fleets may be made from the Bus Depreciation Fund.

⁷ <https://education.vermont.gov/sites/aoe/files/documents/edu-handbook-2-AOE-12012019-v1.0.pdf>

⁸ <https://rules.mt.gov/gateway/RuleNo.asp?RN=10.10.311>

Other States- Alabama, California, Delaware, North Carolina, New Mexico, Oregon, South Carolina, Washington, West Virginia.

2. Overall transportation allocation

Georgia- yearly appropriations include funds for school bus purchases. DOE distributes allocations by district need.

Michigan- per-pupil foundation allowance.

New Jersey- state transportation funding allocation is general fund revenue.

Virginia-transportation buses reimbursed on replacement cost of a 15-year cycle.

Other States- Illinois, Minnesota Missouri, North Dakota, New Mexico (see also allocation for school bus purchases), West Virginia (see also allocation for school bus purchases), Wyoming.

3. Capital funds or other more general state funding sources

Mississippi⁹- Education Enhancement Funds - Buildings and Buses Program. A total of \$16 M- per FY to public school districts for buildings and facilities projects and school bus purchases.

Nevada¹⁰- County school district fund may be established by the board of trustees of a school district for physical plant operations, insurance, construction, and transportation including purchase of buses.

Wisconsin¹¹ – General aid based on overall costs, including replacement bus purchases, plus categorical aid based on per-student mileage that may be used for bus purchases. School Boards may loan money from trust funds.

Other States-California, Florida, Iowa, Kentucky, South Carolina

4. States reporting that state funding for school buses is not provided to districts

Arkansas¹²- Approval to purchase is given by school district board of directors. A revolving loan fund is available to districts who meet minimum standards and regulations.

Indiana¹³- School corporations may issue obligation bonds for cash purchase of school buses. Bonds or secured loans may not extend more than six years.

⁹ <https://www.mdek12.org/OSF/EducationEnhancementFund>

¹⁰ <https://www.leg.state.nv.us/nrs/nrs-387.html#NRS387Sec205>

¹¹ <https://dpi.wi.gov/common-school-fund/about>

¹² <https://dese.ade.arkansas.gov/Offices/fiscal-and-administrative-services/lea-state-funding-loans-and-bonds>

¹³ <http://184.175.130.101/legislative/laws/2020/ic/titles/020/ - 20-27-4>

Iowa¹⁴ - School buses may be purchased from funds available in general fund or physical plant and equipment levy fund, or by loans.

Nebraska¹⁵ - School or education board for district may authorize school bus purchases out of district's general fund.

Other States. Colorado, Mississippi, (also in "Capital funds or Other More General State funding sources"), Ohio, South Dakota, Texas, Utah.

IV. Policy Options for Maine

The various types of school bus finding systems in the states suggest several policy options for Maine.

1. **Status quo** – Continue providing a yearly allocated amount for approved school bus purchases.
2. **EPS Allocation** – Add an amount for school buses to the annual EPS Transportation component.
3. **Capital Fund** – Use a capital fund or other broader-use fund similar to the School Revolving Renovation Fund that may be used for school bus purchases.

EPS allocation

In 2021, L.D. 1014, An Act To Repeal the School Bus Reimbursement Formula and Replace It with Essential Programs and Services Funding, proposed allocations for school bus purchases be included in the Essential Programs and Services (EPS) formula. 1-C stated "Bus purchase costs" includes expenditures for bus purchase payments ~~approved by the commissioner~~ made during the year prior to the allocation year.' The proposal was a pure expenditure-based allocation with a one-year lag; the lag may not be equitable for lower-wealth SAUs who may have less cash to spend up front. The bill was not advanced. There may be more equitable models for calculating an annual allocation for school bus purchases within the EPS transportation allocation.

¹⁴ <https://www.legis.iowa.gov/docs/ico/chapter/285.pdf>

¹⁵ <https://nebraskalegislature.gov/laws/statutes.php?statute=79-601>

Capital fund

A capital fund similar to the School Revolving Renovation Fund (SRRF), a component of Dept of Education Rule Chapter 64: Maine School Facilities Program and School Revolving Renovation Fund may be created for school bus purchases.¹⁶ The SRRF is funded through the Maine Municipal Bond Bank. This fund consists of a yearly application process with prioritized funding for renovations, upgrades, and repairs and zero percent interest loans of five or ten years based on amount, with a portion forgiven by the MDOE. The amount forgiven, which is the state share, is based on the percent of state subsidy paid to the local SAU. The Department forgives 30% to 70% of loan. This could be a model for a school bus purchase fund.

¹⁶ <https://www.maine.gov/sos/cec/rules/05/chaps05.htm>

Appendix

Factors to Consider in the Use of Electric School Buses

In the course of conducting a national scan of state pupil transportation policies we encountered multiple references to the use of electric school buses.^{17, 18, 19} Electric buses are increasingly appealing to some school districts for a variety of reasons:

- Improved air quality due to reduced emissions (of benefit to student health as well as the environment)
- Reduced costs for both operation and maintenance
- Situation-specific advantages that may be important to certain districts (but not all), including shared electric infrastructure (including ability to tap stored electricity from bus batteries for other power needs), convenience of avoiding fuel deliveries (especially compared to propane/LNG), ability to store buses outdoors, and quieter operation.

The primary obstacle to electric buses is the up-front purchase cost, which can be as much as four times the cost of a diesel Type C bus (see report Table 3). The total cost of ownership (TCO) is advertised by dealers as less than for traditional buses, but this information comes from proponents and not the EPA or similar external authority. Another major barrier for some districts is the reduced driving range compared to fossil fuel powered buses; one popular model is advertised at 138 miles on a full charge. This mileage is presumably reduced in cold weather or when traveling at high speeds (as it is with electric automobiles). This may limit their practicality in Maine's more rural districts, even with the ability to recharge during the school day. A lesser-cited obstacle is the expertise required to maintain, repair, and troubleshoot problems. While overall electric vehicles have fewer moving parts and are considered more reliable, bus garage staff must develop some expertise to establish a comfort level.

¹⁷ <https://thomasbuiltbuses.com/electric-school-buses/electric-bus/>

¹⁸ <https://stnonline.com/partner-updates/a-guide-to-locating-funding-for-electric-school-bus-purchases/>

¹⁹ <https://greenbussummit.com/>

Technical Notes on the 2017 NASDPTS survey²⁰

States represented

AL, AR, CA, CO, DE, FL, GA, HI, IA, IL, IN, KS, KY, MD, MI, MN, MO, MS, NC, ND, NE, NJ, NM, NV, OH, OR, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY

States not represented in survey

AK, AZ, CT, ID, LA, MA, ME, MT, NH, NY, OK, PA, RI, VT

Synopsis of states and how buses are funded by category of funding type

- a. A separate allocation is provided by the state for funding school bus purchases. (Maine)
AL, CA, DE, NC, NM, OR, SC, WA, WV
- b. School bus purchases are funded within an overall transportation funding allocation.
GA, IL, MI (MI listed twice), MN, MO, ND, NJ, NM, VA, WV, WY
- c. Other state funding used for multiple purposes, including capital funding, may be used for school bus purchases.
CA, FL, IA, KY, NV, SC, WI

Synopsis of states and whether provided school bus specifications and list of approved options

- a. School bus specifications are provided, including a menu of approved options:
AR, CA, DE, FL, IA, KY, MN, MS, NC, ND, NM, OH, OR, SC, SD, TX, VA, WA, WI, WY
- b. School bus specifications are provided by the state with no menu of options
AL, GA, HI, IN, KS, MD, MI, MO, NV, TN, UT, WV
- c. No specifications for school buses:
CO, IL, NE, NJ

²⁰ <https://nasdpts.org/resources/Documents/Bus-Replacement-Survey-Results-ALL-2017.pdf>