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State Capitol North, 325 Don Gaspar, Suite 200
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October 28, 2013

MEMORANDUM

TO: LESC Interim Subcommittee on School Bus Transportation

FR: Ian Kleats

RE: STAFF REPORT: BUS REPLACEMENT METHODOLOGIES AND SOURCES

INTRODUCTION

During the September 2013 meeting of the Legislative Education Study Committee (LESC) Interim Subcommittee on School Bus Transportation, the subcommittee discussed the possibility of changing the basis used to determine which school buses shall be replaced and the use of alternate funding sources to pay for school bus replacements.

This staff report provides an overview of:

- bus replacement methodology, including:
  - current statutory and administrative rule provisions; and
  - potential alternative replacement methodologies; and
- bus replacement funding sources.

The following attachments have been included as referenced in the staff report:

- **Attachment 1,** ***School Bus Replacement Considerations***;
- **Attachment 2,** ***§22-8-27 NMSA 1978, Transportation equipment***; and
- **Attachment 3,** ***School Bus Appropriations 2004-2013***.

BUS REPLACEMENT METHODOLOGIES

In 2002, the National Association of State Directors of Pupil Transportation Services (NASDPTS) issued an informational report titled "School Bus Replacement Considerations," which is included as **Attachment 1**. The primary research question considered in the report was:

> "Are there factors that should be considered when developing and implementing policies for determining how long a school bus should be used for school transportation purposes?"

According to that report, school bus replacement schedules can serve three main purposes:

(1) reducing the operating cost of the bus over the anticipated lifetime;
(2) improving the safety of buses through compliance with the latest federal standards; and
(3) reducing emissions and increasing fuel-efficiency.

Beyond providing reasons why school bus replacement methodologies are important, the NASDPTS report highlights ways to evaluate alternative methods, namely age-based and mileage-based methods.

Current Statutory and Administrative Rule Provisions

Provisions of the *Public School Finance Act*, included as **Attachment 2**, require that the Public Education Department (PED) establish a systematic program for the purchase of necessary school bus transportation equipment. Among its other provisions, statute requires that:

- PED provide for the replacement of school-district-owned and contractor-owned buses on a 12-year replacement cycle;
- school districts requiring additional buses to accommodate growth in the school district or to meet other special needs may petition the department for additional buses outside of the normal replacement cycle; and
- under exceptional circumstances, school districts may also petition the department for permission to:

  - replace buses prior to the completion of a 12-year cycle; or
  - use buses in excess of 12 years contingent upon satisfactory annual safety inspections.

In PED administrative rule, provisions further specify that all school buses, including spare and activity buses, shall not be operated for any purpose once they have become 20 years of age from their manufacture date.

Potential Alternative Replacement Methodologies

The diverse characteristics of the state's school districts might imply that using solely a mileage-based or age-based replacement methodology could be inappropriate. In fact, the NASDPTS report suggests that while annual mileage accumulation may be used to shorten lifetimes of

certain buses, lower-than-average annual mileage does not necessarily justify the use of buses for an extended number of years.

For this reason, a combination approach that considers both mileage and age might be most appropriate. It could account for the needs of higher-than-average annual mileage school districts while still defining an appropriate life for below-average annual mileage school districts. Such a proposal might set the age and mileage thresholds at between 12 to 15 years[1] or 150,000 to 250,000 miles[2], respectively.

At the request of the subcommittee, cost estimates for adopting a new replacement methodology might be performed by the PED transportation director in consultation with LESC fiscal staff.

BUS REPLACEMENT FUNDING SOURCES

The table in **Attachment 3**, "School Bus Appropriations 2004-2013," contains the amount and source of appropriations for school buses across those years, and illustrates the following:

- a sizable majority of appropriations – $36.1 million of approximately $38.0 million – came through the capital outlay process;
- in FY 05, FY 06, FY 08, FY 09, and FY 10, the capital outlay funding was supplemented with appropriations through the Public School Support transportation distribution of the *General Appropriation Act*; and
- there were no appropriations for school bus replacements in FY 12, and only a modest appropriation in FY 11.

The table suggests that limiting the source of funding to only General Fund appropriations or only the capital outlay process could reduce flexibility in finding necessary funds for school bus replacements.

[1] The NASDTPS report suggests the anticipated lifetime under normal operating conditions for Type "C" and Type "D" school buses is 12-15 years.

[2] North Carolina recently amended their mileage-based replacement schedule to 250,000 miles, up from 200,000 miles; however, the impetus for this change appears to be budget constraints rather than an analysis of optimal mileage. South Carolina, a state with annual mileage for its school buses much higher than the national average, uses a 250,000 mile threshold.

NATIONAL ASSOCIATION OF
STATE DIRECTORS OF
PUPIL TRANSPORTATION SERVICES

Information Report

School Bus Replacement Considerations

Background:

School buses represent the largest bus operation in the country, and provide more trips to passengers than transit buses. There are nearly 450,000 school buses operating in the United States. These buses safely and efficiently transport nearly 25 million children to and from school and school-related activities. In an average school year, school buses provide approximately 10 billion student trips and have the best safety record of any vehicle on the road. School buses come in various designs and capacities. Some are constructed on van chassis and carry less than 20 passengers. Others are built on unique school bus chassis and can carry nearly 90 passengers. Additionally, school buses across the country have numerous differences in terms of their standard and optional equipment. The school bus fleet is composed of buses of various ages with different mileage accumulations. It is a remarkable fleet of vehicles.

Question:

Are there factors that should be considered when developing and implementing policies for determining how long a school bus should be used for school transportation purposes?

Discussion:

This Information Report is <u>not</u> intended to dictate precise school bus replacement policies, since there are multiple issues at state and local levels that are involved in such decisions. However, the National Association of State Directors for Pupil Transportation Services believes the timely replacement of school buses must be a planned process. The information contained in this report is intended to provide insight into the factors (safety, efficiency, environmental, maintenance, operational conditions, etc.) that are involved in making decisions concerning school bus replacement policies.

Available funding is likely the single most important consideration in determining when school buses are replaced. That being said, there appear to be at least two scenarios that should have an impact on decisions concerning school bus replacement.

First, whenever there is a <u>significant</u> improvement in the federal standards for the safety, fuel efficiency or exhaust emission requirements of school buses, it appears reasonable to establish a policy with respect to timely replacement of the older buses with newer school buses. A good example of this occurred in April 1977 when the

National Highway Traffic Safety Administration issued a set of stringent Federal Motor Vehicle Safety Standards for school buses. Since then, the federal government has maintained a policy that pre-1977 school buses should be replaced at the earliest possible time. Fortunately, most states and local school districts no longer operate pre-1977 school buses, and the few that remain typically are used as "reserve" or "back-up" school buses. Other examples include the diesel emission requirements implemented in 1988 and the substantial changes to the school bus emergency exit and exterior mirror requirements made in the early 1990s.

The determination of what constitutes a "significant" improvement is something that must be defined by those that choose to incorporate this concept into their logic for determining when to replace a school bus. For some improvements, it is likely that a consensus of what constitutes "significant" could be achieved easily. For other items, it may be impossible to get everyone to agree on the importance of the improvement.

It is reasonable to assume that there will be continued improvements in the Federal Motor Vehicle Safety Standards that apply to school buses. Some of those improvements will likely apply to passenger safety, while others may be directed at avoiding crashes, and still others to driver safety. At the same time, federal requirements and recommendations with respect to fuel efficiency and vehicle emissions will likely continue. Unless school bus replacement plans are developed and implemented, these improvements in safety, efficiency and cleaner air will not reach their desired goals in a timely manner.

Second, whenever the operating and maintenance expenses on a school bus, or group of school buses, reaches a certain level, it appears that the better economic decision would be to purchase a new bus rather than continue to maintain the older school bus. This is the classical cost/benefit analysis. Do the benefits of buying a new school bus offset the costs?

It is widely accepted that it is more costly to operate and maintain older school buses than newer school buses. However, the vehicle age at which the total operating costs of an older bus versus a newer bus becomes intolerable is not an exact science. In the mid-1980s, independent studies of annual school bus operating costs were conducted in California and Washington. Both studies reached the same conclusion – after 12 years of use, the annual operating costs of Type C and D school buses began to increase significantly and continued an annual increase each year thereafter.

A January 2000 study of life cycle costs for Type D school buses in South Carolina indicated that 15 years should be adopted as the cycle for school bus replacement. The study also noted that school buses that accumulate mileage more quickly, such as the special needs school buses in South Carolina, should have their life cycle cost analyses based on mileage accumulation not age.

No studies of life cycle costs for Type “A” and “B” school buses were found. Since these types of school buses are of a lighter duty design, it appears likely that they would have slightly shorter anticipated lifetimes than Type “C” and “D” school buses.

While those studies suggested a “rule-of-thumb” for large school buses in general, it is clear that maintenance and operating cost data on individual school buses may provide the information needed to better define when individual or groups of school buses should be replaced. For example, reviews of individual school bus maintenance costs may identify buses that can be operated longer or which should be replaced sooner.

It is commonly accepted that good preventive maintenance reduces the frequency and costs of breakdowns and the resulting corrective maintenance. Likewise, the terrain and road conditions over which school buses operate can have an impact on the frequency and cost of maintenance. Additionally, the climatic conditions in the area can impact maintenance costs. The environmental conditions of how and where school buses are stored can directly impact the useful life of various components; especially those made of plastic, rubber or vinyl.

School bus breakdowns result in several problems. First is the cost of towing and repairing the school bus. Second, breakdowns on the home-to-school trip result in loss of classroom time for students, a particularly important point for school administrators. Third, a breakdown could increase the risks to children while they wait in or near the broken down school bus for a replacement bus.

Like any cost/benefit analysis there may be discretion in terms of defining all of the items that fall under the “benefits” category. Clearly reduced maintenance and operating costs are benefits. But what other items are included and how are they calculated? For example, what is the value of having a school bus that has the latest safety or emission features? Does the cost of insurance on the school bus reflect that it complies with the latest federal and state safety requirements? How much does risk management figure into the calculations?

Conclusions

Unfortunately, there is no “silver bullet” answer to these and other questions. However, accurate and thorough records on the operating and maintenance costs (both preventive and corrective maintenance) of all school buses in a fleet will provide the data necessary to analyze and understand costs. Information from insurance companies and risk managers can be obtained that are specific to your state or school district. With solid data and information, it is easier to make informed recommendations and decisions.

Establishing school bus replacement policies is an important activity, since it directly impacts the timeliness of introducing the latest safety, efficiency and emissions improvements into the fleet. The elimination of school buses that do not meet the latest standards or requirements must be planned for within a realistic number of years. Policy makers must realize that school buses will not last forever, regardless of how they are equipped when purchased or maintained during their lives.

Improvements in state school bus specifications must be developed with the objective of improving safety and efficiency, reducing emissions and reducing the operating cost of the bus over the anticipated lifetime. The pupil transportation industry is responsible for the safe and efficient transportation of our children. Accordingly, the timely inclusion of new school bus safety features and new means of improving efficiency or reducing emissions are in the best interest of everyone.

With the previous discussion in mind, the following anticipated lifetimes under normal operating conditions for different types of school buses are suggested:

Type “C” and "D" school buses -- 12 to 15 years

Type "A" and "B" school buses -- 8 to 10 years

Mileage Considerations:

As previously discussed, the life cycle cost study in South Carolina noted that school buses that accumulate mileage more quickly should have replacement decisions based on mileage accumulation rather than age.

According to data published by the Federal Highway Administration, the average annual mileage for all school buses is approximately 8,000 miles. This average is consistent with the data published by the school bus industry – 450,000 school buses traveling 4 billion miles per year. However, based on discussions with individual state directors and local transportation directors it appears that many individual school buses accumulate much higher annual mileage. For example, school buses in South Carolina average more than 15,000 miles per year. This difference in average annual mileage is likely influenced by the inclusion of spare and substitute school buses in the national averages. Based on average mileage accumulations by school buses in South Carolina, the state believes school buses should be replaced on a 15-year or 250,000 mile cycle.

While higher annual mileage accumulation may be used as a criterion to shorten lifetimes of individual buses, lower than average annual mileage accumulation is not necessarily a criterion to use buses for an extended number of years.

22-8-27. Transportation equipment.

A. The department shall establish a systematic program for the purchase of necessary school bus transportation equipment.

B. In establishing a system for the replacement of school-district-owned buses, the department shall provide for the replacement of school buses on a twelve-year cycle. School districts requiring additional buses to accommodate growth in the school district or to meet other special needs may petition the department for additional buses. Under exceptional circumstances, school districts may also petition the department for permission to replace buses prior to the completion of a twelve-year cycle or to use buses in excess of twelve years contingent upon satisfactory annual safety inspections.

C. In establishing a system for the use of contractor-owned buses by school districts or state-chartered charter schools, the department shall establish a schedule for the payment of rental fees for the use of contractor-owned buses. The department shall establish procedures to ensure the systematic replacement of buses on a twelve-year replacement cycle. School districts requiring additional buses to accommodate growth in the school district or to meet other special needs may petition the department for additional buses. Under exceptional circumstances, school districts may also petition the department for permission to replace buses prior to the completion of a twelve-year cycle or to use buses in excess of twelve years contingent upon satisfactory annual safety inspections.

D. The school district shall file a lien on every contractor-owned school bus under the contract on which the contractor owes money, which lien shall have priority second only to a lien securing the purchase-money obligation. The school district shall perfect its lien on each contractor-owned school bus by filing the lien with the motor vehicle division of the taxation and revenue department. The lien shall be recorded on the title of the school bus. A school bus contractor shall not refinance or use a school bus on which a school district has a lien as collateral for any other loan without prior written permission of the department. A school bus lien shall be collected and enforced as provided in Chapter 55, Article 9 NMSA 1978. The school district shall release its lien on a school bus:

(1) when the department authorizes a replacement of the school bus; or

(2) when the contractor has reimbursed the school district the amount calculated pursuant to Subsection E of this section if the school bus service contract is terminated or not renewed and the contractor owes the school district as provided in that subsection.

E. No school district shall pay rental fees for any one bus for a period in excess of five years. In the event a school bus service contract is terminated or not renewed by either party, the department shall calculate the remaining number of years that a bus could be used based on a twelve-year replacement cycle and calculate a value reflecting that use. The school district shall deduct an amount equal to that value from any remaining amount due on the contract, or if no

balance remains on the contract, the contractor shall reimburse the school district an amount equal to the value calculated.

F. If the school district fails to take action to collect money owed to it when a school bus contract is terminated or not renewed, the department may deduct the amount from the school district's transportation distribution.

History: 1953 Comp., § 77-6-23, enacted by Laws 1967, ch. 16, § 77; 1988, ch. 64, § 32; 1993, ch. 226, § 24; 1995, ch. 208, § 2; 2006, ch. 94, § 18; 2009, ch. 92, § 1.

Cross references. — For transfer of powers and duties of former state superintendent to secretary of public education, *see* 9-24-15 NMSA 1978.

The 2009 amendment, effective June 19, 2009, added Subsection D; in Subsection E, after "is terminated", added "or not renewed by either party"; and added Subsection F.

Applicability. — Laws 2009, ch. 92, § 3 provided that the provisions of Laws 2009, ch. 92, §§ 1 and 2 apply to contracts, including contract renewals, entered into on or after June 19, 2009.

The 2006 amendment, effective July 1, 2007, changed "state superintendent" to "department" in Subsections A through C; and added state-chartered charter school in Subsection C.

The 1995 amendment, effective July 1, 1995, deleted "Local school boards may, with the approval of the state transportation director and" from the beginning of the section, designated the existing provisions as Subsection A, inserted "shall" in Subsection A, deleted "from the annual budget allocation for school transportation within the school district" from the end of Subsection A, and added Subsections B and C.

The 1993 amendment, effective July 1, 1993, rewrote the catchline, which formerly read "Transportation of students; additional budget allowance; purchase of equipment"; deleted former Subsections A and B, pertaining to authorization for an additional budget allowance for the cost of transporting students where special equipment is necessary or where special physical conditions exist; and deleted the subsection designation "C".

The 1988 amendment, effective May 18, 1988, substituted "state superintendent" for "chief" in Subsection C.

ANNOTATIONS

Reimbursement of rental fees. — A local school district is entitled to reimbursement from a school bus operator of unearned rental fees paid to the operator for bus purchases at the termination of the school bus service contract without distinction as to the reason for or the time of termination of the contract. Gladden Motor Co., Inc. v. Eunice Sch. Bd., 2007-NMCA-118, 142 N.M. 483, 167 P.3d 931, cert. denied, 2007-NMCERT-009, 142 N.M. 715, 169 P.3d 408.

School Bus Appropriations 2004 - 2013

Legislative Session	Appropriation Title	Fund Code	Appropriation Amount	Notes
2013	PED SCHOOL BUSES-PSCOF	PSCOF	$13,000,000	to purchase school buses statewide
2012	STW-PED SCHOOL BUS PURCHASE STATEWIDE, RET	STB	$2,500,000	to purchase school buses statewide (reauthorized from HSD)
2010	PED SCHOOL BUS PURCHASE STATEWIDE	GOB	$500,000	to purchase school buses statewide
2009	PED SCHOOL BUS PURCHASE & EQUIP	STB	$5,000,000	to purchase and equip school buses statewide
2009	TRANSPORTATION DISTRIBUTION	GF-GAA	$541,000	
2008	SCHOOL BUS REPLACEMENT	STB	$4,000,000	to purchase school buses statewide
2008	TRANSPORTATION DISTRIBUTION	GF-GAA	$468,800	
2007	PUBLIC SCHOOL BUS PURCHASE STATEWIDE	GF-CO	$3,500,000	to purchase school buses for public schools statewide
2007	TRANSPORTATION DISTRIBUTION	GF-GAA	$420,400	
2006	PUBLIC ED DEPT SCHOOL BUS REPLACEMENT	GF-CO	$2,000,000	to purchase school buses statewide
2005	PUBLIC SCHOOL BUS PURCHASE STATEWIDE	GF-CO	$600,000	to purchase school buses for public schools statewide
2005	TRANSPORTATION DISTRIBUTION	GF-GAA	$176,400	
2004	SCHOOL BUS REPLACEMENT STATEWIDE	CJF	$5,000,000	to purchase school replacement buses statewide;
2004	TRANSPORTATION DISTRIBUTION	GF-GAA	$342,600	
	TOTAL SINCE FY 05		**$38,049,200**	

Source: LESC and LFC Files

Fund Code Abbreviations

PSCOF	Public School Capital Outlay Fund
STB	Severance Tax Bonds
GOB	General Obligation Bonds
GF-CO	General Fund - Capital Outlay Bill
GF-GAA	General Fund - General Appropriation Act
CJF	Capital Projects Fund

ATTACHMENT 3