NORTH CAROLINA
State Board of Education
Department of Public Instruction

Report to the North Carolina General Assembly

Smart School Bus Safety Pilot Program *SL 2023-134 Section 7.57*

Date Due: April 15, 2024
DPI Chronological Schedule, 2023-2024

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ENHANCED SCHOOL BUS STOP ARM GRANT PROGRAM

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PART I: GENERAL OVERVIEW

A. Legislative Reporting Requirements SL 2023-134 Section 7.57.(d)

No later than April 15, 2024, the Superintendent shall submit a report to the Joint Legislative Education Oversight Committee containing at least the following information:

(1) Which public school units received grants and in what amounts.

(2) Whether the public school unit purchased (i) extended mechanical stop signals, (ii) illuminated mechanical stop signals, or (iii) both.

(3) What outstanding need remains, if any, including the amount needed to fulfill remaining grant requests.

(4) The impact of the program on student safety.

(5) Recommendations for additional school bus mechanical stop signal technology or implementation.

B. State Board of Education Program Report Code 087 Allotment Policy

STOP ARM ENHANCEMENT FUNDS – (PRC 087)

PROGRAM REPORT CODE: 087

UNIFORM CHART OF ACCOUNTS CODE: 6550-087-XXX

STATUTORY REFERENCE: SL 2013-360
SL 2023-134

TYPE: Dollars

TERM: July 1 to June 30

PURPOSE: Provides funding for school bus stop arm enhancements from purpose-specific funding.

ELIGIBILITY: Each LEA or PSU is eligible for funding.

FORMULA:

1) Funds are allotted to each of the 115 LEAs which request funds to procure and install stop arm violation camera systems to a maximum of $3,000 per system. Funds remaining after allocating two systems per requesting LEA will be provided to those LEAs requesting additional systems based on those LEAs with a lower proportion of their school bus fleet currently equipped with these systems.
2) Funds are allotted to PSUs with school buses which apply and are awarded competitive grant funds to procure enhanced school bus stop arms. The State Superintendent shall approve the awards prior to allocation.

SPECIAL PROVISIONS:

1) Eligible costs are for equipment and equipment installation.
2) Qualifying stop arm camera systems must document violations for use in prosecution and therefore qualifying systems must attempt the capture of images to identify the driver of the vehicle committing the violation.
3) Enhanced school bus stop arm applications shall include and awards will consider:
   a) Type of number of stop signal additions, updates, or replacements proposed
   b) Number of bus routes or stops known to pose a significant safety risk
4) Qualifying enhanced school bus stop arms include:
   a) Extended mechanical stop signal. – A mechanical stop signal that is a minimum of 60 inches away from the side of the school bus when extended, whether operated independently or in conjunction with a shorter mechanical stop signal.

b) Illuminated mechanical stop signal. – A mechanical stop signal that is illuminated with a light-emitting diode (LED) light source.

5) For any technology not currently provided on school buses in State Term Contract 071C or listed in allowed alterations of school bus equipment in State Board of Education Policy TRAN-005, LEAs must agree to pilot the technology and provide data on its safety and efficacy compared to existing systems and any other data requested.

6) Funds cannot be transferred in to or out of this PRC.

PART II: EXECUTIVE SUMMARY

The Enhanced School Bus Stop Arm Grant program was established by the Department of Public Instruction (the "Department") as required in SL 2023-134 Section 7.57 (the "Legislation"). The Department created a grant application for Public School Units ("PSU"s) to indicate their request for Enhanced School Bus Stop Arm funding.

Sixty-one PSUs submitted grant applications for a total of 3,296 illuminated mechanical stop signals (55 PSUs with the single-highest PSU requesting 784) and 439 extended mechanical stop signals (10 PSUs with the single-highest PSU requesting 314). One Charter School and two Local Boards of Education requested some of both.

Awards were made to 57 PSUs based on the State Board of Educations Program Report Code (PRC 087) Allotment Policy referenced in Part I. PSUs collectively submitted grant applications in excess of $5,032,845; however, only $370,758 was available under this funding opportunity. A total of 289 systems were awarded to PSUs at the requested per system cost totaling $370,575 of the available $370,758.

Based on grant application requests not fulfilled, outstanding needs for requested equipment total approximately $4,662,270. It is highly probable additional funds would be requested if a second round of applications were provided.

These technologies are designed to make the school bus more visible and reduce illegal passing, so they should improve student safety and have demonstrated such in pilot testing, however data is not yet available on the impact of this funding as PSUs are still in the procurement and installation processes.

Both the illuminated stop arm and the companion system to enhance school bus visibility, as it illuminates front and rear "School Bus" signs, are included in the Department of Administration state term contract specifications for school buses, and as such, the Department recommends continued additional funding to speed adoption of these new approved safety technologies across the existing 12,000 statewide bus fleet.

PART III: AWARDS

A. Award Methodology

The Transportation Section of the NCDPI developed a grant application based on session law. Specifically, the application requested other pertinent information including the current size of the yellow bus route fleet, the number of buses already equipped with extended mechanical stop arms or illuminated stop arms, and safety information such as the number of routes requiring students to cross roadways with speed limits of at least 50 miles per hour and routes with stop arm violations during the prior spring one-day violation count. Applicants were also asked to provide the number of extended and/or illuminated stop arms requested as well as the cost per unit of the items requested, given the difference in pricing between the illuminated mechanical stop arm signals and extended mechanical stop signals.

While the total amount of funding appropriated for this grant was $370,758, the Department received over $5 million in enhancement systems requests. Applications were received from 61 PSUs and requests included 3,286 illuminated stop arms and 439 extended stop arms. Given the need for enhanced stop arm devices, it seemed unreasonable to allot funds to districts which indicated (on their application) a higher number of enhancement systems in operation than the actual number of regular bus routes. This indicator removed four PSUs from consideration.

Since this technology is intended to address safety concerns in high-need areas, every PSU remaining received funding for two systems for their areas of highest concern. If the PSU reported having more routes with students crossing high speed roadways than they currently have enhancement-equipped buses, then the Department awarded funding for three additional systems, as these routes pose the greatest potential risks to students.

If the PSU indicated a low saturation of these enhancement technologies or a limited number of enhancement systems in their fleet currently, as compared to the size of their regular route bus fleet, then it was assumed the PSU may need more overall stop arm systems to address existing or emerging traffic safety issues. Therefore, the Department allocated an additional system at each of two thresholds, 14% or less route saturation and 2% or less route saturation.

The Department allotted funds at the cost-per-system requested by each PSU in the grant application. In cases where PSUs requested both types of systems, the Department allotted funds at the higher of the two unit prices provided and the PSU could choose how to best utilize the funds based on local needs. If a PSU requested fewer systems than would have been allowed via this methodology, then the PSU was allotted the maximum of what was requested.

B. PSU Awards

The number of units awarded and total allotment, per PSU, are shown below.

PSU #	PSU Name	Awarded Units	Total Allotment
10	Alamance Burlington School System	5	$ 5,738
20	Alexander County Schools	2	$ 2,301
50	Ashe County Schools*	6	$ 17,911
60	Avery County Schools	6	$ 7,747
80	Bertie County Schools*	6	$ 16,320
90	Bladen County Schools	7	$ 8,033
100	Brunswick County Schools	3	$ 3,225
130	Cabarrus County Schools	3	$ 3,180
150	Camden County Schools	7	$ 8,033
160	Carteret County Schools	3	$ 3,443
210	Edenton-Chowan Schools	6	$ 6,312
220	Clay County Schools	4	$ 5,165
230	Cleveland County Schools	7	$ 9,038
240	Columbus County Schools	7	$ 8,033
270	Currituck County Schools*	2	$ 6,000
280	Dare County Schools	2	$ 2,150
290	Davidson County Schools	4	$ 3,940
340	Winston Salem Forsyth County Schools*	6	$ 17,861
390	Granville County Schools	6	$ 6,886
422	Weldon City Schools	7	$ 8,050
470	Hoke County Schools	6	$ 6,705
490	Iredell Statesville Schools	6	$ 6,886
491	Mooresville Graded School District	7	$ 8,033
510	Johnston County Schools	7	$ 8,033
530	Lee County Schools	7	$ 7,420
540	Lenior County Schools	7	$ 8,033
550	Lincoln County Schools	7	$ 7,910
560	Macon County Schools	4	$ 5,165

580	Martin County Schools	7	$	5,950
600	Mecklenburg County Schools	3	$	3,458
610	Mitchell County Schools	7	$	9,038
650	New Hanover County Schools	6	$	5,356
670	Onslow County Schools	3	$	3,451
710	Pender County Schools	6	$	6,309
730	Person County Schools	5	$	7,500
750	Polk County Schools	3	$	3,443
770	Richmond County Schools	4	$	4,587
790	Rockingham County Schools	3	$	3,451
800	Rowan Salisbury Schools	6	$	7,747
840	Stanly County Schools	7	$	8,400
850	Stokes County Schools	6	$	7,658
900	Union County Schools	5	$	5,738
910	Vance County Schools	7	$	8,033
920	Wake County Schools	4	$	4,000
930	Warren County Schools	2	$	2,296
940	Washington County Schools	7	$	7,525
960	Wayne County Schools	6	$	6,886
980	Wilson County Schools	6	$	6,886
990	Yadkin County Schools	5	$	5,751
11L	Mountain City Public Montessori	1	$	1,338
32B	Durham Charter School*	4	$	12,000
32S	KIPP Durham College Preparatory School	4	$	3,940
42A	KIPP Halifax College Preparatory School	7	$	6,895
49E	Pine Lake Preparatory School	2	$	1,148
66A	KIPP Gaston College Preparatory School	7	$	6,895
93A	Haliwa Saponi Tribal Schools	4	$	4,300
98A	Sallie Howard School of Arts and Science	2	$	3,000

*The cost of the extended stop arm was considerably higher than the illuminated stop arm therefore, the total amount awarded to the PSU, based upon their request, was higher.

C. Outstanding Needs

Based on grant application requests not fulfilled, unmet needs for stop arm equipment total approximately $4,662,270. It is highly probable that additional funds would be requested by PSUs should a second round of funding be appropriated.

The Department concurs that all school buses should eventually be equipped with illuminated stop arms as well as another other safety technologies to enhance visibility and ultimately, student safety. Illuminated school bus signs and extended stop arms are currently included in the State Term Contract specifications for school buses. This technology adoption could be expedited with additional funding. The fleet has approximately 10,000 unequipped buses presently and the cost for the combined systems installed would be approximately $3,000 each.

PART IV: RECOMMENDATIONS

No additional types of mechanical stop arm technologies were mentioned or requested by PSUs that applied for these grant funds. This is not a technology that undergoes frequent change. Since the market is so small, the Department would be remiss not to mention there is an additional new stop arm related technology, a predictive stop arm which uses radar-based systems to alert the school bus driver and pedestrians to vehicles which will potentially not stop. It is not illuminated nor extended. It is currently being piloted in one North Carolina school district.

Further, there is one additional school bus technology that pairs with the stop arm to improve school bus visibility. The current State Term Contract requires an illuminated mechanical stop sign as well as LED-illuminated “School Bus” signs on the front and rear of all new school buses. As such, the Department recommends an additional technology, the illuminated school bus sign, be considered an allowable use for future funding so the retrofit of older vehicles may include both enhancements from grant funds. Funds appropriated for this purpose would help unify the uniformity of appearance of older school buses throughout the fleet to match the enhanced visibility of newer school buses.

Since the illuminated stop arm and illuminated school bus signs will be on replacement school buses per the State Term Contract, these enhancements in visibility will gradually make their way into the PSUs as there is anticipation some PSUs will use state and local school bus operations funds to expedite the adoption of these new technologies. Therefore, it is the recommendation of the Transportation Section of the Department that additional funding be provided within the State Public School fund transportation allotment or as competitive or formula grants to accelerate the adoption of these new safety technologies.