# A DESCRIPTIVE STUDY OF THE NEED FOR ALTERNATIVE STUDENT MANAGEMENT ON SCHOOL BUS TRANSPORTATION IN MISSOURI

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2015

The undersigned, approved by the Department Chair of Graduate Studies in Education, have examined a dissertation entitled:

A DESCRIPTIVE STUDY OF THE NEED FOR ALTERNATIVE STUDENT MANAGEMENT ON SCHOOL BUS TRANSPORTATION IN MISSOURI

Presented by Charity Hollan a candidate for the degree of Doctor of Education and herby certify that in their opinion it is worthy of acceptance.

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# A DESCRIPTIVE STUDY OF THE NEED FOR ALTERNATIVE STUDENT MANAGEMENT ON SCHOOL BUS TRANSPORTATION IN MISSOURI

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By

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# ABSTRACT

The purpose of this descriptive study was to provide data describing student management systems currently utilized by Missouri public schools on their school buses. In addition this study seeks to identify the school district perception of the student management systems in use are effective and what other systems school districts would utilize if resources were available. School buses are an integral part of the education system, yet appear to be the only area during a student's school day where they are left unsupervised. School bus drivers have the role of safely driving the school bus and supervising up to sixty five students at the same time. Bus passenger supervision is primarily done by bus drivers looking through the rearview mirror requiring drivers to take their eyes of the road. The lack of supervision leads districts to use student management systems on school buses to assist in managing student behavior. School buses appear to remain stagnant in comparison to the changes in education in the United States. Within this study, surveys were conducted to determine the types of systems currently being used, the perception of their effectiveness and what management systems school districts would utilize. The researcher concluded that school districts most commonly use video cameras as their student management system. This study may serve as a guide to school districts looking to improve or increase their student management systems on their school buses.

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I would like to take this opportunity to express my gratitude to the following people who provided assistance, support, and encouragement during this doctoral journey. Thank you to my advisor, Dr. Robert Perry, who believed in me from the beginning. He always made me feel as if I could do this, regardless of the obstacles that stood in my way. He provided timely feedback, valuable suggestions and resources, and set achievable timelines. Thank you to Dr. Mick Arnold who provided guidance for expanding my research. Lastly, thank you to Dr. Brian Sims who continually delivered encouragement and guidance, as well as answered tons of questions.

I want to thank my husband, Chris, for all the sacrifices he made while I furthered my education. He never complained about the time away from home, only continued to push me to finish. My daughters, Pearl and Claire, who have known mommy to be in school their entire lives! I hope to be a role model to them, proving that they can accomplish anything with hard work and dedication. Thank you for all your love and support, I could have never finished without your love, support, and encouragement along the way.

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# CHAPTER ONE
# INTRODUCTION

## Introduction

Education is changing rapidly in the United States. With each new President come new education reforms. Legislators are constantly promoting and passing new education laws. According to the Common Core Standards Initiative (2014), one of the largest reforms to hit the United States is the adoption of the Common Core Standards, a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO). The standards were developed in collaboration with teachers, school administrators, and experts, to provide a clear and consistent framework to prepare our children for college and the workforce. The Missouri Learning Standards include the Common Core State Standards which define what each student needs in each grade level and course to be college and career ready (Department of Elementary and Secondary Education [DESE], 2013).

In 2009 the U.S. Department of Education issued the following statement by U.S. Secretary of Education Arne Duncan regarding the first official public draft of the college-and career-readiness standards in English-Language Arts and Mathematics as part of the Common Core State Standards initiative led by the National Governors Association Center for Best Practices and the Council of Chief State School Officers.

> I applaud the leadership of this coalition of states in joining together to develop a common core of academic standards. The draft college- and career-ready standards that were released today as part of those efforts are an important step forward, and it is now in the hands of the public to provide critical feedback to state leadership. There is no work

more important than preparing our students to compete and succeed in a global economy, and it is to the credit of these states that this work is getting done (Duncan, p. 1).

One area in education that has seen little change is the way school districts supervise students that are transported by school bus. School districts have been transporting students since the 1800's (Gray, 2007). Tull (2015) reported, providing school bus transportation is one of the most important segments of the American educational system. The most obvious differences in transporting students are most is found in the interior and exterior construction of school buses. Changes in security and student management systems such as video cameras are becoming vital to deter students from behavioral incidents on the school bus (DiGiacomo, 2011).

National Association of State Directors of Pupil Transportation Services (2000) reported the following statistics: In the United States public schools are operating 450, 000 school buses. Public school buses are traveling four billion miles transporting 24 million students, taking ten billion student trips, with students entering and exiting school buses 20 billion times. In Missouri, DESE (2013), reported there are 523 school districts, 2,408 schools with 916,584 students. In Missouri, 12,000 school buses are transporting more than half a million students to school (Cox, 2013). Currently, the Missouri Department of Elementary and Secondary Education (DESE) requires school districts in Missouri to provide transportation to students living more than three and one-half miles from school. All students can be transported by individual school board decision (DESE, 2013).

In 2015 little change is found in the way students are supervised while being transported on the school bus. Many school bus passengers are being solely supervised by the school bus driver, whose primary role is to drive the bus safely. The most distinct changes in school

transportation are found primarily in the interior and exterior construction advancements of the school bus.

School bus transportation began seeing modifications in the 1960's and 1970's according to research conducted by Charles and Shelness. Charles and Shelness (1966) reported national administration proposed legislation to Congress for developing standards for automobile safety. Standards for school bus safety had not been established at this time. Charles and Shelness reported their concerns on two important areas being neglected. The first neglected area was the safety of public transportation which included taxis, airport limousines, and buses. The second neglected area was safety education in schools to acquaint children with up-to-date principles of accident prevention on roadways (1970). Charles and Shelness (1970) stated, "Schools have an obligation to provide the safest environment for students possible at all times. Schools should teach by example and a pupil transportation system should set such an example not only to passengers, but also to the general public" (p. 166).

An area of DESE requirements that does not appear consistent is the mandates set forth for supervision of students inside and outside the classroom. Missouri Department of Elementary and Secondary Education (DESE) require school district employees to attain a minimum of sixty college hours to substitute teach, work as a paraprofessional or supervise students. School bus drivers in Missouri are not required to possess the same requirements. When looking for qualified bus drivers, their ability to obtain proper licensing and safely drive the school bus is the main priority, the ability to supervise and manage student behaviors come after many other requirements. Yet, school bus drivers are the first and last adults students come in contact with. Student experiences traveling to and from school have an impact on how the success of their day begins, and their ride home impacts how their school day ends. Bus drivers

who are ineffective at maintaining an orderly bus creates an increased amount of discipline referrals and an increased opportunity for bus accidents (Depee', 2009).

Training bus drivers on student management and discipline is the responsibility of individual districts. The Missouri Department of Elementary and Secondary Education require eight hours of training time per calendar year, where student management and discipline are covered. Charles and Shelness (1970) identified school buses are the only place in education where multi-age students are left unsupervised. At no other time during the school day are so many students left unsupervised for as long as a period of time of transit on the school bus. School buses in 2015 leave real-time supervision to the bus driver through use of a rear view mirror. Districts are relying on student management systems such as video cameras, school wide behavior programs and paraprofessionals to assist in the management of students on school buses. Utilizing a student management system provides the bus driver an opportunity to spend more time focusing on driving safely and less time redirecting students through the rearview mirror of the bus.

An additional area of DESE that appears inconsistent is the requirements set forth in the amount of students per teacher ratio. Reasonable classroom requirements set by Department of Elementary and Secondary Education allow for a maximum of 25 students in grades kindergarten-second, 27 students for grades three and four, and thirty for students in grades five and six (DESE, 2013). The maximum number of passengers permitted to travel on school buses is set by the busing manufactures. National Highway Traffic Safety Administration (2015) report there is not a federal regulation on the number of students that can sit on a school bus seat. School bus manufacturers base seating on three small elementary students per thirty nine inch

bus seat or two large high school students per thirty nine inch bus seat. Most buses have twenty two or twenty four bus seats.

To assist with supervision of bus passengers, Roberts (2012) suggested providing reasonable supervision requirements on school buses, such as requiring adult monitors in ratio to the number of children on the bus. As far back as the 1960's, researchers Charles and Shelness (1970) began discussing the need for adult monitors on all school buses to supervise the passengers on the bus and enable the bus driver to give his full attention to the roadway. Adult monitors are needed to assist young students in crossing the roadway to and from the stopped bus. In the event of an emergency, adult monitors could assist in an orderly evacuation, attend to the injured, and summon help in the case of an accident. In buses with seatbelts, monitors could make sure that passengers' seat belts are fastened snugly and securely (Charles & Shelness, 1970).

School bus driver's ultimate goal is to transport students to and from school safely, without incident. Many bus drivers are not equipped with the proper training to handle student management and behavior. By equipping school buses with alternative bus management and behavior systems, extra pressures of student distractions and behaviors might be avoided. The expectation of the bus driver managing student behavior by looking through his rear view mirror appears dangerous, as they must take their eyes of the road to redirect students while viewing them through the rear view mirror. Supervision of students on school buses appears to be an area of education that has remained stagnant. Students are still being supervised while being transported to and from school relatively the same way for the past 100 years. The researcher determined a need for increased knowledge of what student management systems are currently being utilized and what should be utilized in the areas of school bus management. School

administrators responsible for transportation were asked to identify the systems they are currently utilizing on their school buses and their perception of their effectiveness. Additionally, they were asked to identify the future of their school bus management systems and what systems they would implement if resources were available. The researcher presented through descriptive data how schools buses are currently are managed in Missouri. Additionally, the researcher presented what superintendents and transportation directors would like to see school bus management to be.

**Problem Statement**

Student management on school buses is a challenge for Missouri school districts; some districts utilize student management systems to affect student behaviors on school buses but not all school districts employ student management systems and those that do employ student management systems may not be utilizing the same systems and may be not utilizing the system they would prefer and data is not available as to their effectiveness.

**Purpose for the Study**

The purpose of this study was to gather data describing student management systems currently utilized by Missouri public schools on their school buses. An additional purpose of this study was to gather the opinion of school district administration regarding their current management system and what if any other system would administrators utilize if resources were available. The lack of updated research on the current conditions of school bus management compared to ideal school bus management as identified by Superintendents and Director of Transportation led to the development of this descriptive research paper.

## Research Questions

1. What school bus management systems are being utilized by school districts in Missouri and are these school management systems perceived as effective in managing student behavior?
2. How many school districts in Missouri are using management systems on school buses?
3. What management systems would be utilized on Missouri school buses if funds were available?

## Limitations

Prior research in the subject is a limitation. There does not appear to be significant published information on the topic. Not absent from this study is the concern individuals and district possess for the safety of students riding school provided transportation. Response rate was voluntary. Subjects were limited to those that regularly bus students to and from school.

## Delimitations

This study is to only include regular bus routes. Delimiting routes such as special education routes, kindergarten routes, vocational technology routes, and extra-curricular activity routes.

## Definition of Terms

*Student Management System:* According to the National Highway Traffic Safety Administration, student management systems are utilized to achieve the objective of keeping control of student behavior on the bus. (n.d) Student management systems will include the use of technology such as video cameras on school buses, Wi-Fi on school buses, showing movies or videos on school buses. Student management systems will also include the utilization of a paraprofessional or bus aide on the school bus. Student management systems

will also include initiatives or programs designed for the classroom use that can be integrated into the school bus. This non-inclusive list does not consider the bus driver as a student management system.

**Summary**

Landmark researchers, Charles and Shelness identified school bus needs in their research between the years of 1960 through 1970. They suggested school districts needed bus monitors at that time to manage student discipline. In 2015, few school districts in Missouri can be found utilizing paraprofessionals or bus monitors to supervise students on school buses. Little change can be found in the management or supervision of students on school buses in Missouri in 2015 compared to the 1970's way of supervising students on school buses. School bus drivers are expected to manage the safe boarding, exiting, and behaviors of school bus passengers. Ultimately, a school bus driver's primary goal is to transport students to and from school safely, without incident. Unfortunately, many bus drivers are not equipped with the proper training to handle student management and behavior. By equipping school buses with alternative bus management and behavior systems, extra pressures of student distractions and behaviors can be avoided. The expectation of the bus driver managing student behavior by looking through the rear view mirror appears dangerous, as they must take their eyes of the road to redirect students while viewing them through the rear view mirror. In 2015, many options are available in the area of security for students and supervision or student management on school buses. The researcher determined a need for increased knowledge of what systems are being utilized and what systems should be utilized in the areas of supervision or school bus management. School administrators responsible for transportation were asked to identify the systems they are currently utilizing on their school

buses and their perception of their effectiveness. Additionally, they were asked to identify the future of their school bus management systems and what systems they would implement if resources were available. The researcher presented through descriptive research how school buses currently are managed in Missouri. The researcher presented what Superintendents and Transportation Directors would like to see school bus management to be. Chapter two, literature review, will include landmark research from Charles and Shelness, the history of school bus transportation, school bus safety, and current options available for use on school buses for school bus management. Chapter three, methodology, will detail the research design, participants in the study and the instrumentation used. Chapter four will present the results and chapter five will present conclusions from the study, the recommendations for school districts, future study recommendations, and the implications of the study.

# CHAPTER TWO
# LITERATURE REVIEW

## Introduction

Managing student discipline in public schools is a daily priority. Plans for providing a safe environment can be found in school districts' Comprehensive School Improvement Plans throughout the state of Missouri. Pre-service teachers are instructed on proper classroom discipline through their college courses. For active teachers, professional development workshops are readily available in topics related to classroom discipline. Appropriate levels of student management or classroom discipline are necessary for learning. Initiatives to improve classroom, cafeteria, hallway, and bathroom and playground behavior can be found in most schools across the United States. Changes in education are found to be consistent with each change in administration. However, school bus initiatives focusing on school bus management continue to be absent from education change. Tull (2015) stated school buses should be viewed as an extension of the school day subject to the same expectations as classrooms. The absence of focus may be attributed to the lack of research on school bus behavior, found in 2002-2004 School Bus Project study conducted at Eastern Kentucky University which will be reviewed in this chapter. This review of literature also focuses on the 1960-1970's study of landmark researchers Charles and Shelness as well as journals and articles available to transportation directors and superintendents designed to aid in safe bus transportation.

According to School Transportation Administrator's Handbook (2008), Missouri Department of Elementary and Secondary Education have expectations for student bus behavior similar to other educational settings. Statute 160.261, RSMo addresses discipline and the requirement for a written policy established by local boards of education.

Riding the school bus can magnify students' problems and anxieties, causing behavior issues. A school bus setting where there are a large number of students with minimum supervision lends itself for increased opportunities for inappropriate behavior. Children who spend too long riding on buses are likely to get bored, behave inappropriately, need to use the restroom, and get hungry (Rowh, 2013).

Efforts to improve school bus behavior appears to be absent in state efforts to improve schools' student behavior (Renfro, McCoy-Simandle, Naber, Ritchey, 2002). More recently there has been an emphasis on systems-based or whole-school applications of behavior support. A focus on initiatives such as character education, positive behavior systems, and bully prevention programs all attempt to promote positive behavior. Districts are also using technology on school buses to help manage students and deter behavior incidents. School districts are utilizing video cameras, prerecorded radio announcements, and video cameras

School districts experienced an increase in school bus passengers when communities across the United States began closing small neighborhood schools and building new larger schools (U.S. Environmental Protection Agency, 2003). In 2004, the Environmental Protection Agency (EPA) stated that small schools in rural communities are being built on the edge of communities on large, undeveloped land. The objective to design larger sporting complexes coupled with the lack of affordable and available land has led to the decline in the neighborhood school (EPA, 2003). Small neighborhood schools are being replaced by large campuses on urban fringes that may include more than one school (Greene, Johnson, Parker, Phillips, Schlossberg, 2005). Larger school buildings encompassing larger boundary areas created a shift in how student arrive to school. De la Torre and Gwynne (2009) reported Chicago Public School District closed schools and transferred students due to low performance and underutilization by

closing 44 schools in eight years. McMillan (2007) described the changing trend of commuting to and from school where walking and biking to school has decreased while traveling by automobile and school bus has increased. From 1969 to 2006 students living with in one mile of school that walked or biked declined from 90 percent 31 percent (U.S. EPA, 2003). The trend away from neighborhood schools with-in walking distance from homes has impacted bus transportation (Beaumont & Pianca, 2002; Salvesen & Hervey, 2003). Historically, schools in the United States were built on small parcels of land, many times given as gifts or sold for a minimal fee, and then neighborhoods were built around the school (Surface Transportation Policy Project, 2003). The recent trend for new schools is centralization. Centralization means fewer schools, instead larger schools requiring larger land plots. Less expensive land is usually found in the low-density undeveloped urban fringe. Larger schools in lower-density neighborhoods result in school attendance boundaries drawing students from larger geographic areas and requiring additional school buses (Inouye & Berry, 2008). Larger attendance boundaries limit the amount of students living close enough to walk or ride a bicycle to school. Nationwide, the average home-to-school distance is four miles (Surface Transportation Policy Project, 2003). From 1962 to 2002 the number of students that walked or biked to school decreased from 66 percent to 13 percent (US Department of Transportation [USDOT], 2002). Inyouye and Berry's (2008) study suggested the most common transportation choices for students are car, public bus transportation, school bus transportation, walking and biking. Kong, Sussman, Negrete, Patterson, Mittleman, & Hough (2009), reported a decline in children walking to school by nearly 30 percent compared to 1960. St. George (2014) described the walking school bus, a program in which adults supervise children walking to and from school, as an option school districts and parents can implement to save bus costs and provide a healthy

advantage to students. Another concern school districts today are held responsible for is childhood obesity. The decrease in walking and riding bikes to school to increased bus riders plays a factor in both scenarios of bus cost and student inactivity leading to obesity. Kong et. al. (2009) studied the impact of a walking school bus. Physical activity provides an essential component to prevent childhood obesity, decrease the risk of metabolic syndrome, and prevent the development of heart disease and type 2 diabetes (Kong et. Al, 2009).

Larger boundary areas have created longer bus rides especially for rural school districts. Rural districts where hour-long bus rides are common and some may exceed two hours create problematic situations (Rowh, 2013). A rural student's time spent riding the school bus to and from high school for four years is compared to traveling more than the distance around the world two times (Spence, 2000). Creating even more problematic situations is a district double routing students, which is carrying multi-age riders from kindergarten to high school on the same bus (Howley, 2001). Bus discipline incidents distract the bus driver and increase the risk of a bus accident. The bus driver must remain focused on safely driving the bus. This leaves the students with an opportunity to misbehave when they are not directly supervised and controlled by adults (Nelson, 2001). Rowh (2013) reported an interview with Miglis, Superintendent of Plumas County School in California, during longer bus rides, students have difficulty sitting appropriately and following bus rules such as keeping their hands and feet to themselves. Students became hungry and needed to use the bathroom. Jewett (2005) identified double routing student's subject's younger children to inappropriate behaviors demonstrated by older students.

Hiring bus drivers skilled in student management may be necessary. Depee' (2009) stated, school administrators encourage transportation directors to hire school bus drivers that are

capable of meeting the physical requirements and the student behavior management requirements to effectively supervise students while being transported. Administrators with ineffective drivers are forced to spend more time investigating and dealing with bus discipline incidents, instead of focusing on student achievement and teacher pedagogy.

Poland (2010) stated drivers must focus attention on the highly complex task of driving the bus while at the same time monitoring and managing the behaviors of forty or more students who are only visible through a rear-view mirror. This is coupled with the fact that most of the training bus drivers receive is focused on mechanical issues and safety issues, not on student discipline. Poland (2010) compares driving a bus to airline pilots,

> What if pilots were expected not only to fly the plane but also to ensure that passengers were given the meals they ordered, stayed in their seats during times of turbulence, wore their seat belts at required times during the flight, and behaved appropriately? This is similar to what we expect of school bus drivers (p. 87).

Eastern Kentucky University School Bus Project focused on a two-year pilot project between the years of 2002 and 2004. The project staff engaged two Kentucky school districts and one control district in a project to manage and reduce students' disruptive behavior on school buses. Teacher participants received lesson plans for teaching prosocial bus behavior to students to coincide with the launching of new bus policies. Bus drivers received behavior management training, using the text produced by Sprick and Colvin from 1992, *Bus Discipline: A Positive Approach*, as their model. Positive language was emphasized by following five guidelines. Bus drivers should be positive and professional. Drivers should acknowledge responsible passenger behavior. When issuing consequences, address the issue immediately and consistently and remain calm. Bus drivers need to anticipate problems and provide continual supervision.

To provide proper additional student management options on school buses, school districts in Missouri are utilizing technology based systems such as the Zonar Systems, Z Pass: Student Ridership Tracking to improve safety and security on school buses. Z Pass uses a radio frequency identification device to track and monitor students. Districts in other states such as Denver, Boston, North Carolina, and Illinois are using electronic based systems from Pass+, Veolia Transportation and Synovia Solutions. These systems allow school personnel to track where each bus currently is positioned, how long it has been idle, what speed it travels, and the whereabouts of every student rider. Many systems allow parents to see where there student is located on Google maps (DeNisco, 2013).

This chapter will review the history of school bus transportation including changes in construction of the bus and incidents that impacted safety changes for student transportation. This chapter will also review school bus safety including the exterior and interior safety of the school bus and the controversy of seat belts on school buses. Also reviewed in this chapter is school bus violence such as bullying and the risk of terrorism, education for school bus drivers and other stakeholders. This review of literature will also include what school districts across the United States are using to manage students on school buses.

**History of School Bus Transportation**

The early education provided by our forefathers began in churches. Students walked or were transported by families to school. Public education surfaced in the 1600's (National Association of State Directors of Pupil Transportation Services, 2000). Earliest research documents the first school bus was horse-drawn, introduced in 1827 by Shillibeer for Newington Academy for Girls, a Quaker school in Stoke Newington, north-east of London, and was designed to carry 25 children (History of Yellow Bus, 2014). In 1869, the Commonwealth of

Massachusetts passed the first legislation allowing the United States to use public funds to transport students to and from school (Tull, 2015). Public funds were utilized in 1886 when Wayne Works of Richmond, Indiana produced horse drawn school cars also known as school carriages or school hacks (Gray, 2007). In 1900, more than 17 states had operable pupil transportation programs, starting with Massachusetts in 1869 (Gray, 2007). According to National Association of State Directors of Pupil Transportation Services (2000) by 1910, thirty states had systems in place to transport students. Many of the horse-drawn buses were carts borrowed from local farmers. From 1853-1918 states began adopting compulsory attendance laws (Section 167.031) requiring parents to send their students to school (Roberts, 2012).

As education changed, so did pupil transportation. The wide-range of literacy education evolved into needing qualified teachers to teach students to read. The need for learning equality for students led to consolidation of schools and compulsory attendance laws. Once the government began requiring parents to send their students to school, transportation also became mandated (Roberts, 2012).

In 1914 Wayne Works developed a motorized kid hack, a predecessor to the modern school bus (Gray, 2007). The first Model F school bus was manufactured in 1915 by Navistar for Rivinia School District in South Dakota. In 1919 all 48 states enacted laws allowing the use of public funds for transporting school children (Tull, 2015). With the approved use of public funds schools could upgrade their school buses. In 1927 the first steel body school bus was built by Albert Luce (Gray, 2007). By 1920's nations road systems began expanding enabling wagons to be replaced with school trucks.

According to National Association of State Pupil Transportation Service, in 1939 the first standards were developed for school bus safety. At their conference, educators, school bus

manufacturers and paint experts met along with Frank W. Cyr, to select what the nation now calls national school bus yellow (Barron, 2013). In 1942, World War II halted the manufacturing of school buses, as the builders were needed to manufacture war material (Gray, 2007). 1954 was a year of change for the busing industry. The Defense Highway Act of 1954 provided 47,000 miles of federal highway providing smoother bus travel. The impact of Brown vs. Board of Education that outlawed separate but equal facilities and segregation in 1954 (Gray, 2007) was felt in all areas of education, including school buses. In 1956 more than 10 million children were registered as being transported by school buses (Decade by Decade, 2006). Following a school bus tragedy in 1959 where seven Maryland children were killed in a school bus-train collision the National Safety Council initiated a system to safeguard school bus passengers. The system included selection and training of drivers, inspection and preventive maintenance on buses, and establishment of legal standards for the behind the wheel performance of school bus drivers through driver licensing (Decade by Decade, 2006).

For additional safety, New Jersey mandated additional lighting for the front and back of the buses during 1962. During the five years following the additional lighting mandates, school bus accidents at bus stops decreased 68 percent (Decade by Decade, 2006). Industries began experimenting with bus crash safety during 1964 when the first major safety rollover test was conducted by Ward Industries (Gray, 2007). In 1965, the first communication tool among school bus drivers, *School Bus Fleet* is introduced by Bobit Publishing Company (Gray, 2007), In 1968 rules were established regarding students being seated during transport and maximum number of passengers to not exceed the manufacturers rated capacity (Decade by Decade, 2006). Years before actual implementation, IBM designed the first ever computerized scheduling program for school buses in New Jersey in 1969 (Decade by Decade, 2006).

National Highway Traffic Safety Administration began enacting guidelines that established mandates in bus operation, inspection, maintenance, seating protection, and training for drivers and passengers in 1974 (Gray, 2007). Public Law 94-142, the Individuals with Disabilities Act created rights for students with disabilities during 1975(Martin, Martin, Terman, 1996). Mandates were then established requiring school buses to transport students with disabilities. In 1976 new braking standards were adopted by the National Traffic Safety Administration. The standard required buses weighing 10,000 pounds or less to be capable of stopping at a speed of 30 miles per hour in a distance of 69 feet. Buses weighing more than 10,000 must stop at 88 feet (Decade by Decade, 2006). Adoption of the 1977 Federal Motor Vehicle Safety Standards for school buses consisted of new regulations and modifications that governed school bus construction (Gray, 2007). Modifications in 1977 on school buses required changes in emergency exits, roof strength, joint strength, seating, fuel system integrity and hydraulic brake systems. Breaking standards for buses traveling at 60 miles per hour were required to be able to stop in 293 feet or less was enacted in 1978 (Decade by Decade, 2006).

Discontinuing the use of school buses manufactured prior to 1977 was mandated during 1980 (Gray, 2007). In 1981 Blue Bird Body Company built a school bus for the transportation department of Metropolitan Nashville Public Schools to transport children with autism. The school bus included padded personal cubbies, footboard restrictions, and an isolated environment for the driver and driver aide to give care for the children (Decade by Decade, 2006).

Further safety efforts were established during 1988 when North Carolina fired 14 percent of their bus drivers under the age of 18. This decision was due to the number of fatal accidents involving bus drivers under the age of 18 (Decade by Decade, 2006). In 1992 the Federal Highway Administration required school bus drivers to obtain a commercial driver's license to

drive school buses. The installation of stop arms were required on buses beginning in 1992. During 1995 drug testing began on bus drivers (Decade by Decade, 2006).

In 2001 President George W. Bush added school buses and drivers to mass transport systems definition following the 911 tragedy (Decade by Decade, 2006). Another monumental tragedy occurred in 2005, Joyce Gregory, a school bus driver in Stewart County Tennessee was fatally shot by a 14 year old passenger after the driver reported to school officials that the student was using smokeless tobacco on the school bus (School Bus Fleet, 2006). Botelho (2012) reporting for CNN recapped the viral YouTube video of 68 year old school bus monitor, Karen Klein, be humiliated and disrespected by four middle school boys as she rode bus 784 through Greece, New York. These unfortunate incidents have emphasized the need for additional management and supervision on school buses for safety.

The outside appearance of school buses may not appear to have changed from the 1970's, but the Federal Motor Vehicle Safety Standards issued by the U.S. Department of Transportation has required drastic changes. The design and construction of school buses have improved in areas of interior and exterior modifications. Exterior modifications include: rearview mirrors, lamps, reflective devices, fuel system integrity, rollover protection, body joint strength, and pedestrian safety devices. Interior modifications include: bus emergency exits and window retention and release, passenger seating and crash protection. Other improvements to driver training, school bus maintenance and school bus operating procedures all have been responsible for the improved safety record of school transportation, according to National Association of State Directors of Pupil Transportation Services (2000).

**School Bus Safety**

A bus route is defined as beginning when a bus leaves a destination with only the driver and proceeds on a predetermined route such as the passenger's home, picking up pupils and then traveling to a school until the bus is empty; and returning the pupils to a designated destination after school (5 CSR 30-261.010 (4)(A)(3)). The Missouri Department of Elementary and Secondary Education (DESE) regulations state school bus routes are required to be approved by the local board of education by the end of October and any revisions to the routes by the June board meeting. (DESE, 2013). The U.S. Federal Government recognizes that yellow school buses are the safest mode of surface transportation, outranking passenger vehicles by more than eight to one in the number of fatalities (American School Bus Council, 2013). School buses are 13 times safer than other modes of transportation to and from school and 44 times safer that teenagers driving to and from school. This can be attributed to the bright yellow color of school buses, which signal caution to other drivers (School Transportation News, 2011). Freed (2008) reported from the National Coalition for School Bus Safety, school buses account for three percent of all traffic fatalities.

A study conducted by Blunt (2005) stated the National Traffic Safety Administration reported an average of 135 people die annually in school transportation crashes, including an average of 22 school age children fatalities per year. The 2005 Blunt initiated task force used Statewide Traffic Accident Records System (STARS) to research school bus accidents in Missouri. In 2002-2003 there were 2,619 school bus crashes in Missouri. Of these, 167 crashes resulted in injury to 718 children. During the fact finding process of the school bus safety task force 7 meeting of 38 hours were conducted. The task force received briefings on bus drivers

licensing, pre-trip responsibilities, inspections and terrorism directed at school buses and the latest technology solutions being piloted and implemented in other parts of the United States.

School buses are an integral part of the education system. Cox (2013), reported in Missouri, 12,000 school buses were transporting over half a million students on four-lane highways, city streets, and back roads to and from school. Rowh (2013) identified districts have experienced an increase in bus riders due to the downturn in the United States economy. More parents of younger students are saving on car expenses by opting for their children to ride the bus, and fewer teens can afford to drive to school and are staying on as passengers longer into high school. In an interview with Superintendent Steve Thalheimer, Rowh (3013) reported, following the economic downturn, fewer cars were found in the freshman and sophomore parking lots. More families opted for their young teens to continue with bus transportation opposed to funding an additional vehicle.

Requiring proper licensing for school bus drivers is a mandate found in Missouri. The Missouri Department of Elementary and Secondary Education (2014) requires public and private school employees who operate school buses transporting students from home to school, school to home, and school-sponsored events to obtain a school bus endorsement on their license. The Missouri Department of Elementary and Secondary Education outlines the following in their 2008 revised School Transportation Administrators Handbook:

> The responsibility of determining employability has been transferred to the local school district and employer. Drivers transporting pupils for a public school district must have a statement on file from a medical examiner that indicates he or she is physically qualified to operate a school bus. The medical statement shall be completed annually. New school bus drivers must have the medical statement on file with the district or contractor prior to

> initial operation of a school bus. Drivers less than 70 years of age are not required to submit proof of training or testing upon renewal of a license with an S endorsement. Drivers age 70 or over are required to submit proof of a school bus skills test to retain the S endorsement on their driver license at time of renewal. Missouri state law requires drivers transporting pupils for a public school district to complete training in at least eight hours of duration providing special instruction in school bus driving. This training must be completed annually. It is the responsibility of the employer or school district to verify the required training has been completed (p. 33).

A challenge districts have encountered with maintaining proper busing upgrades is found with annual tax cuts that have created constant financial decreases in school districts across the United States. School transportation has experienced deep tax cuts making upgrading buses difficult. School districts are provided with seventy-five percent maximum reimbursement entitlement of their allowable costs eligible for state transportation aide. Public school districts that provide transportation services receive state aid the ensuing year for the pupil transportation on the basis of the cost for the service in the current year (Section 163.161 and 167.231 RSMo,).

Maintaining school buses can be crucial in big cities or heavily populated areas, as school buses assist in improving traffic conditions. American School Bus Council (2012) reported each school bus replaces 36 cars on the road. School buses are much safer than passenger vehicles when traveling to and from school (Tull, 2015). Students are about 50 times more likely to arrive at school alive if they take the bus than if they drive themselves or ride with friends. Students are twenty times safer traveling by school bus than if they ride with a parent or other adult (American School Bus Council, Retrieved October 25, 2013). Freed (2008) stated that the chances of a child being in a bus accident are extremely low. Unfortunately, their chances of

being injured, disabled or not surviving are unacceptably high if they are in an accident at greater than 35 miles per hour.

Following three school bus crashes within a week, Governor Blunt (2005) created the first ever Missouri School Bus Safety Task Force to develop strategies for improving school bus safety. The task force finds that public student transportation in the state of Missouri is the safest means of transportation available for students traveling to and from school (Blunt, 2005). Gray (2007) reported 2010 as the year that distracted driving awareness increased. According to Distraction.gov (2012), the government's official website for distracted driving, at any given time during daylight hours, 800,000 people are using a hand-held phone. Reading or writing a text takes 4.6 seconds, essentially the same amount of time as driving the length of a football field blindfolded. During a study of 7,858 clips, teenagers were seen using an electronic device fifteen percent of the time (Goodwin, Foss, Harrell, O'Brien, 2014). The statistics on the safety of using buses for transporting students opposed to allowing students to drive themselves present families with tough decisions.

**Outside Safety.**

Another area of concern is found in loading and unloading area of school buses. Cox (2013) reported the danger zone, which includes the ten feet surrounding the bus to pose more danger to children than being involved in a bus crash. In an interview conducted by Cox (2013), Clink, DESE School Transportation Consultant stated, "In Missouri, we have fatalities when the bus loads and unloads, not on the bus in a collision" (p.16). Cox (2013) reported data from a one-day survey by the National Association of State Directors of Pupil Transportation Services, indicates illegally passing buses occurs nearly 16 million times in a 180-day school year. Some cars even drive around the bus on the right rather than stop. Cox (2013) reported there are 1,102

violations per day involving motor vehicles and school buses in Missouri. Charles and Shelness (1970) reported the need for bus monitors to assist students outside the bus during loading and unloading on the bus and crossing busy roadways.

**Seat Belts.**

One of the major areas of controversy on school buses can be found surrounding the topic of seatbelts. According to Freed (2008), "If the big yellow school bus were crash rated like a minivan-it wouldn't even get a one star!" (p. 2). In 1986 seat belts were required on school buses as a safety feature in the city of New York following a death of a student who, according to a coroner's report, would have survived if he had been wearing a seat belt. New York became the first state to require students to use seat belts while on school buses (School Bus Fleet, 2014). In 1992 New Jersey became the second state in the nation to require seat belts on large school buses (The History of Seat Belt Development, 2011). During 1999 Minnesota, Florida, California, and Louisiana pass similar laws (Ain, 2012). Mandated by state law, students have been wearing seat belts from birth (Mo. Section 307.178.1). Upon entering kindergarten students take their first unrestrained trip in a motor vehicle on the school bus (Freed, 2008).

Cox (2013) addressed the controversy of seat belts on school buses. It is a state law to wear a seat belt in every passenger vehicle, yet not in school buses (Mo. Section 307.178.1). According to the National Transportation Safety Board (2009), school buses are the safest mode of transporting children, even without seat belts. Their large size and reinforced construction, high seats, re-enforced roll cages, emergency exits, window retention and release, flashing red lights, extended stop arms, and electronic stability controls aide occupant protection. Cox (2013) reported in an interview with Pettit, director of transportation for Joplin public school district, stating he compares a bus to a tank. Buses are built very well, unless it is a train or a semi-truck,

the opposing vehicle in the crash will be damaged more than the school bus. Cox (2013) stated, "Those who believe seat belts are unnecessary argue that the compartmentalization inside the bus protects children. When students are properly seated, the high backs, a 39 inch space between seats and energy absorbing padding, cocoon or egg carton, passengers minimizing injuries from impact" (p. 15). To ensure passenger safety, Missouri mandated 24-inch seat backs in buses in 2007. School buses are equipped with compartmentalization; a passive restraint system creating a seating area in a school bus built with specially padded high-back, wider, thicker seats that protect people in school buses during accidents. For additional passenger safety protection, there are no metal surfaces exposed and seats are spaced close together to contain the students in cushioned compartments (DESE, 2012).

Freed (2008) found school bus crash testing and lap belt recommendations dated back to 1967. Ain (2012) reported New York, New Jersey, California, Florida, Texas and Louisiana require by law school buses come equipped with seat belts. In New York the enforcement of the seat belts is left to individual school boards. Texas law requires disciplinary action against students who do not properly wear seat belts. California and Florida laws do not require school districts to enforce utilizing the provided seat belt.

Emery and Faries (2008) conducted an action research project to determine the number of motor vehicle occupant restraints used in children arriving at school. They discovered the following during their study:

> Motor vehicle crashes are the leading cause of death for children ages 4-14. Eighteen million students, 40 percent of elementary and secondary students, in the United States are transported to school by means other than school bus transportation. Children that are driven to school daily increase their odds of being involved in a motor vehicle crash,

> especially if they are not properly restrained. At an intersection near the studied school, 71 percent of restraints were employed. Upon arriving to the studied school, the rate dropped to 24 percent of properly used restraints. Their findings identify that children arriving at school were less likely to be restrained at school than they were at a nearby intersection (p. 274).

Cox (2013) identified installing seat belts in buses would cost $40 million a year and save one life per year. Cox (2013) reported the National Transportation Safety Board reasons seat belts would reduce bus capacity, causing school districts additional bus costs. If school buses transported fewer children, more fatalities could result as the 17 million cars that buses replace would return to the streets taking children to school (American School Bus Council, 2013). Cox (2013) stated enforcing seat belt usage would require additional resources, such as hiring a bus monitor to supervise kids with no guarantee they would keep them buckled. To ensure safety in lieu of seatbelts, during 2007 seat backs were required to be raised from 20 inches to 24 inches (The History of Seat Belt Development, 2011). A 2011 ruling requires all Type A buses which are buses under 10,000 pounds, to be manufactured with three-point, lap/shoulder restraints (Ain, 2012). In Missouri during 2011, an amendment was passed allowing external advertisements on the sides of school buses will only be allowed in 2015 model or newer school buses that are equipped with safety restraints for all students (The History of Seat Belt Development, 2011). This appears to be the first requirement of seat belts on school buses in Missouri. The most realistic argument against installing seat belts is the overwhelming cost of retrofitting existing buses or purchasing buses with seat belts with an estimated cost of $5,485 to $7,345 per bus (Cox, 2013). Cox (2013) in an interview with bus driver, Rees, reported being concerned with making sure the seat belts were used properly as well as the danger they would cause when

evacuating quickly. Transportation office manager of West Plains School District, Fujasawa, stated to Cox (2013) in an interview, "If you have a load of elementary students K-4 and the driver gets hurt, kindergarteners couldn't get out of the bus in time. That's what bothers me most: kids being trapped" (p. 16).

**School Bus Violence.**

deLara (2008) identified the importance of viewing the school bus as an extension of the school day. In a study by Doll, Murphy, and Song (2003), school buses are identified as virtually an unsupervised area of the school day, increasing the chances of children involved in bullying and other forms of violent behavior. Raskauskas (2005) completed a video analysis study on bullying on the school bus. Bullying is identified when a student is a target of behaviors that is harmful or done with the intent to harm; repeated over time; identifiable imbalance of power (p. 94). The school bus provides optimal opportunity for bullying to occur. Doll, Murphy, and Song (2003) identified school buses as an unsupervised, non-academic setting, where bystanders are afraid to intervene. School buses typically only have one adult, the bus driver, who must focus on driving the bus safely. Doll, Murphy, and Song (2003) deemed, confinement to a school bus seat makes victims feel trapped with no escape option prior to their drop off. Raskauskas (2005), students are seated with students that are not their closest friends and allies. The lack of peer protection and intervention leads to more frequent school bus bullying incidents.

During Raskauskas (2005) video analysis, physical bullying behaviors, including hitting, kicking, pushing, or poking, verbal bullying behaviors, including name calling, taunting, and teasing, and psychological bullying behaviors such as intimidation and exclusion were recorded. During thirty bus rides viewed, fifty three bullying episodes were identified. Forty-nine percent

of the bullying incidents were physical bullying. Thirty-five percent were verbal bullying; thirty-seven percent were viewed as psychological bullying. One hundred seven students were observed bullying fifty-four victims. Twenty percent of the victims showed no evidence of friends on the bus; fifty-six percent had a friend who was uninvolved in the bullying incident and twenty-three percent who had a friend who was also a victim to the bullying. One third of the bullying incidents occurred in the bus aisle as students were getting on or off the bus. Raskauskas (2005) suggested reducing the number of bus passengers, increasing the number of adult supervisors, installing video cameras and view them frequently, set protocols for entering and exiting the bus to reduce bullying incidents

Roher (2007) reported bullying incidents are found on school buses throughout the United States. deLara (2008) reports bullying can inflict severe emotional damage on all children involved beyond the physical damage. deLara (2008) studied bullying on buses identifying school bus ride as an integral part of the school day. Bus drivers are the first and last person students interact with daily, and can play a vital role in discipline management, if trained appropriately.

Roher (2007) reports an interview deLara conducted with students found passengers wish their drivers would intervene when bullying occurs, but students realize drivers are trying to keep the bus safely on the road, so students suggested a bus monitor for supervision. Roher (2007) reported the importance for adult, and especially bus drivers to be equipped with resources to prevent and stop bullying incidents occurring during the bus route. Blackwelder (2007), an international staff development specialist, reported only 20 percent of students take part in bullying. By gaining the support and trust of the other 80 percent riding the bus, together they can stop the bullying behavior. Blackwelder stated, “If enough kids tell a person that what

they're doing isn't right, the bullying can be stopped" (p. 3). According to Williamson and Aratani in 2005 (as cited in deLara, 2008), "Sexual harassment is a much more serious issue in public schools than most people have been willing to admit and it's much more likely to occur in unsupervised venues like buses or bathrooms" (p. 1). deLara (2008) conducted research with high school students who were more afraid of their peers on the school bus than they were during the school day.

Children are not alone in being bullied, intimidated, or worse on the school bus. deLara (2008) reported according to Ellis (2005), with Pupil Transportation Safety Institute, bus drivers also report aggressive and bullying toward them by students. When drivers are not treated with respect, it impairs their ability to control behavior of students on the bus and affects overall bus climate. According to deLara's study (2008), 100 percent of the thirty drivers polled report that bullying and aggression took place on their buses and the behaviors were problematic. deLara's study (2008) of 30 bus drivers found 27 drivers observed verbal bullying, psychological intimidation was observed by 21 drivers, and 6 drivers observed physical bullying and fights. deLara (2008) reported children who came to school unkempt, with dirty faces and clothes were bullied more often. deLara (2008) reported school bus rides with little supervision provided an opportunity for inappropriate behavior. Bus drivers interact and observe students each day, yet there is very little research put into the bus drivers and their opinions (deLara, 2008).

The first notable case of a school district neglecting to protect a student from bullying on a school bus is found in Eden Prairie, Minnesota when a seven year old fell victim to name calling and unwanted touching, resulting in the district paying the family restitution (Committee for Children, 2005). Roher (2007) reported Ellis, transportation director at Moravia (N.Y) Central School District, wrote a district curriculum to address bus bullying, *Not on My Bus*. The

curriculum focused on a no-tolerance policy and trained drivers to be cognizant of target kids, and make a conscious effort to provide a safe bus ride for them. McCahill, communications consultant for National Association for Pupil Transportation (NAPT) reported NAPT President and professional educator Bluth (2011) reported providing school bus transportation is a crucial part of the learning process. Behaviors that are harmful to students on the school bus effect their entire day and should not be an isolated school bus issue.

National Association of Pupil Transportation (2013) has partnered with Office of Safe and Drug Free Schools to create a program titled *Creating a Safe and Respectful Environment on Our Nation's Buses*. This training program provides two modules that assist in training bus drivers on how to build appropriate relationships with passengers, create a positive environment on their bus, and intervene when bullying occurs. Bluth reported to McCahill (2011), "School officials, bus operators, and parents in every community must understand that bullying can involve serious psychological and physical harm. All must work diligently to create effective deterrents and responses" (p. 2).

deLara (2008) conducted a study based on bullying and aggression from the bus driver's point of view. Bus drivers are in a unique position to contribute to the understanding about student violence and aggression based on their observations. Drivers experience incidents of harassment, bullying, and other forms of violence during the bus ride (deLara, 2008). "Drivers have a distinct perspective on whom and what contributes to school violence and safety; however, their perceptions and experiences with bullying on the school bus and their ideas for improvement are being neglected" (p. 49). School bus drivers are an important resource considering they are the only adult present on the school bus (deLara, 2008).

Following the 911 tragedy, the risk of terrorism has illustrated a new reality for K-12 school districts nationwide. Hann (2007) reported on the risk terrorist play on school buses. FBI and the Department of Homeland Security sent a memo to law enforcement agencies alerting them that foreign nationals with ties to extremist groups had bought buses and acquired the commercial licenses required to drive them. School buses are the largest mass-transit system. "Every school day 435,000 buses transport to and from school 25 million K12 students" (p. 27). Martin, president of the National Association of Pupil Transportation insisted they do not want to create panic about the potential threat to school bus security, however, they believe that administrators should take the threat seriously (Hann, 2007).

Hann (2007) reported three leading organizations focused on the school bus safety, National Association of State Directors of Pupil Transportation Services, National Association of Pupil Transportation, and the National School Transportation Association requested that the Federal Department of Homeland Security provide funding to improve the security of the nation's school buses. Hann reported, "Through fiscal year 2004 the airline industry had received $15 billion for security enhancements; Amtrak had received $5 billion; the transit industry had received $117 million; and the intercity bus industry had received $35 million. The school transportation industry providing over 10 billion passenger trips per year has received zero" (p. 29). Hann (2007) reported pilots have steel doors that prevent access to them during flight. There is nothing that prevents anyone from getting directly to a driver of a school bus. Hann (2007) reported that the National School Safety and Security Services believe the downplaying of a potential threat reflects a national reluctance to confront the possibility that school buses pose a potential terrorist target.

> "Schools clearly fit the definition of a soft target, and an attack upon our schools would have not only a devastating impact on Americans emotionally but a severe impact on American economy if the business of education shuts down and/or is disrupted due to a catastrophic terror attack upon our educational infrastructure." (p. 29)

Hann (2007) reports the Transportation Security Administration disputes claims that the agency has overlooked school bus safety. Transportation Security Administration started a program known as School Transportation Awareness Training led by the School Transportation Security Awareness Association. The no cost program was devised in partnership with the three leading school bus organizations. The intent is to provide bus drivers, administrators, and staff members with training and security awareness information that will help them identify, report and respond to perceived security threats. The program contains a 24 minute video of a simulated bus hijacking (Homeland Security, 2013). It is unknown how many school districts are utilizing this training.

**School Bus Education and Driver Training.**

Proper bus safety education for students, parents, and drivers seem to be a large issue impacting safety on school buses. Pekarek (2013) from West Plains school district stated in an interview with Cox, that staying seated is the best practice for student safety. Cox (2013) reported, drivers emphasize to students to never return to the bus once they have been dropped off at their destination.

> The Blunt Missouri School Bus Safety Task Force completed a survey of 702 school bus drivers in an effort to seek input about bus safety from the driver's perspective. Findings from the survey represented 89 percent of drivers indicated training was adequate. Sixty-three percent saw a need for improving monthly safety meetings. Drivers reported two-way

radios followed by heated mirrors, cameras, interior intercom system to be some of their most important needs. Twenty-two respondents who ranked other as an important priority suggested having adult aides, bus monitors, or district personnel on each bus. Drivers ranked student discipline training as the most needed training item (p 1).

Recommendations from the task force suggested training is one area of need. Excerpts from the training recommended for DESE to update the 40-hour school bus driver training curriculum for school bus drivers and for DESE to develop a series of one-hour in-service driver trainer modules to be presented to drivers throughout the year. School districts are to provide annual training to all students and teachers regarding proper school bus loading and unloading procedures and proper behavior on the bus. The school shall verify to DESE that this has been accomplished. School districts shall provide school bus driver training for students on emergency evacuation each semester. Teachers and administrators shall reinforce and participate in this training each semester (DESE, 2015).

Missouri school bus drivers are receiving tools to establish a safe bus environment and deter bullying through programs such as WHEELS. The WHEELS program is part of a state-funded character education project, facilitated by CHARACTERplus. The bus drivers from Fair Grove R-X School District participated in the WHEELS program in 2009. Brite, school transportation director, believed the program if fully implemented can make a positive impact on student bus behavior. Convincing drivers that it may be more work in the beginning by developing relationships with students, but in the end it will improve student behavior on their school bus. (Brite, personal communication, January 21, 2015) Bopp, director of CHARACTERplus in Missouri, says 64 school districts have received WHEELS training. Drivers are trained in relationship building by practicing new ways to communicate with

students. Drivers begin using strategically positive communication such as linking their school mascot into their directives toward students. One example is telling students to behave the Eagle way or taking the high road. WHEELS encourages bus drivers to turn troublemakers into peacemakers by allowing them opportunities to serve as bus captains and help direct bus evacuations and other responsibilities. (Bopp, personal communication January 20, 2015)

Training is an essential component to successful bus drivers. Poland (2010) suggested school bus drivers be trained in the Principles of Assertive Discipline developed by Lee and Marlene Canter. Assertive discipline was designed to assist classroom teachers in a structured, systematic approach to run an organized classroom. Bus drivers trained in assertive discipline techniques can prevent undesired behavior. (Canter. L, Canter. M., Provisor, Schadlow, Winberry, 1987). Drivers need to learn that the nonassertive bus driver and the hostile bus driver will exacerbate discipline issues. Losing control of the behavior on a bus is just as dangerous as losing control of the bus on the highway (Poland, 2010). Poland (2010) identified the goal is to employ assertive drivers who clearly and firmly communicate to students how they want them to behave, stay calm and use a normal tone of voice, have a plan of action when students do not behave, and will recognize and reward students who meet or exceed expectations. Poland (2010) believed, bus drivers that build relationships with students by knowing the names of their riders, greeting students as they enter the bus, and build a strong rapport with their daily passengers will see reduced behavior problems and discover that even those challenging behaviors that occasionally emerge can usually be dealt with quickly. Poland (2010) described bus drivers who are connected with their students may also be the first to sense when a threat of school violence exists. Students often let down their guard in the environment of the bus. Poland (2010) stated

transportation personnel should be trained in recognizing warning signs of student violence and how to respond properly to them.

**Effective Bus Driver Personalities.**

From Depee's study (2008), a personal interview was conducted with Donna Collins, owner and operator of a busing company since 1983. Her company provides busing services for several public schools in Southwest Missouri. Depee' asked Collins what makes a driver successful versus unsuccessful. Collins (2008) replied:

> The first thing I want to know about a potential candidate is why do they want to drive? If They begin the conversation by telling me all of the different kinds of vehicles and machinery that they have driven over the years, and then I'm probably not going to hire them. I'm looking for drivers that like to be around kids and identify that their families are important to them. If they are just looking for a paycheck, they will not be successful drivers (p. 68).

Depee' (2009) reported other factors that Collins identified that distinguish successful bus drivers from unsuccessful bus drivers. A driver's attitude towards life influenced their success. If they have a positive attitude, they are much more likely to get along well with their students. How they interact with fellow drivers was a strong determinate towards their success. Their ability to bond and connect with a veteran driver seemed to significantly increase opportunity of becoming an effective school bus driver. Partnering with school administration was also identified as being important. If the driver could communicate and work collectively with the administration, their bus discipline referrals usually tended to be low. Training is also important to be a successful bus driver. Depee' (2009) interviewed Collins stating, "New drivers need help. They need to have education or previous training. If not, they typically fail" (p. 69).

Teachers generally make very good drivers because of the classroom training that they have already received (Depee', 2009). In Depee's study (2009), Collins replied during an interview a quiet and timid person with little confidence or low self-esteem is not conducive in maintaining effective behavior on the bus.

Brite (2014), director of transportation for Fair Grove R-X stated,

> "A good driver must be able to multitask and have a lot of patience. They need to be a caring person that likes / loves kids. Of course driving skills are important also but the driving skills can be taught if the person is patient and caring. The person also needs to be outgoing and somewhat assertive. Someone with a meek submissive personality will be chewed up and spit out by the kids on the bus" (personal communication, May 8, 2014).

Depee' (2009) "Bus drivers that cannot effectively manage student behaviors put the welfare of all students at risk. The potential cost of lives is too great for school districts to incur by hiring ineffective drivers" (p. 6).

Depee' (2009) stated bus drivers maintaining good student behavior while driving should be able to transport students more safely than drivers who do not. Drivers sustaining good discipline should make students feel safe.

**Alternative Bus Management Systems**

The use of bus management systems can be found on school buses in an effort to assist with student behavior. They types of bus management system found on school buses may be based on the financial status of school districts. Video cameras can be found on the majority of school buses (Di Giacomo, 2011). Video footage provides district personnel detailed events occurring during the route such as acts of violence and can deter students from breaking bus

rules (Di Giacomo, 2011). Another alternative system to manage students on school buses is paraprofessionals. Paraprofessionals and bus aides are found mostly on routes that include students with disabilities who have paraprofessional assistance required as a related service to their Individualized Education Plan (DESE, 2013). Paraprofessionals and bus aides typically assist with specific students and do not necessarily monitor whole bus behavior. When providing supervision by a staff member is not an option, school districts are using alternative systems such as Wi-Fi to decrease student behavior incidents. Offering Wi-Fi on buses offers student extended study opportunities and occupies their time, decreasing bus discipline incidents (Pettit, personal communication January 18, 2015). Showing video's, movies or music with prerecorded announcements offer entertainment and can calm students decreasing bus discipline incidents (Barnett, 2013). Integrating school wide behavior systems into the school bus can assist bus drivers with bus incidents (Renfro, McCoy-Simandle, Naber, Ritchey, 2004).

Loading school buses at different times may be an option for rural districts with long bus routes. Rowh (2013) found some districts allow students with extremely long bus rides to stay behind and play on the playground while the buses complete nearby routes and then return to pick them up. Districts are integrating school-wide behavior improvement systems into the school bus routes, hiring and training good bus drivers, providing bus aides to supervise students and adopt modern technology (Rowh, 2013).

**Technology.**

Technology is making bus rides more efficient, cutting fuel cost, and maintaining student safety. Prior to technology, transportation administrators used a map on a wall, placing pins at stops and using string to link their pins together to code their routes (Plummer, 2011). Transportation administrators used Excel documents to maintain bus rosters (Brite, personal

communication May 2014). Rowh (2013) suggested the most significant bus management update is the implementation of route management software. Rowh (2013) reported a trend toward the use of computerized routing instead of old routing tools such as pin-and-string routing. Computer-based systems create shorter more efficient routes for school districts. Global Positioning Systems (GPS) technology collect and deliver real time data about bus locations, speeds, and length of time at stops, providing transportation administrators an opportunity to recognize and resolve issues with fuel efficiency and bus maintenance (Plummer, 2011).

Bohanon (2001) reported decreased bus turnover and bus referrals by schools using BusConduct. BusConduct is web-based software that assists drivers in communicating discipline incidents occurring during bus routes. Once the bus driver arrives back at the bus housing location, they enter the information into the software. The incident is immediately emailed to administration eliminating the paper referrals that could take days to address leaving the driver often unaware of the discipline issued by administration (Bohanon, 2011).

Districts such as Joplin Missouri, which equip their buses with Wi-Fi, encourage electronic devices on the school buses. Pettit (2015) reported Joplin has Wi-Fi on 6 school buses. Buses equipped with Wi-Fi are reserved for extracurricular trips providing students who are taken out of class early, or arrive home late an opportunity to use Wi-Fi for homework and studying. Allowing students to bring their own electronic web based devices provides students a way to stay occupied. (Pettit, personal communication January 18, 2015).

Di Giacomo (2011) believed video cameras on buses are vital. Video cameras record acts of violence, behavior incidents, and deter students from misbehaving. School video cameras

can also aide bus drivers positively and negatively, by providing footage that may exonerate those falsely accused, provide footage for training opportunities, and record driver violations.

Barnett (2013) reported school buses in Conway South Carolina play music and prerecorded announcements from the same kind of system used on many rides and trolleys at Disney World and other theme parks. Barnett (2013) described the idea is to calm students not necessarily entertain and to decrease discipline problems. Barnett (2013) reported the digital audio machines are programmed with GPS data to trigger announcements about upcoming bus stops as well as messages from their principal as the bus approaches school in the morning. The announcements are also helpful for substitute drivers. Messages can be recorded prompting the driver in plenty of advance of an upcoming stop. Between announcements students hear music, programmed to soothe away the energy that sometimes gets kids into trouble (Barnett, 2013).

Bus Radio is another alternative technology option. Bus Radio is music programming with ads specifically tailored to students riding the bus. Butler (2007) reported that Massachusetts based Bus Radio provides the DJ and music programming, which is interspersed with advertising and contests, to about 1,000 buses in eleven states. Bus Radio includes age-appropriate content that is a cleaner alternative to the ordinary broadcast stations that some drivers tune in to. Butler (2007) reported from an interview with Bus Radio president Steven Shulman stated, "The whole idea of Bus Radio is to have a safe, enjoyable ride that students can be engaged in, so the students and parents don't have to worry about songs that are promiscuous and talking about carrying AK-47s or rolling with my gangsters" (p. 35). Butler (2007) identified the Bus Radio Company offers separate programming to elementary, middle, and high school students catering to the musical tastes of each group. To ensure the appropriateness of such ads, Bus Radio has established its own content review board, including a child

psychologist, superintendents, and District Administration's associate publisher, George Halo. Bus Radio touts other benefits of the service, including promoting better student behavior on the bus. Butler (2007) reported Bob Riley of the National Association of State Directors of Pupil Transportation Services stated, "I think age appropriate radio which includes both music and commentary that can hold students' interest could certainly improve student behavior" (p. 36). Bus Radio devices also include GPS capabilities that allow districts to track any bus's location and a panic button.

**School Buses as Extensions to the Classroom.**

Rowh (2013) reported that North American School Bus Driver of the Year, Lemaster reads to her Lake Orion Michigan students. Lemaster noticed riders were bored and she began bringing books and games on board for students to use while in transit. Rowh (2013) identified that as the first step in the development of a special program to promote reading and other learning activities on the bus. Through an initiative dubbed BusSTAR, Support Teaching by Assisting in Reading, drivers can assist teachers in the classroom and provide other support during the middle part of the day when they are not transporting students. Activities range from listening to students read aloud to helping out in media centers. Some drivers also stock books and educational games on their buses to keep riders occupied in positive ways (Rowh, 2013).

Integrating the expectations from the school building into the school bus, making transportation part of the school day creates a partnership between bus drivers and administrators. Crone, Hawken, Horner (2010), identified that improving student academic and behavior outcomes is about ensuring all students have access to the most effective and accurately implemented instructional behavioral practices and interventions possible. According to U.S. Department of Education, Office of Special Education Programs (2012), School Wide Positive

Behavioral Interventions & Supports (PBIS) provides an operational framework for achieving these outcomes. Bus drivers can be trained to integrate school wide positive behavior into the bus setting.

Lowery (2012), supervisor at Montgomery County Public Schools' transportation department in Rockville, Maryland found successful implementation of a School-Wide PBIS program at Julius West Middle School. Bus drivers for Julius West Middle School faced struggles with behavior on school buses similar to other public school bus drivers in the United States. Students would stand in their seats, place objects including arms or heads out windows, move from seat to seat, eat or drink or argue and disrespect other students and drivers (Lowery, 2012). Julius West bus drivers were accustomed to using traditional disciplinary referrals to administrators, but student behavior results were usually temporary. After including school buses in the school's PBIS program, administrators have received fewer discipline referrals and parent complaints. Julius West Middle School offers tickets to students who are compliant with expectations. Tickets are used to purchase items at schools store. Upon initial PBIS implementation, students would mock other students that were compliant and respectful, now students at Julius West are asking how they can be of help to earn tickets (Lowery, 2012).

Renfro, McCoy-Simandle, Naber, Ritchey (2004) researchers from Eastern Kentucky University (EKU) reported findings from a school bus project for two rural Kentucky school districts. The researchers from EKU focused on a two-year project between the years 2002 and 2004. The teachers received lesson plans for teaching prosocial bus behavior to students to coincide with the consistent bus rules for each bus in the district. The bus drivers received behavior management training using the model, *Bus Discipline: A Positive Approach*. The researchers identified goals to manage and reduce students' disruptive behavior on school buses.

Their findings suggested adding bus monitors, using consistent rules and consequences, providing bus drivers cell phones or pagers, educating children about the importance of following bus rules, installing video cameras, and training in safe physical restraint, CPR, dealing with seizures, the Heimlich maneuver, and first aid training (Renfro, McCoy-Simandle, Naber, Ritchey 2004).

### Bus Monitors or Aides.

The need for bus monitors or aides on school buses to supervise children is not a modernistic need. Charles and Shelness (1970) identified the need for adult monitors on school buses in their research. Roher (2007) reported success with placing para-professionals on two school buses as a proactive approach to bus incidents including bullying. Roher (2007) noted the paraprofessionals received extensive training in order to learn how to work with students and serve as another set of eyes for the bus driver. The paraprofessionals placed on the buses can deter an incident from occurring, and in the event an incident did occur, be able to give a more accurate account of the incident than the bus driver can from peering through his rearview mirror (Roher, 2007). Students with an Individualized Education Plan (IEP) may include under related services the need for a bus monitor or aide to accompany them during their bus route (DESE, 2013).

## Summary

The gap remains in expectations for transportation and resources provided for bus drivers. For many students bus transportation is their only means of transportation to and from school. The school bus drivers play an integral role in the education system since they are the first and last adult person students come in contact with during the educational day (deLara, 2008). Depee'(2009) stated bus drivers are responsible for safely driving the bus and managing

student behaviors. The safe delivery of students to school and home each day will always remain a bus driver's top priority. From an administrative standpoint, Depee' (2009) suggested bus drivers should be able to maintain good student management while driving the bus. Bus driver retention is also a cost savings. By reducing the number of discipline incidents bus drivers will drive longer for the district. Bohanon stated, "According to the bus companies in our regional pilot district, the number one reason for drivers leaving is not the bad pay, not the hours, but the kids that act up and make the drivers lives difficult" (pg. 1).

By lessening the amount of distractions and misbehavior of the students, drivers are able to focus more on the maneuvering of the bus rather than focusing on the behavior of the students. Poland (2010) stated education and training of transportation staff in prevention and intervention techniques will provide a safer bussing environment for students. Poland (2010) believed, bus drivers must be viewed as safety partners by school administrators, and frequent communication needs to take place between drivers and administrators. The shifting of gears in training of bus drivers can provide an extension from the school environment into the school bus (Poland, 2010).

Roberts (2012) believed, administrators and bus drivers working cooperatively to analyze bus routes and reasonable bus populations should determine if the bus can provide reasonable supervision to the students. School districts will need to continue to encourage bus drivers to work cooperatively with administrators and school personnel to train students and bus drivers to achieve safe respectful traveling behavior (Roberts, 2012). Educational leaders still hold the responsibility for ensuring a safe ride to school. Current regulations do not place mandates on bus management systems. The results remain in the positive partnership between school leaders and bus drivers, and compliance from students.

School districts may state that they cannot properly support school bus management systems due to other more pressing financial obligations (Perry, personal communication February 10, 2015) Wilczynski (2011), director of transportation for Central Indiana Educational Service Center, Indianapolis, stated no price tag should be placed on a child's safety, making budgeting the most challenging part of his job. Wilczynski (2011) predicted many changes will be found in the busing industry, including Wi-Fi on all school buses and even touch-screen technology on the back of bus seats, allowing students to continue to learn and communicate during their bus route. Retrieved April 11, 2012.

School bus director for the largest district in Missouri, Rick Emling, views the future of bus management to focus on customer service training for bus drivers and student management being a component of training. Placing bus aides on school buses is ideal, but not cost efficient. For the future, buses will continue to use more technology. Emling envisions an administrator monitoring bus cameras in real time from their office (personal communication, February 3, 2015)

School Bus Fleet is an accepted journal used to educate transportation directors as a guide and source of information in the safety of school bus transportation and for the development of policy and procedures. School Bus Fleet provided information throughout the review of literature.

Chapter three details the survey methods and sampling used to determine what bus management systems are currently being used in Missouri, the perception of the management systems and what superintendents and transportation directors would like to implement on their school buses.

# CHAPTER THREE
# METHODOLOGY

## Introduction

A school bus driver's ultimate goal is to transport students to and from school safely, without incident. Many bus drivers are not equipped with the proper training to handle student management and behavior. By equipping school buses with alternative bus management and behavior systems, extra pressures of student distractions and behaviors can be avoided. The expectation of the bus driver managing student behavior by looking through his rear view mirror appears dangerous, as they must take their eyes of the road to redirect students while viewing them through the rear view mirror. Supervision of student passengers on school buses is an area of education that has remained stagnant. The researcher determined a need for increased knowledge of what student management systems are being used and what student management systems should be utilized to assist in student supervision and student management on school buses. . The school administrators responsible for district transportation were asked to identify the systems they are currently utilizing on their school buses and their perception of their effectiveness. Additionally, they were asked to identify the future of their school bus management systems and what systems they would implement if resources were available.

## Participants

Participants in this study were superintendents and/or transportation directors from the 523 school districts in the state of Missouri who transport students with school owned buses. Districts with alternative school bus management systems will be identified. District sizes will be established based on the amount of school bus routes they run. Small districts were identified to operate 1-10 bus routes, medium size districts were identified to operate 11-30 bus routes, and large size districts were identified to operate 31 or more bus routes.

## Selection/Sampling

The survey for this study was sent directly to 523 superintendents listed by DESE for Missouri. Superintendents were asked to complete the survey or forward the survey to transportation directors or other responsible administrator that manage school bus drivers in their district.

## Research Design

The ten question survey was sent to 523 school districts in Missouri. Superintendents and transportation directors were requested to complete the survey if they provide school bus transportation to students. An online survey was conducted utilizing Survey Monkey. The survey was sent to every school district in Missouri. Fifty four responses were received immediately following the initial survey request. One week later an additional four responses were received, resulting in a ten percent response rate for the initial survey request. Four weeks following initial survey request, the survey was sent again generating in an additional six percent response rate. Immediately following the second survey request, five responses were received. One week later, twenty seven responses were accumulated. One week later, one additional response had been received. The researcher received a sixteen percent response rate from superintendents or transportation directors that provide school bus transportation. The researcher closed the survey after receiving ninety one responses.

## Instrumentation

The researcher piloted the survey with a panel of experts, colleagues responsible for student discipline on school buses and transportation directors. The selection of the members of the panel of experts should enhance the validity of the instrument as the members are similar to the participants of the study. Face validity was determined by the expert panel (Patten, 2000).

Twelve pilot surveys were completed by the panel of experts with suggestions to simplify the survey and grammar corrections. Changes were made to the survey and the changes were then sent to the panel members for additional comments, none were received. The survey was designed to allow school districts to describe the school bus managements systems they are currently using and identify what they would like to be using if funds were available.

Alternative methods may be used to determine validity in a qualitative study as quantitative validity methods (i.e. Chronbach & Mehl, 1995). Were developed for quantitative research and may not be applicable for qualitative research (The Qualitative Report, December 2003). Before the survey was sent to participants the researcher determined face validity of the instrument through the panel of experts review. Face validity determines if the survey appears to elicit the information the survey intended to (Patten, 2000). The researcher sought to achieve conformability validity by reflecting on the researcher's bias in the development of the questions and in the interpretation of the data (Guba, 1981). Another validity concern addressed is the transferability meaning the context of the survey is not designed to produce a truth that can be generalized to others but to develop statements descriptive context relevant statements (Guba, 1981). After the data was received the researcher achieved descriptive validity by providing factual accuracy of the data (Maxwell, 1992).

The reliability of the survey was determined by ability of researcher to utilize all surveys returned as the responses were consistent with the information expected. The validity of the study was enhanced by the outcome validity. Outcome validity is the ability of the responses to address the problem addressed (Anderson, Hert, & Nihlen, 1994). The researcher attempted to add validity to the study by following established research procedures such as reporting all data, seeking feedback from experts, being candid in researcher writing, and revealing bias of the

researcher concerning the topic (Wolcott, 1994). Analysis of the responses contained in the survey is discussed in the next section data analysis.

**Data Analysis**

Data described the types of alternative bus management systems school districts in Missouri are using and what they would like to be using on school buses. Administrative approach on the effectiveness of using bus management systems was analyzed. The researcher desegregated the data by size of school district based on how many bus routes school districts operate. Data represents the responsible party for managing student discipline in school districts. School districts reported what management systems they currently utilize. School districts were found to utilize more than one system. The perception of the student management systems currently being used was detailed including ranking effectiveness of student management systems. Data also described what districts foresee as future plans with implementing student management systems and what systems they would like to implement.

**Summary**

Data from the ten question online survey, Student Management Systems on School Buses in Missouri, created a descriptive study for the researcher to represent what school management systems districts in Missouri utilize and what systems they would like to utilize on school buses. Chapter four provides descriptive data of the results from the survey given to superintendents and transportation directors responsible for managing school bus transportation for school districts in Missouri.

# CHAPTER FOUR
# RESULTS

## Introduction

Chapter four presents the results of this descriptive study of student management systems used on school buses in Missouri. The population of the study consisted of 523 superintendents in Missouri. Superintendents were requested to complete the survey or forward to the director of transportation for their district if the transportation duties were outside the superintendent responsibilities. The purpose of the study is to develop a descriptive study of alternative management systems currently utilized by Missouri public schools on their school buses. To also determine if the school district administration is of the opinion the student management systems in use are effective and what if any other system would administrators utilize if funds were available.

The guiding question for the study on the student management systems utilized on school buses in Missouri focused on:

> What school bus management systems are currently being utilized by school districts in Missouri and are these management systems perceived as effective in managing student behavior?

Additional sub-questions focused on:

1. How many school districts in Missouri are using management systems on school buses?
2. What management systems would be utilized on Missouri school buses if funds were available?

The researcher collected data from ninety one school districts that participated in the online survey. Data from the study has been separated into tables with in this section. School

districts were separated into three categories based on size by the researcher. The three categories included Small, Medium, and Large school districts. School districts that operated one-ten bus routes were labeled small districts, districts that operated 11-30 routes were labeled medium districts, and any school districts that operated thirty one or more routes were labeled a large district. Data presented in the tables were disaggregated by school district that own their school buses and employee their own bus drivers, by districts that contract their bus drivers and buses from an outside agency, and school districts that utilize a combination of both district owned school buses and contract bus drivers.

**Results**

Table 1

School Buses Operated as District Owned, Contractor Owned, or a Combination of Both N=90

| | District Owned | Contract | Combination |
|---|---|---|---|
| All | 59 | 23 | 8 |
| Small | 28 | 8 | 2 |
| Medium | 20 | 10 | 4 |
| Large | 11 | 5 | 2 |

Table 1 represents the type of utilization of school buses by school districts. Data is disaggregated by the size of school district. The majority of the school districts, sixty five percent, own their own buses regardless of district size. One respondent of the survey skipped this question.

Table 2

Person Responsible for Managing Student Discipline N=90

| District Size | Building Administrator | Central Office | Contract Bus Company |
|---|---|---|---|
| Small | 37 | 2 | 0 |
| Medium | 31 | 1 | 2 |
| Large | 14 | 1 | 2 |

The individual responsible managing student discipline, such as issuing punishment is identified in table 2. Ninety-one percent of school building administrators are responsible for managing bus discipline. In four percent of districts, bus discipline is managed by central office staff or the contracted bus company.

Table 3

School Bus Management Systems Used on School Buses N=91

| System Options | Total | Small Districts | Medium Districts | Large Districts |
|---|---|---|---|---|
| Video Cameras | 73 | 25 | 30 | 18 |
| Paras/Bus Aides | 34 | 7 | 14 | 13 |
| Wi-Fi | 0 | 0 | 0 | 0 |
| Videos/Movies | 0 | 0 | 0 | 0 |
| School Wide Behavior System on Bus | 48 | 19 | 15 | 14 |
| None | 7 | 6 | 1 | 0 |
| Other | 6 | 3 | 0 | 3 |

The type of school bus management systems implemented on school buses is presented in table 3. Video cameras are the most common type of management used on school buses regardless of size. One hundred percent of large districts have video cameras on all of their buses. Ninety-one percent of medium size school districts have video cameras on their school buses. Sixty-four percent of small school districts have video cameras on their school buses. Some districts use a combination of systems.

The second most common management system listed was implementation of a school wide behavior system expanded from the school building into the school bus setting. Large school districts reported 77 percent of their bus routes are implementing a school wide behavior system on their school buses. Forty-nine percent of small districts listed are implementing school wide behavior system on their school buses. Forty-five percent of medium size school districts listed is implementing a school wide behavior system on their school buses.

The third most common management system listed was the use of paraprofessionals or bus aides on school buses. Large school districts use paraprofessionals or bus aides more commonly than medium and small districts. Seventy-two percent of large districts have paraprofessionals on their school buses. Forty-two percent of medium size school districts have paraprofessionals or bus aides on their school buses. Eighteen percent of small school districts have paraprofessionals or bus aides on their school buses.

Six percent of school districts reported no school bus management systems. Information presented in an open format presented other options described as requiring the same behavior expectations and rules that are in place in the regular classroom and building setting be implemented on school buses. Emphasis on bus driver training and cooperation, student handbooks and bus discipline policies were described as being used. WHEELS character education program and Zonar program were listed as other systems being implemented as a system of school bus management used on school buses.

Table 4

Most Commonly Used Multiple School Bus Management Systems on School Buses

| Multiple System Options | Small Districts | Medium Districts | Large Districts |
|---|---|---|---|
| Video Cameras | 25 | 30 | 18 |
| Paras/Bus Aides | 7 | 14 | 13 |
| School Wide Behavior System on Bus | 19 | 15 | 14 |

Some school districts report they are using multiple management systems on their school buses. Table 4 represents the most commonly used multiple school bus management systems on school buses. Small school districts report 7 percent use video cameras and paraprofessionals together on school buses. Forty-nine percent combine video cameras and school wide behavior systems on school buses. Forty-four percent of medium school districts using video cameras also include the utilization of paraprofessionals or bus aides and implementation of a school wide behavior system. Seventy-five percent of large school districts that use video cameras also report implementation of paraprofessionals or bus aides and school wide behavior systems on school buses.

Table 5

Perception of Current Bus Management Systems Success in Managing Students on Bus N=90

| Respondents Perception | Small Districts | Medium Districts | Large Districts |
|---|---|---|---|
| Yes | 34 | 24 | 15 |
| No | 5 | 10 | 2 |

Table 5 represents the perception of current bus management systems districts use as being successful in managing students on buses. An answer of yes indicates that the respondent believes their current bus management system is successful in managing students on school bus. Small school districts perceive their systems as being successful by 87 percent. Medium school districts perceive their systems as being successful by 70 percent. Large school districts perceive their systems as being successful by 88 percent. One individual in the large school district category skipped this question.

Table 6

Decrease in Bus Discipline Resulting in Implementing School Bus Management System N=83

| Decrease Amount | Small n=37 | Medium n=30 | Large n=16 |
|---|---|---|---|
| 0-5% | 24 | 10 | 3 |
| 6-10% | 8 | 15 | 9 |
| 11-19% | 1 | 3 | 1 |
| 20%+ | 4 | 2 | 3 |

Table 6 illustrates the decrease percentage in bus discipline resulting in implementing school bus management systems. Sixty-four percent of small districts reported 0-5 percent decrease in discipline. Twenty-two percent of small districts reported 6-10 percent decrease in discipline. Eleven percent of small districts reported 20 percent or more decrease in discipline.

Thirty-three percent of medium districts reported 0-5 percent decrease in discipline. Fifty percent of medium districts reported 6-10 percent decrease in discipline. One percent of medium districts reported 11-19 percent decrease in discipline

Nineteen percent of large districts reported 0-5 percent decrease in discipline. Fifty-six percent of small districts reported 6-10 percent decrease in discipline. Nineteen percent of small districts reported 20 percent or more decrease in discipline.

Table 7

Ranking Order of Student Management Systems from Most Effective to Least Effective N=84

| System Type | Most 1 | 2 | 3 | 4 | 5 | Least 6 |
|---|---|---|---|---|---|---|
| Video Cameras | 48 | 19 | 14 | 1 | 1 | 0 |
| Paras/Bus Aides | 14 | 37 | 23 | 5 | 2 | 3 |
| Wi-Fi | 0 | 5 | 23 | 40 | 13 | 3 |
| Videos/Movies | 1 | 2 | 3 | 29 | 41 | 8 |
| School Wide Behavior System on Bus | 19 | 19 | 15 | 2 | 23 | 5 |
| Other | 2 | 2 | 6 | 7 | 3 | 64 |

Table 7 details the ranking order of student management systems from most effective to least effective. Of the 84 respondents, 80 percent of school districts report video cameras as being the most effective student management system by ranking one or two for their responses. Paraprofessionals or bus aides come in second with 61 percent of school districts ranking one or two for their responses.

Videos or movies being shown during the bus route are ranked five or six by 58 percent of school district representing the least effective student management system. School wide behavior system comes in next to least effective with 33 percent of school districts rank five or six for school wide behavior system on school bus.

Table 8

| District Future Plans with Student Management Systems | N=86 |
|---|---|
| Continue using management system | 66 |
| Expand management system | 26 |
| Change management system | 4 |
| Discontinue management system | 0 |

School districts are planning minimal changes to their current management systems. Table 8 represents district future plans with student management systems. Seventy-seven percent of district plan to continue using their current management system. Thirty percent plan to expand their current management system. Five percent plan to change to a different management system. No district plans to discontinue current management system. The researcher did not ask respondents to comment on how they would be expanding management systems or how they plan to change their management systems.

Table 9

Bus Management Systems that Would Benefit Districts Ability to Manage Students N=89

| System Options | Total | Small n=38 | Medium n=33 | Large n=18 |
|---|---|---|---|---|
| Video Cameras | 39 | 21 | 11 | 7 |
| Paras/Bus Aides | 30 | 8 | 15 | 7 |
| Wi-Fi | 12 | 3 | 5 | 4 |
| Vides/Movies | 8 | 3 | 3 | 2 |
| School Wide Behavior System on Bus | 21 | 7 | 7 | 7 |
| None | 10 | 5 | 3 | 2 |
| Other | 6 | 3 | 2 | 1 |

Bus management systems that would benefit districts ability to manage students on the school bus are identified in table 9. All respondents were asked this question. It was not segregated by having a current system or not having a current system, only what system they perceived would benefit their ability to manage students on school buses. Video cameras were listed as the top system option that schools feel would benefit their ability to manage students. Forty-four percent of school districts report they would benefit by video cameras on school buses. Small schools report 55 percent would benefit, 33 percent from medium schools, and 39 percent of large schools report video cameras would benefit their ability to manage students on school buses.

Paraprofessionals or bus aides come in second as a system option that would benefit district ability to manage students. Thirty-four percent of school districts report their student management would benefit by adding paraprofessionals or bus aides to their school buses. Twenty-one percent of small districts, 45 percent of medium districts and 39 percent of large

districts report their student management would benefit by adding paraprofessionals or bus aides to their school buses.

School wide behavior systems integrated into bus routes come in third as a system option that would benefit district ability to manage students. Twenty-four percent of school districts report their student management would benefit by integrating a school wide behavior system into the school bus route. Eighteen percent of small districts, 21 percent of medium districts, and 39 percent of large districts would benefit from integrating a school wide behavior system into bus routes.

School districts also described the need for additional student behavior management training for bus drivers. Districts also identified the need for better quality video cameras and additional cameras on school buses.

Table 10

New Problems when Bus Management Systems were Implemented N=34

| Problems | Total Respondents |
|---|---|
| Video Cameras | 16 |
| Bus Drivers Training, Communication and Buy In | 8 |
| Positive Behavior Support System and Training | 2 |
| Number of Students on Bus | 1 |

Superintendents and transportation directors describe any new problems when bus management systems were implemented in table 10. Sixteen respondents stated issues with the video cameras on the bus. They described difficulty with video issues when needed, technology issues, camera locations not where the incident occurred, and cameras not working. Other issues related to video cameras include the time needed to view the video footage, including training staff to access video. Camera maintenance was also mentioned as a problem.

Other issues described by superintendents and transportation directors related directly to bus drivers. Communication among drivers and administrators is a problem. Motivating bus drivers to utilize implemented management systems and to attain consistency of implementation among drivers. Training bus drivers to be fully aware of student management needs. Transforming bus drivers to shift from being jailers to positive influence on students.

**Summary**

Chapter four provided a descriptive analysis of what school bus management systems is being utilized by school districts in Missouri and if systems are perceived as effective in managing student behavior. Ninety one school districts participated in the on line survey Student Management Systems on School Buses in Missouri. Of the participants, 91 percent are using management systems on their school buses.

Eighty percent of respondents are using video cameras, making video cameras the most common management system used by school districts to manage student behavior on school buses. Fifty-three percent of school districts implement a school wide behavior system into their school buses. Examples of the systems are Positive Behavioral Intervention and Supports and WHEELS. Paraprofessionals or bus aides can be found on 37 percent of school buses in Missouri. Eight percent of school districts in Missouri are not using any type of management system on school buses.

Superintendents and transportation directors reported 81 percent perceived the current bus management system their district uses as being effective. When asked what management system would be utilized on Missouri buses if funds were available, video cameras were reported by 44 percent. Paraprofessionals and bus aides would be utilized by 34 percent of school districts. Implementing a school wide behavior system was reported by 24 percent to benefit districts. 14 percent would like to implement Wi-Fi on school buses and 9 percent would like to show videos or movies.

Based on researcher data, the most commonly used management system; video cameras are also described by respondents as the most problematic system. Chapter five includes the

conclusion and recommendations of the researcher and implications and recommendations for future research.

# CHAPTER FIVE
# CONCLUSIONS, RECOMMENDATIONS and IMPLICATIONS

## Introduction

This study was designed to describe the types of student management systems that are being utilized by school districts in Missouri, how many districts were using management systems and to identify the perceptions of superintendents and transportation directors about the effectiveness of bus management systems. The study also identified which management systems would most likely be utilized on Missouri school buses if funds were available. Researcher conclusions and recommendations are presented.

## Conclusions

The on line survey, Student Management Systems on School Buses in Missouri, yielded a lower than expected response. The researcher sent out surveys to 523 superintendents in Missouri and received ninety-one responses to the survey. Of the respondents 42 percent were small districts. Responses from thirty-eight percent were medium districts. The remaining 20 percent were large school districts. The respondents reported 91 percent of their districts are using student management systems on school buses. Building administrators largely represent the persons responsible for managing discipline by 91 percent.

Video cameras, school wide behavior interventions and paraprofessionals or bus aides are the top three most commonly used management systems on school buses in Missouri. Video cameras were ranked as most effective followed by school wide behavior systems, and paraprofessionals or bus aides rank third most effective. Superintendents and transportation directors report they perceive their systems successful in managing students on school buses.

The most commonly used system, video cameras, were also reported as being problematic as found in an open response question. Respondents reported problems with

difficulty with video issues when needed, technology issues, camera locations not where the incidents occurred and cameras not working properly. Other respondents reported problematic issues related to video cameras included the time needed to view video footage including training staff to use video retrieval system to access video. Video cameras provide information regarding an incident, but reported they do not directly improve passenger behavior.

The respondents reported they believed video cameras would benefit their ability to better manage students. Total schools report 44 percent would benefit from video cameras on buses with 55 percent of small districts, 33 percent of medium districts and 39 percent large school districts report they believe video cameras would benefit their ability to manage students on school buses.

Paraprofessionals or bus aides were reported as the second system option that transportation administrators believed would benefit their districts ability to manage students. Thirty-four percent of reported school districts believed student management would benefit by adding paraprofessionals or bus aides to their school buses. Twenty-one percent of small districts, 45 percent of medium districts and 39 percent of large districts report they believed their student management would benefit by adding paraprofessionals or bus aides to their school buses.

School wide behavior systems integrated into bus routes come in third as a system option believed that would benefit district ability to manage students. Twenty-four percent of school districts report they believed their ability to manage students on buses would benefit by integrating a school wide behavior system onto the school bus route.

**Recommendations**

The review of literature was scarce in the area of school bus management options. The researcher was aware of the lack of primary research and authentic literature in the area of school bus management options. Additional research is needed in the area of bus management options to fully provide districts benefits of bus management systems. The researcher recommends video cameras to be placed on all school buses and proper training to all individuals involved in retrieval of video footage. Implementing school wide behavior system into school buses is also recommended. Positive Behavioral Interventions and Supports (PBIS) is an example of a commonly used school wide system used in Missouri schools. School districts are seeing positive results by including school buses into their classroom and building programs. The researcher also recommends school districts to place paraprofessionals and bus aides on school buses. Thirty-four percent of school districts believed their student management system would improve with the addition of paraprofessionals and bus aides on school buses. School buses are the only area in education where students are left virtually unsupervised by an adult, adult bus monitors can resolve this issue. Proper training to school bus drivers is also recommended. Even though there is a need, districts may not be in a financial position to add student bus management systems to their school buses. The Missouri Department of Elementary and Secondary Education (DESE) only reimburse transportation cost to schools for transporting students who live within a certain distance of school. If walking to school is hazardous, many school districts chose to cover the costs of student transportation or require parents to transport. Springfield Public School district charges a bussing fee to cover to cost of transportation of those not reimbursed from DESE Retrieved February 7, 2015.

Former member of National School Bus Conference Missouri Delegate appointed by the Commissioner of Education, Perry stated (2015),

> Educators understand school bus safety is a priority but state departments want out of school bussing by reducing state funds replaced by local funds, therefore financing issues arise in transportation. Maintenance of school buses is just as important as other educational necessities. Researcher concludes schools can improve their student management systems on school buses with the implementation of one or all the recommended systems (personal communication, February 10, 2015).

**Implications for Educators**

Educators in Missouri looking to improve their bus management systems will benefit from the descriptive information presented in this study. Data was provided from ninety one school districts from Missouri. This study focused primarily on the use of video cameras, paraprofessionals or bus aides, Wi-Fi, Videos or Movies and School Wide Behavior System on school buses. This study provided data on how many school districts in Missouri are using management systems on school buses. Additionally, this study presented data related to the most commonly used management systems and the administrator's perception of the most effective management systems used on school buses. This study also described what systems school districts would utilize if resources were available.

**Summary**

The purpose of this study was to provide data describing student management systems currently utilized by Missouri public schools on their school buses. Additionally this study sought to determine if the school district superintendents or transportation directors are of the

perception the student management systems in use are effective and what other system would districts utilize if available.

After reviewing literature and data, the researcher concludes that districts should integrate student management systems onto their school buses. Data represented the three most commonly used systems as video cameras, school wide behavior systems and paraprofessionals or bus aides. . The researcher recommends school districts that are not utilizing any system should consider installing video cameras on school buses. The researcher recommends school districts that are currently only utilizing video cameras should consider providing additional training on retrieving video footage. The researcher recommends school districts consider including the school bus into their building initiatives aimed at improving student behavior. Implementation of one or all systems along with proper training will allow bus drivers to better manage students on school buses.

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# Appendix

## Survey

Dear Superintendent and/or Director of Transportation:

As part of the requirements for a doctoral degree at Southwest Baptist University, I am conducting research on the type of alternative student management systems being used on Missouri school buses and the perception of their effectiveness. I invite you to participate in this study, as your information will benefit other Superintendents and Directors of Transportation in the State of Missouri. The information gathered will designate the types and effectiveness of alternative student management systems being used on school buses in the state of Missouri.

This survey should take no longer than 5 minutes. In the collection of data, survey answers will remain anonymous with participants not being identified by name. Participation is voluntary. Results of this survey will be published as the dissertation requirement for the degree of Ed. D. If you have any questions about this research project, please contact me at 417-840-5409 or hollanc@fgsmail.org or faculty supervisor Dr. Robert Perry at 417-328-1700.

Your completion of this survey will indicate your voluntary participation in this study. Please click the following link for access to the short 5 minute survey.
https://www.surveymonkey.com/s/YNFVCGG

Sincerely,
Charity Hollan
Doctoral Candidate
Southwest Baptist University

*THIS PROJECT HAS BEEN REVIEWED BY THE SOUTHWEST BAPTIST UNIVERSITY RESEARCH REVIEW BOARD FOR RESEARCH AND RESEARCH-RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS 417-326-1659*

Survey: Student Management Systems on School Buses in Missouri

1. Does your district:
_____Use district owned buses and employee all drivers
_____Use contract buses and employees
_____Combination of both

2. How many school bus routes does your district run?
_____1-5
_____ 6-10
_____11-20
_____21-30
_____30-45
_____46+

3. Who manages student bus discipline?
_____Building Administrator
_____Central Office Administrator
_____Contracted Bus Company

4. Please select each of the methods of school bus management you utilize:
_____Video Camera's
_____Paraprofessionals/Bus Aides
_____Wi-Fi
_____Video's or movies for riders to view during route
_____School-Wide behavior systems integrated into bus routes
_____None

5. Please list any other bus management systems:
_____

6. What decrease in bus discipline resulted in implementing school bus management systems listed?
_____1-5%
_____6-10%
_____11-19%
_____20%+

7. Please describe any new problems when bus management systems were implemented: _____

8. Do you perceive the current bus management system you use as being successful in supervising students on the bus: _____Yes _____No

9. Please rank in order the items you selected in question 5 from most effective to least effective.

____ _____Video Camera's
_____Paraprofessionals/Bus Aides
_____Wi-Fi
_____Video's or movies for riders to view during route
_____School-Wide behavior systems integrated into bus routes
_____Other: _____

10. Does your district plan to:
_____Continue using a management system
_____Expand current management system
_____Change to a different management system
_____Discontinue managements system

11. What bus management system would benefit your ability to better supervise students on the school bus?

_____Video Camera's
_____Paraprofessionals/Bus Aides
_____Wi-Fi
_____Video's or movies for riders to view during route
_____School-Wide behavior systems integrated into bus routes
_____None