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**The Use of School Bus Stop Arm Cameras
For Stop Arm Enforcement**

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ABSTRACT

Throughout the United States, there are laws prohibiting or regulating the passing of school buses that are stopped to load or unload students. Federal standardization of school bus safety features has led to all school buses being equipped with flashing lights and an extendable stop sign, or “stop arm” to warn motorists to obey those laws. In spite of these measures, tens of thousands of motorists nation-wide illegally pass school buses daily, resulting in multiple deaths every year. Because of the sheer number of bus stops, the vast majority of violations go unenforced; however, with the advent of digital technology school buses can now be equipped with high-quality video cameras that provide evidence of most all violations. This development allows school districts to work within applicable state or local laws to hold violators accountable by issuing citations through the mail.

Stop arm camera programs do not come without challenges. Valid questions regarding Legal concerns, equipment costs, and necessity are legitimate areas to address, but proper use of the equipment and citation procedure has withstood most all criticism. Though no enforcement program can prevent every stop arm violation every day, school districts who establish a stop arm camera program can hold infinitely more violators accountable and consequently, enhance child safety.

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INTRODUCTION

In the United States, as in many other parts of the world, a high value is placed on human life and, arguably, a country holds few lives in higher regard than those of its children. A child's safety naturally becomes a paramount concern for not only his or her parents and loved ones, but also for the community in which the child lives. As he or she grows and enters school, a child's parents must entrust the child's safety to his or her educational institution. It follows, then, that the institution must reasonably ensure the child's safety while in its care.

Minor injuries sustained by students in schoolyard fights, horseplay, sports, or accidents can happen regularly; however, the potential for a child to be seriously injured or killed inside the physical confines of the school building pales in comparison to the risks faced getting to and from campus. According to federal data, over 25 million Kindergarten through 12th grade (K-12) students rode public school buses daily in 2004-2005; the most recent time period for which annual statistics are available (United States Department of Education, 2007). With so many kids riding the bus, the chances of a child being injured while under school care may seem evident, but the fact is that relatively few significant injuries occur to students while inside a school bus.

Perhaps because of their size, stability, and traditional highly visible yellow color, statistics show that school buses are a remarkably safe mode of transportation for students – 70% safer than traveling by car or walking (National Highway Transportation Safety Administration, n.d.). However, the protection offered by the bus is dramatically decreased immediately before getting on or after getting off the bus, while students are in the “danger zone”; the area approximately 15 feet in front, behind, and to the sides of

the bus (Atkinson, 2007). It is in this area that children are most vulnerable to being injured or even killed by passing vehicles. Many student injuries and a significant number of fatalities have occurred in school bus danger zones since modern school buses came into common use.

American school systems first began using early iterations of the modern school bus with the advent of compulsory education in the early - mid 20th century, and it can be argued that other vehicles have been passing those buses illegally - or at least unsafely - ever since. As buses became more widely used, safety awareness became a concern and laws for buses and the behavior of other vehicles interacting with them were created. Currently, all 50 states and the District of Columbia have laws requiring motorists to stop for buses that are loading or unloading students (NHTSA, n.d.), though specific requirements vary from state to state. Most states have an exception for oncoming vehicles on a divided roadway, though there is statutory and judicial disagreement on the definition of "divided"; some states take into account the number of lanes on the roadway, while others mandate a specific distance a vehicle must stop from the bus. All states, however, prohibit vehicles travelling in the same direction as the bus passing from behind when the lights and stop arm are activated for boarding or/ de-boarding (Turner & Stanley, 2008).

Even though statutory protections are in place, the sheer number of stops made by buses to load or unload students makes enforcing those laws a formidable task. Even when school districts and law enforcement agencies work together in their communities to increase safety and awareness of the law, violations continue and most go unenforced because they occur outside law enforcement's view and ability to cite the

violators. Historically, there has been no effective mechanism with which to address these violations, but with the advent of digital technology, a new tool has become available that can enhance the safety of students as they get on and off the bus.

High quality, exterior-mounted video systems can now record school bus stop arm violations in great detail, enabling after-the-fact enforcement by police agencies. Many of these systems provide high definition photographs and/or video of the offending vehicle, including license plates to identify the owner, date and time stamps to fix the exact moment of the infraction, and an integrated Global Positioning System (GPS) to specify the location where it occurred. Many systems also provide bus safety data to ensure bus driver compliance and proper function of the bus stop arm, lights, and other equipment. These capabilities enable the cameras to gather sufficient evidence of a stop arm infraction (North Carolina School Bus Safety Systems, n.d.).

Several states have enacted legislation enabling the use of this new technology to enhance enforcement of stop arm statutes. Across the United States, as of August 2017, 17 states have laws that specifically allow and regulate the use of stop arm cameras for the enforcement of school bus passing laws (Shinkle, 2018), and, in 2016, the state of Wyoming enacted legislation requiring all school buses in the state to be equipped with stop arm cameras. Of the remaining states, many have considered stop arm camera laws only to see the legislation defeated, while others have passed legislation prohibiting their use. In some states that have no laws addressing stop arm cameras – including Texas - cities and school districts within the state have passed their own laws and ordinances at the local level to create stop arm camera programs.

Employed within the constraints of applicable state and local laws, bus stop arm camera systems can provide school districts and law enforcement with a “force multiplier” that will help identify violators and assist with the logistical difficulties of enforcement. School bus safety equipment has progressed periodically through the years and will likely continue to improve. With the advent of stop arm camera technology and related legislation, school districts can and should establish a Bus Stop Arm Camera program.

POSITION

The use of bus stop arm cameras would enhance safety for school children. While picking up and delivering students, a single school bus may make a dozen or more stops per day on each of its morning and afternoon routes. Stops are made on quiet neighborhood streets, major roads and crowded highways in urban, rural, or suburban areas. A bus’s safety warning equipment is designed to stop traffic and create a safe zone for students to cross a roadway to board or de-board a bus but as with any law, not everyone complies. Some violations are intentionally committed by impatient drivers, while other drivers may not have noticed the big yellow bus stopped in front of them with its stop sign out and lights flashing. Still others may pass buses because they are unfamiliar with the law. Whatever the reason for the violation, a car that illegally passes a school bus creates a serious safety hazard for students. Stop arm cameras can be an effective tool for holding violators accountable and keeping children safe.

As the number, size, and speed of vehicles on the road increased throughout the mid – late 1900’s, the need for consistency in bus manufacture resulted in the federal

standardization of bus construction and basic safety equipment in the late 1970's. Periodic improvements continued to be added as information and safety technology continued to advance, and in 1992 federal law was enacted requiring buses to be equipped with extendable stop signs, now commonly known as "Stop Arms". These devices helped to enhance visibility and clarify the requirement for other vehicles to stop (Hull, n.d.). Bus drivers were required to use these new features to warn other vehicles of the bus driver's intent to stop and load or unload students. In most cases, these systems are now fully automated, activating simultaneously in conjunction with the opening of the bus door.

Frequent complaints by bus drivers of vehicles illegally passing their stopped school buses led to a discussion on the topic at the 2010 conference of the National Association of State Directors of Pupil Transportation Services (NASDPTS). That meeting resulted in a 2011 NASDPTS survey across 28 states and the District of Columbia, in which 112,000 school bus drivers – around 21% of school bus drivers in America - were asked to record violations observed on a single school day. The results illustrated the true scope of the problem: On a single calendar day, those bus drivers reported 37,756 violation events - most of which included multiple vehicles passing the same bus illegally - for a total of over 76,000 individual vehicle violations (NASDPTS, 2017). NASDPTS repeated this survey in similar scope and in various states every year through 2017, with similar results. Extrapolated over a standard 180-day school year, the survey results indicated a projected average of 14 million stop arm violations per year (NASDPTS, 2017), or a total of roughly *100 million* violations during the 7 years of the study.

Though the sample data was limited to a single day each year and it is unknown if those were “average” days, the yearly numbers proved consistent. Additionally, there were 20 states that did not participate in the survey each year. It can be reasonably argued that many - if not most - of those states would have produced comparable numbers, contributing significantly to the overall nationwide violation count.

Another argument for the use of Stop Arm cameras by school districts is that they can assist law enforcement by becoming a “force multiplier”. There simply are not enough police to monitor every bus stop. Enforcement of stop arm violations has historically depended on law enforcement officers being in the right place at the right time to observe a violation. Police are often involved in other high priority duties and unable to patrol for violators. In some cases if enough complaints from bus drivers or citizens were received, law enforcement would set up directed or targeted patrols in violation “hot spots”, but more often than not these tactics would be short-term, “band aids” with no significant lasting results.

Education programs and public service announcements have also been used to raise awareness of bus safety in the public, with similar effectiveness. In some jurisdictions, bus drivers would be equipped with photographic or video cameras to record violations, and would complete incident reports to be forwarded with the visual evidence to law enforcement. Such attempts at enforcement, while innovative, had limited legal viability and also took the bus driver’s attention away from their main task – the safe transportation of students. However, with the advent of the digital age, video surveillance and safety companies began to develop exterior-mounted camera systems for school buses that could detect and capture violations digitally, with technology that

could positively identify the vehicle by its description and license plate. With the availability of this more compelling evidence, school districts could begin to work with law enforcement to hold more violators accountable by citing violators that would have previously gone unpunished.

COUNTER ARGUMENTS

The need for automated enforcement of stop arm laws may seem obvious to some, but there are critics who argue that statistics suggest that stop arm violations do not actually present a significant danger to students. The driver advocacy group National Motorists' Association (NMA), which successfully lobbied to repeal the federal 55 mile per hour speed limit in 1995, asserts that federal data shows that motorists who violate stop arm laws seldom cause injury to students. On their website (www.motorists.org), the organization cites NHTSA statistics on traffic-related student fatalities. The numbers confirm that in spite of the fact that nation-wide every year, over 400,000 public school buses cover more than 4 billion miles, carrying at least 23 million children to and from school, bus travel is at least 7 times safer for students than riding in a car. When fatalities do occur *outside* the bus, the NMA emphasizes that between 66 – 75% of those deaths have been the result of students being struck by their own bus, not by passing vehicles. It is the NMA's contention that careless or inadequately-trained bus drivers pose the greatest threat to students, and they officially oppose the use of Stop Arm cameras. The NMA has characterized the technology as "a solution looking for a problem" (National Motorists Association, n.d.).

Student fatalities from stop arm violations may be a relatively rare occurrence, but the argument that those violations do not present a serious safety hazard is not

supported by public opinion or by statistics. In their 1997 National Survey of Speeding and Other Unsafe Driving Actions, NHTSA asked 3000 drivers, ages 16-65 what they believed were the most dangerous driving behaviors. The study showed that out of a host of unsafe driving violations, 99% of drivers considered passing a school bus with its stop arm extended to be the most dangerous driving infraction; more so than racing, running a stop sign, running a red light, or speeding (NHTSA, 1997).

Further, in a 2002 update, NHTSA surveyed a similar sample of drivers and added opinion questions about digital traffic enforcement technology, which was a new innovation at the time. The survey revealed that two-thirds of drivers approved of camera-based enforcement of several selected traffic laws and of those, 82% felt cameras were an appropriate means of enforcement for Stop Arm Violations (NHTSA, 2003). In their 2017 publication, the drivers' interest group American Automobile Association (AAA) has also endorsed the use of cameras for stop arm enforcement, provided the programs used are properly administered and show positive long-term results (AAA, n.d.).

Those opinions stand in contrast to NMA's contention that stop arm violations are not a serious safety problem, but more than just public opinion disagrees with the NMA. The Kansas State Department of Education (KSDE) (2018) compiles an annual "Loading and Unloading" report gathered from all 50 states and the District of Columbia, tracking the number of children killed while boarding or de-boarding school buses each year. According to their 2017 report, 82 school children were killed by motorists passing school buses from 2001 – 2017; an average of about five fatalities nationwide per year (KSDE, 2018). So perhaps mathematically, the National Motorists Association might

win the argument that five fatalities per year is a statistically insignificant number when compared to the number of observed stop arm violations and bus miles logged, but it is unlikely they would convince any of those families that the death of their child was insignificant (National Motorists Association, n.d.).

Additional opposition to the use of Stop Arm cameras comes from those who believe their use to issue citations is at best unreliable, and possibly unconstitutional. In most cases, the cameras do not capture a photo of the car's driver and in many states that allow cameras, statutes prohibit any video capture of the car's driver or occupants (Shinkle, 2018). Opponents also argue that often the registered owner of the vehicle may not have been the actual driver, or may no longer even own the car. Class Action lawsuits have been filed in Dallas and Carrollton, Texas alleging that drivers have received stop arm camera citations and been assessed fines, in violation of their constitutional rights to due process, to face their accuser, right to a jury trial, and protection against self-incrimination. Additionally, the lawsuits allege that since there is no state law allowing the use of stop arm cameras for enforcement, those citations were issued illegally (Stengle, 2016).

Several Texas legal experts disagree, arguing that the absence of state law does not prohibit cities from establishing their own stop arm ordinance (Friedman, 2016). Additionally, the ordinances in Dallas and Carrollton are civil in nature and not criminal, so the rights regarding self-incrimination, jury trials, and facing one's accuser do not apply (Stengle, 2016). Criminal offenses must also be proven to a higher "beyond a reasonable doubt" standard of guilt, where civil offenses need only meet a lower "preponderance of the evidence" threshold. In other words, to be found liable for a civil

offense, the standard of proof is that it is *more likely than not* that the offense was committed. In 2016, the Austin Independent School District (AISD) in Austin, Texas began a stop arm camera program through a local civil ordinance (City of Austin, 2015), and most other local ordinance-based programs are similar to Austin's.

Generally, a civil ordinance contains language holding the *owner* of the vehicle liable for the stop arm infraction without regard to who was driving, and allows video enforcement by civil citation. Since the owner is presumed to be the liable party, any evidence that the registered owner of the offending vehicle was the *actual* owner at the time of the violation meets the "preponderance of evidence" standard for the issuance of a citation. The vehicle owner may challenge the citation at a hearing, and can appeal an unfavorable decision to the school district superintendent, meeting due process requirements. If ultimately held liable, the owner is typically charged a standard fine, with no effect on their driving record or insurance, and no concern of an arrest warrant ever being issued (Austin Independent School District, n.d.).

Jurisdictions that use stop arm cameras may face other legal challenges as well. There are other programs that have come under fire for questionable handling of monies generated from stop arm citations, as in the case of Dallas County Schools (DCS). Alleged mismanagement of the DCS camera program and associated criminal activity by some of its administrators led to the failure of the entire organization, federal criminal charges, and an estimated loss of over \$100 million tax dollars (Friedman, 2018).

Corruption aside, the DCS camera program initially struggled in part due to the district purchasing expensive camera systems at the outset, with the hope of recouping

the cost through the collection of fines. Revenue from the citations fell well short of expectations, creating millions of dollars in budget shortfalls and debt. Even without mismanagement, such speculation on future revenues puts taxpayer money at risk; a gamble many citizens may not want to take. However, as the use of camera programs has become more common, camera vendors with different business models have emerged that allow school districts to run their camera programs with minimal or no financial investment.

Districts such as Austin ISD (AISD) contract with a third party vendor, who provides the cameras and associated equipment, installation, software and other related equipment costs, with no financial liability to the school district. The school district's police officers review video and approve civil citations if a violation is confirmed. The vendor notifies the registered owner of the violation, with instructions on payment, how to contest the violation, and how to appeal findings of civil liability. The vendor receives a large percentage of any money generated through the collections of civil penalties, and the school district collects the remainder. From that amount, the district pays officers to review video and attend the administrative hearings. AISD, who has been required to pay hundreds of millions of tax dollars back to the state annually through Texas' "Robin Hood" school finance program, saw an income of \$1.4 million in the first 17 months of its stop arm program (Taboada, 2017). Where a few other programs have seen legal and cost-related difficulties with their camera programs, AISD's has proven to be a financial success. Similar programs could help other jurisdictions offset costs, avoid uncertain investments, and even generate revenue for struggling school districts.

In other states such as North Carolina, where state law governs the use of stop arm cameras, state funds are also being used to issue cameras to school districts (Herron, 2015). Through their state-funded program, North Carolina school districts are allotted a certain number of portable cameras, which can be rotated between buses as need dictates. Grant funded camera systems are helping other school districts employ stop arm programs in states such as Indiana (Schlosser, 2016) and Georgia (Davis, 2017). These and other alternate funding sources can help school districts offset costs and enable them to establish a stop arm camera program.

RECOMMENDATION

Drivers who violate school bus stop arm laws present a danger to school children and those laws can be challenging to enforce because there are simply not enough police to monitor every bus stop. The development of digital stop arm cameras has provided school districts with a means to assist law enforcement with identifying and citing millions of violators who would otherwise go unaddressed and arguably, continue to commit dangerous stop arm violations. Where permitted, school districts should use school bus stop arm cameras to help keep their students safe.

School buses transport over 23 million children to and from school every year (National Motorists Association, n.d.), and every US state has laws prohibiting vehicles from passing a school bus that is loading or unloading students (NHTSA, n.d.). Drivers in virtually every area of the country continue to violate the law in prolific numbers. Government surveys of bus drivers in only about half of US states produced statistics indicating approximately 14 million stop arm violations occur over a standard school year in those states alone (NASDPTS, 2017).

At least one motorist advocacy group opposes the use of stop arm cameras, contending that there is relatively little danger posed to students because data indicates resulting deaths are rare, so violations are a non-issue. They cite federal statistics indicating three times more students are killed by their own bus than by passing vehicles (National Motorists Association, n.d.). Though it is true that on average nationwide, “only” about five students are killed by stop arm violators annually (National Motorists Association, n.d.), each child’s death is a tragedy, regardless of his or her statistical significance. Other motorist groups mirror public opinion that considers stop arm violations extremely serious, and support the use of cameras for enforcement.

Stop Arm cameras are a relatively new technology, and laws – or in some cases, the lack of them – allowing or regulating their use has led to a lack of uniformity in how systems are structured and administered. As legal challenges in various states progress through the legal system and other jurisdictions consider legislation, some programs will likely have to be modified at some point to meet legal standards. Others may be dismantled altogether. In jurisdictions where there is no statutory guidance, cities and school districts are passing their own civil ordinances as a basis for camera enforcement programs, with general success and legal opinion on their side.

As with any new program enacted by a government entity, stop arm camera programs represent a potential cost concern for taxpayers. Although some school districts have gotten into financial and legal difficulty over equipment purchases and others simply cannot afford cameras, some districts have used grant funds to purchase the required equipment. Others are finding vendors and programs that provide all the equipment and cover associated costs in exchange for a percentage of the revenue

from civil violations, and for them a potential financial liability has become a much-needed source of revenue.

With some research, many school districts can find a school bus stop arm program that works for them, both legally and financially. Used in conjunction with traditional law enforcement coverage and bolstered by a public education campaign, school districts should be able to reduce the number of violations, hold violators accountable and ultimately, protect school children. If that proves to be the end result, few would argue that the process of getting there was not worth it.

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