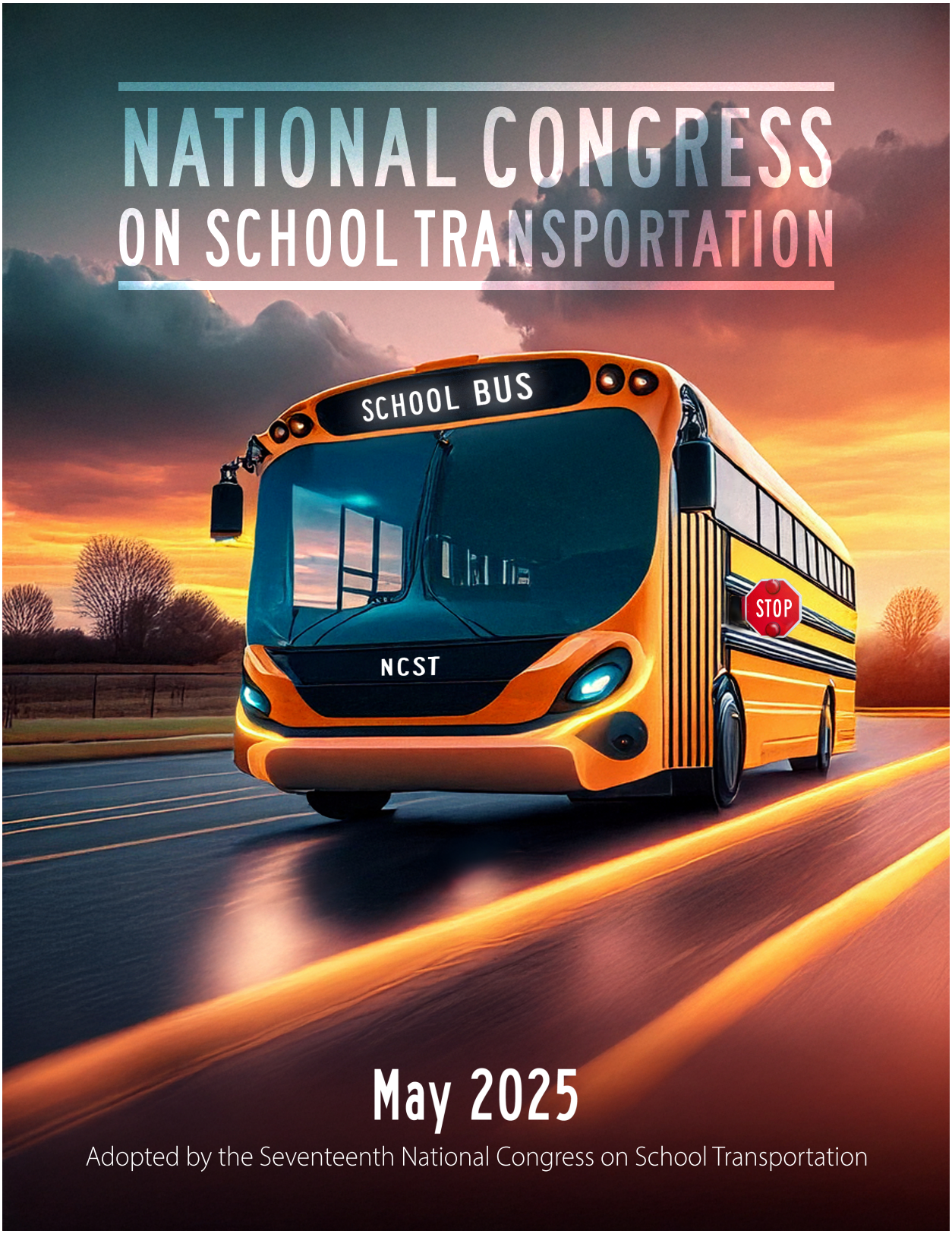
# NATIONAL CONGRESS ON SCHOOL TRANSPORTATION




## May 2025

Adopted by the Seventeenth National Congress on School Transportation

# NATIONAL SCHOOL TRANSPORTATION SPECIFICATIONS and PROCEDURES

## 2025 REVISED EDITION

**Adopted by:**

## THE SEVENTEENTH NATIONAL CONGRESS ON SCHOOL TRANSPORTATION

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# FOREWORD

After a 10-year hiatus due to the COVID pandemic, the 17th National Congress on School Transportation (NCST)reconvened on Sunday, May 4, 2025. As part of the NCST process we continue a tradition of honoring the origins of pupil transportation by reviewing the history of the NCST. In the first document produced in 1939, the importance of pupil transportation was identified as follows:

"The safe and economical transportation of nearly 4,000,000 children to and from school every day of the school year is a matter of first importance to millions of parents and thousands of school board members in all parts of the nation. In 1938, [there were] 86,099 school buses in operation."

Today, 86 years later, the pupil transportation industry is providing safe, effective, efficient and healthy transportation for more than 25 million school children who ride more than 480,000 school buses each day. In addition, millions of school children ride school buses to and from activities and field trips each year.

Pupil transportation services provide a great reduction in transportation costs, a great reduction in traffic congestion and pollution, and access to education for countless students. These services continue to provide the safest way to and from school.

The 2025 National Congress on School Transportation was the latest in a series, beginning in 1939 and continuing in 1945, 1948, 1951, 1954, 1959, 1964, 1970, 1980, 1985, 1990, 1995, 2000, 2005, 2010, and 2015. All congresses (referred to as "conferences" before 2005) have been made up of official representatives of state departments of education, public safety, motor vehicles, and police or other state agencies having state-wide responsibilities for the administration of student transportation; local school district personnel; contract operators; advisors from industry and representatives from other interested professional organizations and groups. Each conference has resulted in one or more publications that contain the recommendations of the respective conference.

The recommendations of specifications and procedures for school buses and their operation have been a major purpose of all conferences. The 1939 Conference was called for this sole purpose and formulated a set of recommended standards for school buses of 20 or more passengers. The 1945 Conference revised the 1939 recommendations and added standards for small vehicles with capacities of 10 to 18 passengers. Both standards were further revised by the 1948 Conference. There were additional revisions in 1959, and the 1964 Conference added standards for school buses to be used in transporting students with disabilities. In addition to revising standards for larger vehicles, the 1970 Conference refined the standards for school buses designed to transport fewer than 24 passengers.

Other major issues in student transportation have received attention at these national conferences. On several occasions, recommendations concerned primarily with other vehicles overtaking and passing school buses were transmitted to the National Committee on Uniform Traffic Laws and Ordinances for consideration in connection with revisions of the Uniform Vehicle Code. The 1948 Conference made

recommendations on uniform records and reports for student transportation. The major purpose of the 1948 Conference was the formulation of recommendations related to standards and training programs for school bus drivers. These recommendations were revised by the 1959 Conference, and a new publication on the topic was issued. The 1954 Conference gave considerable time to the discussion of the extended use of school buses in the school program. The 1970 Conference also adopted standards for school bus operation (issued in a separate report).

The 1980 Conference updated the standards for school bus chassis and bodies, rewrote the complete standards for the specially equipped school bus, and included definitions for Types A, B, C and D buses. One of the major tasks of the 1980 Conference was to revise the standards to remove any conflicts with superseding federal regulations, many of which were mandated by sections of the Motor Vehicle and School Bus Safety Amendments of 1974 (Public Law 93-492).

The 1985 Conference updated the standards for school bus chassis, bodies, special education and operations procedures. A major project was completed in the adoption of a uniform school bus accident reporting form. This form was designed to standardize school bus accident data reporting throughout the school transportation industry. Major issues such as safety inside the vehicle, loading and unloading, emergency procedures and special education were discussed with appropriate resolutions calling for future research and implementation being passed.

The 1990 Conference removed the word minimum from the title of the Conference publication. The format of the conference publication was reorganized into two parts: Standards for School Buses and Standards for Operations. All subparts, such as Accident Reporting and Special Education Transportation, were incorporated into the section on the School Bus or the section on Operations. A major change also was incorporated into the procedures for the 1990 Conference. Any mandatory standard could be recommended for a special vote for forwarding action to the appropriate federal agency with a request for rulemaking. This rulemaking request would be an attempt to have a standard adopted at the Conference become a federally mandated requirement. For this forwarding action to be approved, any such item had to receive a two-third affirmative vote. The delegation approved forwarding action on standards for mirrors, emergency exits, accident-reporting and special education transportation. This procedural change was carried forward for the 1995 Conference.

The 1995 Conference was the first to begin to address the expanded role of student transportation, as prescribed in the revised Highway Safety Program Guideline #17 - Pupil Transportation Safety. The revised Guideline became effective May 29, 1991, and this was the first conference convened since its adoption. Transportation of pre-kindergarten age students, including infants and toddlers, was addressed for the first time. A comprehensive section dealing with the use of alternative fuels in school bus operations was discussed and included in the publication. A new section, “Terms and Definitions,” was added to the appendices to promote consistency throughout the industry, to consolidate into one resource the acronyms, abbreviations and standard terms used in the industry and to provide easy access to definitions of terms used or referenced within the Specifications and Procedures document.

The 2000 Conference included significant discussion of the purpose and intended use of the document, which had been known in previous conferences as the *National Standards for School Transportation*. Leading up to the 2000 Conference, arguments were made for retention in the title of the term *Standards* or adoption of the new term *Guidelines*. These deliberations were an attempt to accurately describe the document to state and local transportation providers, industry suppliers, governmental oversight agencies, representatives of the legal profession and other users. The new title, approved by the delegates, was the *National School Transportation Specifications and Procedures*. A significant majority of the delegates believed that title described the actual contents and intended use of the document more precisely. The Introduction was expanded to explain clearly that the *National School Transportation Specifications and Procedures* comprises recommendations of the delegates to the states and other potential users of the document. It also clarified that these entities may choose, under their respective regulatory authorities, to adopt all, part or none of the specifications and procedures into laws or regulations, as they deemed appropriate.

Other significant changes or additions adopted by the 2000 Conference delegates included a new side-intrusion test for school bus bodies, a strong recommendation to states to require the use of school buses or buses having equivalent crash protection for all student transportation, reorganization of the operations sections into a more user-friendly format, sanctioning of the recent federal guidelines for seating of pre-school age students, conformance of the procedures for transportation of students with disabilities with updated federal regulations, and a new section on school bus inspection.

In 2005, the delegates changed the name of the conference to the National Congress on School Transportation to describe more accurately the longstanding nature of the proceedings, involving deliberation and decision-making following parliamentary procedure. Significant changes or additions adopted by the 2005 Congress delegates included a request to the School Bus Manufacturers Technical Council (SBMTC) to develop specifications for the fire-blocking performance of school bus chassis firewalls; clarification of the allowance for either black or yellow trim coloration on school bus bodies; augmentation of the recently updated Federal Motor Vehicle Safety Standard 217 (Bus Emergency Exits and Windows Retention and Release) to include additional roof hatches; accommodation of the new multifunction school activity bus sub-category of school buses; a recommendation to require “high- back” passenger seats in all large school buses as a further improvement to school bus passenger crash protection; a recommendation to require noise-canceling switches for use by school bus operators during railroad crossings; a recommendation, based on research findings, to prohibit the installation of two-point lap belts in large school buses, except to secure child safety restraint systems; elimination of requirements that were duplicative of recent federal and Society of Automotive Engineers (SAE) standards for specially equipped school buses; new operational procedures calling for reduced school bus engine idling, use of two-way communications systems, and required post-trip checks of buses by drivers for unattended children; the addition of new sections on School Transportation Security and School Activity Transportation; and updating the sections “Transportation for Students with Disabilities and Special Health Care Needs” and “Infants, Toddlers, and Pre-school Children” to conform to recent federal reauthorizations.

For the 2010 Congress, the Steering Committee developed and implemented several operational and procedural improvements consisting of an interim amendment process and new rules for debating the recommendations of the writing committees.

The amendment process provides the Steering Committee with a method to address matters occurring between congresses that are too important to delay until the next five-year cycle. For example, in 2005 the delegates adopted a new section to the Specifications and Procedures document on security and emergency preparedness—almost five years after September 11, 2001. The Steering Committee believed that for the congress publication to remain current, be relevant, and serve as a model of the school transportation industry's best practices, such a process is a necessity.

To encourage greater state delegation participation and debate in the writing committee activities, the Steering Committee adopted new procedures limiting floor debate at the Congress to only those segments of the specifications and procedures document where the respective writing committee recommended new, amended, or deleted language. As a result of the new procedure, the 2010 Congress completed its work in three days rather than the traditional four or five days of previous congresses.

Other significant delegate actions in 2010 consisted of merging the school bus body and chassis sections into a new section entitled School Bus Specifications, and the School Bus Inspection section, initially voted down by the delegates, was later re-opened and adopted with language mirroring federal=inspection criteria for commercial vehicles and buses. The Operations introduction was amended to state that when transportation is provided, students shall be, rather than should be, transported by a school bus. Best practices recommended by the Transportation Security Administration of the U.S. Department of Homeland Security were adopted as a new appendix, supplementing the "Security and Emergency Preparedness" section. A new section, "Chronicling Innovations in School Transportation," was adopted. Unlike action taken in previous congresses, there were no resolutions.

Like the 2005 Congress, the structure for the 2010 Congress and its operating guidelines were carried out by the Steering Committee. Funding for the Congress was shared solely by each individual participant of the Steering Committee, the writing committees and all delegates at the congress.

Due to changes in economic conditions, and other factors, the partnership with the University of Central Missouri (UCM) was unable to continue. New ways of facilitating NCST were identified by the steering committee. This resulted in the National Association of State Directors of Pupil Transportation Services (NASDPTS) accepting responsibility for the NCST website as well as managing the budget and funding. NASDPTS also facilitated a request for proposals process that resulted in the selection of the Airport Holiday Inn located in Des Moines, Iowa, as the site for the 16th NCST. Some noted advantages for this site include the close proximity to the airport, a large range of rooms on site, and a large room for facilitating the congress proceedings.

These changes also shifted the responsibility for congress document preparation as well as the editing and publishing of the final document to the steering committee. New processes were put in place, including

professional formatting services, to bring more uniformity to the document. In addition, a new product was created to show the changes that were made by the congress in color-edit format. This was welcomed by states and others who like to keep up with changes made during congress every five years.

Changes made during the congress include: Interim Inquires and Amendments Requests processes to keep the steering committee and other committees in place with vacancies filled as needed so committees are able to respond during the interim. Significant changes were made to the School Bus Inspection section, as well as to the Operations section. Under Security and Emergency Preparedness, the Transportation Security Administration provided the congress with updates.

For the 2020 Congress, COVID created a worldwide pandemic. This catastrophic situation led the steering committee to consider the very real medical safety concerns for all attendees, thus resulting in the cancellation of what would have been the 17th NCST.

For the 2025 Congress, COVID was no longer a pandemic and the NCST was scheduled for May 4 – 7, 2025 in Des Moines, Iowa. Unfortunately, there is no record of any approvals for the normal interim process for changes in the NSTSP between 2015 and 2025, thus the 2025 NCST, as approved by the steering committee, is the 17th National Congress on School Transportation.

It is with great honor that the 17th NCST Steering Committee, the twelve NCST Writing Committees, and the delegates from the states present this document.



Michael A. LaRocco
NCST Steering Committee Chairperson

# ABOUT THIS DOCUMENT

Certain objectives and guiding principles have a vital role in the development of the specifications for school buses and procedures for their operation. These objectives and guiding principles have been reaffirmed and emphasized at the National Congresses (formerly Conferences) since 1939. The major objectives, safety, security and efficiency, along with the guiding principles stated herein, have served as guideposts for making decisions regarding the specifications and procedures and in arriving at sound and common agreement.

Adequate state and federal regulations governing school bus specifications and operations provide the key ingredients for the safe, secure and efficient transportation of students. Safety and security include all factors relating to school bus equipment, performance specifications and operational procedures that may directly or indirectly affect the safety, security and welfare of students transported. Efficiency includes the management of specifications, procurement and maintenance of school buses, the operational practices and procedures of staff consistent with the safety and welfare of students and the effective use of financial resources.

## GUIDING PRINCIPLES

A. Federal standards and state specifications for school buses and procedures for their operation should:

   1. Be consistent with the objectives of safety, security and efficiency;

   2. Ensure the construction and use of safe buses;

   3. Reduce conflicting specifications and procedures among states, wherever possible; and

   4. Specify exact dimensions, where necessary, to increase the quality and efficiency of manufacture.

B. Any adaptation of these national specifications and procedures should be made by states only in order to adjust to local needs and only when such adaptations do not...

   1. Conflict with Federal Motor Vehicle Safety Standards (FMVSSs);

   2. Conflict with the National Highway Traffic Safety Administration's Highway Safety Guideline #17 - Pupil Transportation Safety; and

   3. Unduly increase operation or production costs.

C. State specifications for school buses and operational procedures should be written in terms of the performance desired, thus assuring that the resulting state regulations are enforceable.

D. Provisions should be made within each state for periodic review and revision of its specifications for school buses and procedures for their operation.

E. State specifications for school buses and procedures for their operation should allow for state approval of the use of new inventions and improvements that are consistent with safety, security and efficiency.

F. State specifications for school buses should provide for a degree of flexibility (consistent with safety, security and efficiency) to accommodate the various manufacturers.

G. State specifications for school buses should recognize that the actual design of school buses is a responsibility of the manufacturers.

H. The *National School Transportation Specifications and Procedures* of the 15th Congress comprise recommendations to the states. Revisions of these specifications and procedures are made only when evidence indicates that such revisions are needed.

## INTENDED USE

These specifications for school buses and operational procedures are available for states to consider when establishing their standards, specifications, recommendations and guidelines. As a general rule, state legislatures should confer upon the appropriate state agency or regulatory body the general responsibility for establishing and revising state-wide rules and regulations regarding the specifications for school bus chassis, bodies and equipment and procedures related to school transportation operations.

The specifications and procedures for school transportation appearing in this report represent the official actions of the delegates to the 17th National Congress on School Transportation and comprise recommendations to regulatory authorities or other parties. Except for restatements of federal standards, laws and rules that may be contained herein, these recommendations are not regulatory until they are officially adopted by the appropriate state regulatory authority or local school district or Head Start authority (if permitted) to become legally effective within that state, the school district or authorized transportation agent. It should be noted that some items in this report are informational only and do not constitute "recommendations" of the delegates.

In considering these specifications and procedures for adoption into state or local regulations, each portion or individual content item should be reviewed by the state or local transportation provider to determine its applicability, as recommended by the delegates. The following terms are used throughout this document to define the recommended applicability within states or local providers adopting these specifications and procedures:

A. *SHALL*: a mandatory condition. Where certain school bus designs, equipment or operations are described with the *shall* stipulation, it is *mandatory* that all school buses and all school bus operations meet those requirements, as written.

**Note**: The word *shall* also is used when referring to items that are already adopted into federal laws, standards or regulations.

B. *SHOULD*: an advisory condition. Where certain school bus designs, equipment or operations are described with the word *should*, such items are considered to be advisable usage. In other words, the item is *recommended*, but not mandatory, for all school buses or all school bus operations.

C. *MAY*: a permissive condition. Where certain school bus designs, equipment or operations are described with the word *may*, such items are considered for *possible* usage. However, there is no intent that the item be required for all school buses or all school bus operations.

Recognizing that many of these specifications and procedures (those using the above definition of *shall*) are recommended as requirements and will become requirements when they are adopted into regulations by individual states, Head Start agencies or local transportation providers, the principles and guidelines for the intended use of this report are consistent with the following "Statement of Understanding" adopted by the Steering Committee of the 14th National Congress on School Transportation and reaffirmed by the Steering Committee of the 15th Congress for inclusion herein. **In the context of this overall report, the following statement reminds persons using the report that until these specifications and procedures are adopted into state regulations, either by reference or directly, adherence to their provisions is voluntary**:

> The purpose of this publication is to serve as a basis for the separate states to establish specifications, rules and/or regulations for school transportation within those states. This publication is representative of the consensus of professional practitioners from the states represented at the National Congress on School Transportation. Its emphasis on practices, procedures and performance encompasses school transportation in total and includes guidelines for school buses and school bus operations. The material contained herein will provide useful guidance for school transportation specialists in each state; however, it does not establish specifications or standards for any state. **Use of this publication in part or in its entirety is completely voluntary.**

The vehicle specifications contained herein are intended to apply primarily to **new** vehicles, including all types of school buses, as defined in: GLOSSARY OF TERMS AND DEFINITIONS, under *Bus*, *School Bus*, which lists the various types of "school buses." It should be noted that vehicles with a capacity of ten (10) or fewer persons, including the driver, cannot be certified as *school buses* under federal regulations.

States should allow sufficient lead-time between publication of their respective specifications and the effective dates of implementation. Effective dates should be expressed, as in this sample statement: "These specifications apply respectively to school bus chassis and bodies placed in production on or after (month, day, year)."

## INTERPRETATIONS AND INFORMATION

Requests for interpretation of the 2025 specifications and procedures document shall be sent to the Steering Committee Chairman listed at www.ncstonline.org. Interested parties are encouraged to visit the website for the most current information on all aspects of the 2025 17th NCST, the 18th NCST, and for any published interpretations to the 2025 *National School Transportation Specifications and Procedures*.

## INTERIM INQUIRIES AND AMENDMENT REQUESTS

The Interim Steering Committee acts on behalf of the Congress between congresses. Inquiries, requests for modifications and/or amendments of the specifications and procedures document shall be directed to the chairman of the Steering Committee. Contact the Steering Committee Chair as listed at www.ncstonline.org.

The Steering Committee and/or Interim Steering Committee shall develop policies and procedures to implement the "Interim Inquiries and Amendment" process. The "Interim Inquiries and Amendment" process is outlined in the 18th NCST Manual of Operating Procedures (MOP), and Appendix I of the 2025 National School Transportation Specifications and Procedures document.

The Steering Committee will remain in place and will meet a minimum of annually during the NASDPTS/NAPT conference time frame. If vacancies occur in the steering committee, the sponsoring organization will fill these vacancies in a timely manner according to the MOP.

Writing committee chairs shall remain in place as directed by the Steering Committee. The Steering Committee shall consider the needs of each of the various committees, and the ability of the writing committee chairs to provide a continuation of those needs.

If a writing committee chair is unable to continue in the performance of assigned duties, they will notify the assigned coordinator with a copy to the NCST Chair. Writing committee chairs should make recommendations to their coordinators for possible replacements. The coordinator will make recommendations to the Steering Committee through the Steering Committee Chair.

Writing committee chairs will maintain a current listing of persons who are still able to serve on their committees. As vacancies occur, writing committee chairs shall report committee vacancies to their coordinator and discuss possible replacements with them.

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# NEW AND EMERGING TECHNOLOGIES

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# NEW AND EMERGING TECHNOLOGIES

## INTRODUCTION

The New and Emerging Technologies Committee was established by the 16th National Congress on School Transportation. The Congress identified the need to provide guidance pertaining to evaluating and implementing emerging technologies available to school -transportation operations.

## PURPOSE

This section is intended to recommend best practices and provide guidance for developing a conceptual framework to use when considering adopting emerging technologies or a technical product or service that is new to the operation. The conceptual framework is modeled after a project-management approach, including identifying needs and objectives, research and information gathering, developing evaluation criteria, requests for proposals or quotes, selection and contracting, and planning and implementation. Procurement remains a function of each state's laws and the organization's policies and processes. School transportation administrators should defer to those governing bodies for procurement requirements.

The Committee recognizes that "new" and "emerging" are relative terms based on an organization's capacity and capability. The recommendations and suggestions provided throughout this section try to address a general process for technology evaluation, rather than identify or classify specific tools or technologies. It is expected that as organizations evolve, their individual practices, methodologies, techniques, and approaches should be refined to reflect more diverse, complex, and integrated products and services.

Each school transportation operation's business practices are unique, and the administrative and operational decisions regarding new and/or emerging technology must be dynamic and adjustable. Factors such as the organization's operational goals, financial forecasts, industry trends, and regulatory compliance will influence the specifics of how the project is managed. The following conceptual framework serves as a guideline that should be tailored to fit the distinct characteristics and objectives of each school-transportation operation.

The process described below recognizes that there are organizations that may not have the resources readily available to undertake large-change-management efforts related to technology, while also managing daily operations. The approach promotes a process of identifying key operational requirements, assessing marketplace capabilities, creating a procurement process that offers best value, and establishing an evaluation and selection process that maximizes the choice options relative to the operational needs identified by the organization. The Committee acknowledges that while a formal process involving RFI (Request for Information), RFP (Request for Proposal), and RFQ (Request for Quotation) is ideal, there are situations where these formal steps may not be feasible or required, especially when dealing with emerging technologies. In such cases, an informal approach may be more practical. However, even if a full formal process is not followed, it is highly recommended to still consider and adapt the outlined steps to

the extent possible. This ensures a thorough evaluation and informed decision making. The full process is intended as a comprehensive guide and can be modified to best align with the specific needs and context of the technology in question, allowing for flexibility while maintaining a structured approach to assessment and implementation.

## PROJECT PLANNING AND MANAGEMENT FOR NEW TECHNOLOGY

A. Identify Needs and Objectives

1. Identify and define the specific needs and goals for the new technology, establish clear objectives and expected outcomes.

2. Identify the range of systems where integrations may be required and whether the new technology will be compatible or can be integrated.

3. Engage a Data Collection Collaborative, including school bus drivers, transportation staff, the district technology department, human resources department, school administrators, and parents to gather input, and prioritize requirements.

4. Identify personnel (new or existing) required for a successful implementation, maintenance, and process improvement.

B. Research and Information Gathering

The process used for this phase will allow for an organization to determine the most appropriate methodology for pursuing the desired technology. This could be formal, such as a Request for Information (RFI) or informal, such as visiting with another organization that has already implemented the type of technology you are exploring. It can also be some combination of the two. Below are the steps of both formal and informal processes.

1. Request for Information (RFI):

   a. Draft an RFI to gather preliminary information about the capabilities, requirements, and potential use cases for the technologies, services, and/or products;

   b. Distribute the RFI to potential supplier/s; and

   c. Review responses to understand market offerings, capabilities, and options.

2. Informal Information Gathering:

   a. Conduct supplier presentations and/or demonstrations;

   b. Explore pilot program options (if possible);

   c. Conduct peer organization observation/site visits;

   d. Attend conferences, trade shows, and/or webinars;

   e. Conduct a thorough review of state and federal regulations to ensure full compliance with the implementation and use of each new technology; and

   f. Consult with the State Director of Pupil Transportation and/or the state agency responsible for school transportation safety.

C. Develop Evaluation Criteria

1. Define criteria for evaluating technologies and/or products based on the gathered information and identified needs. Criteria might include:

   a. Cost
   b. Lifespan
   c. Compatibility with existing systems
   d. Ease of use
   e. Achievable implementation timeline
   f. Supplier support and training
   g. Security and privacy considerations
   h. Scalability and futureproofing
   i. Total Cost of Ownership (TCO)
      (1) Return on Investment (ROI)

      (2) Cost Benefit Analysis (CBA)

   j. Warranties

D. Initiate procurement solicitation.

Decide on the issuance of the most appropriate solicitation process for any procurement effort including, illustratively, a Request for Proposal (RFP) or a Request for Quote (RFQ). Federal laws, state laws, and/or local policies may determine one over the other, such as total contract expenditure, contract length, or other requirements.

1. Request for Proposal (RFP)

   a. Draft the RFP:

      (1) Clearly outline the project scope, technical requirements, training requirements, system setup support, timeline, and objectives;

      (2) Include evaluation criteria and the selection process;

      (3) Set deadlines for submission and questions;

         (a) Distribute the RFP:

            i. Notify supplier/s in accordance with state procurement laws or requirements;

         (b) Evaluate Proposals:

            i. Form a committee to review and score proposals based on established criteria;

            ii. Conduct supplier presentations and/or demonstration; and

            iii. Explore pilot program options (if possible).

2. Request for Quotation (RFQ)

   a. Draft the RFQ:

      (1) Clearly outline the project scope, technical requirements, training requirements, system setup support, timeline, and objectives;

      (2) Request detailed pricing from the shortlisted supplier/s;

      (3) Ensure that all costs are covered, including implementation, training, support, and maintenance;

         (a) Evaluate Quotations:

i. Conduct a careful cost analysis to compare all functionalities against the organization's specific needs, ensuring alignment with the budget and overall cost-effectiveness; and

ii. Negotiate terms and conditions with supplier/s.

3. Reference Checks and Case Studies

   a. Conduct thorough reference checks with existing customers of the supplier/s;

   b. Review case studies and testimonials to understand the technology's performance and reliability; and

   c. Evaluate the supplier/s track record in similar implementations.

4. Final Selection and Contracting

   a. Review all gathered information, including proposals, quotations, reference checks, and case studies;

   b. Make the final supplier selection based on evaluation criteria;

   c. Finalize contract terms and conditions; and

   d. Ensure all legal and compliance requirements are met.

5. Implementation Planning

   a. Develop a detailed implementation plan, including:

      (1) Timeline

      (2) Milestones

      (3) Responsibilities

      (4) Communication plan

   b. Engage stakeholders to ensure smooth transition and adoption.

6. Training and Support

    a. Arrange comprehensive training sessions for users;

    b. Establish a support system for ongoing assistance; and

    c. Create user manuals and resources.

7. Monitoring and Evaluation

    a. Create a conceptual framework approach for monitoring and evaluation;

    b. Continuously monitor the technology's performance;

    c. Gather feedback from users to identify issues and areas for improvement; and

    d. Conduct regular evaluations to ensure the technology meets objectives and expectations.

8. Documentation and Future Guidance

    a. Document the entire evaluation and implementation process;

    b. Create a reference guide for future technology evaluations;

    c. Develop a process for Congress change form requests to align with this blueprint; and

    d. Work with writing committees to update guidelines and standards based on new learnings and technology advancements.

E. Implementation Example

Simplified Example:

1. Identify Needs: The considered technology will improve safety, service and reliability for all students and staff;

2. Research: Draft RFI, distribute the RFI to potential suppliers. Review responses to understand market offerings, capabilities, and options;

3. Criteria: Cost, accuracy of data collected, ease of use, integration and vendor support and training, security and privacy, and scalability;

4. RFP: Draft and distribute an RFP to potential suppliers;

5. RFQ: Request detailed pricing from shortlisted suppliers;

6. Reference Checks: Contact existing customers and review case studies;

7. Final Selection: Choose the supplier with the best overall fit based on evaluation criteria and reference checks;

8. Implementation: Plan and execute the roll-out of the new system;

9. Training: Ensure a comprehensive training plan is in place for all staff and community members who may interact with the technology, including bus drivers, transportation staff, and any other relevant stakeholders;

10. Monitoring: Regularly check the system's performance and user satisfaction; and

11. Documentation: Record the process and create a guide for future implementations.

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# BUS BODY AND CHASSIS SPECIFICATIONS

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## INTRODUCTION TO SCHOOL BUS SPECIFICATIONS

This portion of the report is divided into four sections: Bus Body and Chassis Specifications, Specially Equipped School Bus Specifications, Specifications for School Bus Inspection, and Alternative Fuel School Buses. If these specifications are adopted by a state or states, special attention must be given to them by the vehicle manufacturer, as appropriate or necessary.

Every attempt has been made by the Writing Committees, the Congress itself, and the Editing Committee to eliminate conflicts between these specifications and federal regulations. Should conflicts be found to exist or arise through new federal regulations or legally-binding interpretations of those regulations, they should be brought to the attention of the Interpretations Committee, who, in turn, will report them to the Interim Committee.

For new vehicles, it is the responsibility of the vehicle manufacturer to certify compliance with applicable federal standards by installing a certification plate or label in the driver's area on each vehicle. However, as the vehicle is maintained over its useful life, it is the responsibility of those who supervise and perform work on the vehicle to assure ongoing compliance with all applicable federal and state standards and specifications, as well to coordinate recalls. For this reason, maintenance personnel training, quality components, quality workmanship, and thorough maintenance records are essential.

Finally, in order to ensure that specifications are being met by manufacturers, states are urged to adopt and carry out effective pre-delivery inspection programs.

# BUS BODY AND CHASSIS SPECIFICATIONS

## AIR CLEANER (FOR INTERNAL COMBUSTION ENGINES ONLY)

A. A dry element air cleaner shall be provided.

B. All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired.

## AISLE

All emergency exit doors shall be accessible by a 12-inch minimum aisle. The aisle shall be unobstructed at all times by any type of barrier, seat, wheelchair, or tie-down, unless a flip seat is installed and occupied. The track of a track seating system is exempt from this requirement. A flip seat in the unoccupied (up) position shall not obstruct the 12-inch minimum aisle to any side emergency exit door.

## AXLES

The front and rear axle and suspension systems shall have a gross axle weight rating (GAWR) at ground commensurate with the respective front and rear weight loads of the bus loaded to the rated passenger capacity.

## BACK-UP CAMERA (OPTIONAL)

A back-up camera may be installed to view the area of restricted visibility to the rear of the bus. If installed:

A. The back-up camera shall only activate when the bus is in reverse.

B. The monitor to view the back-up camera video:

1. May be integrated into the interior rearview mirror, or;

2. May be integrated as part of the dashboard.

## BACK-UP WARNING ALARM

An automatic audible alarm shall be installed behind the rear axle and shall comply with the published Backup Alarm Standards (SAE J994b), providing a minimum of 112 dBA, or shall have a variable volume feature that allows the alarm to vary from 87 dBA to 112 dBA sound level, staying at least 5 dBA above the ambient noise level.

## BRAKES: GENERAL

A. The chassis brake system shall conform to the provisions of FMVSS Nos. 105, Hydraulic and Electric Brake Systems, 106, Brake Hoses, and 121, Air Brake Systems, as applicable. All buses shall have either a parking pawl in the transmission or a park brake interlock that requires the service brake to be applied to allow release of the parking brake.

B. The anti-lock brake system (ABS), provided in accordance with FMVSS No. 105, Hydraulic and Electric Brake Systems or No. 121, Air Brake Systems, shall provide wheel speed sensors for each front wheel and for each wheel on at least one rear axle. The system shall provide anti-lock braking performance for each wheel equipped with sensors (Four Channel System).

C. All Type A, C, and D buses shall include Electronic Stability Control as defined in APPENDIX A: Terms and Definitions.

D. All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis component(s).

E. The brake lines, booster-assist lines, and control cables shall be protected from excessive heat, vibration, and corrosion and installed in a manner that prevents chafing.

F. The parking brake system for either air or hydraulic service brake systems may be of a power-assisted design. The power parking brake actuator should be a device located on the instrument panel within reach of a seated 5th percentile female driver. As an option, the parking brake may be set by placing the automatic transmission shift control mechanism in the “park” position.

G. The power-operated parking brake system may be interlocked to the engine key switch. Once the parking brake has been set and the ignition switch turned to the “off” position, the parking brake cannot be released until the key switch is turned back to the “on” position.

## BRAKES: HYDRAULIC

Buses using hydraulic-assist brakes shall meet requirements of FMVSS 105.

## BRAKES: AIR

A. The air pressure supply system shall include a desiccant-type air dryer installed according to the manufacturer’s recommendations. The air pressure storage tank system may incorporate an automatic drain valve.

B. The chassis manufacturer shall provide an accessory outlet for air-operated systems installed by the body manufacturer. This outlet shall include a pressure protection valve to prevent loss of air pressure in the service brake reservoir.

C. For air brake systems, an air pressure gauge shall be provided in the instrument panel capable of complying with Commercial Driver’s License (CDL) pre-trip inspection requirements.

D. Air brake systems shall include a system for anti-compounding of the service brakes and parking brakes.

E. Air brakes shall have both a visible and audible warning device whenever the air pressure falls below the level where warnings are required under FMVSS No. 121, Air Brake Systems.

## BUMPER: FRONT

A. School buses shall be equipped with a front bumper.

B. The front bumper on buses of Type A-2 (with GVWR greater than 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least $^{3}/_{16}$ inches thick and not less than eight inches wide (high). It shall extend beyond the forwardmost part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having a GVWR of 14,500 pounds or less may be equipped with an OEM-supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a five-degree, (8.7 percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at both lifting points.

C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis, or body.

D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally.

## BUMPER: REAR

A. The bumper on Type A-1 buses shall be a minimum of eight inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9½ inches wide (high). The bumper shall be of sufficient strength to permit being pushed by another vehicle of similar size and being lifted by the bumper without permanent distortion.

B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rearmost point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.

C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deformation of the bumper resulting from impact from the rear or the side. It shall be designed to discourage hitching of rides by an individual.

D. The bumper shall extend at least one inch beyond the rearmost part of the body surface, measured at the floor line.

E. The bottom of the rear bumper shall not be more than 30 inches above ground level.

## CERTIFICATION

Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its (their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certification requirements of 49 CFR, Part 567: Certification.

## COLOR

A. The school bus body shall be painted National School Bus Yellow (NSBY). (See APPENDIX B.)

B. The body exterior trim, as defined by individual states, shall be black or NSBY.

C. Except for the vertical portion of the front and rear roof caps, the roof of the bus may be painted white. (See illustration in APPENDIX B, Placement of Retroreflective Markings.)

D. The chassis and front bumper shall be black. Body, cowl, hood, and fenders shall be in National School Bus Yellow (NSBY). The flat top surface of the hood may be non-reflective black or NSBY. (See APPENDIX B.)

E. Wheels may be silver, gray, white, yellow or black.

F. Multifunction school activity buses (MFSABs) shall be exempt from these requirements.

## COMMUNICATIONS SYSTEMS

(See OPERATIONS section.)

## CONSTRUCTION

A. Side Intrusion Test: The bus body shall be constructed to withstand an intrusion force equal to the curb weight of the vehicle or 20,000 pounds, whichever is less. Each vehicle shall be capable of meeting this requirement when tested in accordance with the procedures set forth below. The complete body structure, or a representative seven-body section mock up with seats installed, shall be load-tested at a location 24 ± 2 inches above the floor line, with a maximum 10-inch diameter cylinder, 48 inches long, mounted in a horizontal plane.

The cylinder shall be placed as close as practical to the midpoint of the tested structure, spanning two internal vertical structural members. The cylinder shall be statically loaded to the required force of curb weight or 20,000 pounds, whichever is less, in a horizontal plane with the load applied from the exterior toward the interior of the test structure. When the minimum load has been applied, the penetration of the loading cylinder into the passenger compartment shall not exceed 10 inches from its original point of contact. There can be no separation of lapped panels or construction joints. Punctures, tears, or breaks in the external panels are acceptable, but are not permitted on any adjacent interior panel. Body companies shall certify compliance with this intrusion requirement, and include test results, as requested.

B. Construction shall be reasonably dustproof and watertight.

## CROSSING CONTROL ARM

A. School buses shall be equipped with a crossing control arm mounted on the right side of the front bumper. When opened, this arm shall extend in a line parallel to the body side and aligned with the right front wheel.

B. All components of the crossing control arm and all connections shall be weatherproofed.

C. The crossing control arm shall incorporate system connectors (electrical, vacuum or air) at the gate and shall be easily removable to allow for towing of the bus.

D. The crossing control arm shall be constructed of non-corrodible or nonferrous material or shall be treated in accordance with the body sheet metal specification. (See BUS BODY AND CHASSIS SPECIFICATIONS, Metal Treatment.)

E. There shall be no sharp edges or projections that could cause injury or be a hazard to students. The end of the arm shall be rounded.

F. The crossing control arm shall extend a minimum of 70 inches (measured from the bumper at the arm assembly attachment point) when in the extended position. The crossing control arm shall not extend past the end of the bumper when in the stowed position.

G. The crossing control arm shall extend simultaneously with the stop signal arm(s), activated by stop signal arm controls.

H. An automatic recycling interrupt switch may be installed for temporarily disabling the crossing control arm.

I. The assembly shall include a device attached to the bumper near the end of the arm to automatically retain the arm while in the stowed position. That device shall not interfere with normal operations of the crossing control arm.

## DEFROSTERS

A. Defrosting and defogging equipment shall direct a sufficient flow of heated air onto the windshield, the window to the left of the driver and the glass in the viewing area directly to the right of the driver to eliminate frost, fog, and snow.

**Note:** The requirements of this standard do not apply to the exterior surfaces of double pane storm windows.

B. The defrosting system shall conform to SAE J381, Windshield Defrosting Systems Test Procedure and Performance Requirements—Trucks, Buses, and Multipurpose Vehicles.

C. The defroster and defogging system shall be capable of furnishing heated, outside ambient air, except that the part of the system furnishing additional air to the windshield, entrance door and stepwell may be the recirculating air type.

D. Auxiliary fans are not considered defrosting or defogging systems.

E. Portable heaters shall not be used.

## DOORS

A. The entrance door shall be under the driver's control, designed to afford easy release and to provide a positive latching device on manual operating doors to prevent accidental opening. When a hand lever is used, no part shall come together that will shear or crush fingers. Manual door controls shall not require more than 25 pounds of force to operate at any point throughout the range of operation, as tested on a 10-percent grade, both uphill and downhill.

B. The primary entrance door shall be located on the right side of the bus, opposite and within direct view of the driver.

1. In addition, buses may be equipped with a left side entrance door located immediately behind the driver to be used exclusively for curbside loading/unloading on one-way streets.

2. Buses equipped with a left side entrance door shall have a mirror mounted in the upper right corner of the interior of the bus so as to provide a clear view of the left side entrance door and stepwell.

C. The entrance door shall have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches.

D. The entrance door shall be a split-type door and shall open outward.

E. All entrance door glass shall be approved safety glass. The bottom of each lower glass panel shall be not more than 10 inches from the top surface of the bottom step. The top of each upper glass panel when viewed from the interior shall be not more than 3 inches below the interior door control cover or header pad.

F. Vertical closing edges on entrance doors shall be equipped with flexible material.

G. All door openings shall be equipped with padding at the top edge of the opening. Padding shall be at least three inches wide and one inch thick and extend the full width of the door opening.

H. On power-operated entrance doors, the emergency release valve, switch, or device to release the entrance door must be placed above or to the immediate left or immediate right of the entrance door and must be clearly labeled. The emergency release valve, switch, or device shall work in the absence of power.

## DRIVESHAFT

The driveshaft shall be protected by a metal guard or guards around its circumference to reduce the possibility of its whipping through the floor or dropping to the ground, if broken.

## ELECTRICAL SYSTEM

A. Low-Voltage battery

1. The low-voltage storage batteries shall have minimum cold cranking capacity rating (cold cranking amps) equal to the cranking current required for 30 seconds at 0 degrees Fahrenheit and a minimum reserve capacity rating of 120 minutes at 25 amps. Higher capacities may be required, depending upon optional equipment and local environmental conditions.

2. The manufacturer shall securely attach the low-voltage battery on a slide-out or swing-out tray in a closed, vented compartment in the body skirt or chassis frame or engine compartment so that the battery is accessible for convenient servicing from the outside. When in the stored position, the tray shall be retained by a securing mechanism capable of holding the tray [with battery(ies)] in position when subjected to a 5g load from any direction. The battery compartment door or cover, if separate from the tray, shall be hinged at the front or top. It shall be secured by a positively- operated latching

system or other type fastener. The door may be an integral part of the battery slide tray. The door or cover must fit tightly to the body, and not present sharp edges or snagging points. Battery cables shall meet SAE requirements. Battery cables shall be of sufficient length to allow the battery tray to extend fully. Any chassis frame-mounted batteries shall be relocated to a battery compartment on Type A buses.

3. All low-voltage batteries are to be secured in a sliding tray, or an accessible service tray, except that on van conversion or cutaway front-section chassis, batteries may be secured in accordance with the manufacturer's standard configuration. In these cases, the final location of the battery and the appropriate cable lengths shall be agreed upon mutually by the chassis and body manufacturers. However, in all cases the battery cable provided with the chassis shall have sufficient length to allow some slack, and shall be of sufficient gauge to carry the required amperage.

4. Buses with internal combustion engines may be equipped with a low-voltage battery shut-off switch. The switch is to be placed in a location not readily accessible to the driver or passengers.

5. Buses with a high-voltage battery electric powertrain shall be equipped with a low-voltage battery shut-off switch. The switch is to be placed in a location not readily accessible to the driver or passengers.

B. High-Voltage battery

1. High-voltage battery assemblies shall be protected according to federal requirements.

2. High-voltage batteries shall have a main-service disconnect that isolates the batteries and does not allow high voltage outside the battery pack.

C. Alternator (FOR INTERNAL COMBUSION ENGINES ONLY)

1. All Type A and Type B buses with a GVWR of 15,000 pounds or less shall have a minimum 130-amp alternator. Buses equipped with an electrically powered wheelchair lift and/or air conditioning shall be equipped with the highest rated capacity available from the chassis OEM.

2. All buses over 15,000 pounds GVWR shall be equipped with a heavy-duty truck-or bus-type alternator having a minimum output rating of 200 amps or higher, and should produce a minimum current output of 50 percent of the rating at engine idle speed.

3. All buses other than those described in B1 equipped with an electrically powered wheelchair lift and/or air conditioning shall have a minimum alternator output of 240 amps and may be equipped with a device that advances the engine idle speed when the voltage drops to, or below, a pre-set level.

4. A belt-driven alternator shall be capable of handling the rated capacity of the alternator with no detrimental effect on any other driven components. (For estimating required alternator capacity.

5. A direct/gear-drive alternator is permissible in lieu of a belt-driven alternator.

D. Electrical Components

Materials in all electrical components shall contain no mercury.

E. Wiring, Chassis

1. All wiring shall conform to current applicable recommended practices of the Society of Automotive Engineers (SAE). All wiring shall use color and at least one other method for identification. The other method shall be either a number code or name code, and each chassis shall be delivered with a wiring diagram that illustrates the wiring of the chassis.

2. The chassis manufacturer of an incomplete vehicle shall install a readily accessible terminal strip or connector on the body side of the cowl or in an accessible location in the engine compartment of vehicles designed without a cowl. The strip or connector shall contain the following terminals for the body connections:

   a. Main 100-amp body circuit;

   b. Tail lamps;

   c. Right turn signal;

   d. Left turn signal;

   e. Stop lamps;

   f. Back-up lamps; and

   g. Instrument panel lamps (controlled by dimmer switch).

3. An appropriate identifying diagram (color plus a name or number code) for all chassis electrical circuits shall be provided to the body manufacturer for distribution to the end user.

4. Wiring for the headlamp system must be separate from the electronically-controlled body solenoid/module.

F. Wiring, Body

1. All wiring shall conform to current applicable SAE recommended practices.

2. All wiring shall have an amperage capacity exceeding the design load by at least 25 percent. All wiring splices are to be accessible and noted as splices on the wiring diagram.

3. A body wiring diagram, sized to be easily read, shall be furnished with each bus body or affixed to an area convenient to the electrical accessory control panel.

4. The body power wire shall be attached to a special terminal on the chassis.

5. Each wire passing through metal openings shall be protected by a grommet.

6. Wires not enclosed within the body shall be fastened securely at intervals of not more than 18 inches. All joints shall be soldered or joined by equally effective connectors, which shall be water-resistant and corrosion-resistant.

7. Wiring shall be arranged in circuits, as required, with each circuit protected by a fuse breaker or electronic protection device. A system of color and number-coding shall be used and an appropriate identifying diagram shall be provided to the end user, along with the wiring diagram provided by the chassis manufacturer. The wiring diagrams shall be specific to the bus model supplied and shall include any changes to wiring made by the body manufacturer. Chassis wiring diagrams shall be supplied to the end user. The following body interconnecting circuits shall be color-coded, as noted:

| FUNCTION | COLOR |
|---|---|
| Left Rear Directional Lamp | Yellow |
| Right Rear Directional Lamp | Dark Green |
| Stop Lamps | Red |
| Back-up Lamps | Blue |
| Tail Lamps | Brown |
| Ground | White |
| Ignition Feed, Primary Feed | Black |

The color of the cables shall correspond to SAE J1128, Low-Tension Primary Cable.

8. Wiring shall be arranged in at least six regular circuits, as follows:

   a. Head, tail, stop (brake), clearance, and instrument panel lamps;

   b. Step well lamps shall be actuated when the entrance door is open;

   c. Dome lamps;

   d. Ignition and emergency door signal;

   e. Turn signal lamps; and

   f. Alternately flashing signal lamps.

9. Any of the above combination circuits may be subdivided into additional independent circuits.

10. Heaters and defrosters shall be wired on an independent circuit.

11. Whenever possible, all other electrical functions (such as sanders and electric-type windshield wipers) shall be provided with independent and properly protected circuits.

12. Each body circuit shall be coded by number or letter on a diagram of circuits and shall be attached to the body in a readily accessible location.

G. Buses may be equipped with a 12-volt, and/or a USB-A or USB-C power port in the driver's area.

H. There shall be a manual noise suppression switch installed in the control panel. The switch shall be labeled and alternately colored. This switch shall be an on/off type that deactivates body equipment that produces noise, including at least the AM/FM radio, heaters, air conditioners, fans, and defrosters. This switch shall not deactivate safety systems, such as windshield wipers or lighting systems.

## ELECTRIC VEHICLE CHARGING PORT

A. The high-voltage batteries shall be equipped with a system that allows the batteries to be charged via a connection to the local electrical utility grid. This connection shall be a Combined Charging System (CCS), North American Charging Standard (NACS), or SAE J1772, compatible with the charging equipment.

B. The charging receptacle/port shall be mounted/located in accordance with the

manufacturer standards. The receptacle shall accommodate the minimum requirements for Level II AC charging and DC fast charging.

## ELECTRIC VEHICLE DC-DC CONVERTER

A. A DC-DC converter shall be provided and deliver a minimum of 200 amps at 12VDC.

B. The converter system shall incorporate a Ground Fault Interrupt (GFI) that disconnects/isolates the high-voltage batteries in the event of a shorted circuit or water intrusion.

## ELECTRIC VEHICLE HIGH-VOLTAGE SYSTEM

High Voltage-Powered Vehicles: Buses utilizing a high voltage propulsion system (60 VDC or 30 VAC) shall comply with the following:

A. The propulsion power source (batteries, fuel cells, etc.) shall be located outside the passenger compartment.

B. The propulsion power source enclosure shall be constructed to conform to the power source manufacturer's requirements and recommendations.

C. Wire, cable, and conductor insulation in the High Voltage System shall provide adequate insulation for the voltage used and for ambient temperatures ranging from- 15°F to 120°F. All high voltage wiring/cabling shall be covered with bright orange loom or otherwise labeled as HIGH VOLTAGE.

D. All high voltage circuits shall provide adequate and automatic protection against electrical overloads caused by short circuits or other excessive current conditions through the use of fuses, circuit breakers, and ground fault interruption.

E. Each door, cover, or other panel that affords immediate access to any high voltage area shall be plainly marked with a hazard warning label which shall read WARNING—HIGH VOLTAGE or DANGER—HIGH VOLTAGE. This label shall be located in a highly conspicuous place.

F. All high voltage access areas shall be secured to deter unauthorized access.

## ELECTRIC VEHICLE IGNITION SYSTEM

A. The ignition switch circuit shall be linked to the Battery Management System and shall prevent the driving of the vehicle while it is connected to an external battery charging source.

B. The high voltage system shall be designed so that when the ignition switch is off, the high voltage is disconnected.

## ELECTRIC VEHICLE REGENERATIVE BRAKES

In addition to service brake specifications for combustion engine buses, Electric Vehicles (EVs) shall be equipped with regenerative braking that utilizes the electric drive system in concert with the service brakes to slow the vehicle and return electrical energy to the battery system.

## ELECTRIC VEHICLE SYSTEM PROTECTION

A. As part of the Battery Management System, EVs shall be equipped with an automatic shutdown to protect system components from damage caused by malfunctions such as charging/discharging faults, battery overheating, electrical overheating, degraded battery health, etc.

B. Prior to automatic shutdown, a warning or maintenance indicator shall display in the driver console to notify the driver of impending shutdown or the need for immediate maintenance and allow enough time to safely reposition and stop the bus. Gradual derating of propulsion shall occur prior to complete automatic shutdown.

## EMERGENCY EQUIPMENT

A. Fire Extinguisher

1. The bus shall be equipped with at least one UL-approved pressurized, dry chemical fire extinguisher. The extinguisher shall be secured in a mounted bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure gauge shall be mounted on the extinguisher and shall be easily read without moving the extinguisher from its mounted position.

2. The fire extinguisher shall have a rating of 2-A:10-BC, or greater. The operating mechanism shall be secured with a type of seal that will not interfere with the use of the fire extinguisher.

B. First Aid Kit

1. The bus shall have a removable, moisture-proof and dust-proof first aid kit in an accessible place in the driver's compartment. It shall be mounted and identified as a first aid kit. The location for the first aid kit shall be marked. Contents of the first aid kit shall be in compliance with state standards.

2. Suggested contents include:

2 – 1-inch x 2½ yards of adhesive tape rolls
24 – sterile gauze pads, 3x3 inches
100 – ¾ x 3 inches adhesive bandages
8 – 2-inch bandage compresses
10 – 3-inch bandage compresses
2 – 2-inch x 6-foot sterile gauze roller bandages
2 – non-sterile triangular bandages, minimum 39x35x54 inches, with two safety pins
3 – sterile gauze pads 36x36 inches
3 – sterile eye pads
1 – rounded-end scissors
1 – pair medical examination gloves
1 – mouth-to-mouth airway

C. Body Fluid Clean-up Kit

1. Each bus shall have a removable and moisture-proof body fluid clean-up kit accessible to the driver. It shall be mounted and identified as a body fluid cleanup kit. Contents of the body fluid clean-up kit shall be in compliance with state standards.

2. Suggested contents include:

4 - antiseptic BZK Towelettes
2 - biohazard Bag - w/Tie
4 – gloves, Nitrile
1 - face mask/eye shield
1 - fluid solidifier – minimum 10g
1 – scooper, plastic
1 - scoop bag
4 - paper towels
2 - germicidal wipes
1 - personal protection hair cover
1 – gown
1 - hand sanitizer - minimum - .9g each

D. Warning Devices

Each school bus shall contain at least three retroreflective triangle road warning devices that meet the requirements of FMVSS No. 125, Warning Devices. They shall be mounted in an accessible place.

E. Any piece of emergency equipment may be mounted in an enclosed compartment, provided the compartment is labeled in not less than one-inch letters, identifying each piece of equipment contained therein.

## EMERGENCY EXITS

A. Any installed emergency exit shall comply with the design and performance requirements of FMVSS No. 217, Bus Emergency Exits and Window Retention and Release, applicable to that type of exit, regardless of whether or not that exit is required by FMVSS No. 217.

B. Emergency Window Requirements

1. The rear emergency window shall have a lifting assistance device that will aid in lifting and holding the rear emergency window open.

2. Side emergency exit windows, when installed, may be vertically hinged on the forward side of the window. No side emergency exit window shall be located above a stop arm.

C. Emergency Door Requirements

1. The exposed area of the upper panel of emergency doors shall be a minimum of 400 square inches of approved safety glazing.

2. If installed, all other glass panels on emergency doors shall be approved safety glazing.

3. There shall be no steps leading to an emergency door.

4. There shall be no obstruction higher than ¼ inch across the bottom of any emergency door opening. Fasteners used within the emergency exit opening shall be free of sharp edges or burrs.

5. Roof Hatches: Using the following standard and conforming to FMVSS 217, a head form moving at a velocity of 2 in/min, a perpendicular force applied directly to the center of the hatch lid must exceed 3100 N (700 lb.) before ANY one of the following conditions can occur:

a. The roof hatch opens (release mechanism fails).

b. The hatch deforms such that an opening large enough to admit the passage of a four-inch sphere is created.

c. The inner surface of the hatch at the center has moved perpendicularly to the undisturbed surface of the hatch a distance equal to the length of the smallest chord along the surface of the hatch passing through the center divided by 4.

D. Emergency Exit Requirements: The use of the following tables is to determine the required number and types of emergency exits to comply with this specification, based on the bus manufacturer's equipped seating capacity.

1. Use **Table 1** if the bus contains a rear emergency door, or

2. Use **Table 2** if the bus contains a rear pushout emergency window AND a left side emergency door, as required by FMVSS No. 217 for school buses without a rear emergency door.

3. When using either Table 1 or Table 2:

   a. Enter the Table at the appropriate "CAPACITY" and select the desired row from the options for that capacity.

   b. A school bus will meet the requirements of this specification and the requirements of FMVSS 217 if it contains the types and quantities of emergency exits listed on the row selected.

E. Emergency Exit Interlock Device Requirements

1. If an emergency exit is equipped with a locking device, the vehicle shall be incapable of starting when the exit is locked from either the inside or outside of the bus.

2. If an exit locking device is engaged, and the vehicle's ignition is in the "on" position, a continuous warning sound shall be audible at the driver's seating position and in the vicinity of the emergency exit.

**TABLE 1**
BUSES WITH REAR EMERGENCY DOOR
(All Front Engine Buses)

| Available Combinations By Capacity | Manufacturers Equipped Capacity | Shall Have | And Shall Also Have | | |
|---|---|---|---|---|---|
| | | Roof Hatch | L. Side Emerg. Exit Windows | R. Side Emerg. Exit Windows | L. Side Emerg. Exit Door |
| 1-45 | 1-45 | 1 | 0 | 0 | 0 |
| 46-77 | 46-77 | 2 | 1 | 1 | 0 |
| | 46-77 | 2 | 0 | 0 | 1 |
| 78-93 | 78-93 | 2 | 2 | 2 | 0 |
| | 78-93 | 2 | 1 | 1 | 1 |

**TABLE 2**
BUSES WITH REAR PUSHOUT WINDOW
AND LEFT SIDE EMERGENCY DOOR
(All Rear Engine Buses)

| Available Combinations By Capacity | Manufacturers Equipped Capacity | Shall Have | And Shall Also Have | | |
|---|---|---|---|---|---|
| | | Roof Hatch | L. Side Emerg. Exit Windows | R. Side Emerg. Exit Windows | R. Side Emerg. Exit Door |
| 1-45 | 1-45 | 1 | 0 | 0 | 0 |
| 46-89 | 46-89 | 2 | 1 | 1 | 0 |
| | 46-89 | 2 | 0 | 0 | 1 |
| 90-105 | 90-105 | 2 | 2 | 2 | 0 |
| | 90-105 | 2 | 1 | 1 | 1 |

## EV IDENTIFICATION LABEL

A. Each EV school bus shall be identified with a permanent, diamond-shaped label located on the exterior vertical surface or near-vertical surface on the lower right rear of the school bus other than on the bumper of the vehicle.

B. The label shall be a minimum of 4.7 inches long x 3.0 inches high.

C. The marking in the label shall consist of a blue colored background, a border, and the letters “EV”, one inch in height with the lightning bolt in the center.

D. In addition to the location on the right rear, labels shall be affixed to each side of the school bus, rear of the entrance door and beneath the driver’s window.

Example:




E. Battery disconnect label

1. A permanent label with black one-inch letters shall identify the location(s) of the battery disconnect switch or device.

2. Any instructions may be printed adjacent to the switch or device in letters ½ inch high

## EXHAUST SYSTEM (FOR INTERNAL COMBUSTION ENGINES ONLY)

A. The exhaust pipe, after-treatment system, and tailpipe shall be outside the bus body compartment and shall be attached to the chassis so any other chassis component is not damaged.

B. The tailpipe and after-treatment system shall be constructed of a corrosion-resistant tubing material at least equal in strength and durability to 16-gauge steel tubing of equal diameter.

C. The tailpipe may be flush with, or shall not extend more than two inches beyond, the perimeter of the body for side-exit pipe or the bumper for rear-exit pipe. The exhaust system shall be designed such that exhaust gas will not be trapped under the body of the bus.

D. The tailpipe shall exit to the left or right of the emergency exit door in the rear of the vehicle or to the left side of the bus in front of or behind the rear drive axle or the

tailpipe may extend through the bumper. The tailpipe exit location on all Types A-1 or B-1 buses may be in accordance to the manufacturer's standards. The tailpipe shall not exit beneath any fuel filler location, emergency door, or lift door.

E. The exhaust system shall be insulated in a manner to prevent any damage to any fuel system component.

F. The design of the after-treatment systems shall not allow active (non-manual) regeneration of the particulate filter during the loading and unloading of passengers. Manual regeneration systems will be designed such that unintentional operation will not occur.

G. For after-treatment systems that require Diesel Exhaust Fluid (DEF) to meet federally mandated emissions:

1. The composition of Diesel Exhaust Fluid (DEF) must comply with International Standard ISO 22241-1. Refer to engine manufacturer for any additional DEF requirements.

2. The DEF supply tank shall be sized to meet a minimum ratio of 3 diesel fills to 1 DEF fill.

## FENDERS: FRONT

A. When measured at the fender line, the total spread of the outer edges of front fenders shall exceed the total spread of front tires when front wheels are in a straight-ahead position.

B. Front fenders shall be properly braced and shall not require attachment to any part of the body.

## FIRE SUPPRESSION SYSTEMS (OPTIONAL)

A. The chassis manufacturer may provide an automatic fire extinguisher system in the engine compartment.

B. Fire suppression system shall include audio and visual alerts to notify the driver that the system has been activated.

## FLOORS

A. The floor in the under-seat area, including tops of wheel housings, driver's compartment, and toe board, shall be covered with an elastomer floor covering, having a minimum overall thickness of .125 inch and a calculated burn rate of 0.1 mm per minute or less, using the test methods, procedures and formulas listed in FMVSS

No. 302, Flammability of Interior Materials. The driver's area and toe board area in all Type-A buses may be manufacturer's standard flooring and floor covering.

B. The floor covering in the aisles shall be ribbed or other raised pattern elastomer and have a calculated burn rate of 0.1 mm per minute or less using the test methods, procedures and formulas listed in FMVSS No. 302. Minimum overall thickness shall be .187 inch measured from tops of ribs.

C. The floor covering must be permanently bonded to the floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and shall be a type recommended by the manufacturer of the floor-covering material. All seams shall be sealed with waterproof sealer.

D. On Types B, C, and D buses, a flush-mounted, screw-down plate that is secured and sealed shall be provided to access the diesel or gasoline fuel tank sending unit and/or fuel pump. This plate shall not be installed under flooring material.

## FRAME

A. Frame lengths shall be established in accordance with the design criteria for the complete vehicle.

B. Making holes in top or bottom flanges or side units of the frame and welding to the frame shall not be permitted except as provided or accepted by the chassis manufacturer.

C. Frames shall not be modified for the purpose of extending the wheelbase.

D. Any secondary manufacturer that modifies the original chassis frame shall provide a warranty at least equal to the warranty offered by the original equipment manufacturer (OEM), and shall certify that the modification and other parts or equipment affected by the modification shall be free from defects in material and workmanship under normal use and service intended by the OEM.

## FUEL SYSTEM (FOR INTERNAL COMBUSTION ENGINES ONLY)

A. Fuel tank(s) having a minimum 25-gallon capacity shall be provided by the chassis manufacturer. Each tank shall be filled from and vented to the outside of the passenger compartment, and each fuel filler should be placed in a location where accidental fuel spillage will not drip or drain on any part of the exhaust system.

B. The fuel system shall comply with FMVSS No. 301, Fuel System Integrity.

C. Fuel tank(s) may be mounted between the chassis frame rails or outboard of the frame rails on either the left or right side of the vehicle.

D. The actual draw capacity of each fuel tank shall be a minimum of 83 percent of the tank capacity.

E. Installation of alternative fuel systems, including fuel tanks and piping from the tank to the engine, shall comply with all applicable fire codes in effect on the date of manufacture of the bus.

F. Installation of Liquefied Petroleum Gas (LPG) tanks shall comply with National Fire Protection Association (NFPA) 58, Liquefied Petroleum Gas Code.

G. Installation of Compressed Natural Gas (CNG) containers shall comply with FMVSS No. 304, Compressed Natural Gas Fuel Container Integrity.

H. The CNG Fuel System shall comply with FMVSS No. 303, Fuel System Integrity of Compressed Natural Gas Vehicles.

## HANDRAILS

A handrail shall be installed on the left and right sides of the stepwell. The handrails shall be a minimum of one inch diameter and be constructed from corrosion resistant material(s). The handrails shall assist passengers during entry or exit and shall be designed to prevent entanglement, as evidenced by the passing of the National Highway Traffic Safety Administration (NHTSA) string and nut test.

## HEATING SYSTEM, PROVISION FOR (FOR INTERNAL COMBUSTION ENGINES ONLY)

The engine shall be capable of supplying coolant at a temperature of at least 170 degrees F at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one inch inside diameter automotive hot water heater hose. (See SBMTC-001, Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment.)

## HEATING AND AIR CONDITIONING SYSTEMS

A. Heating System

1. The heater shall be hot water combustion type, electric heating element, or heat pump.

2. If only one heater is used, it shall be fresh-air or combination fresh-air and recirculation type.

3. If more than one heater is used, additional heaters may be recirculating air

type.

4. The heating system shall be capable of maintaining bus interior temperatures, as specified in test procedure SAE J2233.

5. Auxiliary fuel-fired heating systems are permitted, provided they comply with the following:

   a. Except for electric-power school buses, the auxiliary heating system shall utilize the same type of fuel as specified for the vehicle engine.

   b. The heater(s) may be direct, hot air-type or may be connected to the engine coolant system.

   c. An auxiliary heating system, when connected to the engine coolant system, may be used to preheat the engine coolant or preheat and add supplementary heat to the heating system.

   d. Auxiliary heating systems shall be installed pursuant to the manufacturer's recommendations and shall not direct exhaust in such a manner that will endanger bus passengers.

   e. All combustion heaters shall be in compliance with current Federal Motor Carrier Safety Regulations.

   f. The auxiliary heating system shall require low voltage.

   g. Auxiliary heating systems shall comply with FMVSS No. 301, Fuel System Integrity, and all other applicable FMVSS, as well as with SAE test procedures.

6. All forced-air heaters installed by body manufacturers shall bear a name plate that indicates the heater rating in accordance with SBMTC-001, Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment. The plate shall be affixed by the heater manufacturer and shall constitute certification that the heater performance is as shown on the plate.

7. Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or any sharp edges and shall not interfere with or restrict the operation of any engine function. Heater hoses shall conform to SAE J20c, Coolant System Hoses. Heater lines, cores, and elements on the interior of the bus shall be shielded to prevent scalding or burning of the driver or passengers.

8. Each hot water system installed by a body manufacturer shall include one shutoff valve in the pressure line and one shutoff valve in the return line, with both valves at the engine in an accessible location, except that on Types A and B buses, the valves may be installed in another accessible location.

9. All heaters of hot water type in the passenger compartment shall be equipped with a device, installed in the hot water pressure line, which regulates the water flow to all passenger heaters. The device shall be conveniently operated by the driver while seated. The driver and passenger heaters may operate independently of each other for maximum comfort.

10. On hot water type systems, accessible bleeder valves for removing air from the heater shall be installed in an appropriate place in the return lines of any body-company-installed heater.

11. Access panels shall be provided to make heater motors, cores, elements and fans readily accessible for service. An exterior access panel to the driver's heater may be provided.

B. Passenger Compartment Air Conditioning (Optional)

The following specifications are applicable to all types of school buses that may be equipped with air conditioning. This section is divided into three parts. Part 1 covers performance specifications, Part 2 covers test conditions, and Part 3 covers other requirements applicable to all buses.

1. Performance Specifications

a. Standard Performance

The installed air conditioning system should cool the interior of the bus from 100 degrees to 80 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the longitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the longitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the aisle. Note for Type A vehicles placement of the rear thermocouple should be centered in the bus over the rear axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of ±3 degrees Fahrenheit of the average temperature at the conclusion of the test.

b. High Performance

The installed air conditioning system should cool the interior of the bus from 100 degrees to 70 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the longitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the longitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the aisle. Note for the Type A vehicles placement of the rear thermocouple should be centered in the bus over the rear axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of ±3 degrees Fahrenheit of the average temperature at the conclusion of the test.

2. Test Conditions

The test conditions under which the above performance standards must be achieved shall consist of (1) placing the bus in a room (such as a paint booth) where ambient temperature can be maintained at 100 degrees Fahrenheit; (2) heat-soaking the bus at 100 degrees Fahrenheit at a point measured two feet horizontally from the top of the windows on both sides of the bus, with windows open for two hours; and (3) closing windows, turning on the air conditioner with the engine running at 1250 ±50 RPM, and cooling the interior of the bus to 80 degrees Fahrenheit, (standard performance) or 70 degrees Fahrenheit (high performance), within 30 minutes while maintaining 100 degrees Fahrenheit outside temperature.

The manufacturer shall provide test results that show compliance with standard systems. If the bid specifies, the manufacturer shall provide facilities for the user or user's representative to confirm that a pilot model of each bus design meets the above performance requirements.

3. Other Requirements

a. Evaporator cases, lines, and ducting (as equipped) shall be designed in such a manner that all condensation is effectively drained to the exterior of the bus below the floor level under all conditions of vehicle movement and without leakage on any interior portion of the bus.

b. Evaporators and ducting systems shall be designed and installed to be free of projections or sharp edges. Ductwork shall be installed so that exposed edges face the front of the bus and do not present sharp edges.

c. On school buses equipped with Type-2 seatbelts having anchorages above the windows, the ducting (if used) shall be placed at a height sufficient to not obstruct occupant securement anchorages. This clearance shall be provided along the entire length (except at evaporator locations) of the passenger area on both sides of the bus interior.

d. The body may be equipped with insulation, including sidewalls, roof, firewall, rear, inside body bows, and plywood or composite floor insulation to reduce thermal transfer.

e. All glass (windshield, service and emergency doors, side and rear windows) may be equipped with maximum integral tinting allowed by federal, state or American National Standards Institute (ANSI) standards for the respective locations, except that windows rear of the driver's compartment, if tinted, shall have approximately 28 percent light transmission;

f. Electrical generating capacity shall be provided to accommodate the additional electrical demands imposed by the air conditioning system;

g. Roofs may be painted white to aid in heat dissipation (See APPENDIX B); and

h. Air intake for any evaporator assembly(ies), except for front evaporator of Type A-1, shall be equipped with replaceable air filter(s) accessible without disassembly of evaporator case.

i. For all buses (except Type D rear engine transit) equipped with a rear evaporator assembly, evaporator shall not encroach upon head impact zone, but may occupy an area of less than 26.5 inches from the rear wall and 14 inches from the ceiling.

j. For Type D rear engine transit buses equipped with a rear evaporator over the davenport, the evaporator assembly may not interfere with the rear exit window and may not extend above the rear seating row.

## HINGES

All exterior metal door hinges shall be designed to allow lubrication to be channeled to the center 75% of each hinge loop without disassembly, unless they are constructed of stainless steel, brass or non-metallic hinge pins or other designs that prevent corrosion.

## HORN

The bus shall be equipped with a horn(s) of standard make with the horn(s) capable of producing a complex sound in bands of audio frequencies between 250 and 2,000 cycles per second, and tested in accordance with SAE J377, Horn—Forward Warning— Electric—Performance, Test, and Application.

## IDENTIFICATION

A. The body shall bear the words "SCHOOL BUS" in black letters at least eight inches high on both front and rear of the body or on signs attached thereto. Lettering shall be placed as high as possible without impairment of its visibility. Letters shall conform to "Series B" of Standard Alphabets for Highway Signs. "SCHOOL BUS" lettering shall have a reflective background and may be illuminated. MFSABs are exempt from these requirements.

B. Required lettering and numbering shall include:

1. District, company name, or owner of the bus displayed at the beltline.

2. The bus identification number displayed on the sides, on the rear, and on the front.

C. Other lettering, numbering or symbols which may be displayed on the exterior of the bus shall be limited to:

1. Bus identification number, minimum 12-inch-high characters, on top of the bus, in addition to required numbering on the sides, rear and front;

2. The location of the battery(ies) identified by the word "BATTERY", "BATTERIES", or "12V BATTERIES" on the battery compartment door in two-inch lettering;

3. Symbols or letters not to exceed 64 square inches of total display near the entrance door, displaying information for identification by the students of the bus or route served;

4. Manufacturer, dealer, or school identification or logos;

5. Symbols identifying the bus as equipped for or transporting students with special needs as noted in SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS;

6. Lettering on the rear of the bus relating to school bus flashing signal lamps or electronic warning sign;

7. Lettering relating to railroad stop procedures;

8. Identification of fuel type in one-inch lettering adjacent to the fuel filler opening; and

9. Identification of charging port on a Battery-Electric Bus in one-inch lettering adjacent to the port location.

## INSIDE HEIGHT

Inside body height shall be 72 inches or more, measured metal to metal, at any point on the longitudinal centerline from the front vertical bow to the rear vertical bow. Inside body height of Type A-1 buses shall be 62 inches or more. Inside height measurement does not apply to air conditioning equipment.

## INSTRUMENTS AND INSTRUMENT PANEL

A. The chassis shall be equipped with the instruments and gauges listed below:

**Note:** Telltale warning lamps in lieu of gauges are not acceptable, except as noted.

1. Speedometer;

2. Odometer that can be read without using a key and that will give accrued mileage (to seven digits), including tenths of miles, unless tenths of miles are registered on a trip odometer;

3. Tachometer; (internal combustion engines only);
**Note:** For Types B, C, and D buses, a tachometer shall be installed so as to be visible to the driver while seated in a normal driving position;

4. Voltmeter (low voltage);

5. Oil pressure gauge (internal combustion engines only);

6. Water temperature gauge;

7. Fuel gauge (internal combustion engines only);

8. High beam headlamp indicator;

9. Brake air pressure gauge (air brakes), brake indicator lamp (vacuum/hydraulic brakes), or brake indicator lamp (hydraulic/hydraulic);

10. Turn signal indicator;

11. Glow-plug indicator lamp, where appropriate;

12. High-Voltage battery state of charge (electric bus only);

13. Motor Temp (electric bus only);

14. Battery available range in miles (electric bus only);

15. Battery discharge and regeneration rate (electric bus only); and

16. Battery temperature (electric bus only).

B. All instruments shall be easily accessible for maintenance and repair.

C. The instruments and gauges shall be mounted on the instrument panel so that each is clearly visible to the driver while seated in a normal driving position.

D. Instruments and controls must be illuminated as required by FMVSS No. 101, Controls and Displays.

E. Multi-function gauge (MFG)

1. The driver must be able to manually select any displayable function of the gauge on an MFG, whenever desired.

2. Whenever an out-of-limits condition that would be displayed on one or more functions of an MFG occurs, the MFG controller should automatically display this condition on the instrument cluster. This should be in the form of an illuminated telltale warning lamp, as well as having the MFG automatically display the out-of-limits indications. If two or more functions displayed on the MFG go out of limits simultaneously, then the MFG should sequence automatically between those functions continuously until the condition(s) are corrected.

3. The use of an MFG does not relieve the need for audible warning devices, where required.

## INSULATION (OPTIONAL)

A. Thermal insulation is required between roof panels and side panels of the bus body and shall meet the flammability requirements of FMVSS 302 with a minimum R-value of 5.5. Insulation shall be installed so as to prevent sagging.

B. If floor insulation is required, it shall be five-ply softwood plywood, nominal ⅝ inch thickness and shall be equal to or exceed properties of the exterior-type, C-D Grade, as specified in the standard issued by U.S. Department of Commerce. When plywood is used, all exposed edges shall be sealed. Type A-1 buses may be equipped with nominal ½ inch-thick plywood or equivalent material meeting the above requirements.

Equivalent material may be used to replace plywood, provided it has equal or greater insulation R-value, sound abatement, deterioration-resistant and moisture-resistant properties.

## INTERIOR

A. The interior of the bus shall be free of all unnecessary projections, which include luggage racks and attendant handrails, to minimize the potential for injury. This specification requires inner lining on ceilings and walls. If the ceiling is constructed with lap joints, the forward panel shall be lapped by rear panel and exposed edges shall be beaded, hemmed, flanged or otherwise treated to minimize sharp edges. Buses may be equipped with a storage compartment for tools, tire chains and/or tow chains. (See BUS BODY AND BODY SPECIFICATIONS, Storage Compartment.)

B. Interior overhead storage compartments may be provided if they meet the following criteria:

1. Head protection requirements of FMVSS No. 222, School Bus Passenger Seating and Crash Protection, where applicable, are met;

2. Completely enclosed and equipped with latching door (both door and latch sufficient to withstand a pushing force of 50 pounds applied at the inside center of the door);

3. Have all corners and edges rounded with a minimum radius of one inch or be padded equivalent to door header padding;

4. Attached to the bus sufficiently to withstand a force equal to 20 times the maximum rated capacity of the compartment;

5. Have no protrusions greater than ¼ inch.

C. The driver's area forward of the forwardmost padded barriers will permit the mounting of required safety equipment and vehicle operation equipment.

D. Every school bus shall be constructed so that the noise level at the ear of the occupant nearest to the primary vehicle noise source shall not exceed 85 dBA when tested according to the procedure described in APPENDIX B.

## LAMPS AND SIGNALS

A. Interior lamps which illuminate the aisle and the stepwell shall be provided. The stepwell lamp shall be illuminated by an entrance door-operated switch, to illuminate only when

headlamps and clearance lamps are on and the entrance door is open.

B. Body instrument panel lamps may be controlled by an independent dimmer switch or may be controlled by the dimmer that operates the gauge lighting.

C. School bus alternately flashing signal lamps shall be provided, as described by law. MFSABs are exempt from this requirement.

1. The bus shall be equipped with two red lamps at the rear of the vehicle and two red lamps at the front of the vehicle.

2. In addition to the four red lamps described above, four amber lamps shall be installed so that one amber lamp is located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus. The system of red and amber signal lamps shall be wired so that amber lamps are energized manually. The red lamps are automatically energized and amber lamps are automatically de-energized when stop signal arms are extended or when the bus entrance door is opened.

   The above-mentioned activation sequence can be accomplished with either a "sequential operation" or a "non-sequential operation" warning lamp system. While each of the systems can be configured to include components such as a master switch, amber activation switch, interrupt switch, etc., the presence (or absence) of these components does not affect the classification of the system as either sequential or non-sequential. Both sequential and non-sequential systems can be configured with a multitude of switch combinations to provide a unique system meeting specific user requirements. An amber pilot lamp and a red pilot lamp shall be installed adjacent to the driver controls or in the instrument cluster for the flashing signal lamp to indicate to the driver which lamp system is activated.

3. For background color requirements, refer to appropriate state specifications requirements.

4. Red lamps shall flash at any time the stop signal arm is extended.

5. All flashers for alternately flashing red and amber signal lamps shall be enclosed in the body in a readily accessible location.

D. Turn signal and stop/tail lamps

1. The bus body shall be equipped with amber rear turn signal lamps that are at least seven inches in diameter or, if a shape other than round, a minimum 38 square inches of illuminated area and meeting FMVSS No. 108, Lamps, Reflective Devices, and Associated Equipment. These signal lamps must be connected to the chassis

hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as a vehicular traffic hazard warning. Turn signal lamps are to be placed as wide apart as practical and their horizontal centerline shall be a maximum of 12 inches below the rear window.

2. Buses shall be equipped with amber side-mounted turn signal lamps. The turn signal lamp on the left side shall be mounted rearward of the stop signal arm and the turn signal lamp on the right side shall be mounted rearward of the entrance door.

3. Buses shall be equipped with four combination red stop/tail lamps.

   a. Two combination lamps with a minimum diameter of seven inches, or if a shape other than round, a minimum 38 square inches of illuminated area shall be mounted on the rear of the bus just inside the turn signal lamps.

   b. Two combination lamps with a minimum diameter of four inches, or if a shape other than round, a minimum of 12 square inches of illuminated area, shall be placed on the rear of the body between the beltline and the floor line. The rear license plate lamp may be combined with one lower tail lamp. Stop lamps shall be activated by the service brakes and shall emit a steady light when illuminated.

E. On buses equipped with a monitor for the front and rear lamps of the school bus, the monitor shall be mounted in full view of the driver. If the full circuit current passes through the monitor, each circuit shall be protected against any short circuit or intermittent shorts by a fuse, circuit breaker, or electronic protection device.

F. An optional white flashing strobe lamp may be installed on the roof of a school bus at a location not closer than 12 inches or more than six feet from the rear of the roof edge. However, if the bus is equipped with a roof hatch or other roof mounted equipment falling within the above-mentioned measurements, the strobe lamp may be located directly behind that equipment. The lamp shall have a single clear lens emitting light 360 degrees around its vertical axis, meeting the requirements of SAE J845. Class 2. It may not extend above the roof more than the maximum legal height. A manual switch and a pilot lamp shall be included to indicate when the lamp is in operation. Optionally, the strobe lamp may be wired to activate with the amber alternately flashing signal lamps, continuing through the full loading or unloading cycle, and may be equipped with an override switch to allow activation of the strobe at any time for use in inclement weather.

G. The bus body shall be equipped with two white rear backup lamps that are at least four inches in diameter or, if a shape other than round, a minimum of 12 square inches of

illuminated area, and shall meet FMVSS No. 108. If backup lamps are placed on the same horizontal line as the brake lamps and turn signal lamps, they shall be to the inside.

H. A daytime running lamps (DRL) system shall be provided.

I. Exterior Lighting for Loading Zone (optional)--If equipped, an exterior lamp or lamps to illuminate an area on the right side of the bus, as indicated in Figure 6, shall:

1. Project white light;

2. Have the illumination of the area tested for compliance, with the entrance door and all windows closed, to produce a minimum illumination of 10 lux when measured at each point on the grid, as indicated in Figure 6, at a height of 0.5 m (1.6 ft) and 1.0 m (3.3 ft) above the ground, with the light meter positioned so that it measures incident light on a plane oriented perpendicular to the observation direction, either from the eye point of the driver or the mirror so that the driver could observe that location;

3. Direct its light in a manner that prevents the light from shining directly into the right-side rear-view mirror and crossover mirror;

4. If not disabled by the noise suppression switch, turn on when the door is opened and when the ignition power is on;

5. Turn off approximately five seconds after the door has closed.

a. An additional switch or other means may be installed to allow the driver to temporarily de-activate the operation of the exit lamp(s).

## METAL TREATMENT

A. All metal except high-grade stainless steel or aluminum used in construction of the bus body shall be zinc-coated or aluminum-coated or treated to prevent corrosion. This includes, but is not limited to, such items as structural members, inside and outside panels, door panels and floor sills. Excluded are such items as door handles, grab handles, interior decorative parts, and other interior plated parts.

B. All metal parts that will be painted, in addition to the above requirements, shall be chemically cleaned, etched, zinc phosphate-coated and zinc chromate- or epoxy-primed to improve paint adhesion. This includes, but is not limited to, such items as the crossing control arm and stop arm(s).

C. In providing for these requirements, particular attention shall be given to lapped surfaces, welded connections of structural members, cut edges on punched or drilled hole areas in sheet metal, closed, or box sections, unvented or undrained areas, and surfaces subjected to abrasion during vehicle operation.

D. As evidence that the above requirements have been met, samples of materials and sections used in the construction of the bus body shall be subjected to cyclic corrosion testing as outlined in SAE J1563.

## MIRRORS

A. The interior glass mirror shall be either laminated or tempered and shall have rounded corners and protected edges. Mirrors shall be 6 x 16 inches minimum for Type A buses and 6 x 30 inches minimum for Types C and D buses.

B. Each school bus shall be equipped with exterior mirrors meeting the requirements of FMVSS No. 111, Rearview Mirrors. The right-side rearview mirror shall not be obscured by the unwiped portion of the windshield. Mirrors shall be easily adjustable, but shall be rigidly braced, so as to reduce vibration.

C. Heated external mirrors may be used.

D. Remote controlled external rear view mirrors may be used.

## MOBILE DATA DEVICE (MDD; (OPTIONAL)

A. If equipped, the Mobile Data Device (MDD) shall be mounted in an area that shall not block the driver's field of view through the windshield. The MDD shall not block the view of/or access to any gauges, mirrors, indicator lights, or safety controls.

B. The MDD shall be securely mounted as to not be a snagging hazard in the student-loading area of the service door.

C. Audio and/or visual turn-by-turn instructions from the MDD system are allowed while the bus is being operated. Audible directions shall not use the speakers within the passenger compartment.

D. While the bus is in motion, audio and visual instructions on the MDD may remain functional, but operational and tactile functions shall be disabled.

## MOUNTING

A. The rear body crossmember shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

B. Isolators shall be installed at all contact points between the body and the chassis frame

on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operating conditions.

## OIL FILTER

An oil filter with a replaceable element shall be provided and connected by flexible oil lines if it is not a built-in or an engine-mounted design. The oil filter shall have a capacity in accordance with the engine manufacturer's recommendation.

## OPENINGS

All openings in the floorboard or firewall between the chassis and the passenger compartment (e.g., for gearshift selector and parking brake lever) shall be sealed.

## OVERALL LENGTH

Overall length of the bus shall not exceed 45 feet, excluding accessories.

## OVERALL WIDTH

Overall width of bus shall not exceed 102 inches, excluding accessories.

## PASSENGER ADVISORY SYSTEM (OPTIONAL)

If installed, a passenger advisory system shall require the driver to walk through the bus looking for all children before leaving the bus. The driver shall go to the rear of the bus to deactivate the system. If the driver tries to leave the bus without deactivating the system, the system shall cause the horn to sound, notifying others that the bus may still be occupied.

## PASSENGER LOAD

A. Actual gross vehicle weight (GVW) is the sum of the chassis weight plus the body weight, plus the driver's weight, plus total seated student weight. For purposes of calculation, the driver's weight is 150 pounds and the student weight is 120 pounds per student.

B. Actual GVW shall not exceed the chassis manufacturer's GVWR for the chassis, nor shall the actual weight carried on any axle exceed the chassis manufacturer's Gross Axle Weight Rating (GAWR).

## PUBLIC ADDRESS SYSTEM

A. Buses may be equipped with an AM/FM/audio and/or public address system having interior and exterior speakers.

B. No internal speakers, other than the driver's communication systems, may be installed within four feet of the driver's seat back in its rearmost upright position.

## RETARDER SYSTEM (OPTIONAL EQUIPMENT)

A retarder system, if used, shall limit the speed of a fully loaded school bus to 19.0 mph on a seven-percent grade for 3.6 miles.

## RETROREFLECTIVE MATERIAL

(See also APPENDICES A and B, Retroreflective Sheeting.)

A. The front and/or rear bumper may be marked diagonally 45 degrees down toward the centerline of the pavement with two ±¼ inch-wide strips of non-contrasting retroreflective material.

B. The rear of the bus body shall be marked with strips of retroreflective NSBY material to outline the perimeter of the back of the bus using material which conforms with the requirements of FMVSS No. 131, School Bus Pedestrian Safety Devices, Table 1. The perimeter marking of rear emergency exits per FMVSS No. 217, Bus Emergency Exits and Window Retention and Release, and the use of retroreflective "SCHOOL BUS" background partially accomplishes the objective of this requirement. To complete the perimeter marking of the back of the bus, strips of retroreflective NSBY material, a minimum of one inch and a maximum of two inches in width shall be applied horizontally above the rear windows and above the rear bumper, extending from the rear emergency exit perimeter, marking outward to the left and right rear corners of the bus. Vertical strips shall be applied at the corners connecting these horizontal strips. Multifunction school activity buses (MFSABs) shall be exempt from these color requirements.

C. "SCHOOL BUS" signs shall be marked with retroreflective NSBY material comprising background for lettering of the front and/or rear "SCHOOL BUS" signs.

D. Sides of the bus body shall be marked with at least 1¾ inch retroreflective NSBY material, extending the length of the bus body and located (vertically) between the floor line and the beltline.

E. If used, signs placed on the rear of the bus relating to school bus flashing signal lamps or railroad stop procedures may be retroreflective material, as specified by each state.

## ROAD SPEED CONTROL

When it is desired to accurately control vehicle maximum speed, a vehicle speed limiter may be utilized.

## RUB RAILS

A. There shall be one rub rail on each side of the bus located at, or no more than eight inches above, the seat cushion level. They shall extend from the rear side of the entrance door completely around the bus body (except at the emergency door or any maintenance access door) to the point of curvature near the outside cowl on the left side.

B. There shall be one additional rub rail on each side located 10 inches or less above the floor line. The rub rail shall cover the same longitudinal span as the upper rub rail, except at the wheel housing, and it shall extend only to the longitudinal tangent of the right and left rear corners.

C. Rub rails above the floor line shall be attached at each body post and at all other upright structural members.

D. Each rub rail shall be four inches or more in width in its finished form and shall be constructed of 16-gauge metal or other material of equivalent strength suitable to help protect body side panels from damage. Rub rails shall be constructed in corrugated or ribbed fashion.

E. Rub rails shall be applied outside the body or outside the body posts. (Pressed-in or snap-on rub rails do not satisfy this requirement.) For Type A-1 vehicles using the body provided by the chassis manufacturer or for Types A-2, B, C, and D buses containing the rear luggage or the rear engine compartment, rub rails need not extend around the rear corners.

F. The bottom edge of the body side skirts shall be stiffened by application of a rub rail, or the edge may be stiffened by providing a flange or other stiffeners.

## SEATS AND RESTRAINING BARRIERS

A. Passenger Seating

1. School bus design capacities shall be in accordance with 49 CFR, Part 571.3, Definitions, and FMVSS No. 222, School Bus Passenger Seating and Crash Protection.

2. All seats shall have a minimum cushion depth of 15 inches, a seat back height of 24 inches above the seating reference point, and must comply with all other requirements of FMVSS No. 222.

3. All restraining barriers and passenger seats shall be constructed with materials that enable them to meet the criteria of the School Bus Seat Upholstery Fire Block Test.

4. Each seat leg shall be secured to the floor by sufficient means to conform to the performance requirements of FMVSS No. 222 and FMVSS 210, as applicable. Seats may be track-mounted in conformance with FMVSS No. 222 and FMVSS 210, as applicable.

5. If track seating is installed, the manufacturer shall supply minimum and maximum seat spacing dimensions (applicable to the bus) which comply with FMVSS No. 222. This information shall be on a label permanently affixed to the bus.

6. All school buses (including Type A) shall be equipped with restraining barriers that conform to FMVSS No. 222.

7. A flip seat may be installed at any side emergency door. If provided, the flip seat shall conform to FMVSS No. 222 and aisle clearance requirements of FMVSS No. 217, Bus Emergency Exits and Window Retention and Release. The flip seat shall be free of sharp projections on the underside of the seat bottom. The underside of the flip seat bottoms shall be padded or contoured to reduce the possibility of clothing being snagged. Flip seats shall be constructed to prevent passenger limbs from becoming entrapped between the seat back and the seat cushion when the seat is in the upright position. The seat cushion shall be designed to rise to a vertical position automatically when it is not occupied.

8. Lap belts shall not be installed on passenger seats in large school buses (over 10,000 pounds GVWR)

B. Pre-School Age Seating

Passenger seats designed to accommodate a child or infant carrier seat shall comply with FMVSS No. 225, Child Restraint Anchorage Systems. These seats shall be in compliance with NHTSA's "Guideline for the Safe Transportation of Pre-school Age Children in School Buses."

**Note**: See A.8, above.

C. Buses shall be equipped with a rated capacity sticker or plate readily visible and displayed inside the bus. This shall indicate the maximum seating capacity of the bus for passengers, in addition to the driver. Buses with track seating shall indicate the maximum seating capacity of passengers, in addition to the driver.

D. Driver Seat

1. The driver seat supplied by the body manufacturer shall be a high back seat. The seat back shall be adjustable to 15 degrees minimum, without requiring the use of tools. The seat shall be equipped with a head restraint to accommodate from

a 5th percentile female to a 95th percentile adult male, as defined in FMVSS No. 208, Occupant Crash Protection.

2. Type A buses may utilize the standard driver seat provided by the chassis manufacturer.

E. Driver Restraint System

A Type 2 lap/shoulder belt shall be provided for the driver.

The assembly shall be equipped with an emergency locking retractor for the continuous belt system. On all buses, except Type A that are equipped with a standard chassis manufacturer's driver's seat, the lap portion of the belt system shall be guided or anchored to prevent the driver from sliding sideways under the belt system. The lap/shoulder belt shall be designed to allow for easy adjustment in order to fit properly and to effectively protect drivers varying in size from a 5th percentile adult female to a 95th percentile adult male. The belt may be of a high visibility contrasting color.

F. Each bus shall be equipped with a durable webbing cutter having a full width handgrip and a protected, replaceable or non-corrodible blade. The required webbing cutter shall be mounted in a location accessible to the seated driver in an easily detachable manner.

## SHOCK ABSORBERS

The bus shall be equipped with double-action shock absorbers compatible with the manufacturer's rated axle capacity at each wheel location.

## SIDE SKIRTS

School bus body side skirts between the front and rear axles shall extend down to within two inches plus or minus of the horizontal line from the center of the front spindle to the center of the rear axle. The manufacturer may offer optional side skirt lengths that extend lower than this requirement. This measurement shall apply to a new unloaded school bus located on a flat, level surface.

## STEERING GEAR

A. The steering gear shall be approved by the chassis manufacturer and designed to ensure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed.

B. If external adjustments are required, the steering mechanism shall be accessible to make

adjustments.

C. Changes shall not be made to the steering apparatus which are not approved by the chassis manufacturer.

D. There shall be a clearance of at least two inches between the steering wheel and cowl, instrument panel, windshield, or any other surface.

E. Power steering is required and shall be of the integral type with integrated components (valves, piston, gear drive, worm shaft, motors, etc.).

F. The steering system shall be designed to provide a means for lubrication of all wear-points that are not permanently lubricated.

## STEPS

A. The first step at the entrance door shall be not less than 10 inches and not more than 16 inches from the ground when measured from the top surface of the step to the ground. An auxiliary step may be provided to compensate for the increase in ground-to-first step clearance. The auxiliary step is not required to be enclosed.

B. Step risers shall not exceed a height of 10 inches.

**Note:** When plywood is used on a steel floor or step, the riser height may be increased by the thickness of the plywood.

C. Steps shall be enclosed to prevent accumulation of ice and snow.

D. Steps shall not protrude beyond the side body line.

## STEP TREADS

A. All steps, including the floor line platform area, shall be covered with an elastomer floor covering having a minimum overall thickness of 0.187 inch.

B. The step covering shall be permanently bonded to a durable backing material that is resistant to corrosion.

C. Steps, including the floor line platform area, shall have a 1½ inch nosing that contrasts in color by at least 70 percent measured in accordance with the contrasting color specification in 36 CFR, Part 1192, ADA, Accessibility Guidelines for Transportation Vehicles.

D. Step treads shall have the following characteristics:

1. Abrasion resistance: Step tread material weight loss shall not exceed 0.40 percent, as tested under ASTM D-4060, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser, (CS-17 Wheel, 1000 gram, 1000 cycle).

2. Weathering resistance: Step treads shall not break, crack, or check after ozone exposure (seven days at 50 pphm at 40 degrees C) and Weatherometer exposure (ASTM D-750, Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus, seven days).

3. Flame resistance: Step treads shall have a calculated burn rate of .01 mm per minute or less using the test methods, procedures and formulas listed in FMVSS No. 302, Flammability of Interior Materials.
   Note: A spray on application type material may be used in lieu of item A. that meets the requirements of items B. through D. The material shall be applied not only to the interior surfaces of the service door step treads but also to the exterior, if not covered by undercoating.

## STIRRUP STEPS

If the windshield and lamps are not easily accessible from the ground, there may be at least one folding stirrup step or recessed foothold installed on each side of the front of the body for easy accessibility for cleaning. There also may be a grab handle installed in conjunction with the step. Steps are permitted in or on the front bumper in lieu of the stirrup steps if the windshield and lamps are easily accessible for cleaning from that position.

## STOP SIGNAL ARM

The stop signal arm(s) shall comply with the requirements of FMVSS No. 131, School Bus Pedestrian Safety Devices and may be illuminated. MFSABs are exempt from these requirements.

## STORAGE COMPARTMENT (OPTIONAL)

A storage container for tools, tire chains, and/or other equipment may be located either inside or outside the passenger compartment. If inside, it shall be fastened to the floor and have a cover with a positive fastening device.

## SUN SHIELD

A. On Types B, C, and D vehicles, an interior adjustable transparent sun shield, with a finished edge and dimensions not less than 6 x 30 inches, shall be installed in a position convenient for use by the driver.

B. On Type A buses, the sun shield (visor) shall be installed by the chassis manufacturer.

## SUSPENSION SYSTEMS

A. The capacity of springs or suspension assemblies shall be commensurate with the chassis manufacturer's GVWR.

B. Rear leaf springs shall be of a progressive rate or multi-stage design. Front leaf springs shall have a stationary eye at one end and shall be protected by a wrapped leaf, in addition to the main leaf.

## THROTTLE

The force required to operate the throttle shall not exceed 16 pounds throughout the full range of accelerator pedal travel.

## TIRES AND RIMS

A. Rims and tires of the proper size and load rating commensurate with the chassis manufacturer's GVWR shall be provided. The use of multi-piece rims and/or tube-type tires shall not be permitted on any school bus ordered after December 31, 1995.

B. Dual rear tires shall be provided on Types A-2, B, C, and D school buses.

C. All tires on a vehicle shall be of the same size, and the load range of the tires shall meet or exceed the GVWR, as required by FMVSS No. 120, Tire Selection and Rims for Vehicles other than Passenger Car.

D. If the vehicle is equipped with a spare tire and rim assembly, it shall be the same size as those mounted on the vehicle.

E. If a tire carrier is required, it shall be suitably mounted in an accessible location outside of the passenger compartment.

## TOWING ATTACHMENT POINTS

Front and/or rear towing devices (i.e., tow hooks, tow eyes, or other designated towing attachment points) shall be furnished to assist in the retrieval of buses that are stuck and/or for towing buses when a wrecker with a "wheel lift" or an "axle lift" is not available or cannot be applied to the towed vehicle.

A. Towing devices shall be attached to the chassis frame either by the chassis manufacturer or in accordance with the chassis manufacturer's specifications.

B. Each towing device shall have a strength rating of 13,500 pounds each, for a combined rating of 27,000 pounds with the force applied in the rearward direction, parallel to the ground, and parallel to the longitudinal axis of the chassis frame rail. For pulling and lifting

purposes, tow hooks are meant to be used simultaneously. For pulling, angularity applied to the tow hooks will decrease the capacities of the tow hooks.

C. The towing devices shall be mounted such that they do not project forward of the front bumper or rearward of the rear bumper.
**Note:** Type A buses are exempt from the requirement for front tow hooks or eyes due to built-in crush zones.

## TRACTION ASSISTING DEVICES (OPTIONAL)

A. Where required or used, sanders shall:

1. Be hopper cartridge-valve type;

2. Have a metal hopper with all interior surfaces treated to prevent condensation of moisture;

3. Have at least 100 pounds (grit) capacity;

4. Have a cover that screws in place on the filler opening of the hopper, thereby sealing the unit airtight;

5. Have discharge tubes extending under the fender wheel housing to the front of each rear wheel;

6. Have non-clogging discharge tubes with slush-proof, non-freezing rubber nozzles;

7. Be operated by an electric switch with a pilot lamp mounted on the instrument panel located so as to be exclusively controlled by the driver;

8. Be equipped with a gauge to indicate that the hopper has reached the one-quarter level (and needs to be refilled); and

9. Be designed to prevent freezing of all activation components and moving parts.

B. Automatic traction chains may be installed.

## TRANSMISSION (FOR INTERNAL COMBUSTION ENGINES ONLY)

A. Automatic transmissions shall have no fewer than three forward speeds and one reverse speed. Mechanical shift selectors shall provide a detent between each gear position when the gear selector quadrant and shift selector are not steering-column mounted.

B. Automatic transmissions shall have a transmission shifter interlock controlled by the application of the service brake to prohibit accidental engagement of the transmission.

## TRASH CONTAINER AND HOLDING DEVICE (OPTIONAL)

When requested or used, the trash container shall be secured by a holding device that is designed to prevent movement and to allow easy removal and replacement. It shall be installed in an accessible location in the driver's compartment, not obstructing passenger access to the entrance door.

## TURNING RADIUS

A. A chassis with a wheelbase of 264 inches or less shall have a right and left turning radius of not more than 42½ feet, curb-to-curb measurement.

B. A chassis with a wheelbase of 265 inches or more shall have a right and left turning radius of not more than 44½ feet, curb-to-curb measurement.

## UNDERCOATING

A. The entire underside of the bus body, including floor sections, crossmembers, and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard.

B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoating material manufacturer recommended film thickness and shall show no evidence of voids in the cured film.

C. The undercoating material shall not cover any exhaust components of the chassis. The undercoating material shall not cover any high-voltage components or cables of a battery-electric or hybrid-electric chassis.

## VENTILATION

A. Auxiliary fan(s), if installed, shall meet the following requirements:

B. Fan(s) shall be placed in a location where they can be adjusted for maximum effectiveness and where they do not obstruct the driver's vision to the mirrors or interfere with the safe operation of the vehicle.

1. Fans shall have six-inch (nominal) diameter.

2. Fan blades shall be enclosed in a protective cage. Each fan shall be controlled by a separate switch.

C. The bus body shall be equipped with a suitably controlled ventilating system with capacity sufficient to maintain the proper quantity of air flow under operating conditions without having to open a window except in extremely warm weather.

D. Static-type, non-closeable exhaust ventilation shall be installed in a low-pressure area of the body.

E. Roof hatches designed to provide ventilation in all types of exterior weather conditions may be provided.

## WHEEL HOUSING

A. The wheel housing opening shall allow for easy tire removal and service.

B. Wheel housings shall be attached to the floor panels in a manner to prevent any dust, water or fumes from entering the body. Wheel housings shall be constructed of 16-gauge (or thicker) steel.

C. The inside height of the wheel housings above the floor line shall not exceed 12 inches.

D. The wheel housings shall provide clearance for installation and use of tire chains on single or dual (if so equipped) power-driving wheels.

E. No part of a raised wheel housing shall extend into the emergency door opening.

## WINDOWS

A. Other than emergency exits designated to comply with FMVSS No. 217, Bus Emergency Exits and Window Retention and Release, each side window shall provide an unobstructed opening of at least nine inches high (but not more than 13 inches high) and at least 22 inches wide, obtained by lowering the window. One window on each side of the bus may be less than 22 inches wide.

B. Optional tinted and/or frost-free glazing may be installed in all doors or windows.

C. Windshields shall comply with federal, state and local regulations.

## WINDSHIELD WASHERS

A windshield washer system shall be provided.

## WINDSHIELD WIPERS

A. A two-speed or variable speed windshield wiping system, with an intermittent feature, shall be provided and shall be operated by a single switch.

B. The wipers shall meet the requirements of FMVSS No. 104, Windshield Wiping and Washing Systems.

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# SPECIALLY-EQUIPPED SCHOOL BUS SPECIFICATIONS

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# SPECIALLY-EQUIPPED SCHOOL BUS SPECIFICATIONS

## INTRODUCTION

The specifications in this section are intended to supplement specifications in the BUS BODY AND CHASSIS SPECIFICATIONS section. In general, specially-equipped buses shall meet all the requirements of the preceding sections, plus those listed in this section. It is recognized that the field of special transportation is characterized by varied needs for individual cases and by rapidly-emerging technologies for meeting individual student needs. A flexible, "common sense" approach to the adoption and enforcement of specifications for these vehicles, therefore, is prudent.

This section is intended to describe the minimum standards that supplement the BUS BODY AND CHASSIS SPECIFICATIONS section. In general, specially-equipped buses shall meet all the requirements of the preceding sections, plus those listed in this section. It is essential to consider both current and future needs, as well as considering a flexible approach, given the diverse needs of students with disabilities or health care needs. Long-term consideration makes it necessary to research all options available. It is prudent to consider the potential range of students being transported throughout the vehicle's lifespan. This forward-thinking approach ensures the bus remains suitable for changing student populations over time.

## DEFINITION

A specially-equipped school bus is any school bus that is designed, equipped and/or modified to accommodate students with special transportation needs.

## GENERAL REQUIREMENTS

A. Specially-equipped school buses shall comply with the National School Transportation Specifications and Procedures and with the Federal Motor Vehicle Safety Standards (FMVSSs) applicable to their Gross Vehicle Weight Rating (GVWR) category.

B. Any school bus to be used for the transportation of children who utilize a wheelchair or other mobile positioning device, or who require life-support equipment that prohibits use of the regular service entrance, shall be equipped with a power lift**.**

## AISLES

All school buses equipped with a power lift shall provide a minimum 30-inch pathway leading from any wheelchair position to at least one 30-inch-wide emergency exit door. A wheelchair securement position shall never be located directly in front of (blocking) a power-lift door location.

## GLAZING

Tinted glazing may be installed in all doors, windows and windshields, consistent with federal, state and local regulations.

## IDENTIFICATION

Specially-equipped school buses shall display the International Symbol of Accessibility below the window line. Such emblems shall be white on blue or black background, shall not exceed 12 inches square in size, and shall be of a high-intensity retroreflective material meeting the requirements of Federal Highway Administration (FHWA) FP-85, Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects. Labels (three) shall be located as follows: one on the front, one on the rear of the bus body or bumper, and one on the special service entrance.

## PASSENGER CAPACITY RATING

When determining the passenger capacity of a school bus for purposes other than actual passenger load (e.g., vehicle classification or various billing/reimbursement models), any location in a school bus intended for securement of a wheelchair during vehicle operation shall be regarded as four designated seating positions, and each lift area shall count as four designated seating positions.

## POWER LIFTS

A. The power lift shall be located on the right side of the bus body.

**Note:** The lift may be located on the left side of the bus if, and only if, the bus is used to deliver students only to the left side of one-way streets.

B. Vehicle lift and installation:

1. General: Vehicle lifts and installations shall comply with the requirements set forth in FMVSS 403, Platform Lift Systems for Motor Vehicles, and FMVSS 404, Platform Lift Installations in Motor Vehicles;

2. Design loads: The design load of the lift shall be at least 800 pounds. Working parts, such as cables, pulleys and shafts, which can be expected to wear, and upon which the lift depends for support of the load, shall have a safety factor of at least six, based on the ultimate strength of the material. Non-working parts, such as platform, frame, and attachment hardware that would not be expected to wear, shall have a safety factor of at least three, based on the ultimate strength of the material;

3. Lift capacity: The lifting mechanism and platform shall be capable of operating effectively with a wheelchair and occupant mass of at least 800 pounds;

4. Controls: (See 49 CFR 571.403, S6.7, Control systems.);

5. Emergency operations: (See 49 CFR 571.403, S6.9, Backup operation.);

6. Power or equipment failures: (See 49 CFR 571.403, S6.2.2, Maximum platform velocity.) Platform barriers: (See 49 CFR 571.403, S6.4.7, Wheelchair retention.);

7. Platform surface: (See 49 CFR 571.403, S6.4.2, S6.4.3, Platform requirements.) (See also "Wheelchair or Mobility Aid Envelope" figure at the end of this subsection.);

8. Platform gaps and entrance ramps: (See 49 CFR 571.403, S6.4.4, Gaps, transitions and openings.);

9. Platform deflection: (See 49 CFR 571.403, S6.4.5, Platform deflection.);

10. Platform movement: (See 49 CFR 571.403, S6.2.3, Maximum platform acceleration.);

11. Boarding direction: The lift shall permit both inboard and outboard facing of wheelchair and mobility aid users;

12. Handrails: (See 49 CFR 571.403, S6.4.9, Handrails.);

13. Circuit breaker: A resettable circuit breaker shall be installed between the power source and the lift motor if electrical power is used. It shall be located as close to the power source as possible, but not within the passenger/driver compartment.; and

14. Excessive pressure: (See 49 CFR 571.403, S6.8, Jacking prevention.)

C. Documentation: The following information shall be provided with each vehicle equipped with a lift:

1. A phone number where information can be obtained about installation, repair, and parts. (Detailed written instructions and a parts list shall be available upon request.);

2. Detailed instructions regarding use of the lift shall be readily visible when the lift door is open, including a diagram showing the proper placement and positioning of wheelchair/mobility aids on the lift;

3. Training materials: The lift manufacturer shall make training materials available to ensure the proper use and maintenance of the lift. These may

include instructional videos, classroom curriculum, system test results or other related materials;

4. Identification and certification: Each lift shall be permanently and legibly marked or shall incorporate a non-removable label or tag that states it conforms to all applicable requirements of the current National School Transportation Specifications and Procedures. In addition, and upon request of the original titled purchaser, the lift manufacturer or an authorized representative shall provide a notarized Certificate of Conformance, either original or photocopied, which states that the lift system meets all the applicable requirements of the current National School Transportation Specifications and Procedures.

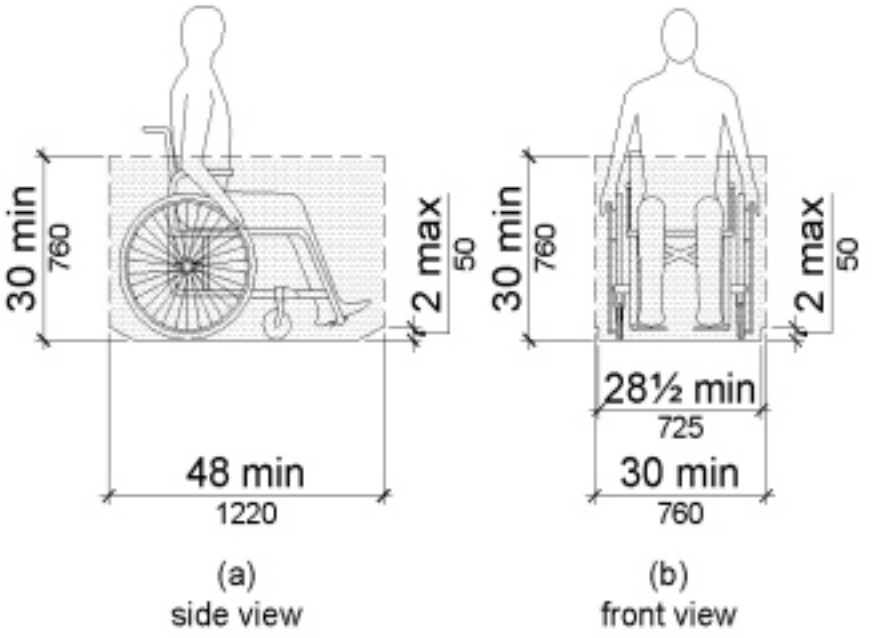



Figure 1
Wheelchair or Mobility Aid Envelope

## REGULAR SERVICE ENTRANCE

On power lift-equipped vehicles, steps shall be the full width of the stepwell, excluding the thickness of the doors in the open position.

## RESTRAINING DEVICES

A. On power lift-equipped school buses with a GVWR of 10,000 pounds or more, seat frames may be equipped with attachment points to which belt assemblies can be attached for use with child safety restraint systems (CSRSs) that comply with FMVSS No. 213, Child Restraint Systems. Any belt assembly anchorage shall comply with FMVSS No. 210, Seat Belt Assembly Anchorages.

B. Alternatively, a child restraint anchorage system that complies with FMVSS No. 225, Child Restraint Anchorage Systems, may be installed.

C. Seat belt assemblies, if installed, shall conform to FMVSS 209, Seat Belt Assemblies.

D. Child safety restraint systems shall conform to FMVSS No. 213.

## SEATING ARRANGEMENTS

Flexibility in seat spacing to accommodate special devices shall be permitted to meet passenger requirements. All seating shall meet the requirements of FMVSS 222, School Bus Passenger Seating and Crash Protection.

## SECUREMENT AND RESTRAINT SYSTEM FOR WHEELCHAIRS AND WHEELCHAIR-SEATED OCCUPANTS

For purposes of understanding the various aspects and components of this section, the terms *securement* and *tie down* and the phrases *securement system* or *tie down system* are used exclusively in reference to the devices that anchor the wheelchair to the vehicle. The term *restraint* and the phrase *restraint system* are used exclusively in reference to the equipment that is intended to limit the movement of the wheelchair occupant in a crash or sudden maneuver. The term *wheelchair tie down and occupant restraint system (WTORS)* is used to refer to the total system that secures the wheelchair and restrains the wheelchair occupant.

A. **WTORS** — general requirements:

1. A wheelchair tiedown and occupant restraint system (WTORS) installed in specially-equipped school buses shall be designed, and operated for use with forward-facing wheelchair-seated passengers and shall comply with all applicable requirements of FMVSS 222, School Bus Passenger Seating and Crash Protection, and SAE J2249, Wheelchair Tiedown and Occupant Restraint Systems for Use in Motor Vehicles. An ANSI/RESNA WC18-compliant WTORS may be specified when transporting a wheelchair that is fully compliant with WC19 (2012), which includes a crash tested wheelchair-anchored pelvic belt;

**Note:** Floor anchors must provide adjustability when transporting all types and sizes of wheelchairs.

2. Wheelchair securement positions shall be located such that wheelchairs and their occupants do not block access to the lift door or exits;

3. A device for storage of the WTORS shall be provided. When the system is not in use, the storage device shall allow for clean storage of the system, shall keep the system securely contained within the passenger compartment, shall provide reasonable protection from vandalism, and shall enable the system to be readily accessed for use;

4. The WTORS, including the storage device, shall meet the flammability standards established in FMVSS 302, Flammability of Interior Materials;

5. The following information shall be provided with each vehicle equipped with a securement and restraint system:

   a. A phone number where information can be obtained about installation, repair, and parts. (Detailed written instructions and a parts list shall be available upon request.);

   b. Detailed instructions regarding use, including a diagram showing the proper placement of the wheelchair/mobility aids and positioning of securement devices and occupant restraints, including correct belt angles;

6. The WTORS manufacturer shall make training materials available to ensure the proper use and maintenance of the WTORS. These may include instructional videos, classroom curriculum, system test results, or other related materials;

B. Wheelchair Securement/Tiedown: (See 49 CFR 571.222, S5.4.1, S5.4.2.) Each wheelchair position in a specially equipped school bus shall have a minimum clear floor area of 30 inches laterally by 48 inches longitudinally. Additional floor area may be required for some wheelchairs. Consultation between the user and the manufacturer is recommended to ensure that adequate area is provided;

C. Occupant restraint system: (See 49 CFR 571.222, S5.4.3, S5.4.4.) If the upper torso belt anchorage is higher than 44 inches measured from the vehicle floor, an adjustment device, as part of the occupant restraint system, shall be supplied.

## SPECIAL LIGHT

Doorways in which lifts are installed shall be equipped with a special interior light that is located above the lift and provides a minimum of two foot-candles of illumination measured on the floor of the bus immediately adjacent to the lift during lift operation.

## SPECIAL-SERVICE ENTRANCE

A. Power lift-equipped bodies shall have a special-service entrance to accommodate the power lift.

**Note:** A special service entrance shall not be required if the lift is designed to operate within the regular service entrance, is capable of stowing such that the regular service entrance is not blocked in any way, and a person entering or exiting the bus is not impeded in any way.

B. The special-service entrance and door shall be located on the right side of the bus and shall be designed so as not to obstruct the regular service entrance.

**Note:** A special-service entrance and door may be located on the left side of the bus only if the bus is used only to deliver students to the left side of one-way streets and its use is limited to that function.

C. The opening may extend below the floor through the bottom of the body skirt. If such an opening is used, reinforcements shall be installed at the front and rear of the floor opening to support the floor and give the same strength as other floor openings.

D. A drip molding shall be installed above the special-service entrance to effectively divert water from the entrance.

E. Door posts and headers at the special-service entrance shall be reinforced sufficiently to provide support and strength equivalent to the areas of the side of the bus not used for the special-service entrance.

## SPECIAL SERVICE ENTRANCE DOORS

A. A single door or double doors may be used for the special-service entrance.

B. A single door shall be hinged to the forward side of the entrance, unless this would obstruct the regular-service entrance. If the door is hinged to the rearward side of the doorway, the door shall utilize a safety mechanism that will prevent the door from swinging open, should the primary door latch fail. If double doors are used, the system shall be designed to prevent the door(s) from being blown open by the aerodynamic forces created by the forward motion of the bus, and/or shall incorporate a safety

mechanism to provide secondary protection should the primary latching mechanism(s) fail.

C. All doors shall have positive fastening devices to hold doors in the “open” position when the special-service entrance is in use.

D. All doors shall be weather-sealed.

E. When manually operated dual doors are provided, the rear door shall have at least a one-point fastening device to the header. The forward-mounted door shall have at least three one-point fastening devices. One shall be to the header, one to the floor line of the body, and the other shall be into the rear door. The door and hinge mechanism shall have strength that is greater than, or equivalent to, the strength of the emergency exit door.

F. Door materials, panels and structural components shall have strength equivalent to the conventional service and emergency doors. Color, rub -rail extensions, lettering and other exterior features shall match adjacent sections of the body.

G. Each door shall have windows set in a waterproof manner that are visually similar in size and location to adjacent non-door windows. Glazing shall be of the same type and tinting (if applicable) as standard fixed glass in other body locations.

H. Door(s) shall be equipped with a device that will actuate an audible or visible signal located in the driver’s compartment when the door(s) is/are not securely closed and the ignition is in the “on” position.

I. A switch shall be installed so that the lift mechanism will not operate when the lift platform door(s) is/are closed.

J. Special service-entrance doors shall be equipped with padding at the top edge of the door opening. The padding shall be at least three inches wide and one inch thick and shall extend the full width of the door opening.

## SUPPORT EQUIPMENT AND ACCESSORIES

A. In addition to the webbing cutter required in the BUS BODY AND CHASSIS SPECIFICATIONS section, each specially-equipped school bus that is set up to accommodate wheelchairs or other assistive or restraint devices with webbing attached shall contain an additional webbing cutter that is properly secured in a location to be determined by the purchaser. The webbing cutter shall meet the requirements listed in the BUS BODY AND CHASSIS SPECIFICATIONS section, Seats and Restraining Barriers.

B. Special equipment or supplies that are used in the bus for mobility assistance, health support, or safety purposes shall meet local, federal, and engineering standards that

may apply, including requirements for proper identification. Equipment that may be used for these purposes includes, but is not limited to:

1. Wheelchairs and other mobile seating devices. (See subsection on Securement and Restraint System for Wheelchairs and Wheelchair-seated Occupants.);

2. Crutches, walkers, canes and other ambulating devices to assist ambulation;

3. Medical support equipment. This may include respiratory devices, such as oxygen bottles (which should be no larger than 38 cubic feet of compressed gas), or ventilators. Tanks and valves should be located and positioned to protect them from direct sunlight, bus heater vents, or other heat sources. Other equipment may include intravenous and fluid drainage apparatuses;

C. Each specially-equipped school bus that is set up to accommodate wheelchairs or other assistive restraint devices shall be equipped with an emergency-evacuation device that is certified and tested to withstand at least a 300-pound load when used as an emergency stretcher or drag. This evacuation device shall be properly secured to the bus in a location to be determined by the purchaser.

D. If transporting oxygen, refer to SAE J3043 Equipment Mount Testing: These mounts may be tested in accordance with the requirement of SAE J3043. (Ambulance Equipment Mount Device or Systems).

E. Climate-control options may be installed that include heating and air conditioning.

## TECHNOLOGY AND EQUIPMENT; NEW

It is the intent of these specifications to accommodate new technologies and equipment that will better facilitate the transportation of students with special needs. New technology and equipment are acceptable for use in specially-equipped vehicles if:

A. Items do not compromise the effectiveness or integrity of any major safety system. (Examples of safety systems include, but are not limited to, compartmentalization, the eight-lamp warning system, emergency exits, and the approved color scheme.).

B. Items do not diminish the safety of the bus interior.

C. Items do not create additional risk to students who are boarding or exiting the bus or are in or near the school bus loading zone.

D. Items do not require undue additional activity and/or responsibility for the driver.

E. Items generally increase efficiency and/or safety of the bus, generally provide for a safer or more pleasant experience for the occupants and pedestrians in the vicinity of the bus, and/or generally assist the driver and make tasks easier to perform.

# SCHOOL BUS INSPECTION

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# SCHOOL BUS INSPECTION PROGRAM

## STATE INSPECTION PROGRAMS

School bus safety programs vary greatly from state to state. Each state is urged to establish a neutral third-party inspection program. Personnel conducting school bus safety inspections must be knowledgeable with the mechanical components of a school bus and also be aware of all the applicable construction standards, laws, rules, and all other requirements of their jurisdiction.

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## INSPECTION PROCEDURE

School bus safety inspections should consist of a standardized inspection where vehicles are placed out-of-service based on uniform criteria. States should also develop specific inspection regulations, rules, procedures, and out-of-service criteria for all vehicles utilized in student transportation. States are encouraged to develop a system to compile the data for analysis.

## OUT-OF-SERVICE CRITERIA

The purpose of criteria is to identify critical school bus components and provide tolerances that inspectors can utilize to determine if a school bus is safe for student transportation. While it is recognized that each state may enforce more stringent standards, this document is intended to establish a baseline for inspecting and placing school buses out-of-service.

## RESOURCE INFORMATION

49 CFR PARTS 570.1-570.63, Vehicle in Use Inspection Standards

49 CFR PARTS 400-599, Federal Motor Vehicle Safety Standards

49 CFR PARTS 393, 396, Federal Motor Carrier Safety Regulations

49 CFR APPENDIX A to Subchapter B, Minimum Periodic Inspection Standards

Commercial Vehicle Safety Alliance (CVSA) North American Uniform Out-of-Service Criteria

Note: References to these citations below may include only the number for brevity; e.g. (393.203) instead of (49 CFR, Part 393.203).

# SCHOOL BUS RECOMMENDED OUT-OF-SERVICE CRITERIA

## BODY EXTERIOR

A. Any panel, rub rail or trim that is loose, torn, dislocated, or protruding from the surface of the bus, creating a hazard (393.203);

B. Any engine, battery, or other door that is not properly secured (393.203);

C. Three or more adjacent floor sills/body crossmembers broken or detached (393.201);

D. Any area of the floor that is sagging or soft due to broken body crossmembers (393.201);

E. Any body crossmember, outrigger or other structural support which is cracked, missing, deformed, or has rust holes where damage affects the safe operation of the vehicle.

## BODY INTERIOR

A. Aisle

1. Aisle does not have the required clearance (571.217);

2. Obstructions in aisle prevent passengers from egress or emergency exits (393.62) (393.203).

B. Door (Entrance)

1. The student entrance door does not open or close properly;

2. Door control handle does not lock in the closed position;

3. Door is equipped with a padlock or similar locking device (excludes interlock systems).

C. Floor

The floor is not maintained to prevent slipping or tripping by passenger(s).

D. Handrail

1. Handrail loose or missing; or

2. Handrail fails the nut/drawstring test as defined by NHTSA.

E. Panels

Any panel (e.g., ceiling, side, or wheel well) protruding, having sharp edges, or not secured and likely to cause injury.

F. Seat(s) and Barrier(s)

1. Any seat or barrier that is not securely attached to the vehicle (393.91);

2. Any seat or barrier material(s) that compromises the integrity of compartmentalization and occupant protection (571.222);

3. Seat spacing fails to comply with 571.222;

4. Any part of an equipped occupant safety restraint assembly is missing, not properly installed, not accessible or defective as to prevent proper securement of the occupant [393.93(a)(b)] (571.209);

5. Driver's seat fails to maintain adjusted position (393.93).

G. Stepwell

A. Any part of the stepwell or support structure that is damaged;

B. Any part of the stepwell tread that is loose, torn or damaged that would present a tripping hazard.

## BRAKE SYSTEM(S)

A. Adjustment

Any one brake beyond the adjustment limit (See Table 1: Brake Adjustment Specifications.)

B. Air System

1. Absence of effective braking action upon application of service brakes [393.48 (a)]; ©

2. Audible air leak in the system at a location other than a proper connection; ©

3. If an air leak is discovered at a proper connection and either the primary or secondary reservoir pressure is not maintained when these conditions exist [396.3(a)(1)]:©

a. Governor is cut-in;

b. Reservoir pressure is between 80-90 psi;

c. Engine is at idle; and

d. Service brakes are either fully applied or released;

4. Inoperative or defective primary or secondary air pressure gauge; ©

5. Low air warning device is inoperative, missing or fails to function as designed; ©

6. Air compressor (normally to be inspected when readily visible or when conditions indicate compressor problems.)

   a. Loose compressor mounting bolts [393.3(a)(1)];

   b. Cracked, broken or loose pulley. [393.3(a)(1)];

   c. Cracked or broken mounting brackets, braces or adapters. [393.3(a)(1)].

7. Air reservoir tank separated at either end from the attachment point(s) [393.3(a0)1)];

8. Chamber size mismatched on axle [393.47(b)];

9. Mismatched brake chamber long stroke versus regular stroke [393.47(b)];

10. Mismatched slack adjuster length [393.47(c)];

11. Any bus manufactured after October 20, 1994 not equipped with automatic slack adjusters, [571.121];

12. Automatic slack adjuster fails to compensate for wear, {571.121];

13. Loose, broken or missing component (e.g., chambers, spiders, support brackets, mounting hardware, springs clevis pin) (393.48); ©

14. Any non-manufactured holes or cracks in the spring-brake-housing section of a parking brake. [393.3(a)(1)]. ©

C. Brake Shoe/Pad/Lining

1. Any lining thickness less than allowed by 393.47;

2. Lining pad is cracked, broken, not firmly attached or missing (393.47) *(*surface or heat cracks in the lining should not be considered out of service);

3. The friction surface of drum, rotor, or friction material are contaminated by oil, grease or brake fluid (393.47); ©

4. Fails to make contact with drum/rotor (e.g., frozen, binding, uneven) [393.48(a)].

D. Drums

1. External crack(s) or any crack that opens upon application [393.47(a)]; ©

2. Any portion of the drum missing broken, or misplaced [393.47(a)];

3. Drum has evidence of metal-to-metal contact on the friction surface [303.47(d)(1)]; ©

4. A drum surface that is worn beyond the limits established by the manufacturer [393.47(g)].

E. Hoses and Tubing

A. Brake hose with any damage extending through the outer reinforcement ply [393.45(a)];©

B. Audible leak at other than a proper fitting or connection [393.45(a)];©

C. Any bulge or swelling when brake is applied [393.45(a)];©

D. Any restriction due to cracked, broken or crimped line/hose [393.45(a)];

E. Any line, tubing, hose or connection that is not constructed to meet standard (571.106).

F. Hydraulic Brake System

A. Brake failure warning system is missing, inoperative, disconnected, defective, or activated while the engine is running with or without brake application [393.51(b)]);

B. Reservoir is below minimum level [393.45(a)] (571.106);

C. Any seeping, leaking or swelling of hose(s) under pressure [393.45(a)];

D. Any leak in master cylinder unit [393.45(a)] (571.106);

E. Any observable fluid leak in the brake system;

F. Absence of effective braking action upon application of service brakes [393.48 (a)]; ©

G. No pedal reserve with engine running [393.40(b)]; ©

H. Brake-power-assist unit is inoperative [393.3(a)(1)]; ©

I. Hydraulic-brake-backup system is inoperative [393.3(a)(1)]; ©

J. The master-cylinder assembly has loose or missing mounting bolts or is not secured causing it to shift out of its normal position [393.3(a)(1)]. ©

G. Parking Brake

A. Fails to hold vehicle in stationary position on normal roadway conditions (absence of ice or snow) in forward or reverse (393.41) [571.105 S5.2.1 and S5.2.3(b)];

B. Parking brake warning lamp fails to function as designed.

H. Rotors

1. Any rotor with a flexural crack that passes completely through the rotor to the center vent from either side, completely through a solid rotor, or completely through a structural support connecting the rotor friction surfaces [393.47(a)];

**Note:** This does not include hairline heat cracks.

2. A rotor surface that is worn beyond the limits established by the rotor manufacturer [393.47(g)];

3. Rotor has severe rusting or pitting on the rotor friction surface on either side (light rusting on the friction surface is normal) [393.48(a)];

4. Any portion of the rotor (disc) missing or in danger of falling away [393.47(a)]; ©

5. Rotor has evidence of metal-to-metal contact on the friction surface [393.47(d)] .©

## BUMPERS

A. Front bumper is missing or not properly secured [393.203(e)];

B. Rear bumper is missing or not properly secured (393.86).

## CHASSIS/FRAME

A. Any cracked, loose, sagging, or broken, frame rail. [393.201(a)];

B. Any damage permitting the shifting of the body or imminent collapse of frame [393.201(a)]©;

C. Any cracked, loose, broken frame member affecting support of functional components (e.g., steering gear, engine, transmission, body part, or suspension) [393.201(a)]©;

D. Any condition that causes the body or frame to be in contact with a tire or any part of the wheel assemblies [393.3(a)(1)]©;

E. Any alteration/repair not meeting OEM/manufacturer specifications;

F. Any frame crossmember or other structural support which is cracked, missing, or deformed that affects the structural integrity of the vehicle (393.201);

## DIFFERENTIAL

Cracked or leaking housing [393.207(a)].

## DRIVESHAFT/DRIVELINE

A. Center Bearing (Carrier Bearing) ©

1. Any broken or loose center bearing bracket, bracket bolts, or mounting hardware [396.3(a)(1)];
2. Any center bearing bracket crack equaling 50 percent or more of the original bracket width [396.3(a)(1)];
3. More than ½ inch vertical movement (with hand pressure only) of the shaft in the center bearing carrier [396.3(a)(1)].

B. Driveshaft guard loose, missing, improperly placed, or bent (393.89)

C. Driveshaft Tube ©

1. Any original metal crack in the shaft tube greater than ¼ inch in length [396.3(a)(1)];

2. Obvious cracked welds at shaft-tube end [396.3(a)(1);

3. Any shaft tube with an obvious twist [396.3(a)(1).

D. Universal joint(s)

1. Worn, faulty, or obviously welded repair [393.209(2)(d)];

2. Any independent vertical movement between opposing yoke ends greater than 1/8 inch, with hand pressure only [396.3(a)(1)]; ©

3. Any missing, broken, or loose universal joint bearing cap [396.3(a)(1)];

4. Any missing, broken or loose universal joint bearing cap bolt, bearing strap, or retainer bolt [396.3(a)(1)]; ©

5. Any bearing cap retainer clip that is missing [396.3(a)(1)]. ©

E. Yoke Ends (including Slip Yoke, Yoke Shaft, Tube, and End Fitting Yoke) ©

1. Any visible crack in a yoke end [396.3(a)(1);

2. Any yoke-mounting hardware loose (with hand pressure only), broken, or missing [396.3(a)(1);

3. Any horizontal or vertical movement of slip joint yoke shaft of greater than ½ inch, with hand pressure only [396.3(a)(1)];

4. Any loose, broken or missing end fitting fastener [396.3(a)(1)].

## ELECTRICAL/HIGH VOLTAGE

A. Any high-voltage system with a dripping leak at any point;

B. Damaged or exposed high-voltage cabling;

C. Broken or damaged charging port on the vehicle.

## ELECTRICAL/LOW-VOLTAGE BATTERY

A. Battery

1. Battery not secured (393.30);

2. Signs of leaking or excessive corrosion;

3. Battery lacks cranking capacity to start engine.

B. Cables

1. Electrical cable insulation chafed, frayed, damaged or burnt, causing bare cable to be exposed [393.28, 396.3(a)(1)]; ©

2. Loose or corroded connections at battery posts or compromised insulation protection to electrical components [393.28, 393.77(b), 396.3(a)(1)];

3. Missing or damaged protective grommets insulating main electrical cables through metal compartment panels (393.30). ©

C. Components

A. Broken or unsecured mounting of electrical components [396.3(a)(1)];©

B. Electrical cable unsupported, hanging or missing clamps that may cause chafing or frayed conditions [393.28, 396.3(a)(1)]. ©

## EMERGENCY EQUIPMENT

A. Fire extinguisher missing, not of proper type or size, not fully charged, has no pressure gauge, is not secured or is not readily accessible to the driver or passengers, or fails to meet state specifications (393.95);

B. Any additional state-specific equipment (e.g., first aid kit, body fluid kit, webbing cutter, and emergency reflectors) that fails to meet state specifications and places the vehicle out of service;

C. Missing, unusable or incomplete set of emergency triangles or not properly stored in accordance with FMVSS 571.125.

## EMERGENCY EXITS

A. Any emergency door, window or roof hatch that fails to open freely or completely as defined in 571.217;

B. Door prop-rod device is missing or inoperative (571.217);

C. Any emergency exit equipped with a padlock or similar locking device (excludes interlock systems);

D. Any vehicle that lacks the required number of emergency exits (571.217);

E. Any emergency exit not properly labeled and marked both inside and outside the vehicle as specified by 571.217;

F. Any item or modification that reduces the size of the opening and limits egress to the emergency exit by all passengers;

G. Emergency-exit-warning device is not audible in the driver seating position and–the vicinity of the emergency door or window (571.217);

H. If equipped with an emergency-exit interlock, the vehicle is capable of starting while the emergency-exit lock is engaged or emergency-interlock arm is inoperative when engaged and the key is in the run position (571.217).

## ENGINE

A. Any critical component that fails to function as designed (396.3);

B. Any fluid leak that would affect the safe operation of the vehicle (396.3, 396.5 and 393.209);

C. Any hose/line that is damaged or worn extending through the outer protective layer;

D. Any hose/line not of approved type for the application;

E. Any belt that is oil saturated, twisted, dry-rotted, cut, missing sections, or has separated plies;

F. Any belt worn beyond manufacturer's specification;

G. Engine oil is not at the appropriate operating level;

H. Engine is misfiring, or there is excessive hesitation upon acceleration.

## EXHAUST SYSTEM

A. The exhaust system is leaking or discharging directly below or at a point forward of the driver or passenger compartment [393.83(g)]; ©

**Note:** Does not apply to proper venting for emission systems.

B. The exhaust discharges below a fuel-fill location, emergency-exit door or lift door;

C. Any part of the exhaust system so located that it is likely to result in burning, charring, or damaging the electrical wiring, the fuel supply or any combustible part of the vehicle

[393.83(a)]. ©

## FUEL SYSTEM

A. CNG or LPG Fuels ©

1. Any fuel leakage from the CNG or LPG system detected audibly or by smell and verified by either a bubble test using non-ammonia, non-corrosive soap solution, or a flammable gas detection meter [396.3(a)(1)];

   **Note:** Verification is needed to ensure that the sound is not either internal to the fuel system (such as gas flowing in a pressure regulator, or pressure equalizing between manifold tanks) or a leak in the air brake system.

2. Any fuel leakage from the CNG or LPG system detected visibly (evidence such as ice buildup at fuel system connections and fittings) and verified by either a bubble test using non-ammonia, non-corrosive soap solution, or a flammable gas detection meter [396.3(a)(1)].

   **Note**: Some brief fuel leakage or decompression may occur during refueling, causing temporary frosting of CNG or LPG fuel system parts. If the vehicle has been refueled shortly before inspection, care must be taken to distinguish these temporary frosting occurrences from actual leaks.

B. Liquid Fuels

   A. Any part of the fuel tank or fuel system not securely attached to the vehicle (393.65);

   B. A fuel system with a dripping leak at any point of the tank (393.67);

   C. Dripping leak (396.3(a)(1), leak other than tank);

   D. Missing fuel cap or system does not seal as designed.

## LAMPS/SIGNALS

A. Any one of the following required lamps not working: brake, turn signal, tail, head (low beam), school bus overhead warning light (amber or red), hazard warning or stop arm lamp (571.108, 571.131);

   **Note:** Vehicle LED lamps must have more than 25 percent of the diodes unlit to be considered not working.

B. Horn fails to function as designed (393.81);

C. Any critical brake, telltale lamp, buzzer or gauge that fails to function as designed;

D. ABS and/or ESC malfunction indicator light not functioning as designed or illuminated on all vehicles required to have ABS and/or ESC;

E. Stop arm(s) fail to operate with overhead red lights or does not meet the requirements of FMVSS 571.131;

F. If equipped, a crossing-control arm fails to operate as designed.

## MIRRORS (571.111)

A. Any mirror required to provide the driver with the entire field of view, missing, damaged, clouded, or otherwise obscured so as to place children in a hazardous position;

B. Any crossover mirror system or portion thereof that fails to hold a set adjustment;

C. Any crossover mirrors directed to view any area other than for which they were intended;

D. Any part of the required field of vision obscured or not visible from the driver seated position.

## SPECIALLY-EQUIPPED VEHICLES

A. Wheelchair lift

1. Lift inoperable;

2. Lift does not function as manufactured;

3. Manual backup system inoperable;

4. Manual backup accessories missing or damaged;

5. Base plate/arms/towers/platform - Any cracked component or cracked weld;

6. Any hydraulic fluid leak;

7. Wiring does not meet manufacturer's specifications;

8. Jacking Prevention – any portion of the vehicle raises off of the ground during lift operation.

B. Platform lift manufactured after April 1, 2005 must meet all the following criteria (as

referenced in FMVSSs 403 and 404):

1. Shift/park brake interlock is inoperable;

2. Lift platform retention device inoperable/hardware missing;

3. Outer barrier, inner-roll stop, and threshold visual/audible warning system inoperable;

4. Stow interlock inoperable;

5. The inner/outer barrier non-deployment or interlock inoperable.

C. Wheelchair Ramp (ADA 49 CFR 38.23)

1. Any ramp that is cracked or damaged or unable to support a load of 600 lb. for ramps 30 inches or longer or 300 lb. for ramps shorter than 30 inches;

2. Any non-slip resistant surface;

3. Ramp surface has a protrusion greater than ¼ inch;

4. Ramp width of less than 30-inch clear space;

5. Ramp threshold greater than ¼ inch lip with no beveled transition or a bevel with a slope greater than 1:2;

6. Missing/broken/unsecured two-inch barrier on each side of the ramp;

7. Ramp exceeds maximum slope of 1:4 when deployed to ground level or:

   a. 1:4 if vehicle floor is three inches or less above a six-inch curb; or

   b. 1:6 if vehicle floor is three to six inches above a six-inch curb; or

   c. 1:8 if vehicle floor is six to nine inches above a six-inch curb; or

   d. 1:12 if vehicle floor is greater than nine inches above a six-inch curb;

8. Any ramp that is not firmly attached to the vehicle when used for boarding or alighting;

9. Any gap between the vehicle and the ramp that exceeds 5/8 inch;

10. Vehicle does not provide for a method of stowage/securement of the ramps;

11. Ramp impinges on the wheelchair/mobility aid or poses a hazard to passenger

or passengers in the event of a sudden stop or maneuver;

12. Hand Rails (if equipped):

    a. Not within 30-38 inches above ramp surface;

    b. Not capable of withstanding a force of 100 lb. without deformation;

    c. Cross section diameter not between 1¼ inch and 1½ inches;

    d. Hand rail interferes with mobility aid maneuverability when entering or exiting the vehicle.

D. Securement Device System

1. Securement device system incomplete set, improperly installed, or damaged;

2. Floor/ceiling track damaged or unsecured.

E. Wheelchair Occupant Restraint System

1. Restraint system incomplete or mismatched set;

2. Lap/shoulder belt, damaged/missing hardware (see "seatbelts/occupant restraints" under the seats section of the "recommended school bus inspection procedure");

3. Restraint system is not in compliance (571.222).

## STEERING SYSTEM

A. Ball/Socket Joints ©

A. Any movement under steering load of a nut stud [396.3(a)(1)];

B. Any motion, other than rotational, between any linkage member and its attachment point of more than ⅛ inch measured with hand pressure only [393.209(d)];

C. Any obvious welded repair [393.209)(d)].

B. Front-Axle Beam **©**

Any crack(s) or obvious welded repair [396.3(a)(1)].

C. Nuts©

Loose or missing fasteners on tie rod, pitman arm, drag link, steering arm, or tie rod arm [396.3(a)(1)].

D. Pitman Arm ©

A. Looseness of the pitman arm on the steering gear output shaft [393.209(d)];

B. Any obvious welded repair [396.3(a)(1)] [393.209(d)].

E. Power Steering

A. Auxiliary power assist cylinder loose [393.209(e)];

B. Power steering system leaking or insufficient fluid in reservoir [393.209(2)(e)].

F. Steering

A. Any modification or condition that interferes with free movement of any steering component [393.209(d)];

B. Steering travel restricted through the limit of travel in both directions [570.60(c)].

G. Steering Column/Wheel©

A. Absence or looseness of U-bolts or other positioning part(s) [393.209(c)];

B. Welded or repaired universal joint(s) [393.209(d)];

C. Steering wheel not properly secured [393.209(a)];

D. Steering wheel lash/free play exceeds performance test (see Table #2) [393.209(b)].

H. Steering Gear Box ©

A. Mounting bolt(s) loose or missing [393.209(d)];

B. Crack(s) in gearbox or mounting brackets [(393.209(d) and 396.3(a)(1)];

C. Any obvious welded repair(s) [396.3(a)(1) and [393.209(d)];

D. Looseness of yoke-coupling to the steering gear input shaft [393.209(d)].

I. Tie Rods/Drag Links ©

A. Loose clamp(s) or clamp bolt(s) on tie rod or drag link(s) [396.3(a)(1)];

B. Any looseness in any threaded joint [396.3(a)(1)].

## SUSPENSION COMPONENTS

A. Air Suspension **©**

A. Deflated air suspension (one or more deflated air spring/bag) [393.207(f)];

B. Air spring/bag is missing, broken, or detached at either the top or bottom (393.207(f)].

B. Axle Parts/Members

A. Any U-bolt or other spring to axle clamp bolt(s) which are cracked, broken, loose, or missing [393.207(a)];**©**

B. Any axle, axle housing, spring hanger(s), or other axle positioning parts which are cracked, broken, loose, or missing that results in shifting of an axle from its normal position [393.207(a)];**©**

C. Any worn (beyond manufacturer specifications) or improperly assembled U-bolt, shock, kingpin, ball joint, strut, air bag, or positioning component [570.61 (a)];

D. Any leaf spring broken, separated, sagging, bent, abnormally worn (beyond manufacturer specifications), shifted, or missing [393.207(c)];

E. Any broken coil spring [393.207(d)] ©;

F. Any suspension component that is loose, cracked, missing, or worn to the extent that the component can be moved by hand (e.g., bushings, sway bar, tracking components, etc.) (393.207).

## TIRES/WHEELS/HUBS

A. Hub

A. Excessive wheel bearing or kingpin play that exceeds ¼ inch (393.70) (570.61);

B. Any bearing (hub) cap, plug, or filler plug that is missing or broken, allowing

an open view into hub assembly [396.3(a)(1)];**©**

C. Smoking from wheel hub assembly due to bearing failure [396.3(a)(1)];**©**

D. When any wheel seal is leaking. This must include evidence of contamination of the brake friction material [396.5(b)];

**Note:** Grease/oil on the brake lining edge, back of shoe, or drum edge and oil stain with no evidence of fresh oil leakage are not conditions for an out-of-service violation. **©**

E. Lubricant is leaking from the bearing hub and is accompanied by evidence that further leakage will occur [396.5(b)];

F. No visible or measurable amount of lubricant showing in bearing hub [396.5(a)]. **©**

B. Tires

A. Any tire cut, worn or damaged to the extent that the steel or fabric cord is exposed [393.75(a)];

B. Any observable bump, bulge, or knot related to sidewall or tread separation [393.75(a)]©;

C. Tire has a noticeable leak, or has 50 percent or less of the maximum inflation pressure marked on the tire sidewall [393.75(a)(3)]

D. So mounted or inflated that it comes in contact with any part of the vehicle [393.3(a)(1)]©;

E. Any front tire worn to less than $^{4}/_{32}$ inch [393.75(b)];

F. Any rear tire worn to less than $^{2}/_{32}$ inch [393.75(c)];

G. Any school bus operated with regrooved, recapped, or retreaded tires on the front axle [393.75(d)];

H. Any tire not meeting the minimum size and load rating as required per the manufacturer's GVWR;

I. Any mismatched tire on the vehicle (e.g., load range or size).

C. Wheels/Rims/Spiders

A. Any nuts, bolts, studs, lugs, or holes that are elongated, broken, missing,

damaged or loose [393.205(b)];

B. Any cracked or broken wheel or rim [393.205(a)];

C. Any lock or slide ring broken, cracked, improperly seated, sprung, or has mismatched rings [393.205(a)]. ©

## WINDOWS

A. Any glass or glazing that is broken through or missing (393.60).

B. Any glass not of approved type [393.60(a)].

C. Windshield has discoloration or other damage in that portion extending upward from the height of the topmost portion of the steering wheel, but not including a two-inch border at the top and a one-inch border at each side of the windshield or each panel thereof, except as follows:

1. Color or tint applied by the manufacturer for the reduction of glare;

2. Any crack not over ¾-inch long, if not intersected by any other crack;

3. Any damaged area, that can be covered by a disc ¾-inch in diameter, if not closer than three inches to any other such damaged area.

D. Any damage or obstruction to any window forward of the front passenger seat barriers (e.g., chips, clouding, or cracks that obscure the driver's vision [393.60(c)].

E. No operable defrosting and defogging system to clear the driver's windshield (571.103).

## WINDSHIELD WIPERS

A. Inoperative, missing, or damaged wiper (393.78).

B. Wiper does not clean sweep area of driver's windshield (393.78).

C. Inoperative or defective windshield washing system (393.78, FMVSS 571.104

# RECOMMENDED SCHOOL BUS INSPECTION PROCEDURES

**WARNING!** Please **READ and follow** these instructions to avoid personal injury or death. Prior to performing any inspection procedures, always ensure that the vehicle is properly secured, wheels chocked, and that the ignition key is controlled. Proper safety equipment should always be used.

When working on or around a vehicle, the following general precautions should be observed at all times:

A. Park the vehicle on a level surface, apply the parking brakes and always block the wheels.

B. Always wear safety glasses and other appropriate safety gear.

C. Stop the engine and remove ignition key when working under or around the vehicle.

D. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated, or electrically charged components.

## BODY EXTERIOR

A. Visually inspect the body exterior to ensure that there is no body component panel, rub rail, or trim that is loose, torn, dislocated, or protruding from the surface of the bus.

B. Inspect the body exterior for required color, lettering, markings, and reflective material.

C. All engine, battery or other doors must be securely mounted and properly installed.

D. Inspect the underside of the body for damaged floor sills/body cross members, outriggers, or other structural body supports.

E. Check that all body mounting/fastening devices, to include the isolators, are properly attached.

F. Inspect the underside of body for required undercoating.

## BODY INTERIOR

A. Aisle

   A. Visually inspect the aisle to ensure that all aisles, including aisle (or passageway between seats) leading to emergency door are a minimum of 12 inches;

B. Visually inspect to ensure that there are no obstructions in an aisle that would prevent passengers from accessing egress or emergency exits;

C. On school buses with a side emergency door, check that aisle space from center aisle to side of emergency door is 12 inches by measuring between the vertical line of the seat back and the face of the next seat cushion or bottom of a flip seat;

D. On buses equipped with flip up seats, inspect to ensure the seat cushion rises to a vertical position automatically when not occupied.

B. Door, Entrance

Visually inspect and operate entrance door and inspect door to ensure it properly opens and closes without any obstruction of movement. Inspect manually operated door to make sure door will maintain an open and closed position. Door shall not have any locking device except for interlock systems. On power-operated entrance doors, the emergency release valve, switch, or device to release the entrance door must be placed above or to the immediate left or immediate right of the entrance door and must be clearly labeled.

C. Floor

Visually inspect floor covering, aisle, and cove molding strips for condition and adhesion. Check fastening holes for cracks, and check condition of rubber in aisle to ensure that there are no unsealed holes or cracks through the underside of the bus, and that there is no damage to the coverings which could cause a trip or slip hazard.

D. Handrail

Handrail must be securely mounted and all OEM hardware present. Perform the NHTSA Nut and String Test as described and illustrated as follows.

Nut and String Test - The Handrail Inspection Tool and Procedure:



The inspection tool is inexpensive and the procedure for detecting potentially fatal handrail designs is quite simple. The inspection tool is a standard ½-inch hex nut measuring ¾-inch across the flats. This nut is tied to ⅛-inch thick cotton cord measuring 36 inches in length with overhand knots. The drawstring should have a minimum length of 30 inches, when tied to the nut and attached so that a pull of at least ten pounds does not separate the nut from or break the drawstring.

Steps to conduct a handrail inspection are:

1. Stand on the ground outside of the bus;
2. Drop the inspection tool between the handrail and stepwell wall, simulating the typical way students exit the bus;
3. Draw the inspection tool through the handrail in a smooth, continuous slow motion; and
4. Repeat this procedure several times (minimum of three times).

**Note**: It is important to drop the inspection tool over the handrail in such a way as to simulate a child exiting the bus. This is a drop-and-drag test. Do not create a snagging situation by placing the nut in an area that would not be exposed to a drawstring or other articles.

Inspection Results:

Take the bus out of service and repair it if the inspection tool catches or snags anywhere on the handrail. If the nut separates from the drawstring or the drawstring breaks, reassemble the tool and retest. If the inspection tool pulls freely without catching or snagging, the bus should not be rejected.

E. Panels

Visually inspect all interior sidewall, rear, ceiling, and driver's area paneling for secure fastening, projections, or sharp edges and general condition.

F. Seat(s) and Barrier(s)

A. Visually inspect all seats and barriers to ensure that all are securely mounted and not loose or broken; and

B. All seats shall be forward-facing and securely fastened to the bus body. Passenger seat cushions shall be fastened to prevent the cushions from disengaging from the seat frames in the event of an accident. There shall be a

minimum space of 24 inches between the forward surface of a seat back and the rear surface of the seat or barrier ahead measured across the seat cushion. Remove any air gap between the seat cover and foam, without depressing the foam, while taking the measurement. The forward surface may have side bolsters that briefly reduce the width to less than 24 inches provided the remainder of the seat measures at least 24 inches;

C. Seats and barriers should appear symmetrical. Seats/barriers that do not appear symmetrical should be physically inspected to ensure seat covering and/or padding is not significantly compromised and complies with FMVSS 571.222.

G. Seat, Driver

A. Visually inspect driver's seat to ensure that it is securely fastened to the vehicle;

B. Visually inspect the driver's seat for its ability to maintain the adjusted position.

H. Seatbelts/Occupant Restraints (for all seating positions)

1. Inspect seatbelt webbing for cuts, fraying, or extreme/unusual wear;

2. Inspect buckle and latch for damage and proper operation by inserting the latch, listening for an audible click, tugging the latch against the buckle and attempting to withdraw it, then pushing buckle release button to eject latch;

3. Inspect shoulder upper anchorage guide; webbing must move freely through anchorage guide;

4. Inspect shoulder belt height adjuster (if equipped); it must slide freely and be free from damage. If equipped with mechanical adjustments, the adjuster must lock at each height position;

5. Inspect retractor for proper operation; webbing must fully retract;

6. Inspect buckle mounting and shoulder webbing anchorage hardware. Ensure that all items are properly installed and free from damage.

I. Stepwell

Visually inspect the stepwell for the condition of support structure to ensure structural stability. Inspect stepwell treads to ensure proper securing and adhesion to the stepwell. Visually inspect step treads for any excessive worn areas that may pose a tripping or slip hazard.

## BRAKE SYSTEMS

A. Air System

1. With full system air pressure, depress the brake pedal and inspect each wheel-end brake to determine if effective braking forces are applied to each wheel-end brake. There should be no audible air loss at supply lines, fittings, valves, or brake chambers;

2. With full system pressure, make a single full-service brake application with the parking brake and ignition off. Note the gauges and listen for air leaks. Release the service brake;

3. If an air leak is detected at any point in the inspection process, the inspector should check the vehicle's air loss rate following these procedures:

   a. Set engine at idle and release brakes;

   b. Reduce air pressure in reservoir to 80 psi;

   c. Make a full brake application with governor cut-in; and

   d. Check air pressure gauge after initial application for air loss. Air pressure should be maintained or increase. A drop in pressure indicates a serious air leak in the brake system.

B. Air Brakes Measurement

The following procedure is based on the applied-stroke method for measuring the movement of the brake chamber pushrod:

1. Release the spring brakes and visually check each brake to ensure that it is in the normal released position;

2. With the brakes released, make a mark where the pushrod exits the brake chamber;

3. With the engine off, make a series of brake applications to reduce the reservoir pressure to between 90 to 100 psi;

4. Apply and hold a full brake application (90 to 100 psi); and

5. Measure the distance between the mark and the face of the brake chamber. The difference between measurements is called the chamber-applied stroke.

**Note:** Any brake that is beyond the readjustment limit will require repairs and/or adjustment. (See Table 1: *Brake Adjustment Specifications* on the following page.)

Table 1: Brake Adjustment Specifications

Brake adjustment: Shall be less than those specifications contained herein relating to "Brake Adjustment Limit." (Dimensions are in inches.)

| | **Clamp Type** Chamber **Data** | | |
|---|---|---|---|
| Type | Rated Stroke Marking | Outside Diameter | Brake Adjustment Limit |
| 6 | A | $4^{1}/_{2}$ | 1¼ |
| 9 | B | $5^{1}/_{4}$ | 1⅜ |
| 12 | B | $5^{11}/_{16}$ | 1⅜ |
| 16 | D | $6^{3}/_{8}$ | 1¾ |
| 20 | D | $6^{25}/_{32}$ | 1¾ |
| 24 | D | $7^{7}/_{32}$ | 1¾ |
| 30 | E | $8^{3}/_{32}$ | 2 |
| 36 | (none) | 9 | 2¼ |

| | **"Long Stroke" Clamp Type Brake Chamber Data** | | |
|---|---|---|---|
| **Type** | Rated Stroke Marking | **Outside Diameter** | **Brake Adjustment Limit** |
| 12 | D | $5^{11}/_{16}$ | 1¾ |
| 16 | E | $6^{3}/_{8}$ | 2.0 |
| 20 (2 ½" Rated Stroke) | E | $6^{25}/_{32}$ | 2.0 |
| 20 (3" Rated Stroke) | F | $6^{25}/_{32}$ | 2½ |
| 24 (2 ½" Rated Stroke) | E | $7^{7}/_{32}$ | 2.0 |
| 24 (3" Rated Stroke) | F | $7^{7}/_{32}$ | 2½ |
| 30 | F | $8^{3}/_{32}$ | 2½ |

| **DD-3 Brake Chamber Data** | | |
|---|---|---|
| **Type** | **Outside Diameter** | **Brake Adjustment Limit** |
| 30 | $8^{1}/_{8}$ | 2.25 |
| **Note:** This chamber has three air lines and found on motorcoaches. | | |
| **Wedge Brake Data** | | |
| The combined movement of both brake shoe lining scribe marks shall not exceed 1/8 inch (3.18mm). | | |

C. Brake Shoe/Pad/Lining

1. Visually inspect all brake linings/shoes/pads. Linings may be checked through inspection slots. All shoes/pads/linings shall comply with the applicable standards;

2. The brake lining/pad thickness shall not be less than $^{3}/_{16}$ inch at the shoe center for a shoe with a continuous strip of lining, less than ¼ inch at the shoe center for a shoe with two pads, or worn to the wear indicator if the lining is so marked, for air drum brakes;

3. The brake lining/pad thickness shall not be less than ⅛ inch for air disc brakes, or $^{1}/_{16}$ inch or less for hydraulic disc brakes;

4. Visually inspect the brake lining/pad to ensure that it is firmly attached to the shoe, is not cracked or broken, and that the friction surface is not saturated with oil, grease, or brake fluid;

5. Visually inspect all brake components' mounting hardware for any loose, cracked, broken, or missing items. This inspection should be performed with the brakes released and with the brakes applied. It may be necessary to remove inspection-access covers, brake-dust covers or, in some instances, pull wheels and drums to accomplish the inspection.

D. Chamber Size

Visually inspect all brake chambers to ensure they are properly marked, in good operating condition, have no visible damage, and are properly matched. Chambers must be matched by size, type, and stroke.

E. Drums/Rotors

1. Visually inspect all brake drums/rotors for any external cracks that open when brakes are applied. (Do not confuse short hairline internal check cracks with flexural cracks.);

2. Inspect for any portion of the drum/rotor missing or in danger of falling away.

**Note:** It may be necessary to remove inspection-access covers, brake-dust covers or, in some instances, pull wheels and drums to accomplish the inspection.

F. Hoses and Tubing

1. Carefully perform a visual inspection of all system hoses, lines, and tubing;

2. Inspect all hoses, lines, and tubing for any audible leak (if air), or visible leak (if hydraulic), any bulging/swelling when the system is pressurized, any hose, line, or tubing that is cracked, broken or crimped in such a manner as to restrict flow, any hose abraded (chafed) through outer cover to fabric layer or any line/tubing, and for proper securement and support.

G. Hydraulic Brakes Measurement/Pedal Reserve

1. With the brake pedal in the full upright position, the inspector shall measure the distance between the brake pedal and the floor or firewall. With the engine running, a single firm brake application shall be made and the distance between the brake pedal and the floor or firewall shall be measured a second time. The difference shall be recorded;

2. With vehicle stopped and engine running, depress brake pedal. The system must be able to maintain brake pedal height under moderate foot force (40-60 pounds) for one minute without pumping. With vehicle in stopped position and brake pedal depressed under moderate foot force (40-60 pounds) there should be a minimum of ⅓ of the total available pedal travel (manufacturer's specification) remaining on non-powered systems.

H. Hydraulic Brake System

1. With the engine off, turn the ignition switch to the "on" position and check the instrument panel for visible and audible warning signals to indicate system malfunction. If bus is equipped with vacuum assist, it shall have a visible warning signal and gauge to indicate any loss of vacuum. Audible signals must be loud enough to be heard over engine noise;

2. Visually inspect the master cylinder to determine if it is below the minimum fill requirements, is leaking, is loose or improperly mounted;

3. Visually inspect the hydraulic fluid reservoir level in the master cylinder unit. Inspect for any fluid leaks on wheel cylinders/calipers, master cylinders, hose connections, and hydrovac, if applicable. Check for brake fluid around the brake booster between the booster and firewall.

I. Parking Brake

1. With the engine operating and the parking brakes set, place the transmission in both forward and reverse gears to determine if brakes will hold vehicle stationary;

2. Visually and physically check condition of parking brake system and parking brake warning light.

J. Power Assist Unit

1. Electric/Hydraulic Assist: With engine off, depress the brake pedal. The electric/hydraulic brake assist motor must operate;

2. Hydrovac Assist: With engine off, the driver shall pump the brakes to exhaust all reserve. Hold firm pressure on the brake pedal and start the engine. The pedal should fall slightly. Failure of the pedal to fall slightly indicates a malfunction of the power-assist unit;

3. Hydro-boost: After two or three brake applications with the engine off, start the vehicle while maintaining pressure on the brake pedal. The pedal should push briefly, and then fall as the power assist engages.

K. Slack Adjuster Length

Measure from the center of the S-cam to the center of the pushrod clevis pin. All slack adjusters on a single axle shall be of the same type and length.

## BUMPERS

Visually inspect front and rear bumpers for missing attaching hardware or broken hardware. Ensure bumpers are properly mounted and secure and there is no point protruding beyond the confines of the vehicle so as to create a hazard.

## CHASSIS/FRAME/UNIBODY

A. Visually inspect frame for cracks, loose attaching hardware, sagging, broken, or unapproved welds to frame side rail or flange;

B. Visually and physically inspect body hold-down components for damage that would permit the shifting of the body;

C. Inspect for cracked, loose, bent, broken, or unapproved welds to frame member that affect support of functional components (e.g., steering gear, engine, transmission, body parts, or suspension). Welding to frame should be performed only by manufacturer or designee.

**Note**: Inspect for any crack 1½ inch or longer in the frame side rail web which is directed toward bottom flange or any crack extending from the frame side rail web around the radius and into the bottom flange.

D. Crossmembers

1. Visually and physically inspect all crossmembers, attaching hardware, and other structural supports for cracks or deformations. Visually inspect for three

or more adjacent cross members that are missing, broken, damaged, or loose;

2. Inspect any area of the floor that is sagging, weak, or damaged due to broken, damaged or loose crossmembers.

E. Outriggers/Body Supports

Visually inspect all outriggers and attaching hardware for cracks, missing bolts, and damage.

## DIFFERENTIAL

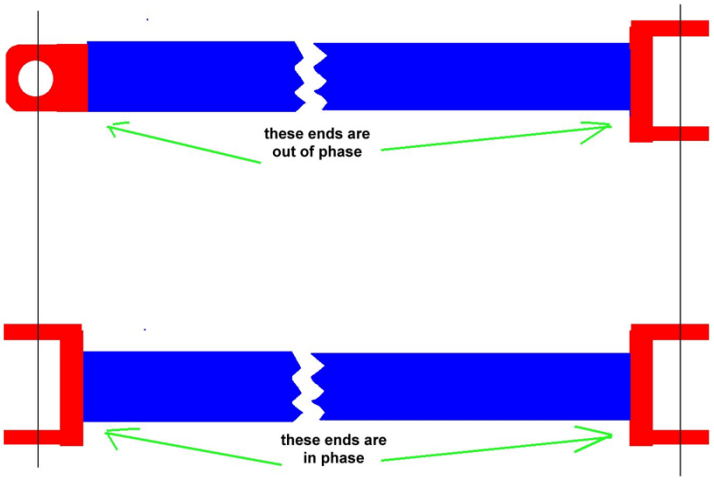
The Inspector shall visually inspect the differential and differential housing for cracks and leaks. Careful attention shall be made to the areas of mounting attaching hardware and wheel-end areas. The housing vent shall be inspected to ensure that it is not clogged and is functional by twisting the vent cap by hand.

## DRIVESHAFT

A. Visually and physically inspect each segment of the driveshaft and associated hardware. Inspect for bends, cracks, missing weights or debris entangled in the shaft. Each shaft more than 18 inches long shall be equipped with a suitable guard to prevent an accident or injury in the event of its fracture or disconnection. The inspector shall check to ensure that the driveshaft guards are not loose, bent or missing.

B. Visually and physically inspect each universal joint and center bearing. The universal joint(s) and center bearing(s) shall not be loose or worn and shall have all attaching hardware securely fastened. The inspector shall check for lateral and vertical movement of the universal joints and center bearing by grasping the universal joint and attempting to move the joint laterally and vertically. Inspector shall inspect universal joints for substandard or welded repairs.

C. Visually inspect driveshaft for proper phasing. (See illustration.)



## ELECTRICAL/BATTERY

A. Battery

1. Visually and physically inspect that the battery(ies) is(are) securely mounted and of proper battery size, type, and rating for the application;

2. Visually inspect that there are no signs of leaking or excessive corrosion;

3. Crank engine to ensure adequate battery capacity to start engine.

B. Cables

1. Visually inspect all electrical cabling and wiring for chafed, frayed, damaged, or burnt insulation;

2. Visually and physically inspect for corroded or loose connections at the battery terminals. Inspect for unsuitable insulation to electrical cabling;

3. Inspect for missing or damaged protective grommets insulating all electrical cables through metal-compartment panels. All electrical cabling passing through a metal surface shall pass through an insulated grommet as to provide adequate protection against chaffing and shorting;

4. Visually and physically inspect for any broken or unsecured mounting of electrical components;

5. Visually and physically inspect electrical cabling for securement, routing, or any unsecured wiring that may cause chafing or frayed conditions.

## EMERGENCY EQUIPMENT

A. Visually inspect that the fire extinguisher is readily accessible to the driver and passengers, that it is fully charged, is of proper type and size, is properly secured, and has a working pressure gauge.

B. Visually inspect any other state-required equipment such as first aid kits, body fluid kits, webbing cutters, and emergency reflectors, and ensure that these items are fully stocked, functional, and properly secured.

## EMERGENCY EXITS

A. Visually inspect all emergency exits.

1. Operate all emergency exits. Exits must open freely and completely;

2. Door prop rods must operate freely and hold door or exit in open position without obstructing exit;

3. There shall be no padlocks or any other locking devices on exits except interlocking systems;

4. Ensure the vehicle is equipped with the required number of emergency exits based on vehicle design;

5. All exits must be unobstructed. Ensure each exit space meets the required opening size as specified in FMVSS 571.217;

6. If equipped with interlock systems, check the functionality of the system. The bus should not be capable of starting while the interlock is engaged and an alarm should sound. If the emergency-exit interlock is engaged after a vehicle is running, an audible alarm should be given to alert the driver.

B. Visually inspect all exits to ensure they are clearly labeled and marked on both the inside and outside of the bus.

C. Ensure that all exits have an audible device to alert the driver and occupants in the vicinity of an open exit door or window.

**Note**: FMVSS 571.217 defines the number of exits for each type of bus.

## ENGINE

A. Visually inspect engine and surrounding components for evidence of fluid leaks and loose or damaged components. Inspector shall start the engine. While the engine is operating, inspector shall visually and audibly monitor engine for proper operation, leaks, and unusual noises of engine or components.

B. Inspect cooling fan per manufacturer's recommendations.

C. Visually and physically inspect all drive belts for proper alignment and tension per manufacturer's recommendations. All belts shall be free of cracking, frays, fluid, glazing, and excessive wear. Inspect belt-tensioner per manufacturer's recommendations.

D. Visually inspect all hydraulic, coolant, fuel, and pneumatic hoses for damage, proper routing, proper type, and proper securement. Hoses shall be routed in such a way as to avoid contact with exhaust, rotating or moving engine components, or sharp edges. Hoses shall not be cracked, leaking, swollen or chafed.

## EXHAUST SYSTEM

A. Visually and audibly inspect the complete exhaust system including muffler, diesel particulate filter (DPF), and diesel oxidation catalyst (DOC) for leaks, restrictions, and damage and to ensure that exhaust is not discharging directly below the driver or passenger compartment. All exhaust-emission-control devices shall be installed and operating per the manufacturer's recommendations.

B. Inspect for the presence and condition of heat shielding over and around all piping, and components where specified by vehicle manufacturer.

C. Visually and physically inspect all exhaust-system mounting hardware for loose, missing, or damaged components and to ensure that it is securely attached. Inspect to ensure that all clamps are in place and secure.

D. Visually inspect exhaust system for indications of, and areas likely to result in, burning, charring, or damage to the electrical wiring, the fuel supply, or any combustible part of the vehicle.

## FUEL SYSTEM

A. Visually inspect all parts of the fuel tank, fuel tank cage, and fuel system to include lines, hoses, filters, fill cap, and fittings for indications of damage or leaks.

B. Visually and physically inspect fuel lines and hoses for proper securement, routing, and missing or loose clamps that may cause chafing or come in contact with electrical components.

## LAMPS/SIGNALS

A. Visually inspect all lamps, such as brakes, turn signals, tail, head (low beam), overhead warning lights (amber and red), hazard warning, and stop arm lights to ensure proper visibility, orientation, and operation. Turn signals should flash at a rate of 60 to 120 times per minute.

B. Inspect that the horn functions and is audible from approximately 200 feet away.

C. Inspect the crossing control arm, if equipped, for proper operation (e.g., that it extends and retracts as designed).

D. Inspect the stop arm(s) for proper mounting, operation, and conspicuity (FMVSS 571.131).

E. Inspect the driver's area for proper operation of: instrument panel lights, warning lights, indicator lights, gauges, and alarms.

## MIRRORS

Visually inspect all mirrors to identify any mirror that is damaged, clouded, or otherwise has an obscured area. All mirrors should hold a set adjustment. All mirrors should be directed to view the intended area for which they are designed.

## SPECIALLY-EQUIPPED VEHICLES

A. Inspect service doors (handles, hinges, glass, and door hold open feature).

B. Lift Inspection: visually inspect and operate wheelchair lift to ensure proper function as designed.

1. Inspect for fluid leaks (stowed position and during operation);

2. Inspect lift platform retention hardware (missing or broken);

3. Inspect switch controls for operation and OEM wiring;

4. Ensure that all pinch points are protected for operator and passenger safety;

5. Inspect all safety functions as designed and in compliance with FMVSSs 403/404. Inspect visual and audible alarm, platform, inner/outer barrier pressure, shift/brake interlock.

C. Occupant and Wheelchair Securement Inspection

1. Verify that each wheelchair position has a minimum clear floor area of 30 inches in width by 48 inches front to back;

2. Visually inspect to account for complete securement sets for each position;

3. Inspect for broken or missing hardware, frayed or torn webbing, and lap/shoulder belt condition;

4. Inspect to ensure that all components for each wheelchair position are

compatible in accordance with manufacturers' specifications;

5. Visually and physically inspect all anchorage points, tracking, and fasteners for securement.

D. If the vehicle is equipped with a ramp, it shall be inspected to ensure compliance with ADA requirements for transportation vehicles as outlined in 49 CFR 38.23. See also the recommended out-of-service items for specially-equipped vehicles.

## STEERING SYSTEM

A. Ball and Socket Joints

A. With the bus on the ground, the inspector shall examine the ball joint nut stud for movement while the steering wheel is being rocked in a back-and-forth action. The inspector shall examine the ball/socket joint for weld repairs;

B. Check for lateral and vertical movement by grasping the tie rod and drag link sockets and attempting to laterally and vertically move the ball joint. (Rotational movement will not be considered.) Any motion other than rotational, greater than ⅛ inch that can be detected by movement with two hands with moderate strength in any connecting joint is a defect.

B. Front Axle Beam

Visually examine the front axle beam for any obvious bend or twist, any cracks, or any welded repair.

C. Hoses/Fluids

Visually examine the power steering fluid reservoir for proper fluid level. With the system operating, inspect all system components, hoses, and fittings for leaks.

D. Nuts

Visually examine all tie rods, pitman arm, drag link, steering arm, and tie rod arm for looseness and missing fasteners.

E. Pitman Arm

A. While the steering wheel is being rotated in a back-and-forth motion; visually inspect the pitman arm and output shaft connection for looseness at the output shaft joint

B. The pitman arm shall also be inspected for damage, cracks or welded repairs.

F. Power Steering

A. The inspector shall manually manipulate the auxiliary power assist cylinder to check for looseness. The inspector shall start the bus and rotate the steering wheel in a back-and-forth action to ensure the power steering pump is operable;

B. With the engine stopped, inspect the system drive belt(s) for any fraying, cracks, or fluid saturation. Check belt tension also. On units equipped with automatic tensioner, ensure that tensioner moves freely;

C. Inspect the fluid reservoir while at operating temperature to ensure that the fluid level is not below add mark. Inspect for signs of fluid leakage.

G. Steering

A. Visually inspect for any modification or other condition that interferes with free movement of any steering component. Turn steering wheel through a full right and left turn and feel for binding or jamming conditions. Both front wheels must be capable of being turned to full right or full left without binding or interference;

B. Inspect turn stops by observing for shiny spots and/or signs of wear due to contact with other vehicle components on the sides of tires, drag links, pitman arm, shock absorbers, or brake lines.

H. Steering Column/Wheel

A. Inspect steering column for any looseness in bolts, clamps, positioning parts, or universal joints. Inspect flexible coupling in steering column (if the vehicle is so equipped) for excessive misalignment and tightness of clamp bolt or nut;

B. The steering column and components shall also be inspected for damage, cracks, or welded repairs. Inspect steering wheel to ensure that it is properly positioned and secured;

C. Placing steering axle wheels in a straight-ahead position, have an assistant turn the steering wheel until movement is observed at the left road wheel and measure the steering wheel movement from starting position to wheel movement position. Compare this measurement to the applicable listing in Table 2: Steering Wheel Free Play, on the following page.

**Table 2: Steering Wheel Free Play**

Steering Wheel Free Play: Steering wheel free play shall not exceed the requirements listed in the following chart:

| Steering Wheel Diameter | Manual System Movement 30 | Power System Movement 45 |
|---|---|---|
| 16” (41cm) | 2” (5.1cm) | $4^{1}/_{2}$” (11.5cm) |
| 18” (46cm) | $2^{1}/_{4}$ “ (5.4cm) | $4^{3}/_{4}$” (12cm) |
| 20” (51cm) | $2^{1}/_{2}$” (6.4cm | $5^{1}/_{4}$” (13.5cm) |
| 22” (56cm) | $2^{3}/_{4}$” (7cm) | $5^{3}/_{4}$” (14.5cm) |

I. Steering Gear Box

A. Visually examine the steering gear box for any loose, damaged, or missing mounting bolts. Inspect for cracks in the gear box, mounting brackets, or any obvious welded repairs;

B. While having an assistant rock the steering wheel back-and-forth; visually inspect the steering shaft and gear box for any looseness where the steering gear box is mounted to the frame. Visually inspect steering shaft coupler for cracks, damage, or looseness;

C. With the engine operating, inspect for excessive fluid and/or oil leak (observable movement of fluid).

J. Tie Rods/Drag Links

A. While having an assistant rock the steering wheel back-and-forth, visually inspect the tie rod ends, crossbar, and drag links for any looseness at the steering linkage pivot points;

B. Check for lateral and vertical movement by grasping the tie rod and drag link sockets, attempting to laterally and vertically move the ball joint (rotational movement will not be considered). Any motion, other than rotational, greater than ⅛ inch that can be detected by movement with two hands with moderate strength in any connecting joint is a defect;

C. Check crossbar for structural damage and crossbar clamps for secure mounting.

## SUSPENSION COMPONENTS

A. Axle Parts/Members

A. Visually and physically inspect all front and rear axle components. Inspect all U-bolts and other suspension to axle mounting hardware for cracks, breaks, looseness, or improper type;

B. Inspect axle, axle housing, spring hanger(s), shackles, or other axle components for alignment, cracks, breaks, and loose or missing items that could result in shifting of an axle from its normal position;

C. Inspect front axle beam for signs of improper repair (e.g., welding or heating);

D. Inspect for any worn (beyond manufacturer specifications) or improperly assembled U-bolt, shock, kingpin, ball joint, strut, air spring, or positioning components;

E. Inspect all leaf spring hangers, hanger assemblies, or portions of leaf for broken, separated, sagging, bent, abnormally worn (beyond manufacturer specifications), shifted, or missing components;

F. Inspect pins and bushings for wear, off-center spring eye, rubbing shackle, or non-symmetric joints. Inspect for any broken, weak or damaged coil spring and mounting assemblies;

G. Visually and physically inspect all hydraulic shock absorbers for leaks, looseness, damage, or missing components;

H. Inspect air suspension (if equipped). Observe that the vehicle is lifting level. With the air system fully charged, inspect for any audible or visual air leakage at the air spring assembly, supply hoses, and connections.

**Caution:** Inspector should use caution whenever underneath the vehicle. There may not be sufficient room underneath the vehicle should a problem occur with the air suspension system.

## TIRES/WHEELS/HUBS

A. Hub and Assemblies

A. Visually inspect kingpin and wheel-bearing assemblies for looseness, damage, missing, or loose fasteners. This shall include locking pins, draw keys, caps, and bearing;

B. Physically inspect kingpin and bearing assemblies for play as follows: with the tire raised off the ground, grasp tire at top and attempt to move the wheel assembly in and out. If movement is present, inspector can help to identify the source by following this procedure:
Have an assistant fully apply brakes while rechecking play. If movement disappears with brakes applied, then play is in the wheel bearings. If movement remains, it is most likely in the kingpin area. Assembly shall not have excessive kingpin play that exceeds .250 inch measured at outside edge of tire or wheel bearing movement that exceeds .010 inch measured at bearing hub;

C. Visually inspect A-frames and bushings on Type A vehicles. Inspect bushings for wear, cracking, splitting, or severe extrusion from suspension parts;

D. For vehicles equipped with “wet hubs” or oil bath hubs, the inspector should visually check the sight glass for lubricant level.

B. Tire Inspection

1. Visually inspect that tires are properly inflated and do not have noticeable leaks. [See 393.76 (h)(1), (2)] If pressure is questionable, inspector shall use a tire pressure gauge to verify pressure.

2. Visually inspect valve stem for damage and presence of valve cap.

3. Visually inspect tire for cuts, wear and any observable bumps or bulges.

4. Visually inspect for any front tire worn to less than 4/32 inch.

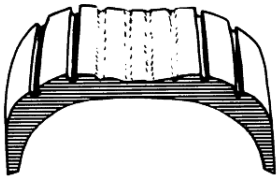
5. Visually inspect for any rear tire worn to less than 2/32 inch.

6. If a visual inspection cannot determine that the tire meets the minimum depth requirement, the inspector shall use a commercial tire depth gauge to verify tread depth.

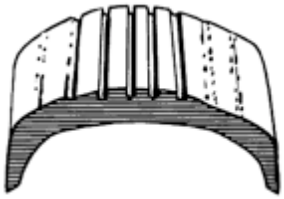
7. Visually inspect the steer axle (front) to ensure that no recapped, re-grooved tires are present.

8. Visually inspect tires for improper wear patterns. (See Tire Wear Chart to follow.)

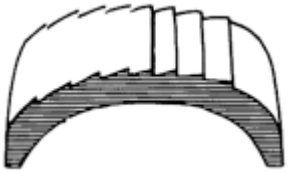
9. Visually check proper type (i.e., load range, size, mismatched on axle).



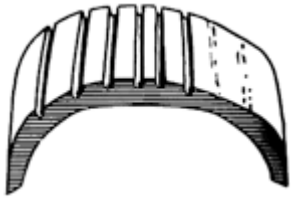
**Over Inflation:** Excessive wear at the center of the tread indicates that the air pressure in the tire is consistently too high. The tire is riding on the center of the tread and wearing it prematurely. Many times, this visual method of inflation (inflating the tires up until there is no bulge at the bottom) is at fault; tire inflation pressure should always be checked with a reliable tire pressure gauge.



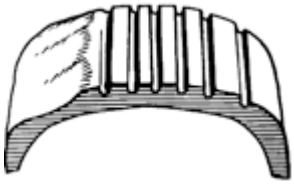
**Under Inflation:** This type of wear usually results from consistent under inflation. When a tire is under inflated, there is too much contact with the road by the outer treads, which wear prematurely. Tire pressure should be checked with a reliable pressure gauge. When this type of wear occurs, and the tire pressure is known to be consistently correct, a bent or worn steering component or the need for wheel alignment could be indicated. Bent steering or idler arms cause incorrect toe-in and abnormal handling characteristics on turns.



**Feathering:** Feathering is a condition when the edge of each tread rib develops a slightly rounded edge on one side and a sharp edge on the other. By running your hand over the tire, you can usually feel the sharper edges before you'll be able to see them. The most common cause of feathering is incorrect toe-in setting, which can be cured by having it set correctly. Occasionally toe-in will be set correctly and this wear pattern still occurs.



**Side Wear:** When an inner or outer rib wears faster than the rest of the tire, the need for alignment is indicated. There is excessive camber in the front suspension, causing the wheel to lean too much to the inside or outside, putting too much load on one side of the tire. Misalignment could be due to sagging springs, worn ball joints, worn control arm bushings, or worn kingpin bushings.



**Cupping:** Cups or scalloped dips appearing around the edge of the tread on one side or the other almost always indicate worn (sometimes bent) suspension parts. Adjustment of wheel alignment alone will seldom cure the problem. Any worn component that connects the wheel assembly to the vehicle (ball joint, kingpins, wheel bearing, shock absorber, springs, bushings, etc.) can cause this condition. Occasionally, wheels that are out of balance will wear like this, but wheel imbalance usually shows up as bald spots between the outside edges and center of the tread.

## WHEELS/RIMS/SPIDERS

A. Inspector shall inspect all nuts, bolts, studs, lugs, and holes for damage. Visually inspect for broken, damaged, missing, or loose fasteners. Rust around fasteners or on rim surface is sometimes an indication of cracked or loose mounting hardware;

B. Visually inspect rim for, cracks, welds, or broken components. Visually inspect for any lock or slide ring that is broken, cracked, improperly seated, sprung, or has mismatched rings.

## WINDOWS

A. Visually inspect for any glass or glazing that is broken through or missing (393.60).

B. Visually inspect for any glass not of approved type [393.60(a)].

C. Visually inspect windshield to ensure there is no discoloration or other damage in that portion extending upward from the height of the topmost portion of the steering wheel, but not including a two-inch border at the top and a one-inch border at each side of the windshield or each panel thereof, except as follows:

1. Color or tint applied by the manufacturer for the reduction of glare;

2. Any damaged area, that can be covered by a disc ¾ inch in diameter, if not closer than three inches to any other such damaged area.

D. Inspect windshield for cracks over ¾ inch in length.

E. Inspect the windows to the immediate left and right of the driver for any damage, obscurities, fogging, or other obstruction.

F. Inspect the defrosting and defogging system to ensure that the driver's windshield is able to be properly cleared (571.103).

## WINDSHIELD WIPERS/WASHERS

A. Operate the wiper system. The wiping system should be power-driven with at least two speeds and should be able to clean the area of the windshield within the wiping pattern. Wipers should operate with a minimum of 45 cycles per minute.

B. Operate the washer system. The washer system should direct fluid onto the windshield to assist in removing debris.

## VENTILATION/HEATING/COOLING SYSTEMS

A. Inspect auxiliary fans for proper mounting, operation and to ensure they are equipped with a protective cage.

B. Check each heater/air conditioner for proper mounting and operation.

C. Ensure that all access panels and protective coverings are in place (heater lines, cores and elements on the interior of the bus shall be shielded to prevent scalding or burning of the driver or passengers).

D. Check hoses/wiring for wear and proper connection.

E. Inspect heating and cooling systems for any fluid leaking into the interior of the bus.

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# ALTERNATIVE FUELS

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# ALTERNATIVE FUELS

## INTRODUCTION

This section is designed to be used as an overview of the alternative fuels being utilized for school transportation. It is not designed to replace current applicable federal, state, manufacturing, or safety specifications that may exceed requirements within this section. There may be advancements in engineering and improvements in equipment fabrication methods and operating practices that differ from those specifically called for in this section. Such deviations or improvements may provide safety and may meet the intent of, and be compatible with, this section. Entities wishing to purchase alternative fuel school buses should use this section only as a starting point. More detailed specifications, including specific design and performance criteria and safety specifications, should be researched by prospective purchasers of alternative fuel school buses.

## GENERAL REQUIREMENTS

Alternative-fuel school buses shall meet the following requirements:

A. Chassis shall meet all specifications previously mentioned in BUS BODY AND CHASSIS SPECIFICATIONS.

B. Chassis shall meet all applicable Federal Motor Vehicle Safety Standards (FMVSSs).

C. The fuel system integrity shall meet the specified leakage performance standards when impacted by a moving contoured barrier in accordance with test conditions specified in FMVSS 301, Fuel System Integrity, or FMVSS 303, Fuel System Integrity of Compressed Natural Gas Vehicles, as applicable.

D. Original equipment manufacturers (OEMs) and conversion systems using compressed natural gas (CNG) shall comply with National Fire Protection Association (NFPA) 52 (2013), Vehicular Natural Gas Fuel Systems Code. Fuel systems using liquefied petroleum gas (LPG) shall comply with NFPA 58 (2014), Liquefied Petroleum Gas Code.

E. Fuel tank(s) for vehicles of less than 54 passenger capacity powered by LPG or CNG shall have a minimum 40-gallon capacity. Fuel tank(s) for vehicles of 54 or more passenger capacity powered by LPG or CNG shall have a minimum 60-gallon capacity.

F. Natural gas-powered buses may be equipped with an interior/exterior gas detection system. All natural gas-powered buses may be equipped with an automatic or manual fire detection and suppression system.

G. All materials and assemblies used to transfer or store alternative fuels shall be installed outside the passenger/driver compartment.

H. All Types C and D buses using alternative fuels shall meet the same base requirements of BUS BODY AND CHASSIS SPECIFICATIONS for passenger load.

I. The total weight shall not exceed the vehicle's GVWR when loaded to rated capacity.

J. The manufacturer supplying the alternative fuel equipment must provide the owner and operator with adequate training and certification in fueling procedures, scheduled maintenance, troubleshooting, and repair of alternative fuel equipment.

K. All fueling equipment shall be designed specifically for fueling motor vehicles and shall be certified by the manufacturer as meeting all applicable federal, state, and industry standards.

L. All on-board fuel supply containers shall meet all appropriate requirements of the American Society for Mechanical Engineering (ASME) code, DOT regulations, or applicable FMVSSs and NFPA standards.

M. All fuel supply containers shall be securely mounted to withstand a static force of eight times their weight in any direction.

N. All safety devices that discharge to the atmosphere shall be vented to the outside of the vehicle. The discharge line from the safety relief valve on all school buses shall be located in a manner appropriate to the characteristics of the alternative fuel. Discharge lines shall not pass through the passenger compartment.

O. CNG buses shall have a positive, quick-acting (¼ turn) shut-off control valve installed in each gaseous fuel supply line, as close as possible to the fuel supply containers. The valve controls shall be placed in a location easily operable from the exterior of the vehicle. The location of the valve controls shall be clearly marked on the exterior surface of the bus.

P. An electrical-grounding system shall be required for grounding of the fuel system during maintenance-related venting.

Q. Fuel systems identified as compatible with biodiesel must be provided with components compatible with biodiesel conforming to the specifications of ASTM D6751, Biodiesel Standard.

R. High-Voltage-Battery-Electric-Powered Vehicles: Buses utilizing a high-voltage propulsion system (more than 48 nominal volts) shall meet Federal Motor Vehicle Safety Standards (FMVSS) and all Society of Automotive Engineers (SAE) standards at the time of manufacture. Additionally:

1. The propulsion power source (batteries, fuel cells, etc.) shall be located outside the passenger compartment;

2. The propulsion power source enclosure shall be constructed to conform to the power source manufacturer's requirements and recommendations;

3. Charging connection point shall be outside the passenger compartment;

4. While charging, the transmission/propulsion system shall be rendered inoperable;

5. There shall be a disconnect switch to shut off the high-voltage components;

6. Battery packs shall be appropriately heated and cooled.

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# OPERATIONS

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# OPERATIONS

## INTRODUCTION

The success of any school transportation operation depends largely on the performance and degree of dedication displayed by those involved. These recommendations are designed to assist state agencies, school districts, school and Head Start administrators and private operators in understanding their student transportation programs and developing applicable policies. This includes those for transporting students with special needs and other specialized populations, in accordance with federal, state, and local laws. The size and scope of student transportation operations are highly varied across the country. This leads to varying levels of administrative and managerial capabilities that must be acknowledged when considering and determining the ability of the operations to implement the full scope of recommendations included in this document. The recommendations outline best practices; however, it is acknowledged that not all operations will possess the necessary administrative, specialized personnel, financial, or managerial resources to fully implement each recommendation in compliance with federal, state, and local laws.

The school bus is an extension of the classroom and, as such, the rides to and from school should be safe and efficient in an atmosphere conducive to learning readiness. Open and honest communication between all stakeholders is vital for the success of the transportation program. Transportation is critical to the education process, and the school bus is the safest form of transportation; therefore, transportation to and from school on a school bus shall be offered to all eligible students.

Districts or the governing body responsible for pupil transportation shall have a transportation eligibility policy which takes safety into account and addresses distances from school for different age groups. If transportation eligibility is maximized, the result will be more students on school buses, and therefore, safer access to students' educational opportunities. The sole criterion used to establish transportation eligibility should not only be the distance between a student's home address and the student's school of attendance; rather, travel to and from school must take into account various criteria. Safety must be the primary concern, and criteria should take into account the ages of students and potentially hazardous situations, such as roadway and walk pathway conditions, speed limits, railroad crossings, lighting conditions, etc. (See Identification and Evaluation of School Bus Route and Hazard Marking Systems, Final Report, Table 1, in APPENDIX D.) The criteria should also take into account students' levels of maturity, grade levels, and cognitive and physical abilities. Similar criteria should be used in establishing maximum distances between a student's home and the assigned bus stop per district guidelines. (See APPENDIX D for Sample walk distances.)

## SCHOOL TRAVEL CHOICES

Students in the United States travel to and from pre-school, school and related activities by a variety of modes. Administrators, parents, and students often choose, or encourage the use of modes of, travel for reasons other than maximizing safety or minimizing risk (e.g., convenience, flexibility, and

cost). **It is recommended that all school students be transported in a certified school bus with a qualified driver**.

Each travel mode has its inherent risks, which vary from community to community, school to school and program to program, and any shifts from one mode to another can have a marked effect on the overall safety of travel for a particular community, school or program. Each state, school district, private school, Head Start agency, and any other agencies or organizations that transport school-age children must assess their own situations and circumstances and apply the information presented in The Relative Risks of School Travel–A National Perspective and Guidance for Local Community Risk Assessment (published by the Transportation Research Board of the National Academies of Sciences and Engineering), in order to make sound, informed decisions. The goal is to improve safety for all children traveling to and from pre-school, school and related activities, and to provide communities with the information needed to make informed choices that balance their needs and resources.

## SCHOOL BUS USE

On July 6, 1999, the National Transportation Safety Board (NTSB) transmitted a Safety Recommendation letter to the Steering Committee of the 13th National Conference on School Transportation containing the findings and recommendation of the Special Investigative Report Pupil Transportation in Vehicles Not Meeting Federal School Bus Standards (NTSB/SIR99/02). This special investigation report was based on the NTSB's finding in four crashes involving "nonconforming buses": that a number of children were ejected and fatally injured in three 15-passenger vans and a 25-passenger specialty bus that "... did not and were not required to meet federal school bus occupant crash protection standards." Recommendation H-99-25, issued in the letter to the National Conference on School Transportation and several other national associations and churches, urged recipients to "...inform their members about the circumstances of the accidents discussed in this special investigation report and urge that they use school buses or buses having equivalent occupant protection to school buses to transport children."

On January 18, 2001, the *Federal Register* (Vol. 66, No. 12) published 45 CFR 1310, Head Start Transportation, which included a requirement that on or before January 18, 2006, except as otherwise provided in §1310, Head Start and Early Head Start passengers shall be transported to and from their respective programs in school buses or allowable alternate vehicles (AAVs), which are like school buses in all respects, except that they do not meet FMVSSs for crash avoidance. (In short, AAVs include all school bus design standards except that they may not be painted "school bus" yellow and they are not equipped with stop arms and alternately flashing signal lamps for passenger loading and unloading.) The directive (§1310.12) was based on the documented safety of school buses and the knowledge that alternatives to school buses per se would be required by specific states (thus the allowance for AAVs).

The National Highway Traffic Safety Administration, on July 31, 2003, issued the Final Rule for 49 CFR 571 (Federal Register, Vol. 68, No. 147) that established a new class of school buses called "multifunction school activity buses" (MFSABs) to fulfill the requirements for AAVs (as required by

Early Head Start and Head Start) or for "...enabling schools and other institutions to choose the new buses instead of a 15-passenger van [which] will provide them with a safer transportation alternative" (p. 44892).

Therefore, to assure the highest level of safety for children, consistent with the NTSB's recommendation and 45 CFR 1310, all students transported to and from public and private pre--school programs and schools and to related activities shall be transported in school buses as defined in Title 49, CFR Part 571 or in vehicles having passenger crash protection equivalent to school buses, such as multifunction school activity buses (MFSABs).

## STATE ADMINISTRATION

A. Services Provided

B. The state agency(ies) responsible for student transportation should provide the following services:

1. Leadership in the development of a comprehensive student transportation program for state-wide application;

2. A state director of student transportation with the staff and other resources necessary for optimal job performance;

3. Clear, concise student transportation policies;

4. A cost-accounting system for all expenditures in the area of student transportation;

5. A state-wide management information system to accommodate student transportation data (e.g., costs, information gleaned from the uniform school bus crash reporting criteria, manpower availability, etc.);

6. Promotion of a student transportation safety program utilizing community and school district resources, school bus contractors, school transportation associations, legislation, media, law enforcement, and state agencies concerned with student transportation;

7. A manual or handbook for local student transportation supervisors, school administrators, and private contractors containing detailed instructions for implementing the state's student transportation laws, regulations, and policies;

8. Manuals or handbooks for each school bus driver and each bus attendant containing the state student transportation regulations and recommended safety practices;

9. A comprehensive series of training programs that covers all aspects of student transportation, including, but not limited to, the following areas:

    a. A school bus driver program for both pre-service and in-service instruction, including documentation of successful completion of classroom and behind-the-wheel instruction;

    b. Workshops, seminars, and/or conferences for all student transportation personnel;

    c. Encouragement for state institutions of higher learning to provide undergraduate and graduate courses acceptable for certification purposes in student transportation, operation and safety;

    d. Safety and safe travel curricula for student passengers; and

    e. School bus driver and bus monitor program on transporting students with disabilities.

10. Manuals or handbooks for school bus maintenance personnel, containing technical issues and administrative issues, to include appropriate school bus preventive maintenance procedures and ongoing maintenance programs;

11. Regular visits to local school systems to evaluate transportation systems and to provide necessary direction, which may include soliciting feedback from students and parents/guardians which transportation serves;

12. Bus and equipment standards that ensure safe and efficient student transportation;

13. Coordination with other agencies having responsibility for student transportation services and use of the uniform school bus crash reporting criteria; and

14. Adequate funding necessary to comply with mandates adopted and approved by state legislatures and the federal government.

C. State Student Transportation Director

1. The State Director of Student Transportation's specific duties may include, but are not limited to, the following administrative areas:

    a. Assisting in the implementation, interpretation, and understanding of student transportation laws, regulations and policies;

    b. Managing the state's student transportation program, which includes planning, budgeting, and forecasting requirements for the operation;

c. Supervising the preparation of manuals, handbooks, and information for distribution to local transportation personnel and private operators;

d. Providing assistance and direction on request to local school administrators, ESSA (Every Student Succeeds Act), and Early Head Start and Head Start grantees or their transporters;

e. Assisting in evaluation of state and local operations, including bus routes, and providing recommendations for policies and procedures;

f. Planning, directing, and participating in safety education for student transportation personnel;

g. Assisting local personnel in planning and conducting student safety education programs;

h. Requiring and maintaining appropriate reports and records;

i. Assisting and/or consulting with groups involved in student transportation safety;

j. Representing the interests of the student transportation industry;

k. Working cooperatively with school transportation associations, school districts, Early Head Start and Head Start grantees, or transporters, parents, and private contractors to promote school bus safety and efficiency;

l. Developing and publishing easy-to-understand information on the hazards of using prescription drugs and over-the-counter medications when driving;

m. Developing and implementing appropriate curricula for training of transportation supervisors, drivers, technicians, attendants, and other staff, as well as parents and students;

n. Developing and maintaining state-wide data collection and distribution systems regarding safety incident investigations, best practices and general industry information; and

o. Developing and maintaining a state-wide process for investigating and reporting safety incidents.

2. The State Director of Student Transportation should be an active member of regional and national organizations and should participate in activities that promote student transportation safety.

## LOCAL SCHOOL DISTRICT ADMINISTRATION

A. Activities

The local agency responsible for student transportation should supervise the overall transportation operation within the respective agency. Recommended activities include, but are not limited to, the following:

1. Assign adequately trained and certified, in accordance with state and federal requirements, staff the responsibility for implementing and/or supervising a comprehensive student transportation program;

2. Participate in student transportation operations within its jurisdiction, including training programs for all transportation personnel, to include provisions of the Entry Level Driver training requirements contained in 49CFR380, review of school bus routes, investigation and reporting of crashes and other transportation problems, and evaluation of the student transportation system;

3. Ensure compliance with federal and state student transportation laws, regulations and policies, including drug/alcohol testing programs as required in the Omnibus Transportation Employee Testing Act of 1991, and in compliance with 49 CFR, Parts 40 and 382 and with 45 CFR 1310, other Head Start regulations, and requirements of the drug and alcohol clearing house 49CFR354.235, as may be applicable;

4. Ensure that instruction in passenger safety, including student participation in emergency evacuation drills, is an integral part of the school and/or Head Start curriculum;

   **NOTE:** Instruction should comply with state requirements and/or Federal Highway Safety Guideline 17 (copy in APPENDIX D) and with 45 CFR 1310, as may be applicable.

   Instruction should include, but not be limited to, the following items:

   a. At least once each school semester, provide all students transported to and from schools or Head Start Centers in a school bus or multifunction school activity bus with instruction on the location and operation of all emergency exits, provide supervised emergency exit drills to each student transported to or from schools or Head Start Centers in a school bus or

multifunction school activity bus, and provide all students with an age-appropriate safe travel curriculum consistent with the modes of travel available for each age group/grade level;

b. Before departure of each activity trip, provide all passengers transported in a school bus, school-chartered bus, or multifunction school activity bus instruction* on the location of all emergency exits and demonstrations of their operation, including a general review of safe riding practices, rules and procedures; and

**NOTE:** A sample form is available in APPENDIX E.

c. Limit the number of carry-on items, especially large items (e.g., luggage, coolers, sports/band equipment, etc.) in school buses, school-chartered buses, or multifunction school activity buses; keep aisles and emergency exits in school buses, school-chartered buses, and multifunction school activity buses clear at all times; safely stow and secure away from any aisle or emergency exit any item that is brought on board.

5. Provide supervision of loading and unloading areas at or near the school or Head Start Center and provide ongoing evaluation of route pick-up and drop-off locations for safety;

6. Provide adequate supervision for students whose bus schedules necessitate their early arrival or late departure from school or Head Start;

7. Promote public understanding of, and support for, the school transportation program;

8. Develop and implement local student transportation policies and regulations, including those for students with special needs;

9. Provide transportation personnel with opportunities for growth in job-related activities;

10. Provide a library of resources to ensure that transportation personnel have the proper tools to operate a safe and efficient program, including but not limited to, the following resources:

a. Applicable federal, state and local laws, codes, and regulations;

b. Applicable manuals and guidelines;

c. On-line connectivity for access to all internet and other resources; and

d. Applicable trade journals and organizations' publications.

11. Provide contract management (if applicable).

**Note:** If a private carrier/alternative transportation is utilized in a school transportation operation, it is imperative that a clear partnership is established with all parties. Clear expectations and contract review, along with ongoing training, communication, and practice/procedures should be developed with a working partnership in mind.

B. Staffing

The tasks associated with the successful operation of the local transportation department are many and varied. Depending on the size of the school district, many duties may be consolidated in a single position, or each position may have very specific duties. The leadership of a truly effective transportation department promotes career paths and succession plans that will ensure continuity and consistency of the operation.

The following duties are classified by the type of position that would have standalone responsibility, recognizing that an individual may have the responsibilities of several of the designated positions.

**Note:** Recommended job descriptions for this section may be located in APPENDIX D.

1. Administrative

a. Executive Director, Director, manager, supervisor, and/or private operator:

This position is in charge of daily transportation functions. Duties are to plan, direct, coordinate, and oversee all functions pertaining to the operation and maintenance of the district transportation department, including personnel, equipment, and facilities. Prime concern is safe, efficient, and economical transportation of students between home and school on a regular schedule and to other destinations, as required by the students' programs or school activities.

b. Area supervisor/assistant supervisor:

This position oversees a wide variety of operational functions in a specified area or for specific schools.

c. Transportation specialist:

This position is often a combination of several job functions. Duties may include dispatching, routing (computer or pin maps), and driver training.

2. Support

a. Dispatcher/Scheduler:

This position is responsible for scheduling and coordinating the transportation of students to and from school and related school district-sponsored activities, and for covering all bus routes by drivers daily. This position may also schedule other district vehicles for district employees and maintain required records. This position may also assure that radio and other communication transmissions are monitored and maintained while ensuring proper radio protocols per Federal Communications Commission (FCC) regulations.

b. Instructor/trainer:

Duties of this position include conducting training for potential new bus drivers and attendants, conducting training for veteran bus drivers and attendants, and ensuring that training is completed according to federal, state and district requirements.

c. Routing specialist:

Duties of this position include developing and maintaining safe, efficient, and cost-effective bus stops and routes, assigning routes to bus drivers, assigning assets, and determining the need to access contracted services.

d. Administrative assistant, clerical:

This position provides support to the transportation supervisor. Duties may include preparing department correspondence, answering phones, fielding questions and complaints, referring calls to appropriate staff, maintaining credentials, establishing and using filing systems, use of office equipment to include software, preparing payroll, and providing support to the dispatcher/scheduler, instructor/trainer, routing specialist, and to shop personnel.

e. Bookkeeper:

This position provides accounting support for management and issues invoices for services, extracurricular bus trips, and maintenance of other department vehicles. Duties may also include preparing purchase orders, authorizing and/or issuing related payment documents and budget reports, and ensuring that all financial transactions are properly recorded, totaled, balanced, and reconciled with budgeted amounts.

3. Operations

   a. Bus driver:

      The bus driver operates school buses safely under all types of weather, traffic and road conditions, and transports students and other authorized persons on regular and special program routes to and from school and on field, extracurricular, and other special activity trips, as authorized by school district officials.

   b. Bus attendant (monitor or aide, driver assistant, assistant, para, or paraprofessional):

      The attendant teams with the driver to meet students' needs while enroute, thus providing students a safe environment in the bus and allowing the driver to focus on operating the bus. Attendants assist students with special needs, or children enrolled in Head Start or other programs to provide passengers the safe ride to and from school, school activities, or Head Start centers. Attendants complete specialized training in the duties and responsibilities of the position. Attendants may be placed at the discretion of the district where behaviors are severe or otherwise where it is deemed necessary to help maintain a safe environment.

4. Vehicle maintenance

   a. Vehicle maintenance supervisor, foreman, or manager, or lead technician:

      Duties of this position include oversight of preventive maintenance, supervision of technician staff, service and repair of school buses and other district vehicles, and equipment, as may be assigned. As well as, compile reports, utilize vehicle maintenance programs, participate in sound environmental practices, and schedule and prioritize work.

   b. Journey technician:

Under the direction of the vehicle maintenance supervisor, the journey technician has primary responsibility for maintaining and repairing all school buses and other vehicles, as assigned.

c. Assistant technician:

Under the supervision and direction of the vehicle maintenance supervisor, the assistant technician assists with all mechanical repair and preventive maintenance activities.

## RESPONSIBILITIES

A. Driver Responsibilities

1. Drivers should be familiar with and abide by all rules, policies, and procedures affecting student transportation. They should be trained and display proficiency in the appropriate use of all equipment, tools, technologies, and adaptive equipment in the bus;

2. Drivers should recognize the importance of establishing rapport with parents, their supervisors, and school or Center administrators when working to ensure proper student management.

3. Drivers should establish proper rapport with students.

4. Drivers should instruct and demonstrate safe and appropriate behavior, consequences of improper behavior, general procedures, seat belt use and proper adjustment (when equipped), evacuation drills, and safe travel practices. (See APPENDIX D.)

5. Drivers should maintain order and safety and protect the rights of others in the school bus. They should exercise good judgment and prudence in this pursuit, using appropriate verbal interventions. This includes, but is not limited to, the following:

a. Minimizing interior noise;

b. Requiring an orderly entrance and exit using proper loading and unloading procedures;

c. Eliminating movement or potential movement of objects;

d. Requiring silence at railroad crossings;

e. Requiring compliance with all emergency procedures, including accident and evacuation procedures; and

f. Prohibiting transportation of unauthorized riders and materials.

6. Drivers should handle minor infractions with on-board consequences and discussions approved by the school district or Head Start agency;

7. Drivers, in instances of serious or recurring misconduct, should follow school district or Head Start policies pertaining to the misconduct and should submit written reports on appropriate forms to administrators or other persons designated to deal with discipline problems; (See APPENDIX D.)

8. Drivers should be aware that they represent the school system, Head Start agency, and/or the bus company/contracted services and should present a positive image in dress, language, and manner while on duty;

9. Drivers, including substitute or spare bus drivers, should be provided with and should be familiar with written instructions of the assigned route that would include any existing railroad crossings and any fixed route hazard(s);

10. The school bus driver is the key to an effective daily inspection program. It is the driver's responsibility to perform a planned and systematic inspection of the bus before each route and/or trip, or to assure that the inspection has been completed properly in a timely manner. A recommended procedure requires both stationary and operating inspections. The following inspection outline is not suggested as a model for use, but rather is included as a guide for transportation personnel to use in developing a systematic inspection procedure;

**Note:** Although this section identifies most items to be inspected, state commercial driver's licensing (CDL) requirements may include additional items. All items should be inspected in the method prescribed by CDL requirements and any other applicable regulations.

11. Drivers shall be trained in, and shall abide by, confidentiality rules and regulations (FERPA, IDEA, HIPAA, etc.)

**Note:** from the NTSC Editing Committee: Please see Joint Guidance on the Application of the Family Educational Rights and Privacy Act (FERPA) And the Health Insurance Portability and Accountability Act of 1996 (HIPAA) To Student Health Records document available at:

http://www.hhs.gov/sites/default/files/ocr/privacy/hipaa/understanding/coveredentities/hipaaferpajointguide.pdf

12. Stationary inspection:

    a. Observe the bus for evidence of oil, fuel, coolant, grease or water leaks, vandalism, or damage to the vehicle;

    b. Observe areas around the vehicle for hazards detrimental to vehicle movement; and

    c. Be familiar with the under-hood inspection and conduct the under-hood inspection, if required to do so.

13. Walk-around inspection:

    Before starting the inspection, place the transmission in neutral and set the parking brake (or fully depress the clutch pedal in manual transmission-equipped vehicles), start the engine and inspect the bus from top to bottom and end to end. Check these items:

    a. Tires (under inflated, flat, excessively worn or damaged, valve stems, and caps);

    b. Wheels (loose or missing nuts, excessive corrosion, cracks or other damage, and any sign of misalignment);

    c. Fluid leaks (evidence of wetness on inner wheels and tires);

    d. Windows (for dirt, stickers, or other obstructions to vision and clean, if necessary);

    e. Mirrors (clean, properly adjusted in accordance with FMVSS111 and holds a set adjustment;

    f. Warning systems (clean, properly working running lamps, backup lamps, signals and signs, reflectors, turn signals, stop lamps, and warning flashers);

    g. Exhaust system (sagging exhaust pipes, short and leaky tailpipes, and defective mufflers);

    h. Emergency exit seals (to prevent possible entrance of dangerous carbon monoxide fumes), hinges, and warning buzzer; and

i. Body for sharp edges, missing or damaged panels, loose rub rails, and bumper securement.

14. Inside safety check

a. Passenger compartment, seats, frames, emergency exits, and windows must be carefully checked;

b. Inspect instruments and controls. With the engine operating, check the following:

(1) Vacuum or air pressure gauge or hydraulic indicator lamps, which should indicate adequate capacity to operate brakes. Loss of air or hydraulic pressure or vacuum indicates a braking deficiency that must be corrected immediately. For buses equipped with electric hydraulic brakes, the driver shall depress the brake pedal with the engine off to check the operation of the backup system;

(2) The oil pressure gauge, indicating adequate pressure. The engine should be turned off in the event of inadequate pressure and reported immediately;

(3) Warning lamps:

(a) Prolonged oil pressure warning lamp, display is a signal of oil pressure problems, and the defect should be reported immediately;

(b) Service brake warning lamp displayed during brake application indicates that the brake system is not operating properly;

(c) Alternator/generator warning lamp displaying a continuous light “on” after the engine is running indicates a malfunction in the charging system;

(d) Ammeter and/or voltmeter indicating any continuous discharge should be reported immediately;

(e) Water temperature gauge should always indicate “cool” or “warm.” If it indicates “hot,” the engine should be stopped immediately. The same action should be taken if the temperature warning lamp goes on; and

(f) Anti-lock brake system warning lamp being “on” indicates that the brakes are still functional but the anti-lock system is not.

15. Check each of the following items for proper operation, adjustments or condition:

a. Lamps and signals: turn signals, stop lamps, special warning lamps, emergency flashers, clearance (marker) lamps, headlamps, interior lamps, and stop arm lamps;

b. Stop arm control;

c. Windshield fan, defrosters, and heaters;

d. Horns;

e. Entrance (service) door and control;

f. Mirrors: rear view, side view, convex, and elliptical;

g. Three emergency triangles;

h. Seat(s) and passenger restraint system (if equipped);

i. Fire extinguisher*;

j. First aid kit*;

k. Body fluid cleanup kit;

l. Webbing cutter*;

m. Wipers/washers;

n. Sanders (when equipped);

o. Power lift (when equipped);

p. Spare electrical fuses (if required);

q. Adaptive equipment devices;

r. Crossing control arm (if equipped), and

s. Post-trip inspections (student check alarm if equipped)

*(with required signage for Head Start vehicles)

B. Parent/Guardian Responsibilities

Parents, guardians and persons acting *in loco parentis* should:

1. Understand and support district or Head Start Center rules and policies, regulations, and principles of school bus safety;

2. Assist children in understanding safety rules and encourage them to comply;

3. Recognize their own responsibilities for the actions of their children. Understanding this, parents or guardians shall be responsible and accountable for the conduct and safety of their children at all times, prior to the arrival and after the departure of, the school bus at the assigned school bus stop;

4. Support safe riding practices and reasonable discipline efforts;

5. Teach children proper procedures for safely crossing the roadway before boarding and after leaving the bus, as described in APPENDIX D;

6. Support procedures for emergency evacuation as prescribed by states and school districts and Head Start Centers;

7. Respect the rights and privileges of others;

8. Understand the dangers of loose clothing, drawstrings, clothing accessories, backpacks, and other loose personal items and take appropriate action;

9. Monitor bus stops, if possible;

10. Support all efforts to improve school bus safety;

11. Be aware of illegal or undesirable activities and other dangers involved in and around the loading and unloading zone; and

12. Communicate observed safety concerns to appropriate school district representatives.

C. Student Responsibilities

Maintaining proper student behavior is crucial, as a distracted driver can lead to unsafe situations. It is essential for both students and parents/guardians to be informed of, and to adhere to, appropriate regulations that promote safety. Clear

understanding of the consequences of inappropriate behavior is necessary. The following measures will help ensure the protection of students' rights and the maintenance of order on the bus**:**

1. Students should be aware that they are responsible for their actions and behavior;

2. Students should receive a copy of the rules and procedures and should be required to comply;

3. Students should display respect for the rights and comfort of others;

4. Students should be informed that school bus transportation is a privilege and can be denied and/or removed if they exhibit unacceptable behavior;

5. Students should be made aware that any time the bus driver is distracted, it is potentially hazardous to the safety of all passengers, the bus driver, other pedestrians, and motorists;

6. Students should be informed of the dangers of loose clothing, drawstrings, clothing accessories, backpacks, and other loose personal items;

7. Students should be made aware of the dangers involved walking to and from, in and around the loading and unloading zone. Students should be trained to cross the road safely at the bus stop and should be taught to avoid retrieving articles dropped in the danger zone of the bus during loading and unloading activities, or otherwise when they are in the area around the bus, without explicit directions from the driver. Students should also be taught to move away from the bus (out of the danger zones) after unloading. (Refer to APPENDIX D, "Here's How to Cross the Road SAFELY." These safety training diagrams show a 12-foot minimum walk distance in front of the bus.); and

8. To train students to understand, remember, and practice the 12-foot minimum walk distance, one or more of the following instructional methods should be used:

    a. Mark the 12-foot walk distance on the ground and have each student, in normal or giant steps, walk off the distance and count the steps. The student's total steps shall be recorded and the student should be informed and repeatedly reminded of this total number of steps required for the walk distance; and

    b. Have each student practice walking ahead of the bus on the right shoulder of the road until the student can clearly see the bus driver's eyes. (Refer to APPENDIX D, "Here's How to Cross the Road SAFELY.")

## OPERATIONAL PROCEDURES

A. Policies and Guidelines

The responsible state agency and the local school district or Head Start agency should have clear and concise policies and guidelines for the operation of their student transportation programs. These are important for two reasons: (1) they have the effect of law when laws or regulations do not specifically address a situation; (2) they serve as the rule book for use by persons charged with the administration of transportation services within the district or qualified agency.

Once established, these policies and guidelines become the basis for development of operating procedures, thus allowing decisions about operational details to be made at the administrative level, rather than by the school board. These policies and guidelines should be precise, in writing, and should include the following topics:

1. A statement of philosophy;
2. A definition of the agency's goals and objectives;
3. Procedures for determining eligibility for transportation;
4. A description of all types of transportation provided;
5. The days on which service will be available;
6. School starting and closing times;
7. Administrative responsibilities related to program service;
8. Essential routing constraints, such as walking distances, safety restrictions, and age/grade of students for whom the appropriate agency will provide transportation;
9. The extent of special transportation services;
10. A compilation of student rules and regulations;
11. Provisions and guidelines for the use of contracted transportation and/or charter buses;
12. Provisions and guidelines for the emergency use of personal vehicles to transport students;
13. Acceptable purchasing procedures;

14. Required minimum limits of insurance coverage;

15. The essentials of a crash prevention program, including the uniform school bus crash reporting criteria;

16. A system to communicate procedures between administrators and parents, and between administrators and the bus company or drivers, including student discipline procedures and compliance;

17. A procedure for providing drivers and bus attendants with essential information about students they transport;

18. Emergency procedures and/or contingency plans to be followed in the event of an injury, health episode, crash, unexpected school closing, or unforeseen route change;

19. Use of special lighting and signaling equipment, as indicated below:

    a. If the bus is so equipped, use of alternately flashing amber lamps to warn motorists that the bus is preparing to stop to take on or discharge passengers;

    b. Use of alternately flashing red lamps to inform motorists that the bus is stopped on the roadway to take on or discharge passengers;

    c. Operating the stop arm(s) in conjunction with the flashing red signal lamps;

    d. Use of a white flashing strobe lamp (if equipped) to increase the visibility of the school bus on the roadway during adverse visibility conditions;

    e. Use of a crossing control arm, when installed, to encourage children to cross properly in front of school buses; and

    f. Use of an outside public address system for instructing children in crossing roadways and for informing them of potentially life-threatening situations.

20. Personnel

    a. An organization chart identifying the flow of responsibility from the board of education or Head Start agency to the employees;

    b. Job specifications and descriptions (provided at the time of employment); and

c. Identification of pre-employment and continued employment requirements and procedures.

21. Harassment

a. School districts shall develop written policies and procedures dealing with all forms of harassment in the school bus. (Harassment is the use or tolerance of verbal or physical behavior, which serves to threaten, demean, annoy, or torment another person. Harassment includes unwanted activities or comments based on race, religion, gender, sexual preference, personal attributes, and other acts, as may be determined in local policy.);

b. School districts shall develop training programs to assist all employees in recognizing harassment and in identifying appropriate interventions and reporting strategies;

c. School district policies and procedures shall also address assisting and follow-up with the victims of harassment**;**

d. The service provider shall ensure that school district policies and procedures are implemented; and

e. School districts shall develop and implement guidelines for administering appropriate disciplinary actions resulting from acts of harassment.

22. Weapons; and

23. Drugs and alcohol.

B. Driver's and Attendant's Manual/Handbook

Each employer should provide a manual or handbook to each school bus driver and attendant at the time of employment. This manual should include the following subjects:

1. Applicable federal and state transportation laws, regulations, and policies;

2. Motor vehicle rules and regulations applicable to school bus operation;

3. Vehicle operation and maintenance, including inspections;

4. Pre-trip and post-trip inspection procedures (including equipment required for transporting passengers), securing the vehicle and checking for passengers and property at the end of each run, as well as any state or locally required documentation;

**Note:** Drivers are responsible for conducting a walk-through inspection of the school bus following drop-offs at each school and after the last delivery on each run segment. Prior to departing the bus for any length of time, a walk-through inspection must be conducted. The purpose of the walk-through inspection is to check on and under the seats for sleeping or hiding students and to identify any items that may have been dropped or left aboard the bus. Warning flag systems and/or electronic means may be used. Written policies and procedures should be in place for post-trip and post-run segment checks.

5. Procedures to follow when involved in a crash or safety-related incident, when witnessing a crash, and when involved with post-crash reporting;

6. Elements of basic first aid procedures with knowledge of universal precautions, plus any local practices and policies that may vary from, but should not conflict with, state requirements;

7. Elements of student management, including techniques for dealing with students with specific disabilities;

8. Local school district, Head Start, and employer policies, to include bus stop procedures; and

9. Instructions on usage and proper adjustment procedures for seat belts, built-in or add-on child restraints, and any other devices used for student protection (when equipped). (See APPENDIX D.)

C. Seating and occupant restraints

School buses provide the safest form of student transportation. An integral part of providing "safe" transportation in a school bus is that the passengers must be properly seated. A person who is either standing or improperly seated in a school bus is not afforded the benefits of the safety protection designed into the vehicle and is in increased jeopardy of injury in the event of a crash or sudden driving maneuver.

Additionally, there must be sufficient space on the school bus seat for each passenger's body to be completely contained within the seat compartment. In the event of a crash or sudden driving maneuver, students who are not properly seated within the seat compartment may not benefit from the passenger crash protection systems built into the school bus under federal and state regulations.

In practice, school buses transport students of various sizes, typically from preschoolers to 12$^{th}$ graders. While a 39-inch seat may safely accommodate three preschoolers and/or primary school-aged children, it may not safely accommodate the same number of older children. Since the size of growing children varies, the

number of students that can safely occupy a school bus seat also changes. Consequently, the "in use" capacity of a school bus varies depending on the size of the students transported. The use of a child safety seat or other child safety restraint for an infant, a toddler, or other pre-kindergarten passenger or the use of special equipment, including mobility devices needed for a child with disabilities, may further impact the "in-use" capacity of a school bus.

It is important to consider the size of the passengers on each school bus route when determining the "in-use" capacity of a school bus. It is recognized that at certain times (for example at the beginning of a school year), it may not be possible to know exactly how many students will arrive at school bus stops on a route. For that reason, there may be instances when overcrowding exists temporarily on some school buses. In such situations, efforts should be made to provide safe seating to all school bus passengers in a timely and efficient manner, so that during regular operations all passengers are safely seated.

**Note:** Specific state laws or local regulations may prohibit overloading a bus, even in temporary situations.

1. Highway Safety Program Guideline No.17, Pupil Transportation Safety, as issued by the National Highway Traffic Safety Administration and printed in APPENDIX D, includes the following statements with respect to passenger seating:

    a. "Standing while school buses and school-charter buses are in motion should not be permitted. Routing and seating plans should be coordinated to eliminate passengers standing when a school bus or school-charter bus is in motion" [IV.C.2.e.(1)];

    b. "...Due to variations in sizes of children of different ages, states and school districts should exercise judgment in deciding how many students are actually transported in a school bus or school-charter bus" [IV.C.2.e.(2)]; and

    c. "There should be no auxiliary seating accommodations, such as temporary or folding jump seats in school buses" [IV.C.2.e.(3)].

2. All students riding in school buses or other buses used to transport students to and from school, Head Start, or related activities shall be properly and safely seated facing forward, unless otherwise required by a child safety restraint system (CSRS). There shall be adequate space on the seat for the child to be seated completely within the seating compartment.

Additional information and guidance are available in Proper Use of Child Safety Restraint Systems, Choosing the Correct School Bus for Transporting Pre-School Age Children, and other NHTSA publications (www.nhtsa.dot.gov), in Safe Ride News (www.saferidenews.com), from local NHTSA-trained Child Safety Seat Technicians, and from local physical therapists.

The growing number of pre-school-age children who are transported in school buses has increasingly focused attention on the safety of these passengers. In response to questions and concerns raised by parents and by transporters, the National Highway Traffic Safety Administration (NHTSA) conducted crash tests involving pre-school child-size dummies on school bus seats.

According to NHTSA, "...the test results showed that pre-school age children in school buses are safest when transported in child safety restraint systems (CSRSs) that meets [sic] FMVSS 213, Child Restraint Systems, and are correctly attached to the seats." This quotation, contained in the "Introduction" of NHTSA's Guideline for the Safe Transportation of Pre-School Age Children in School Buses (February 1999), summarizes the basis for the document's recommendations, which have drawn industry-wide attention and have initiated intense discussions with respect to practicability. (See entire document in APPENDIX H.)

The publication defines a child safety restraint system (CSRS) as "...any device (except a passenger system lap seat belt or lap/shoulder seat belt), designed for use in a motor vehicle to restrain, seat or position a child who weighs less than fifty pounds." CSRSs include infant seats, convertible seats, forward-facing-only seats, booster seats with built-in harness, integrated seats, and safety vests.

NHTSA's "Guideline..." was a primary source for requirements for Head Start transportation services contained in 45 CFR 1310, disseminated in the Federal Register on January 18, 2001. Among many other requirements, §1310 specified, mandatory use of CSRSs in vehicles that transport children to and from Head Start programs and related activities, and the regulation set deadlines for compliance. [A subsequent interim rule, published in the Federal Register (Vol. 69, No. 11) on January 16, 2004, extended the deadline for compliance and included provisions for further justified and approved extensions.]

Due to the evolutionary nature of the entire issue of CSRSs—product design and construction, appropriate usage, varied state laws and regulations, applicability (recommendation versus regulation), implementation deadlines,

etc.—the OPERATIONS section of the NCST Specifications and Procedures does not contain specific details regarding applicability, selection, use, maintenance, and replacement of CSRSs. More detailed information may be found elsewhere in this publication: BUS BODY SPECIFICATIONS—Seat and Restraining Barriers; SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS—Restraining Devices; GUIDELINES FOR INFANTS, TODDLERS AND PRE-SCHOOL CHILDREN—Equipment, Child Safety Restraint Systems (CSRS), Bus Seat Designated for a Child Safety Restraint System and Special Considerations; and APPENDIX H.

Additional information and guidance are available in Proper Use of Child Safety Restraint Systems, Choosing the Correct School Bus for Transporting Pre-School Age Children and other NHTSA publications (www.nhtsa.dot.gov), in *Safe Ride News* (www.saferidenews.com), from local NHTSA-trained Child Safety Seat Technicians and from local physical therapists.

Transporters of pre-school age and older children in vehicles that use CSRSs minimally should adhere to the following recommendations:

a. Establish written policies and procedures for:

(1) Procurement, maintenance, cleaning, and replacement of CSRSs;

(2) Registration and tracking equipment recall notices;

(3) Inspection;

(4) Installation and usage training;

(5) Occupancy of non-restrained passengers on seats behind restrained passengers;

(6) Locations of restrained passengers with respect to emergency exits;

(7) Retrofitting school buses with CSRSs; and

(8) Emergency procedures.

b. Ensure adequate training of personnel in the installation, use, care, and upkeep of CSRSs;

c. Assure age-, height-, and weight-appropriate applications of CSRSs;

d. Require periodic passenger evacuation drills;

e. Establish records files for all CSRSs, to include a complete history of each restraint device;

f. Incorporate CSRS usage and proper seat spacing in school bus specifications;

g. Monitor developments and changes at the state and federal levels with respect to CSRSs;

h. Transporters of pre-school age and older children in vehicles that use seat belt systems minimally should adhere to the following recommendations;

(1) Establish written policies and procedures for:

(a) Procurement, maintenance, cleaning, and inspection of seat belt systems;

(b) Usage training (See APPENDIX D.);

(c) Retrofitting school buses with seat belt systems; and

(d) Emergency procedures.

(2) Develop training and procedures for personnel in the, use, care, and upkeep of seat belt systems, and the use of seat belt cutters; and

(3) Require periodic passenger evacuation drills.

D. Student Management

An effective student-management program is a collaborative effort involving many groups of people in the school community or Head Start agency. Parents, students, school bus drivers, school or Head Start administrators, contract managers (where contract transportation is provided), law enforcement, and social service agencies must be part of the ongoing process to motivate students to good behavior. It is the responsibility of the school district or Head Start agency to ensure that a comprehensive student-management program is developed, so that all persons involved in the process are familiar with their responsibilities.

1. Seating Charts

The use of a seating chart that is enforced and continuously updated is an accepted practice and is recommended as a tool for student management and safety. The seating chart, in addition to maintaining accurate student lists, rosters or manifests, should be considered an operational "best practice."

2. School, school district, Head Start, and/or carrier responsibilities

No public or private school, school district, county board of education, county superintendent of schools, or any officer or employee of the school or board of education or Head Start Center shall be responsible or in any way liable for the conduct or safety of any student of the school or Head Start Center at any time when the student is not on school or Head Start Center property, unless the school, school board, Head Start agency, or person has undertaken to provide transportation for the student to and from the school or Head Start premises, has undertaken a school- or Head Start-sponsored activity off the premises of the school or Head Start Center, has otherwise specifically assumed the responsibility or liability, or has failed to exercise reasonable care under the circumstances.

In the event of the specific undertaking, the school, school district, board of education, Head Start agency, or person shall be liable or responsible for the conduct or safety of any student, only while the student is, or should be, under the immediate and direct supervision of an employee of the school, school district, board of education, or Head Start agency.

In addition, no entity that provides transportation services for students, pursuant to a contract with a school, school district, city or county board of education, county superintendent of schools, or Head Start agency, shall be responsible or in any way liable for the conduct or safety of any student of the public or private school or Head Start agency at any time when the student is not under the immediate and direct supervision of an employee of the entity.

Specific responsibilities include, but are not limited to, the following:

a. Establish policies and procedures by which the program functions. These should include, but not be limited to, the examples listed in APPENDIX D;

b. Establish regulations governing the behavior and safety of students at the bus stop and while boarding, riding, and disembarking from the school bus. The rules students are expected to follow should be limited in

number, should be age-appropriate, and should be posted in the bus and/or otherwise made available to all riders; (See APPENDIX D.)

c. Institute and administer an instructional program that teaches students proper conduct and transportation safety procedures; (See APPENDIX D.)

d. Conduct a training program for school bus drivers and attendants to ensure that all policies, procedures, regulations, and their enforcement are understood;

e. Ensure that parents receive written copies of the bus rules and regulations. Ensure that parents are informed about their responsibilities for the supervision and safety of students going to and from bus stops and while at the bus stops. (See APPENDIX D.) Clearly establish parents' roles and obligations with respect to student promptness, attitude, and behavior;

f. Initiate procedures to ensure open lines of communication and cooperation among school and Head Start administrators, bus company officials, state agencies, and bus drivers and attendants;

g. Train drivers and attendants in specific skills that will enable them to maintain order, safety, and respect for the rights of others. These skills should include at least the following:

(1) Specific verbal intervention techniques used to maintain order and safety; and

(2) Communication skills that promote rapport and mutual respect and that encourage student compliance.

h. Ensure that administrators support and enforce disciplinary procedures, policies, and reasonable actions by the driver.

E. Use of video/audio monitoring systems

School systems and Head Start agencies should promulgate, communicate and enforce policies and procedures to be followed when using on-board video/audio monitoring systems. Video/audio monitoring in a school bus should be used only as an aid to monitor student and driver behavior and should not replace the discipline policy, the authority of the driver, or the responsibility of school or Head Start officials. The basic safe riding rules must prevail, and the consequences of misconduct must be carried out.

1. All students and drivers shall be notified that they are subject to being video/audio-recorded in the school bus at any time. Notification to parents of all students shall be made by the school district or Head Start agency. Prior to actual recording, parents and students shall be advised that student conduct prohibited by state and school district or Head Start student disciplinary code will result in appropriate consequences, as defined in policy;

2. Ongoing notification regarding video/audio recording must occur, addressing the continued need for personal awareness of safety issues. This communication is particularly important to warn against a false sense of security, especially when cameras are moved between buses. Newsletters, student handouts, and notices posted in the bus should be considered;

3. If video/audio monitoring systems are to be used for monitoring drivers, the drivers must be notified as to the extent of their use and for what purposes they will be used;

4. When a camera rotational plan is used, cameras should be moved so as not to select only certain buses. However, the transportation supervisor and/or school or Head Start administrator may decide when video monitoring of a bus route should be done more frequently based on the number of incidents of misconduct or the seriousness of incident reports. Such additional monitoring is meant to supplement the written disciplinary reports by the bus driver, not to take the place of reports;

5. The transportation supervisor or designee may periodically review recordings as needed to ensure proper student conduct. If no incidents are reported within a period defined by local policy, the video recordings will be recycled or the digital recordings deleted. If incidents are reported, or if incidents are viewed during random selection, the video tapes or digital recordings are to be kept until final resolution and time for any appeals;

   **Note:** Video recordings must be dated and have the bus number and driver's name in order to ensure proper identification.

6. When action is taken as a result of information obtained from the videotape or digital recording, the driver, supervisor, school administrator, student, and parents or guardians will be contacted. A meeting of the aforementioned parties may be necessary to achieve a resolution of the problem. The videotape or digital recording may be used as evidence in that meeting if state law and school district or Head Start policy allows it. All requests for review shall be made in writing; and

7. Each district or Head Start agency must designate by policy those persons who are allowed to review the tapes or digital recordings.

F. Records

1. Crash and safety incident investigation records function as the data base for statistical analysis, which, in turn, provides material for crash prevention programs. In addition to the uniform school bus crash reporting criteria, additional crash safety incident investigation records may include the following information:

   a. If injuries occurred, a list of all students injured, their home addresses, phone numbers, and dates of birth, the extent of their injuries, and appropriate explanations;

   b. A list of bus occupants, seating charts and witnesses, including addresses, ages, phone numbers and statements;

   c. Extent of damages and an estimate of repair costs;

   d. Post-crash data [i.e., disposition of litigation and/or summonses, driver deposition, net effect of personal injuries, remediation (if any), assigned in-service, etc.];

   e. A signed statement from the bus driver and bus attendant or monitor (if applicable) concerning the particulars of the crash;

   f. Complaints, challenges, and disposition of hearings, etc.; and

   g. A clear description of the circumstances regarding what happened:

      (1) What, where, when, who, and related roadway, area, weather, and hazardous conditions information;

      (2) Related vehicle operating and mechanical information; and

      (3) Related procedural and operating information for all vehicles and operators involved.

2. Personnel records should contain the information required and allowed under federal and state laws;

3. U.S. Department of Justice, Employment Eligibility Verification and I-9 Forms should be maintained in a separate file or binder;

4. Driver qualification records should contain at least the following items:

a. An application for employment;

b. Confirmed work history;

c. Driving record;

d. Criminal record;

e. Physical examination, as required for the type of license and/or special school bus certificate held;

f. Copy of drug and alcohol testing information in compliance with current federal, state, and company testing requirements; and

g. All other items as required by federal and state laws and rules.

5. Training records should contain, at a minimum, accurate information certifying attendance and satisfactory completion of all state- and company-required training. Details about each training activity, including date of instruction and instructor signature, should be documented and included. The following is a list of minimum training to be documented:

a. Classroom Training

(1) Pre-service;

(2) In-service; and

(3) Post-crash or evaluation follow-up.

b. Behind-the-Wheel Training

(1) Written documentation of each activity;

(2) A written assessment tool showing satisfactory completion, with rating;

(3) Documentation of the type of equipment used, both vehicle and safety; and

(4) A log of the number of hours of instruction and practice driving.

6. Route/run records should contain:

    a. Types of routes /runs (urban, suburban, rural);

    b. Route/run descriptions, including accurate route maps;

    c. Route/run miles;

    d. Information about the needs of special education students;

    e. Information pertaining to road conditions and hazards utilizing "Identification and Evaluation of School Bus Route and Hazard Marking Systems" developed by NASDPTS (as presented in APPENDIX D);

    f. Scheduled pick-up and drop-off times at each bus stop; and

    g. Vehicle assigned to route/run and/or contracted services information.

7. Maintenance records should contain the following items:

    a. Line setting tickets;

    b. Work orders and repair records;

    c. Preventive maintenance records;

    d. Vehicle depreciation;

    e. Equipment specifications; and

    f. Inspection reports

8. Cost records should contain data in the following categories:

    a. Vehicles;

    b. Labor for vehicle maintenance and repairs;

    c. Parts;

    d. Inventory;

    e. Administration; and

f. Fuel, lube, coolant, etc.

G. Communication

1. Each bus shall have a two-way communication system capable of providing communication with the operation's base, or at least local 911 operators where technologically feasible. All school buses that transport individuals with disabilities should be equipped with a two-way electronic voice communication system that can be used at any point on the vehicle's route;

2. It is necessary to keep persons in charge of the system, bus companies, parents, and students informed of all operational procedures. The school district or Head Start agency must ensure that the channels of communication are set up so that information can be disseminated quickly and effectively. The school district or Head Start agency must ensure that inquiries, requests, suggestions, and recommendations are given prompt and appropriate attention and are handled efficiently. Some of the ways information can be disseminated, and their purposes are listed below:

   a. Bulletins: to explain the school districts or Head Start agency's transportation policy to school and Head Start administrators, teachers, bus companies, drivers, attendants, parents, students, and others associated with the operation and to clarify new laws and safety policies so that all persons involved know what is expected of them;

   b. Meetings: to provide an opportunity for those associated with the transportation program to share their views and to help build broad community support for safe transportation;

   c. Public press: to inform parents of policy, route, stop, and schedule changes, of the safety record of the operation and positive driver achievement records;

   d. Conferences: to discuss solutions to disciplinary problems with drivers, attendants or monitors, disruptive students, and their parents and to review policy decisions affecting drivers, contractors, students, and school or Head Start administrators;

   e. Letters: to inform parents of all school or Head Start and state regulations, new routes, etc. and to reply to more urgent inquiries regarding student transportation safety, policy, and procedures;

   f. Telephone calls: to provide quick contact between bus drivers and the school or Head Start Center or between parents and the school or center

in the event of urgent or emergency situations;

g. Radio, television, or webpage announcements: to inform the public of procedures the schools or centers will follow in case of severe weather conditions or other natural phenomena, new policies, laws, etc.;

h. Formal hearings: to be used, as required, for student suspensions from transportation, route challenges, serious complaints against drivers, attendants, or monitors, etc.; and

i. Wireless communication devices: to be used by drivers and attendants only for emergency or business-related communication. (Devices, and particularly cell phones, should not be used for personal communication.)

H. Crash Reporting

Each state's generic traffic collision report for motor vehicle crashes should include at least the information contained in the "Sample Crash Reporting Form" in APPENDIX D.

I. Air Quality

The school transportation community is supportive of efforts to reduce emissions and improve air quality, particularly for the students served by school bus transportation. In fact, the school bus industry has been at the forefront of environmental improvements and is committed to a continuing involvement and leadership role in improving engine emissions.

An accelerated replacement of older buses with new school buses equipped with the latest emission controls and engine technologies would be ideal. Likewise, retrofitting newer school buses with the latest emission control technologies can help improve air quality, but at additional costs.

While the student transportation industry and other entities work to develop new and increased sources of funds, states and local districts can institute policies that will contribute to improvements in air quality, especially for children.

1. Idling control measures

a. States and local districts should develop programs to eliminate unnecessary engine idling:

(1) At school site loading and unloading zones; and

(2) At school bus stops, located out of traffic during extended wait times

b. Consideration should be given to varying climatic conditions within the state or local district and to the individual needs of students with disabilities.

2. Driving in traffic

States and local districts should develop programs to inform school bus drivers of the effects of closely following other vehicles, particularly large commercial motor vehicles, including other school buses, since the exhaust emissions from those other large vehicles can contribute significantly to the air quality inside the school bus.

3. School bus utilization

The utilization review ensures that bus mileages are consistent between model years and makes sure spare vehicles do not sit unused in the lot.

4. School bus maintenance programs

States and local districts should continue to improve the inspection and maintenance programs that have been established, with a renewed attention to factors impacting emissions.

J. Using New Technologies and Products

1. Operators should explore the use of new technologies and products, whenever practicable, to improve the safety, effectiveness, accountability, and efficiency of student transportation operations. While it may be considered a “best practice” to utilize the latest emerging technologies, a prudent administrator must recognize that there are core competencies inherent to school bus operations and bus driver responsibility. It is recommended that transporters acknowledge such technologies and find a balance between technology and operators’ knowledge.

2. Current technologies include, but are not limited to:

a. Computerized Functions

(1) Routing;

(2) Timekeeping;

(3) Activity trips;

(4) Student tracking;

(5) Employee tracking;

(6) Vehicle maintenance;

(7) Training records;

(8) Pre-trip / post-trip inspection reports;

(9) Reimbursements;

(10) Student management; and

(11) Fleet maintenance.

(a) Automatic vehicle location;

(b) Global positioning systems (GPSs);

(c) Electronic pre-trip and post-trip inspections; and

(d) Electronic fuel dispensers.

## SELECTION AND TRAINING OF BUS DRIVERS

A. Procedures for selection of school bus drivers should include the following items:

**Note:** Driver applicants for Head Start positions must be informed, in writing. of all background checks and other requirements, as required in 45 CFR 1310.

1. An appropriate application form (See APPENDIX D);

2. Written criteria for accepting and rejecting applicants;

3. Written notification to all applicants that driving records checks, criminal records checks, and drug/alcohol screening will be conducted;

4. A check of each applicant's driving record; (Checks of the National Driver Register and the CDL Information System of the appropriate state department of motor vehicles are considered essential in the case of an individual who is applying for a position as a school bus driver.)

5. A check through both state and national criminal identification agencies to determine if each applicant has a record of criminal convictions;

6. One or more personal interviews (which can be one of the most important of the

selection procedures);

7. Perform reference checks and background checks on all potential new bus drivers, to include interactions with children and/or any concerns working with children;

8. Physical examinations to determine if the driver is capable of performing an emergency evacuation and/or aid passengers in the event of an evacuation at any time;

9. Drug and alcohol testing administered in accordance with local, state and federal requirements; and

10. A determination of educational attainment to demonstrate the applicant's ability to follow detailed, written instructions and to be able to record and report data accurately.

B. Pre-service and In-service Training Programs

1. Prior to transporting students, bus drivers should be required to complete a state-approved pre-service training program that includes classroom and behind-the-wheel training to enable safe and efficient vehicle operation. Records that show attendance and topics discussed should be maintained. While there are many possible and helpful topics for pre-employment and annual in-service training, the following are examples of essential topics:

   a. The importance of Pre-trip and Post-trip Inspections;

   b. School bus evacuations (for all eligible students);

   c. School bus evacuations (for students with special needs);

   d. Loading and unloading procedures;

   e. Reduced-idling laws and policies (if applicable);

   f. Cell phone and electronic communication device restrictions, in accordance with all regulations/laws and local policies;

   g. Road rage;

   h. Distracted driving;

   i. Aggressive driving;

j. Blood borne pathogens/first aid;

k. Bullying on the school bus;

l. Sexual harassment prevention;

m. Drug and alcohol compliance/pre-and post-accident testing, random testing and reasonable suspicion testing, in compliance with the Omnibus Transportation Employee Testing act of 1991;

n. Emergency and disaster preparedness;

o. Confidential records;

p. Requirements for reporting inappropriate behavior of other adults, including the bus attendant;

q. School bus held hostage;

r. Personal protective equipment (PPE);

s. Child safety restraint systems (CSRSs);

t. Student management; and

u. Railroad crossings.

**Note:** When occupant securement systems are used, follow manufacturer's guidelines for proper use and positioning. It is recommended that passengers receive instruction in proper usage. (See APPENDIX D.)

2. Prior to transporting students with disabilities, the driver should receive appropriate training in compliance with the Individuals with Disabilities Education Act (IDEA);

3. Drivers of Head Start passengers must fulfill pre-service and in-service training requirements, as specified in 45 CFR 1310 and

4. Employers of school bus drivers are encouraged to provide ongoing education for bus drivers.

C. Behind-the-Wheel Instruction

Behind-the-wheel instruction should be given in the same type and size bus the driver will be operating. When a driver is expected to operate more than one size and type

vehicle, instruction should be related to the specific handling characteristics of each. All instruction should include the following topics:

1. Familiarization with the bus and its equipment;

2. Procedures for performing pre-trip and post-trip vehicle inspections and procedures for properly reporting mechanical issues and concerns;

   **Note:** Post-trip inspections should include child-check procedures and proper bus securement following the route.

3. Techniques for safe driving, including mirror use and adjustment, smooth starts and stops, shifting, turning, and backing;

4. Defensive driving skills;

5. Techniques for reference point driving;

6. Procedures for loading and unloading students at bus stops, including moving the bus only after all children are safely seated after loading and out of the danger zones, are at least 12 feet from the sides of the bus, are at least 12 feet from the rear of the bus and cross roadways at least 12 feet in front of the bus;

   **Note:** When/if an escorted cross is used during the loading and unloading process, the "Escorted Cross" procedure as written in APPENDIX D may be used.

7. Procedures for railroad crossings, as recommended in APPENDIX D, and other specialized driving requirements for school bus operations;

8. Techniques to identify and avoid practices that result in driver-related vehicle abuse;

9. Procedures for enroute emergencies, including driving emergencies, emergency evacuations, and use of emergency equipment, as described in APPENDIX D;

10. Guidelines for safely running a route, including entrance to and departure from the bus garage and yard, following a route sheet or map, use of global positioning systems (GPSs), entrance to and departure from school zones, appropriate use of wireless communication systems, and mechanical difficulties and breakdowns;

11. Procedures for fueling buses and handling/preventing fuel spills; and

12. Laws, policies, and procedures specific to activity trips, including interstate transportation regulations.

D. Physical/Mental Preparedness

All school bus drivers should be prepared both physically and mentally each day to perform adequately the following duties:

1. Operating the vehicle in a safe and efficient manner;

2. Conducting thorough pre-trip and post-trip inspections of the vehicle and special equipment, including required documentation;

3. Ensuring the safety, welfare, and orderly conduct of passengers while in the bus;

4. Handling emergency situations in accordance with generally accepted operating procedures;

5. Communicating effectively with school staff, students, parents, law enforcement officials, and the motoring public;

6. Completing required reports;

7. Completing required training programs successfully;

8. Providing maximum safety for passengers during loading and unloading;

9. Wearing the driver's seat belt whenever the bus is in motion;

10. Checking at the end of the route and at the bus storage location to ensure that all students have disembarked from the bus; and

11. Maintain a clean and uncluttered bus with unobstructed views.

E. Evaluation

School bus drivers should be evaluated at regular intervals. These evaluations may include the following items:

1. Continuous on-the-road monitoring, otherwise known as field observation/ride-along evaluation, and road supervision (required for Head Start in 45 CFR 1310);

2. Written test;

3. Road performance checks;

4. Evaluation interviews;

5. Student management;

6. Adherence to procedures;

7. Teamwork; and

8. Local policies.

## SELECTION AND TRAINING OF BUS ATTENDANTS

A. Procedures for selection of bus attendants should include the following items:

1. An appropriate application form (sample provided in APPENDIX D);

2. Written criteria for accepting and rejecting applicants;

3. Written notification to all applicants that driving records checks, criminal records checks, and drug/alcohol screening will be conducted;

4. A check of each applicant's driving record; (Checks of the National Driver Register and the CDL Information System of the appropriate state department of motor vehicles are considered essential in the case of an individual who is applying for a position as a school bus driver.)

5. A check through both state and national criminal identification agencies, to determine if the applicant has a record of criminal convictions;

6. Reference checks and background checks performed on all attendants to include interactions with children, and/or any concerns working with children;

7. Physical examinations and drug and alcohol testing administered in accordance with local, state and federal requirements;

8. One or more personal interviews (which can be one of the most important of the selection procedures); and

9. A determination of educational attainment to demonstrate the applicant’s ability to follow detailed, written instructions and be able to record and report

data accurately.

**Note:** Head Start attendant or monitor applicants must be informed, in writing, of all background checks and other requirements, as specified in 45 CFR 1310.

B. Pre-service and In-service Training Program

1. Prior to transporting students, bus attendants should be required to complete a state-approved or Head Start-approved pre-service training program that includes classroom and in-the-bus training in order to enable safe, efficient, and effective student transportation. Attendant training, with the exception of the driving components, should be the same as for the driver in every respect. Each attendant should be equally conversant in every other aspect of operations and student management. Training should include, but not be limited to, the following topics:

   a. The bus and its equipment;

   b. Use of emergency exits;

   c. First aid;

   d. Safe loading and unloading of students at their stops and securement of passengers, as may be required (including when equipped with seat belts); (See APPENDIX D.)

   e. Student management training and policy training, including state and federal regulations related to the transportation of students with disabilities, consistent with those required for school bus drivers;

   f. Safety, welfare, and orderly conduct of passengers while in the bus;

   g. Handling emergency situations in accordance with generally accepted operating procedures;

   h. Effective communications with school or Head Start staff, students, bus drivers, parents, law enforcement officials, and the motoring public;

   i. Completion of required written reports;

   j. Requirements for reporting inappropriate behavior of other adults, including the bus driver;

   k. Checking at the end of the route and at the bus storage location to ensure that all students have disembarked from the bus;

l. Confidentiality; and

m. Other topics included in the bus attendant's manual/handbook and local policies.

2. Employers of school bus drivers should provide ongoing education for bus attendants;

3. Prior to transporting students with disabilities, the bus attendant should receive appropriate training in compliance with the Individuals with Disabilities Education Act (IDEA);

4. Bus attendants (monitors) who assist with the transportation of Head Start passengers must fulfill pre-service and in-service training requirements as specified in 45 CFR 1310.

C. In-the-Bus Training

1. Familiarization with the bus and its equipment;

2. Procedures for performing pre-trip and post-trip inspections; and

3. Procedures for loading and unloading passengers, passenger securement and emergency evacuation, as may be required.

D. Physical/Mental Preparedness

E. Evaluation

F. Bus attendant, Special Education (See TRANSPORTATION FOR STUDENTS WITH DISABILITIES AND SPECIAL HEALTH CARE NEEDS section: driver/attendant.)

## STAFFING AND TRAINING OF MAINTENANCE AND SERVICE PERSONNEL

A. Staffing

Adequate staff should be employed to perform maintenance functions on a timely basis consistent with safe transportation practices.

B. In-service Training Program

1. The transportation system should make available to maintenance and service personnel the necessary maintenance and service publications for the equipment serviced;

2. The transportation system should arrange ~~at~~ regular intervals for pre-service and

in-service training for maintenance and service personnel, and maintenance personnel should be required or encouraged to attend state-sponsored or other approved workshops or training institutes;

3. Training should include instruction in the following areas:

    a. Preventive maintenance procedures;

    b. Repair and/or installation procedures for each type of fleet vehicle and its varied equipment;

    c. Procedures for specialized equipment and certifications if applicable;

    d. Inspection of the vehicle and its equipment;

    e. Recovery procedures for vehicles involved in a crash or breakdown;

    f. Preparation and retention of maintenance records;

    g. Maintaining parts and equipment inventory;

    h. Establishment of parts inventory control procedures;

    i. Repair and installation of adaptive equipment;

    j. Safety and environmental compliance; and

    k. Proper usage and maintenance of shop equipment/shop cleanliness.

4. Vehicle maintenance and service personnel should be encouraged and given opportunities to receive certifications in all areas in which they perform work.

## ROUTING, SCHEDULING AND SCHOOL BUS STOPS

It is necessary to procure a map of the area served by a particular school, school system, or Head Start program in order to establish bus routes that will adequately meet the needs of students in an area. Information on road conditions, railroad crossings, location of sexual predators, and other factors that might affect the particular operation should be recorded, along with the location of homes and the number of school-age students in each household. (See also “Identification and Evaluation of School Bus Route and Hazard Marking Systems” in APPENDIX D.) Satisfactory school bus stops must be identified along streets and highways where buses can travel with the least amount of risk to include right turns as much as possible. The number of students to be transported, individual needs, and the distance to be traveled are primary factors in allocating equipment for an area. Students should be assigned to specific stops according to age and ability, appropriate walking distances, grade level, safe travel paths, and the school or Head Start Center attended. Calculation

of distance between stops shall comply with the minimum distance required to activate the amber and red lighting systems. Students should not travel farther to a stop than the set walk distances for their respective school/center, as deemed by each school district. Additional planning may require multiple considerations to include space availability, chain of custody, etc.

A. Bus routes reflect an infinite number of routing techniques, including the following examples:

1. A circular route circumscribes an area by using different roads on out-going and in-coming trips. It has the advantage of equalizing time in transit for transported students, since the first child on in the morning is the first child off in the evening;

2. A shoestring route extends from the school to some terminal point in the district. If the bus is stored at the school, the same road or roads may be used on the out-going and in-coming trips; consequently, children are always traveling more or less directly toward the school;

3. A feeder route extends from a point farther out in the district to a transfer point on the main route. This method may be advisable for one or more of the following reasons:

a. To limit the use of large buses to improved roads;

b. To reduce travel time on the main route; or

c. To provide some form of transportation on roads which at times may be impassable by larger, more desirable motor vehicles.

4. A shuttle route extends between two or more school buildings. Such routes are often required for the transfer of students in districts operating two or more schools; and

5. Retracing routes require the bus to travel over the same route in the same direction and may be used to eliminate the need for students to cross the roadway. It may also equalize time in transit for transported students, since the first child on in the morning is the first child off in the evening.

B. Emergency routes should be established and utilized in all school systems when weather or road conditions dictate that it is not safe to travel on other than hard-surfaced roads. Announcements can be made by radio or other means when emergency routings are to be used.

C. Computer-assisted routing and scheduling, which require the use of a computerized data base of student, streets and bus routes, is a key part of the routing operation.

Where student records are computerized, downloading student names, addresses, school names, and grades is a routine task. Most student information systems are compatible with routing, GPS, and radio frequency identification (RFID) applications that provide bus routing information and rosters. The key is for transportation staff to have access to accurate data for the location of students to be used in establishing ridership eligibility and assigning bus stops.

Many routing systems, through a geographic information system (GIS) component, have optimization features that allow the system to create bus routes based on the locations of students. It is important to make sure that, before implementation, transportation staff analyze any computer-generated routes because they will almost certainly need some level of adjustment. Computer-assisted routing can help to generate a more efficient routing system than a completely manual process. A computer system can also be of use in providing information needed to stagger bell times in order to share buses among schools or Head Start Centers.

The same information that is needed for bus routing can be very useful in school district planning. The grades and locations of students displayed in a graphic format is invaluable to school administrators as school district lines are redrawn or new schools are opened. Accessing this information from a routing system also may provide a side benefit of involving the transportation staff in the planning process.

D. Methods of serving bus routes

1. The “single-tier” involves a morning and an afternoon trip by one bus on each route. This form of service is well adapted to sparsely populated areas. It also meets the needs of schools where the instructional program requires both elementary and secondary students to arrive at the same time, or where time required for the route prohibits additional assignments.

2. The “double-tier” calls for each bus to cover two different routes in the morning and afternoon. This plan is suited to districts of relatively dense population where distances are not great. As students of all grades may be carried on each trip, program adjustments in the instructional schedule are necessary to avoid idle waiting time at the school. If these adjustments can be made without sacrificing the interests of the students, the double tier may be economical by requiring fewer buses.

3. The “multiple trip plan” or “multiple tier” calls for more than two trips each morning and afternoon by each bus. Optimally, where feasible, each bus will complete multiple tiers, up to three or more. This arrangement is feasible only where route distances are relatively short or time differences between locations are great. High school students, for example, may be brought to school on the first morning trip, with elementary children arriving on the second trip. In the

afternoon, the elementary children should be brought home first if it is desired that the elementary day be shorter than the high school day. Districts whose program requires a day of equal lengths for both groups may transport the high school students on the first trip in the morning and return them on the first trip in the afternoon.

E. Route and Stop Review and Planning

A periodic review should be conducted for the purpose of identifying factors that might indicate the need for a route change. After the review is completed, someone may drive over the route in the same equipment that will be used in the actual operation, or GPS systems can be used for verification and comparative data as well. A time study should be part of this review. The driver(s) who will operate the bus(es) over the route(s) should regard the trip as a dry run. All scheduled stops and times between stops should be indicated. This data, if accurately obtained, will permit the development of a schedule which probably will need little revision once it is placed into effect.

After the route has been established, a schedule showing individual stops, a map and directions reflecting route stop locations, and accompanying student roster should be provided for drivers (to include substitute drivers). Requests for new or additional service should be investigated thoroughly before a change is made. Stops should be established only after thorough investigation has revealed the location to be the most desirable in the area clear of hazards or dangerous situations. It is considered poor practice to negotiate a U-turn on main arteries of traffic even though provisions for such turns may have been made or require a bus to back up. To minimize turning across multiple lanes of traffic, right turns should be factored and utilized. The projection of the rear end of the bus into inside traffic lanes from medians that are too narrow to accommodate bus length often creates traffic interference that places the lives of transported students in jeopardy. Stops should always be located at a safe distance from the crest of a hill or curve to allow motorists traveling at the posted speed to stop within sight distance.

**Note**: Each state should establish a uniform set of procedures for drivers to signal students when it is safe to cross the roadway upon which the bus is stopped.

Additional precautions should include, but may not be limited to, the following:

1. Plan routes that will permit optimum and effective student safety, program efficiency, and operational economy;

2. Specified criteria should be used when selecting stops. Criteria examples include, but may not be limited to, the following:

    a. Visibility;

b. Safe waiting distance from roadway;

c. Proximity to intersection;

d. Adjacent property;

e. Line-of-sight distance to the stop by approaching traffic from any direction; and

f. Ability to add signage and/or warning devices to alert oncoming traffic of a stop ahead.

3. On highways divided into separate roadways and highways with three or more marked traffic lanes, fleet operators, schools and Head Start Centers should design bus routes that service each side of the highway so students do not have to cross the highway, unless there is a traffic control signal or an adult crossing guard within three hundred feet of the bus stop to assist students while crossing such multiple-lane highways. A bus shall never be routed such that students are required to cross lanes of traffic in which vehicles are not required by law to stop for a school bus displaying red lamps and stop signs;

4. Determine the location, ridership, and destination of all students to be transported;

5. For every route, drivers shall be provided with a route sheet or manifest, with stops sequenced by, or under the direction of, the transportation director, and containing the following elements:

a. The names and addresses of all students in buses;

b. The location or written description of each (where an intersection is involved, the compass orientation of the stop location within the intersection) and an optional map for orientation purposes~~;~~ (e.g., 1st Ave at S Main St / SE cor);

c. Scheduled times for each pick-up and drop-off point (scheduled time should be reflected and relayed to student/parent(s) if “time” is arrival or departure);

d. Blank lines adjacent to the scheduled arrival time in which the driver may notate his/her actual arrival time;

e. The routine crossing status (e.g., “cross” or “no-cross”) of each stop for students on the route;

f. The school of attendance (or destination) of each student;

g. Shuttle or transfer information for students if applicable;

h. Identification of students with health care plans to include dormant medical problems that may require specific actions in the event the problem becomes active; and

i. An updated hard copy of the route sheet or manifest should be kept in transportation and attendance offices

6. Every school, school district, Head Start, or other agency should develop age-appropriate training for children who ride buses or other passenger vehicles to and from attendance centers and on activity trips. Instruction should begin as soon after the beginning of the school year or program year and should be reinforced as often as necessary to assure optimum understanding by the respective passengers.

   Instruction should include, but may not be limited to, the following topics:

   a. Travel to and from bus stops;

   b. Roadway crossings;

   c. Loading and unloading procedures;

   d. Behavior at bus stops;

   e. Behavior on board vehicles; and

   f. Use of applicable passenger restraints and other safety items identified by transportation safety experts.

7. Provide parents or guardians of all students with the driver's name, bus number, pick-up and return times, emergency weather procedures, modified school-day times, school closing information, school calendar, and procedures to challenge routing decisions, etc.

8. Determine the advisability of utilizing computer-assisted route scheduling.

## MAINTENANCE OF EQUIPMENT

A. Teamwork and written policies are essential to a well-organized maintenance program.

   1. Comprehensive school bus maintenance policies and appropriate training that

provide efficient guidelines for the transportation supervisor, maintenance personnel, and operators of the vehicles should be adopted.

2. Such policies should include the maintenance responsibilities of each person involved and should provide for a planned preventive maintenance program.

B. Preventive maintenance is a carefully organized system of inspections at regular mileage or time intervals combined with the immediate attention to all reported defects.

1. Manufacturer's service manuals and warranty protection guidelines, as well as state inspection guidelines, contain valuable information for successful preventive maintenance programs. These instructions and procedures should be followed carefully for maximum efficiency and safety in fleet operation. Vehicle and component manufacturers (transmission, electrical, occupant restraints, etc.) offer training for fleet technicians. Those interested in efficient operation will take advantage of these training programs.

2. Objectives of a planned maintenance program:

a. Keeping the vehicles in safe and efficient operating condition;

b. Preventing failures;

c. Conserving fuel;

d. Lowering maintenance costs by reducing the need for unplanned or emergency major repairs or overhaul;

e. Extending the useful life of the vehicle and its components, as referenced in D, below; and

f. Enhancing vehicle appearance.

C. School districts or private contractors should develop a system whereby written communication would allow interchange and feedback relative to maintenance work needed and maintenance work completed. An efficient system should include:

1. Driver's report forms to initiate needed maintenance;

2. Technician certification of completed work;

3. A method for permanently recording repairs and the maintenance history of each vehicle and special equipment; and

4. Inspection by the appropriate state agency or its designee.

D. Life-Cycle Analysis

It is prudent for a school transportation director, contractor and/or vehicle maintenance manager to be aware of the on-going efficiencies associated with vehicle replacement. While it may not always be possible to purchase new vehicles, analyzing the intended life-cycle and developing purchasing specifications consistent with anticipated use is recommended. As vehicles are introduced to the fleet, a review of mileage, warranty, and needs should be considered prior to assignments.

## EMERGENCY AND RESCUE PROCEDURES

Emergency and Rescue Procedures: A Guideline Manual for School Bus Involvement was developed by the National Association of State Directors of Pupil Transportation Services and disseminated to each state director of transportation for reproduction in the respective states. Distribution of the manual was intended for police, fire and ambulance personnel, emergency medical technicians, and any other entity designated to respond to a school bus crash, emergency or disaster. (Head Start agencies may contact their respective state directors of transportation for copies.)

This manual is a reference to be used by school systems (and can be used by Head Start agencies) in developing their own specific emergency plans. Copies of the school system's (or Head Start agency's) plan should be carried in each bus. This plan should be developed in cooperation with the personnel in those agencies that will render service during emergencies. The school or Head Start transportation director, school and center administrators, teachers, drivers, attendants, maintenance and service personnel, students, and others should be instructed in the procedures to be followed in the event of the following situations:

A. Crashes

1. When and how to evacuate and control students;

2. How to evaluate the need for medical assistance;

3. How to get help from the police, the fire department, and the garage;

4. How to collect and record data essential to the preparation of the required crash reports and an operational plan to provide two-way communication with parents and/or guardians which is imperative;

5. How to prevent further crashes; and

6. Talking points regarding protocol of dissemination of information while at the crash site (including communication with the media, etc.).

B. Sudden disability of the driver

Procedures for handling situations resulting in the fatal injury or disability of the bus driver should be established and communicated to appropriate persons. A list that includes the name of the bus operator, emergency telephone numbers, names of students assigned to the bus, and any special needs of students should be in the bus.

C. Bus breakdown

The emergency plan should cover procedures for the following events:

1. Securing the bus;

2. Maintaining control of passengers and accounting for passengers (head count);

3. Diagnosing the cause(s) of bus breakdowns and communicating with base and vehicle maintenance;

4. Notifying school, administration, parents, communications, PIO (Public Information Office), or Head Start officials;

5. Recovering disabled school bus(es); and

6. Providing replacement transportation for passengers.

D. Inclement weather conditions

The emergency plan should provide procedures for actions to be taken in the following events:

1. When schools or Head Start centers are to be closed, delayed, or require early dismissal;

2. Who is to make such decisions;

3. How decisions are to be relayed to parents, students, school or Head Start officials and staff (including teachers and cafeteria managers), drivers, contractors, maintenance and service personnel, the news media, and others; and

4. How to react to such natural events as floods, hurricanes, tornadoes, earthquakes, tsunamis, etc.

E. Other types of emergency situations

The emergency plan should include communication norms, data collection, and stress reduction and should cover such conditions and events as the following:

1. Defense/disaster drills;

2. Strikes or other job action by school staff, teachers, drivers or contractors;

3. Road or bridge washouts and landslides that might block school bus routes;

4. Bus hijacking;

5. Weapons or suspected explosives on board or at bus stops;

6. Unauthorized boarding;

7. Student health emergencies;

8. Student fights;

9. Suspicious person and/or vehicles; and

10. Terrorist planning or incident.

## EVALUATION OF THE STUDENT TRANSPORTATION SYSTEM

A. Each school district or Head Start agency should have a plan for evaluating its student transportation program. Such evaluations should enable school districts or Head Start agencies to:

1. Verify compliance with rules, regulations, and laws;

2. Audit the efficiency, effectiveness, and quality of program service;

3. Monitor operational economy;

4. Ensure the safety of the program in operation;

5. Improve the quality of service;

6. Verify student knowledge of school bus rules and procedures; and

7. Develop asset management programs.

B. Major types of evaluations include the following:

1. Informal reviews by district personnel;

2. Formal evaluations by:

a. A private consultant;

b. A state agency; or

c. PRISM (Program Review Instrument for Systems Monitoring of Head Start and Early Head Start Grantees).

3. Periodic evaluations:

a. Monthly;

b. Annually; and

c. Biennially.

C. Areas subject to evaluation include:

1. Board of Education or Head Start policies;

2. Routing procedures and processes for efficiency, effectiveness, and the management of route hazard analysis;

3. Types of service provided;

4. Financial obligations;

5. Quality of service;

6. Training of staff and students;

7. Replacement, planning, financing of purchases, and the maintenance of buses, other vehicles, and equipment;

8. Record keeping systems;

9. Analysis of cost and operational impacts of changes to law, regulation, and policy;

10. The influence of school and program placement on the cost of transportation and the impact on key concerns such as student ride time;

11. The influence of school start and end times on transportation costs and resource requirements;

12. The acquisition and implementation of efficiency and effectiveness-enhancing technologies; and

13. Other areas as determined by state and local policy.

D. Key Performance Indicators (KPIs)—Measuring Success

Key performance indicators are used as a best practice to measure performance, goals, efficiency, and productivity. Standard measures and metrics can be molded to fit many different sized transportation operations.

Examples of performance indicators that can easily help a department focus on success include the following:

1. Cost per student transported;
2. Percentage of students receiving transportation;
3. Number of individual routes per bus per day;
4. Number of student riders per bus;
5. Cost per bus per year to operate;
6. Cost per mile to operate;
7. Percent of the district's budget spent on transportation;
8. Number of drivers employed versus the number of active buses;
9. Percentage of bus stops made at individual homes versus group stops;
10. Age of the bus fleet;
11. Crash frequency, costs, and injuries;
12. Ratio of buses per mechanic;
13. Average student ride time;
14. Seat utilization/passenger capacity; and
15. Time on road vs. number of routes.

## SCHOOL SITE SELECTION AND FACILITY PLANNING

When school or Head Start sites are being selected, consideration should be given to the safety of the students riding school buses. School buses will be required to utilize the roads in and around the school site, plus public roadways leading into and away from the school area. High-density traffic flow near exits and entrances should be avoided. Proper site selection, ingress and egress, and facility

planning for improved transportation are extremely important. (See APPENDIX D.) More specifically, school officials should provide the following items:

A. Separate and adequate space for school bus loading zones;

B. Clearly marked and controlled walkways through school bus loading/unloading zones;

C. Traffic flow and parking patterns for the public and non-bused students separate from the school bus loading zone;

D. A designated loading area for passengers with special needs, if required;

E. An organized schedule of loading areas with stops clearly marked;

F. A loading and unloading site to eliminate the backing of transportation equipment;

G. Written procedures for evaluating each school site plan annually; and

H. Appropriate signage.

## EVERY STUDENT SUCCEEDS ACT (ESSA)

In December 2015, President Barack Obama signed into law the reauthorization of the Elementary and Secondary Education Act (ESEA), known as Every Student Succeeds Act (ESSA). This act replaced the No Child Left Behind (NCLB) law and introduced new requirements for state and local education agencies (LEAs) to continue receiving federal funding for education. ESSA shifts more control back to states and local districts, while maintaining the requirement to provide transportation options for students and additional rights for parents and students. Below is an outline of how ESSA affects pupil transportation and its associated requirements for school districts.

A. Attendance Choice Options - Low Performing Schools

Under ESSA, if a school receiving Title I, Part A funds is identified as "low performing" (now determined based on state-defined accountability systems), parents are still granted the option of transferring their child to another public school that is not identified as low performing. The specific rules guiding this process, including which alternate school parents may select, are determined by state and district policies. As with NCLB, ESSA does not guarantee unlimited choice, and if the "low-performing" school is the only one in the district, there is no obligation to provide an alternate school. However, transportation must still be offered to students eligible to transfer.

B. Persistently Dangerous Schools

If a school receiving Title I, Part A funds are designated as “persistently dangerous” according to state criteria, students retain the right to transfer to another public school. Parents are provided choice options for their children, similar to those under NCLB.

C. Violent Students

As in the NCLB era, students involved in violent incidents have the right to transfer to another public school. The local LEA must provide transportation and enrollment opportunities to ensure safe schooling options for these students.

D. School Categories for Choice

ESSA continues to emphasize the importance of school choice in specific situations. LEAs are required to offer students the option to transfer to another public school when their school falls into one of the stages of improvement under ESSA’s accountability system. These stages include:

1. Schools that need "comprehensive support and improvement" (previously "corrective action" under NCLB); and

2. Schools in need of "targeted support and improvement" based on subgroup performance.

E. Transportation - When Required

Similar to NCLB, ESSA mandates that LEAs provide transportation if parents opt to transfer their children out of a “low performing” or “persistently dangerous” school, or if a student was involved in a violent incident. The mode of transportation is not specified; a district may use public transit, school buses, or other local arrangements. If a school is not receiving Title I, Part A funds, transportation is not required.

F. Length of Transportation Service

Once a student transfers to another public school, the LEA must allow the student to remain at that school until they have completed the highest grade. However, the LEA is no longer obligated to provide transportation after the school of origin has been removed from the improvement, corrective action, or restructuring list under ESSA.

G. Out-of-District Transportation

ESSA, like NCLB, does not require LEAs to provide transportation to schools outside of the district. However, for homeless students, transportation is required to ensure they can attend their school of origin, even if it is outside district boundaries.

H. Payment for Choice-Related Transportation

Under ESSA, LEAs must allocate up to 20% of their Title I, Part A funds to cover transportation for school choice and supplemental services. This is consistent with NCLB. LEAs may use a combination of federal, state, local, or private funding to cover transportation costs. LEAs have the discretion to decide how to allocate these funds, provided they meet the demand for both transportation and supplemental services.

I. Insufficient Funds

If there are not enough funds to meet all transportation requests, the LEA must prioritize the lowest-achieving students from low-income families, though all eligible students must still be offered the opportunity to transfer.

J. Optional Fund Sources

ESSA continues the flexibility introduced by NCLB regarding funding. LEAs may use non-Title I funds to cover transportation costs. These funds can come from federal, state, local, or private sources, allowing LEAs to supplement transportation needs.

K. Title I Funds and Transportation Funds

Like NCLB, ESSA mandates that transportation funds must supplement, not supplant, state or local funds already allocated for student transportation. If state funds fall short, Title I funds may be used to cover the remaining costs of school-choice transportation.

L. Transportation Zones

Every Student Succeeds Act (ESSA) allows LEAs to establish transportation zones, which help manage transportation logistics and costs by creating geographically-based zones for school choice. Within each zone, LEAs may fully fund transportation, while outside of designated zones, LEAs may only cover partial transportation costs. Parents should be informed if they select a school outside the transportation zone that they may be responsible for providing transportation.

## MCKINNEY-VENTO HOMELESS ASSISTANCE ACT

The following information describes how the McKinney–Vento Homeless Assistance Act relates to pupil transportation and describes transportation choices and requirements.

A. Requirements of the McKinney-Vento Homeless Assistance Act

If "homeless" eligibility is determined and placement in the student's school of origin is determined to be in the best interest of the student, local education agencies (LEAs) may be required to provide transportation to and from the student's schools of origin for students experiencing homelessness, upon the request of the parent or guardian. For an unaccompanied youth, the request would originate with the LEA's homeless liaison.

B. Transportation for the homeless in relation to distance

There is an assumption of "reasonableness" with the transportation of the homeless student, unless attending the school of origin is against the student's best interest. Every LEA has a homeless liaison that should make the determination of whether or not the transportation of the student is in the student's best interest or not. Reasonableness should not be determined solely on the basis of cost. Air flights, extensive travel time, or other circumstances that result in extremely unusual travel demands may all result in appropriate denial of transportation to the school of origin. There is an appeal process that a parent can use when the parent disagrees with the decision of the school district.

C. Other considerations regarding homeless transportation

Providing sensitivity training to bus drivers and arranging bus stops to keep student's living situations confidential is important in being able to assist these students through this difficult time in their lives with as little disruption as possible. Developing close ties among school district homeless liaisons, school staff, and pupil transportation staff will help make this process work smoothly.

D. School district responsibilities for transportation costs when a homeless student requires transportation across district boundaries

When a homeless student requires transportation to the school of origin and that school is outside the current school district, the two districts involved should collaborate to determine which district is going to assume responsibility for transportation and how the cost is to be shared. If there is no agreement between the two districts, the responsibility and cost for transportation shall be shared equally. Each district is required to pay half the cost.

E. Length of time transportation needs to be provided after a homeless student has moved into permanent housing.

Students can stay in their school of origin the entire time they are homeless and until the end of any academic year in which they move into permanent housing.

F. Mode of transportation

There is no requirement that provided transportation be of any specific mode. (School buses are not necessarily required.) Transportation must be safe and appropriate for the individual student's situation and age. Modes may include school bus, transit passes, gas vouchers or reimbursement for parents or youths with cars, contracts with taxi companies (with driver-background checks required), or contracts with Medicaid-transportation brokers (with driver background checks required).

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# ACTIVITY BUS OPERATIONS: TRANSPORTATION OTHER THAN TO AND FROM SCHOOL OR HEAD START

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# ACTIVITY BUS OPERATIONS: TRANSPORTATION OTHER THAN TO AND FROM SCHOOL OR HEAD START

Today's education experience involves many opportunities outside the regularly scheduled school day and the geographic boundaries of the school district. Traveling long distances to other states, even other countries, is not uncommon.

These school or Head Start related activity trips may include:

A. Field trips that are an extension of the instructional program;

B. Athletic trips;

C. Music competitions;

D. Club outings;

E. Vocational or trades training;

F. Volunteer activities; and

G. Recreational activities (e.g., dances, picnics, camping trips).

These trips may range from a few miles to those extending over several days and covering large distances.

This section is intended to address the various uses of a school bus for operations other than to and from school. The use, procedures, and policies should not interfere with regular class-related demands for school buses by the school system or Head Start agency. The school district or Head Start agency, in accordance with state regulations and/or laws governing school bus use, should establish procedures where school buses can be scheduled for non-routine runs outside the regular peak times for to and from service.

A school bus or multi-function school activity bus (MFSAB) is the safest means of providing transportation for students to school or Head Start sponsored activities. However, the distance of the trip, luggage requirements and the number of students participating can impact the choice of vehicle, which can include a school bus, MFSAB, motor coach, and even passenger vehicles (e.g., cars, SUV's, mini-vans) – all subject to district policy. Alternate vehicles should meet state and federal standards.

Each school system or Head Start agency providing activity bus operations should adopt comprehensive policies and guidelines that delegate the coordination of this important function to a qualified supervisor of student transportation or school leader. It is critical that this individual fully understands their respective responsibilities on activity/field trips. To provide safe and efficient activity transportation, lines of

responsibility and authority need to be defined, and personnel involved must understand their respective responsibilities.

The remainder of this section is divided into the following components of activity trip planning and execution:

Policies and Guidelines to Be in Place Before Trips Are Requested
Policies & Guidelines: Training
Policies & Guidelines: Requesting Trip Approval
Policies & Guidelines: Planning an Approved Trip
Policies & Guidelines: Prior to Departure
Policies & Guidelines: During the Trip

Each school system or Head Start agency providing activity bus operations should have comprehensive policies and guidelines which delegate responsibility for this function to the supervisor of student transportation. To provide safe and efficient activity transportation, lines of responsibility and authority need to be defined, and personnel involved must have an understanding of their respective responsibilities.

In the interest of providing the safest means of transportation available, students should be transported to school- or Head Start-sponsored activities in school buses or allowable alternate vehicles that meet state and federal standards, unless circumstances require an alternate mode of transportation.

## POLICIES AND GUIDELINES TO BE IN PLACE BEFORE TRIPS ARE REQUESTED

Policies should be in place to help trip or event sponsors when requesting the trip. Such policies should address:

A. Specific procedures and timelines that are necessary for requesting activity trips;

B. What steps occur if resources are not available to support the activity trip requests and any other options available to the requestor;

C. The number of days advance notice is required for requesting activity transportation and to make vehicle and driver arrangement. (Consider requiring additional notice for extended trips or out-of-state trips);

1. Differentiate between timelines for the length of the trip (e.g., day-long, overnight) and destination, such as in-district, in-state, in-country, or out-of-country trips.

D. What approved options are available to requestors:

1. District or agency owned or contracted school buses;

2. Commercial motor coach;

3. Local transit;

4. Air;

5. Boat;

6. Rail;

7. Private; and

8. Private or school passenger automobile when required by special or unique needs, or combination of above options.

E. Policies that detail whether out-of-state trips are permitted and, if so, if any applicable restrictions exist. If out-of-state travel is permissible, that state's regulations need to be reviewed prior to the trip.

F. If motor coach transportation is allowed by district policy, the district should maintain a list of approved motor coach carriers that have been established by the district's pre-approval process. (See APPENDIX E.)

G. Vehicle equipment used for activities must be in good working order, well maintained, and otherwise capable of withstanding the demands of the trip.

H. All activity buses and drivers should comply with all applicable state and federal requirements, including Federal Motor Carrier Safety Administration regulations applicable to inter- and intra-state passenger transportation.

I. Adult chaperones should be required on activity trips, each meeting the district's requirements for chaperones, including volunteers. District policy should address the student-to-chaperone ratio and when chaperones are and are not to be transported on buses with students (e.g., in-town vs. out-of-town trips).

## POLICIES AND GUIDELINES: TRAINING:

Specialized training should be provided for activity trip drivers. Training should include, but not be limited to, the following topics:

A. State laws and applicable policies and rules;

B. Familiarity with the activity trip vehicle and its components;

C. Familiarity with specialized equipment and how to use it, including electronic devices, cellular telephone, and onboard global positioning system (GPS);

D. District policies related to student conduct and behavior expectations, including responses to students who do not comply with conduct policies;

E. Driving under adverse conditions (night driving, slippery roads, black ice, mountainous driving, etc.);

F. Drivers should be trained in procedure and regulations related to trip emergencies;

G. It is advisable to develop and maintain a mutual aid directory for contact within athletic boundaries, which can be helpful in the event of a mechanical breakdown;

H. Drivers should have a rest stop every two (2) hours for fifteen (15) minutes. Rest stops should be pre-approved prior to the trip starting; and

**I.** On-duty driving hours shall be regulated by school districts and Head Start agencies based on Federal Motor Carrier Safety Regulations, 49 CFR 395.5**.**

## POLICIES & GUIDELINES: REQUESTING TRIP APPROVAL

So that the sponsor of the trip can provide the necessary information to request an activity trip, clear guidelines should be established to enable the sponsor of the trip to document the:

A. Purpose of the trip (instructional, athletic, student/spectators, recreation, etc.);

B. Requested mode of transportation (e.g., school bus, activity bus, motor coach, other) and any special equipment needed;

C. Number of chaperones and their method of transportation;

D. Funding source (district or individual school fund, individual in charge, parent group, etc.); and

E. Administrative approval (the persons required to approve and schedule the trip).

## POLICIES & GUIDELINES: PLANNING AN APPROVED TRIP

Once a trip is approved, the trip sponsor and the transportation department should finalize the plan, which includes arranging specific transportation and finalizing the logistics.

A. Vehicles and equipment considerations when selecting a trip vehicle:

1. Daily miles to be traveled;

2. Terrain and climate conditions;

3. Number and grade level of students;

4. Number of adults to be transported (e.g., chaperones, coaches);

5. Luggage and equipment requirements and what to do with lost and found items;

6. Driver familiarity with the vehicle and route; and

7. Federal Motor Carrier Safety Administration regulations, governing travel area and destination, including crossing state lines or traveling into neighboring countries.

B. Specialized equipment includes:

1. Specially equipped vehicles;

2. Luggage storage;

3. Chains (pre-fitted prior to the trip) or sanders;

4. Extra heaters or air conditioning;

5. Public address system;

6. Electronics (AM/FM, two-way radio, music/television systems) or cellular telephone;

7. Tires, including off-road tread or recaps on the rear axle (recaps on the front axle are prohibited);

8. Spare tire;

9. Spare engine drive belts; and

10. Roof identifying markings are a best practice for vehicles.

C. Driver qualifications:

1. Drivers should have requisite knowledge, skill, experience, and familiarity with activity trip vehicles and the area to be traveled;

2. Drivers should be notified at least three days in advance of the trip date;

3. Drivers who primarily take activity trips should be tested periodically for driving ability and vehicle familiarity. They should hold the same license and certification as regular school bus drivers;

4. Driver(s) license abstract review;

5. Background checks for non-school employees; and

6. Approval as a driver for the trip and any potential substitute drivers for the trip.

D. Communication is critical for all involved parties to ensure all drivers, chaperones, students, and parents understand applicable rules and regulations. A signed authorization for student participation from the parent or guardian is necessary. All parties should have access to a detailed trip itinerary along with guidelines for dealing with medical emergencies.
The following information is necessary for safe activity trips:

1. Luggage and equipment restrictions to ensure the passenger compartment is safe for all passengers and no emergency exit is blocked by personal or activity gear. Luggage should not be transported in the passenger compartment unless it fits on one's lap or under the seat;

2. Insurance policies need to be reviewed to make sure adequate coverage exists and if any additional coverage on riders is necessary. Current copies of policies and contracts should be on file within thirty (30) days of the trip taking place with the district or Head Start agency;

3. Contingency plans should be in place to detail persons authorized to make decisions regarding the trip in the event of unsafe road conditions, crashes, or mechanical breakdowns;

4. Staff should have these persons' cell phone numbers for such emergencies;

5. Persons responsible for decision-making should possess cell phone numbers for transportation personnel in various communities and school districts where activity vehicles regularly travel;

6. Provisions should be in place for overnight accommodations if conditions do not permit a safe trip home; and

7. All applicable permits need to be procured in accordance with applicable state and local laws before the trip is undertaken.

## POLICIES & GUIDELINES: PRIOR TO DEPARTURE

Inspection requirements for school buses or MFSABs used for activity trips should be the same as for regular route buses, and a detailed check should be made prior to activity trips and anytime the bus has been left unattended for a period of time. Establish policies on whether to allow a trailer to be towed.
In the case of motor coach transportation, the trip sponsor or other designee should conduct a vehicle walk-around with the bus driver.

A. The driver should be provided complete information on the destination, including:

1. Maps, destination locations, and parking areas;

2. Parking location, if other than the student destination;

3. Provisions for bus security at the destination;

4. Familiarity with local and state trip requirements;

5. Route familiarization, which might include a practice run prior to the trip date, especially if extreme conditions, terrain, or road difficulties may be encountered; and

6. A copy of the vehicle DOT file number and operational check of the contracted vehicle should be made for all non-school buses being used.

B. Supplies and equipment that should be standard on out-of-district activity trips include:

1. A tool kit containing items such as a flashlight, pliers, screwdrivers, vice-grips, deicer, extra chain tighteners, etc., any additional equipment for an extended trip ~~as~~ that may be recommended by transportation personnel;

2. Cash, and/or an alternative method of payment, for fuel, bridge tolls, parking fees, etc.;

3. Emergency telephone numbers and other information; and

4. Global Positioning Systems (GPS) or toll transponders, as appropriate.

C. Passenger manifests (a list of all passengers being transported) should be kept by the driver and chaperone(s). A copy should also be left with proper authorities at the school or institution. The driver shall be notified prior to departure of any passenger who will be picked up or who is not on the return trip.

1. Passenger manifests need to include the following items: name and emergency contact phone numbers. Addresses may also be provided if the students are being picked up or dropped off at home.
2. Passenger manifests should be updated throughout the trip, as some trips allow parents to transport their students home which results in a smaller return group after the event.

D. Before each trip, the driver should give evacuation instructions, including an emergency evacuation drill, or at least provide verbal instructions before each trip. (See APPENDIX E.)

Instruction on seat belt use and proper adjustment (when equipped) and evacuation shall be provided before the start of each trip and before the start of the following day's trips~~,~~ (See APPENDIX E.)

E. In times of inclement weather, the designated person should make road and weather checks. This person should consult with school transportation personnel from other districts, local police, state patrols, highway divisions, and automobile clubs to help ascertain road conditions locally and in the areas to be traveled. The weather bureau should also be contacted. A planned route and contingency route for trips should be determined in advance of the trip.

## POLICIES & GUIDELINES: DURING THE TRIP

A. School buses operating on public roads and crossing state and national boundaries must adhere to the rules of the road in jurisdictions in which they are operating.

B. In transit, chaperones have responsibility for passenger control, with final authority resting with the driver.

**Note:** Chaperones should monitor the driver for alertness and driving performance pertaining to safety, including during overnight hours. Chaperones are empowered to speak with the driver regarding safety issues that may affect the activity trip and if necessary, contact a supervisor or 911 for immediate assistance.

C. Policies and procedures for students causing discipline problems or experiencing an emergency medical condition either enroute or at the trip location need to be established and parental contact information needs to be available on these trips for all students.

D. Aisles and exits must be kept clear at all times.

E. Contingency weather plan decisions regarding the trips that are already on the road should be a coordinated effort between the driver with input from the coaches/chaperones, and sponsors.

## NON-RELATED ACTIVITY OPERATIONS

**Note:** The school system or Head Start agency, as part of the government or in cooperation with transportation contractors, may utilize buses during times of community crisis when demand for other public vehicles such as trains and transit buses is so great as to exceed available supply

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# SCHOOL TRANSPORTATION SECURITY AND EMERGENCY PREPAREDNESS

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# SCHOOL TRANSPORTATION SECURITY AND EMERGENCY PREPAREDNESS

## INTRODUCTION

Each school day, almost 20 percent (50 million) of the United States' population is located in our nation's schools. Approximately half of these children (25 million) use a school bus for transportation to and from school each day. Additionally, millions of children ride school buses each day for school activity trips.

A review of past criminal and terrorist actions and statements makes it clear that buses, including school buses, can be used as weapons, as well as being viable targets.

Until recently, school transportation has been centered on two main objectives: safety and efficiency of school bus operations. Since September 11, 2001, transportation system security has been added into the equation. In addition to the threat from foreign and domestic terrorist groups, the school bus driver and passengers may be targets of violence from students, unauthorized boarders, and criminal elements outside the school bus. School transportation professionals must give school transportation security and emergency preparedness at least the same level of commitment as has been given to safety and efficiency. School systems must give school buses as much priority as school buildings.

Recent events demonstrate that terrorists totally disregard the sanctity of education facilities and school children. Individual terrorists and/or terrorist organizations look for targets that will strike fear into our society. Terrorists and individuals with criminal intent select emotional targets when actions against the more traditional military, government, and economic targets do not achieve their desired goals. Current violent activities indicate a change in tactics and targets.

School transportation is a lot like the electric and water companies: services performed flawlessly attract little notice. Society rarely gives school bus transportation a second thought— unless something goes wrong, which is a relatively rare event.

Complacency and the attitude that "it won't happen here" set the stage for terrorists to perpetrate their crimes. The transportation industry must increase awareness and mitigate the potential for terrorist attacks on school transportation systems. The initial step is for transporters to become aware of potential problems and to identify practical solutions.

Following a systematic and reasonable plan will help transporters, not only to improve their ability to prevent acts of terrorism, but also to strengthen their ability to react to the more common events that plague the transportation industry. Transporters will be better prepared to address vandalism, property loss, petty theft, fights or disturbances, child abductions and sexual predators, thus giving an added bonus of increased level of student and employee protection and safety.

The information in this segment is not intended to be a comprehensive guide on school transportation security or to supersede any federal, state or local policies and plans. Rather, the purpose of this information is to assist school transportation officials and school transportation service providers when establishing or revising their state or local policies and plans concerning school transportation security. Another resource to consider is Security Options for Consideration published by the Transportation Security Administration (TSA). (**NOTE**: See APPENDIX F for additional information)

School transportation providers should also seek to be part of the community emergency management plans. It is important to know where school buses fit into the larger picture. Transportation departments need to know where their buses are on the priority scale compared to other segments of the community, should a large-scale emergency occur in the local area. Things to consider may vary, depending on time of day (e.g., route time) or year. Transportation departments can also play a vital role during emergency situations that require a large-scale evacuation from an area. In addition to moving students from school buildings, unutilized buses can serve the community as well. The transportation department should be aware whether they are part of another group's plan. Often times too many groups (unrealistically) count on school buses when there may not be enough available buses for everyone's needs.

## PLANNING AND POLICY CONSIDERATIONS

A. Does the school district have a written security policy and crisis response plan, including procedures that include transportation personnel, equipment and facilities? Does the plan/policy coordinate with procedures in the school buildings? Is the plan/policy site-specific for all school facility locations? Are student transporters represented in school facility planning sessions?

B. Has a transportation system security and emergency procedures assessment been performed annually? (**NOTE**: See APPENDIX F for additional information)

C. Does the plan/policy contain information on threat vulnerability identification and consequence?

D. Does the plan/policy provide for any proactive or preventive technology solutions, that are currently available and that can potentially act as early detection or prevention of potential threats? (i.e., GPS, lot cameras, onboard cameras with transmission capabilities).

E. Does the planning and policy process include appropriate stakeholders (e.g., first responders, law enforcement, fire department and media, such as print, radio, television, etc.)?

F. Is the plan disseminated only to authorized personnel or persons with a documented "need to know," and are non-disclosure statements being utilized?

G. Are the procedures of the plan/policy routinely tested and exercised with means for assessment, evaluation and improvement at least annually?

H. Does the plan/policy provide information on how to recognize suspicious people, activities, packages and devices as outlined by the Transportation Security Administration (TSA) First Observer Program?

I. Does the plan/policy require security inspections of vehicles and facilities?

J. Does the plan/policy require pre-trip, post-trip and unattended stoppage period vehicle security inspections?

K. Does the plan/policy address commonly used terrorist weapons (e.g., improvised explosive devices, chemical, biological and radiological agents)?

L. Does the plan/policy contain directives on incident management and command as outlined by the National Incident Management System (NIMS) and Incident Command System (ICS)?

## SECURITY ASSESSMENTS

Vigilance, which requires an awareness of vulnerabilities, is the first step to better security. In order to determine and understand the threat level to the student transportation system, a system-wide security assessment shall be conducted, understood and updated annually. The assessment should include participation by school administrators, local, county and state law enforcement agency, medical and hospital administrators, and local emergency managers. The assessment will help to identify weaknesses and strengths within the operation. The assessment should begin at the front line of any transportation system—the driver—and support employees (i.e., cleaning and fueling personnel) and continue up through all levels of the organization. This should also include any viable means by which to immediately detect or prevent threats on board. After completing the security assessment, appropriate plans/policies and procedures can be developed and implemented.

A security assessment should consider the following security issues:

A. The complete assessment team should review the current security plans/policies and procedures by asking the following questions:

1. What security plans/policies and procedures exist?

2. Do they address facilities, equipment, personnel and passengers?

3. Have these plans/policies and procedures been evaluated in an exercise?

4. Have the plans/policies and procedures been used for a real emergency?

5. Were the plans/policies effective?

6. Do the security plans and policies identify a “security coordinator” for each school and facility with written responsibilities?

7. Do the security plans/policies include policies and procedures for vetting of transportation personnel?

8. Were the security plans and policies developed in cooperation with local first responders?

B. Review existing lines of communication by asking the following questions:

1. What lines of communication exist within the operation?

2. Do they interrelate with local law enforcement, fire and emergency services?

3. Are they clearly defined and documented?

4. Are all employees trained and familiar with them?

5. Have these lines of communication been tested and proven?

6. Is there an alternate communication plan if the normal systems are unavailable?

7. Were the communications effective, as tested?

8. Are phone numbers for personnel available for after hours, weekends and vacations?

C. Review personnel security by asking the following questions:

1. Are all employees and visitors required to wear identification badges? Do they wear them?

2. Is there a “sign in/sign out” system or a personnel identification measure in place?

3. Are all employees required to wear uniforms? Do they comply?

4. Are students registered on a particular bus?

5. Are drivers provided with a list of riders and are students carrying an ID?

6. Are there procedures for accounting for each individual student, especially on activity trips?

7. Do evacuation plans exist? Are they practiced and how often?

8. Is there a designated place to relocate staff or students?

9. On activity, field or extracurricular or school-chartered bus trips, are students instructed in safe riding practices and on the location and operation of emergency exits?

D. Review operational security by asking the following questions:

1. Are all vehicle doors, hatches and compartments locked when vehicles are unattended? Are keys left in the bus or ignition?

2. Are facilities and buses equipped with camera or video surveillance equipment or intrusion alarms that are monitored?

3. Do plans/policies and procedures for locking doors and gates exist? Are the codes or combinations changed regularly?

4. Are off-site parking locations secure?

5. Is the exterior of the transportation facility, administration building and maintenance facility secure?

6. Is the bus yard secure?

7. Are fencing, walls or vehicle or personnel gates and lighting available?

8. Is surveillance equipment being monitored and/or recording? What is being surveyed?

9. Is the interior (e.g., all rooms, storage areas and closets) of the transportation facility, administration building and maintenance facility secure?

10. Are roofs secure?

11. Are all bus routes being evaluated with safety and security issues considered?

12. Where are buses staged during the route if there is a layover period?

13. Are buses left unattended at schools or other secured areas during layover periods?

14. Are all schools and school parking areas safe and secure?

15. Are commonly used school activity sites safe and secure?

16. Do drivers leave the bus to watch the activity?

17. Is a walk-around safety and security inspection of the bus performed prior to departure and after the vehicle is left unattended?

18. Is there a pre-trip inspection prior to departure for home?

19. Do computer and communications systems exist?

20. How is access to computers or systems controlled? What are their limitations?

21. How can computers be compromised? If they can be compromised, what can be done to prevent it?

22. Is the communication system (e.g., two-way radio, land telephone line, cellular telephone, etc.) capable of recording?

23. Is the bus fleet equipped with real time GPS?

24. Does the communication system have redundancy, and is it routinely tested? Are all trained in the appropriate level of the National Incident Management System (NIMS), is it reviewed regularly, and is everyone (drivers, dispatchers, administrators) familiar with NIMS?

25. Do emergency back-up systems for information and communication exist? What are their limitations?

26. How can emergency back-up systems be compromised, and if they can be compromised, what can be done to prevent it?

27. Are the back-up systems stored off site? Are they secure?

28. Is there a plan available that does not require electrical energy? Does the transportation department have a backup generator?

## SECURITY PLANS/POLICIES AND PROCEDURES

The assessment should indicate any gaps in existing plans/policies and procedures. Also, board- and administration-approved security plans, policies and procedures should be developed. These plans, policies and procedures must be supported and enforced by the entire transportation organization. Plan/policy recommendations should include, but not be limited to, the following items:

A. Consider the security interest of students when establishing district plans/policies which make routes, schedules and locations available to parents and guardians on the internet;

B. Establish board-approved plans/polices on the use of employee uniforms and identification badges and student registration (bus passes). Consideration should be given

to a means to appropriately identify that a student may be met by a parent, guardian or other authorized person;

C. Establish board-approved plans/policies on property security (e.g., locked doors and gates, security cameras, alarms, employee photographs, public entry, etc.);

D. Establish communication procedures regarding the use of two-way radios, cell phones, VHF radios, combination phones, etc.;

E. Establish command and control procedures that include a chain of command, and specify the decision-makers in any given situation;

F. Establish emergency or security reporting procedures (e.g., whom the driver calls in a security threat or emergency). Determine what circumstances constitute a security threat or emergency and when a driver must report a security threat or emergency to a supervisor;

G. Establish a board-approved plan/policy determining regularly scheduled system safety and security training;

H. Establish a board-approved plan/policy for enforcing safety and security policies and procedures; and

I. Establish post-trip inspection practices before the driver leaves the vehicle.

## TRANSPORTATION PERSONNEL AND THEIR TRAINING

School transportation already focuses on safety training. A security assessment likely will indicate a need for renewed and expanded focus on security—especially extreme threats. Security training should be a primary element of plans/policies and procedures. Individual awareness is among the best weapons for preventing crime and increasing personal and business security. Any person armed with awareness is less likely to become a victim or to allow a crime to be committed. Armed with awareness, most school bus drivers and administrators can either eliminate or significantly reduce property losses and crime. While not the primary goal of a good security program, it is highly likely that routine vandalism and crime will be reduced.

Drivers should be thoroughly familiar with their vehicles, their students, the area and conditions on their routes. They should have a thorough knowledge of the operational plans, policies, procedures and training on possible threats. Armed with this knowledge, drivers can better assess the level of threat in any given situation and respond according to established plans and policies.

A. Suggested Training Topics

1. Plans/Policies and Procedures

a. What to do in case of emergencies or an increase in security threat;

b. How to use available communication systems;

c. Rules for hostage situations;

d. How to conduct security inspections of vehicles (similar to basic bus pre-trip safety inspection);

e. How to respond to threats of violence from students, unauthorized boarders and others outside the school bus; and

f. How to respond to directives from incident management and commands.

2. Identification and Prevention

a. How to determine the threat level;

b. How to identify, report and prevent suspicious, criminal or terrorist activity;

c. How to identify and prevent entry of suspicious people, packages and placement of suspicious packages or devices;

d. How to identify illegal entry (structure or vehicle); and

e. How to identify and respond to improvised explosive devices (IEDs).

3. Response and Reports

a. How to respond to shootings or snipers;

b. How to respond to fights or disturbances;

c. How to respond to vandalism or property damage;

d. How to respond to child abductions, sexual predators or child custody issues;

e. How to respond to threats of violence from students, unauthorized boarders and criminal elements outside the school bus;

f. How to respond to weapons on the bus; and

g. How to raise drivers' level of awareness to identify suspicious people, activities, packages and devices. (Transportation Security Administration (TSA) First Observer Program)

4. Safety and Security Equipment

   a. How to use all the safety and security equipment available to drivers; and

   b. Training processes should include the use of drills and table top exercises to test and practice the plans/policies and procedures.

## SCHOOL BUS SECURITY EQUIPMENT AND EMERGING TECHNOLOGY

A. Global Positioning System technology;

B. Silent alarm and two-way communication system (e.g., “panic button”);

C. Flashing front and rear marker identification lamps to signal predetermined emergency message (e.g., hostage, intruder on board, etc.);

D. Name of student transportation provider and identification number on the bus roof;

E. Ability to lock entrance (service) door, emergency door(s), roof hatches, and outside compartments;

F. A reinforced entrance (service) door to prevent forced entry into the bus; and

G. Video and audio in bus cabin such that first responders may see and hear the threat real-time (i.e., as it is happening) for maximum assessment and real time solutions.

## UNAUTHORIZED RIDERS AND VISITORS

School bus transportation systems may deal with unauthorized visitors, from the neighborhood dog to upset parents. Once an uninvited person enters the bus, drivers risk loss of ultimate control of their vehicle. The only persons authorized to gain access to a school bus are those students who meet the eligibility requirements, school administrators, law enforcement, and transportation personnel. Non-students, including the driver’s friend, are never allowed on a school bus. The driver should make every effort short of physical confrontation to ensure that students who are not eligible are not permitted on the bus. Districts should have procedures in place that address whether or not parents are allowed to enter the school bus, even if it is to assist with the securement or loading and unloading of their children. Drivers should receive training and education on these policies. If the district allows a guest to ride home with regular riders, districts should have a procedure including written documentation giving parental approval that includes the date. Drivers should be trained to be aware of surroundings at bus stops. This should include a plan if an unrecognized or suspicious person is loitering at the bus stop. For the safety of all students, once the students board the bus, they will not be allowed off the bus until the bus reaches their assigned stop.

Providing drivers with a list of eligible riders for their routes will allow drivers to become more familiar with their day-to-day student riders. Policies can state whether students are allowed to ride a particular bus without prior registration or written permission. This practice can help districts monitor the load capacity of buses and assist drivers with pupil management. During activity trips, the student roster and the number of students should be included when dispatching the bus. Student counts should be confirmed after stops where students are allowed to leave the bus.

## CHILD ABDUCTIONS

While there is heightened awareness today about children being abducted from bus stops or while walking to and from bus stops or school, the transportation industry has dealt with parental or custody abductions during loading or unloading. School bus drivers should be apprised if a child riding the school bus is involved in a custody dispute. Drivers should be trained to notice unusual cars or people at bus stops and how to respond. Drivers should maintain schedules as close as possible to minimize students' exposure to elements or potential abductions.

## ROUTE HAZARDS

Transporters are more likely to experience hundreds of small security incidents during their careers than they are likely to experience a terrorist attack. If plans are developed for reasonable preventive measures for extreme threat, transporters will be better prepared to respond to more common security incidents, such as a suspicious person or vehicle at a bus stop, a vehicle following a school bus on its route, an angry parent entering the bus, a vehicle driving recklessly around the bus (road rage), an unusual package left on the bus, or a hostile student making threats to other students or the driver.

School transportation officials should establish a program to routinely evaluate all school bus stops and routes for potential hazards. There are fixed hazards that cannot be avoided (e.g., railroad crossings, streams, limited visibility, traffic congestion, etc.). Another hazard more prevalent today is the residences of sexual predators. Great care must be used if stops must be placed near the residence of a known sexual predator.

Weather conditions, such as snow, ice, fog, extreme heat or cold and rain, can create an unexpected route hazard that had not previously existed. Route evaluations should note areas that may flood during rain or hills that frequently become icy.

Events such as earthquakes and tornados may give little advance warning to drivers. Route information could also include the location of police/fire/rescue stations, hospitals, schools and other emergency care facilities where a school bus may pull off the road and await aid in the event of an emergency. It is important that school bus drivers and substitute drivers be provided with route hazard information in a standard, consistent manner, and the information should be available to the driver no matter which bus is driven on that day.

## VULNERABLE ACTIVITIES

A. Bus Stop

School bus drivers must participate in transportation security and emergency preparedness activities. During these activities, drivers should learn how to recognize situations which could create an incident. When the bus driver opens the door, an entrance into the school bus is created where the driver has little control over who will enter the bus. At school bus stops, drivers should be aware of abnormal behavior or unidentified people loitering or parked cars that usually are not parked at the stop. Regular drivers learn to recognize waiting parents, but if strangers are at the stop, it would be appropriate to ask students who is at the stop to meet them. If other adults are not present, it may be best for the school bus driver to wait before opening the door to give more time to observe the behavior of the person in question. Drivers should be trained to observe gang clothing and clothing that may obscure weapons. Additionally, drivers should be alert to people taking photos or making suspicious notes at bus stops or schools.

B. Railroad Crossing

Opening the door and driver's window prior to crossing is required at almost all railroad crossings. Prior to opening the door, the driver should observe if there are people that are out of place or loitering at the railroad crossing. Drivers should be trained and empowered to decide if obeying the law and opening the door creates more of a safety hazard than purposely not completing the process at the railroad stop and thus, violating a law or rule. Keen observation would tell a driver if the behavior outside the bus is suspicious and a greater threat than failing to open the door.

C. Fueling Facilities

If drivers fuel their buses at locations other than the compound where the buses are stored, the drivers may find themselves and/or their buses vulnerable. External fueling stations often do not have limited access, and the public does not keep a regular schedule. Therefore, school bus drivers would find it difficult to observe things out of the ordinary. The facts that school buses usually fuel on a regular schedule and that drivers exit the bus are factors that expose buses during fueling. Drivers should always remove the key from the ignition when they leave the driver compartment. Training may help drivers increase their awareness.

D. Activity Trips

Often drivers are allowed to leave their buses during activities when students are engaged elsewhere. Districts should have policies and training that inform the driver

about what action they should take when returning to their vehicles. The vehicle should be locked when the driver is not present and a post-trip inspection completed prior to departure.

E. Rented or Leased Buses

Operations that allow school buses to be rented or leased should have a process in place to assure that the driver is properly licensed. Consideration should be given to the security threat of allowing vehicles to be used in high-risk areas.

## WEAPONS

Weapons (or objects that look like and/or could be used as weapons) are not permitted on school buses or school grounds. Drivers should receive training to learn behaviors that students may exhibit when carrying a weapon. Unusual gait, pocket sag, and nervous behavior are all identifiable. Any time students say they have a weapon, the situation should be treated as such. Drivers should practice steps they would take to protect other students. Conversations that promise retaliation should be taken seriously. Student transportation providers should have policies and procedures in place that prohibit weapons on campus, and the policies and procedures should extend to the school bus.

Drivers should be trained to watch for suspicious packages left unattended on the bus or around the transportation facility. Transportation facilities should promote good housekeeping practices so that unattended packages stand out and are not lost in clutter.

In the event that a school shooting is unfolding on campus, student transportation providers and transportation centers should have a communication plan and routing options so that additional students can be diverted and not delivered into an unsafe setting.

During lockdown procedures at schools, drivers should be trained and should have a designated alternate drop site so that students can be delivered to a safe location.

## EMERGENCY RELEASE OF STUDENTS

Many types of events can cause a school to release students early. Stormy weather, building fire, school violence or bomb threat, for example, can unexpectedly expose students to the elements and lack of building cover. Districts should have plans in place that spell out where students will be relocated and how parents will be notified. If students are being transported home early, the district should have a plan in place to ensure that parents are notified. Operations should have alternate load zones established for each school in case the primary location is unavailable or more buses are needed to evacuate an entire school.

Buses that frequently travel during inclement weather should be prepared for situations that prohibit the bus from continuing on its route. Drivers should receive training regarding appropriate procedures to employ in the event that weather emergencies occur while they are on their routes.

Transportation centers should have a backup plan in case of a power failure. Normal communication methods may not work during a catastrophe.

## FACILITIES AND BUS PARKING

School bus facilities should have limited access both during the day and night. Fencing and gates should be installed around the premises. Keys should not be left in the ignition when the buses are unattended. If the facilities are equipped with camera or video surveillance equipment, the district should have plans in place to monitor the cameras. The plan should include what is surveyed and recorded. Transportation centers should have policies and procedures for locking doors and gates. If codes or combinations are used, then a procedure should be in place to routinely change the codes. If keys are used, a process should be in place to retrieve keys from employees who separate from employment. The security plan should address school buses that are routinely stored off site.

Plans should include whether drivers may leave the school bus during layover periods and activities and where they may park the bus. Plans should address to what extent the drivers will secure the bus (e.g., all doors, hatches and compartments) and the type of inspection a driver should complete before using the bus following non-active periods.

If possible, school bus drivers should have a method to check in or contact transportation supervisors or emergency officials should the drivers need assistance.

At the school bus facility, all employees and visitors should be required to wear identification badges or have a method to check in. Drivers should have some type of check-in process prior to dispatch.

## HIRING PROCESS

Operations should conduct background checks on all supervisors, trainers, drivers, bus attendants, technicians, and dispatchers. Backgrounds may be checked through fingerprinting, local criminal record search, driving records and employment history. Specific criteria should be determined prior to hiring transportation personnel. APPENDIX D of this publication includes sample school bus driver applications, sample job description, and new employee hiring procedures.

## SCHOOL BUS EQUIPMENT GUIDE FOR LAW ENFORCEMENT AND FIRE DEPARTMENT PERSONNEL

School transportation providers should work with local emergency responders (law enforcement, fire departments, medical services, etc.) to ensure that they have appropriate fleet information when responding to an emergency involving a school bus. Information required by emergency responders will vary, depending on their individual needs and abilities. Good communication with emergency responders prior to an emergency occurring will ensure that responders will have the information that they need. Information issues to discuss include variation of fleet vehicles, ways to quickly identify bus specifics (e.g., passenger capacity and presence of wheelchairs) and how to operate the various emergency exits of their buses.

**RESOURCES**

- Department of Homeland Security, www.dhs.gov
- Transportation Security Administration, www.tsa.gov
- Federal Bureau of Investigation, www.fbi.gov
- Federal Emergency Management Agency, www.fema.gov
- Department of Education, www.ed.gov
- State Departments of Education, https://www.ed.gov/contact-us/state-contacts
- Department of Transportation agencies, www.dot.gov
- National Highway Traffic Safety Administration, www.nhtsa.dot.gov
- Federal Highway Administration, www.fhwa.dot.gov
- Federal Transit Administration, www.fta.dot.gov
- Federal Motor Carrier Safety Administration, www.fmcsa.dot.gov
- School Bus Security Issues – Inspect-Track-Know Alert Produced by South Carolina DOE Office of Transportation
- School Transportation Security Training School Bus First Observer – School Transportation Security Awareness
- School Transportation Security Awareness TSA
- School Bus Counter Terrorism Guide – TSA Handbook
- Indiana State Police Unarmed Response to an Active Shooter Event

# TRANSPORTATION FOR STUDENTS WITH DISABILITIES AND SPECIAL HEALTH CARE NEEDS

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# TRANSPORTATION FOR STUDENTS WITH DISABILITIES AND SPECIAL HEALTH CARE NEEDS

The purpose of this section is to recommend standard policies, procedures, and guidelines for persons entrusted with the responsibility of managing transportation of children with disabilities. Throughout this section the terms "student(s)" and/or "child/children" are often used interchangeably. Please note that throughout IDEA regulation, the term "child/children" is used. Having said that, while the law refers to "child/children," there is also age-appropriate terminology for those riders/passengers, who are 18 and older (post-graduation); transporters should be mindful of such terminology in their daily operations.

The term special education means, "specially designed instruction to meet the unique needs of a child with a disability." When transportation is required to provide access to such instruction, it is considered a "related service." As part of the mandate of a Free Appropriate Public Education (FAPE), related services are required when determined necessary to assist a child with a disability to benefit from special education. Transportation as defined in the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) includes:

A. Travel to and from school and between schools;

B. Travel in and around school buildings; and

C. Specialized equipment (such as special or adaptive buses, lifts, and ramps), if required to provide special education for a child with a disability. 34 CFR §300.34 (c)(16)]. Though general in nature, the recommended guidelines, policies, and procedures do contain adequate information as of the date of adoption of these guidelines to guide those persons responsible for student transportation in developing an action plan for the safe and appropriate delivery of transportation services for students with disabilities.

This section reviews the current laws and regulations governing special transportation related to the individualized education program (IEP) process, recommended staff training and policy development, and implementation.

The transportation administrator and pertinent staff shall become familiar with the laws, guidelines, policies and procedures listed below.

## LAWS AFFECTING THE TRANSPORTATION OF CHILDREN WITH DISABILITIES

A. Laws

1. It is possible for a school district to be required to provide specialized transportation services to a student with disabilities who is not in special education. Section 504 of P.L. 93-112, of the Rehabilitation Act of 1973, states in part, "No otherwise qualified disabled individual in the United States shall,

solely by reason of his handicap, be excluded from participating in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." In general terms, Section 504 of P.L. 93-112 (1), part of the Rehabilitation Act of 1973, "... requires that all students with disabilities (regardless of age) are eligible for a free appropriate public education [FAPE]." It also requires that the facility, services, and activities provided to the disabled to be comparable to those provided to the non-disabled, and that students with disabilities must have an equal opportunity for participation in any nonacademic and extracurricular services and activities provided by a school district.

2. Congress passed P.L. 94-142, in 1975, and regulations were promulgated by implementation of Part B of the Education for All Handicapped Children Act, effective October 1, 1977. A free appropriate public education (FAPE) is required for all individuals between the ages of three and 21 years who are deemed disabled and who need special education.

3. In 1990, the reauthorization of the Education for All Handicapped Children Act of 1975 changed the name to the Individuals with Disabilities Education Act (IDEA). Subsequent reauthorizations made significant additional changes. These guidelines reflect the 2004 reauthorization of the law as the Individuals with Disabilities Education Improvement Act (IDEIA) and the 2006 regulations implementing that law.

   **Note:** Section 300.107(a), regarding nonacademic services, has been revised to specify the steps each public agency must take, including the provision of supplementary aids and services determined appropriate and necessary by the child's IEP Team, to provide nonacademic and extracurricular services and activities in the manner necessary to afford children with disabilities an equal opportunity for participation in those services and activities.

B. Characteristics/Conditions

To be a child with disabilities under the IDEA/IDEIA, a child must manifest specific characteristics or conditions that adversely impact educational performance that requires special education and related services. These specific disabilities are defined in the IDEA under Part B: Regulations. They appear in Title 34 Code of Federal Regulations (CFR), Part 300 Child with a Disability. The terms will be listed in this section as they appear in the CFR. The definitions can be found in APPENDIX G.

The 13 disability categories under the IDEA (300.8) are as follows:

1. Autism;
2. Deaf-blindness;
3. Deafness;
4. Emotional disturbance;
5. Hearing impairment;
6. Intellectual disability;
7. Multiple disabilities;
8. Orthopedic impairment;
9. Other health impairment;
10. Specific learning disability;
11. Speech or language impairment;
12. Traumatic brain injury;
13. Visual impairment, including blindness.

## INDIVIDUALIZED EDUCATION PROGRAM (IEP)—INDIVIDUALIZED FAMILY SERVICE PLAN (IFSP) PROCESS

The 2006 IDEA Regulations echo the statutory purpose stated in the 2004 Reauthorization of the IDEA statute: "...to ensure that all children with disabilities have available to them a free appropriate public education (FAPE) that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment and independent living; to ensure that the rights of children with disabilities and their parents are protected… and to assess and ensure the effectiveness of efforts to educate children with disabilities."

The IEP team is the formal group that designs a child's educational program, establishes measurable academic and functional goals, and determines the related services that are necessary for a child with disabilities to access special education. When transportation is considered as a related service, appropriate transportation staff, as related service providers, should be included in the IEP process to address the safety and requirement of appropriate transportation options.

The safe transportation of a child with special needs requires a plan that considers and implements the required transportation services to meet the individual needs of the child. This plan is called an

"Individualized Transportation Plan" (ITP) and functions as an important supplement to the IEP when transportation is a related service. The ITP addresses (but is not limited to) the following considerations and decisions:

A. Legal Considerations

The intent of the law is that the IEP team considers a number of stated issues related to the child's educational program. "A continuum of alternative placements [must be] available to meet the needs of children with disabilities for the provision of special education and related services." The provision of transportation as a related service must include a consideration of a continuum of transportations services required, including the use of supplementary aids and modifications available for children with disabilities to address questions about the appropriate mode of transportation for the child served under IDEA. The requirement that children with disabilities be transported "to the maximum extent appropriate" with children without disabilities in the "least restrictive environment," or LRE) includes the provision for safe transportation for each individual child.

B. The Individualized Education Program (IEP)

The IEP is a written statement of services a child with disabilities is to receive. With respect to transportation, this information should contain necessary specificity so that transportation professionals, school personnel, parent, and the child know what services to expect and, when appropriate, may contain transportation goals written in the IEP.

Generally, modification of the IEP requires an IEP meeting. When change in transportation provisions is deemed necessary, transportation services personnel should contact the child's case manager or other appropriate staff member. Such contact should also occur when transportation-services personnel find they need more information or assistance from team members if they are unable to meet the ITP as written, or if they find transportation services to be, in any way, unsafe or not meeting the child's individual needs.

C. The Individual Family Service Plan (IFSP)

An IFSP is a written legal document that lays out supports and services for children with developmental delays that are covered under Part C of the Individuals with Disabilities Education Act (IDEA).

1. 34 CFR §303.13 "defines early intervention services" as developmental services that are:

a. Provided under public supervision;

b. Selected in collaboration with the parents;

c. Provided at no cost except where federal or state law provides for a system of payments by families, including a schedule of sliding fees;

d. Designed to meet the developmental needs of an infant or toddler with a disability, as identified by the Individualized Family Service Plan (IFSP) team in one or more of the following areas:

(1) physical development;

(2) communication development;

(3) social or emotional development; or

(4) adaptive development;

e. In alignment with the standards of the state;

f. Provided by qualified personnel;

g. Provided in natural environments to the maximum extent appropriate;

h. In conformity with the child's IFSP.

D. Transportation [34 CFR §303.13(b) (16)] is an early intervention service and defined as follows:

Transportation and related costs include the cost of travel and other costs that are necessary to enable an infant or toddler with a disability and the child's family to receive early intervention.

## GUIDELINES

The following guidelines are intended to assist in establishing a training program for administrative and school-based personnel, enabling them to respond to the concerns presented by children with disabilities, as required by IDEA. The goal of such a training program is to teach the skills needed to respond to routine and emergency circumstances concerning transportation.

A. School/Education Administration

School administrators and education staff who help make program decisions for children with disabilities, including the requirement for transportation as a related service, are frequently unfamiliar with transportation capabilities and limits.

Those persons should have training in areas that include, but are not limited to, the following:

1. Situations under which transportation staff would be consulted, or included in the IEP Team process;

2. State and local transportation policies and procedures, including communications, reporting procedures, establishment of walk distances and pick-up and drop-off locations, as well as experience and/or background in determining loading-zone design and bus-stop selection for students with disabilities;

3. Transportation regulations and guidelines that could assist in determining if transportation would be appropriate as a related service;

4. Alternative transportation options;

5. The role/responsibilities of IEP team members in the development of Individualized Transportation Plans;

6. Current legislative, legal, and administrative decisions;

7. The application of least restrictive environment regulations to transportation placements;

8. The extent of training and skill levels available within the transportation staff and any additional training necessary to meet standards for qualified staff, as defined by local, state and federal standards;

9. The types of vehicles available for transporting children with disabilities;

10. The types of equipment and occupant securement systems available;

    **Note**: Preschool children should be secured in a CSRS (Child Safety Restraint System) and IEP and IFSP team members (including transportation) should assist in the selection, fit, and use of the CSRS. (Reference section on infants and toddlers).

11. Do Not Resuscitate (DNR) policies for local school districts, as well as current legislative and administrative decisions concerning this topic.

B. Transportation Administration

With increased responsibility being imposed on transportation providers through actions taken by legislative, legal, and administrative authorities, persons in

leadership roles must involve themselves to a greater degree.

The duties and responsibilities of transportation leadership likely will differ between various transportation providers; however, listed below are some areas of knowledge that are necessary to satisfactorily perform the leadership responsibilities.

1. Federal, state and local laws and regulations regarding the equipment required on vehicles used for transporting children and students with disabilities;

2. Federal, state, and local laws and regulations regarding necessary personnel and training;

3. Operational regulations, such as student pick-up/drop-off, including service criteria requiring neighborhood bus stop, curb-to-school, or door-to-school;

4. Transportation regulations and guidelines for children with disabilities, such as ride time and allowable suspension from transportation, including timelines;

5. Due-process rights and procedures for children with disabilities;

6. The IDEA and Section 504 referral, evaluation, and development process of the IEP and Section 504 plan;

7. A general knowledge of available resource persons and the location and availability of appropriate training;

8. Vehicle staffing requirements, including when an attendant might be required, how and when substitutes will be assigned, and how appropriate information and training will be shared with substitutes;

9. The availability of emergency medical services in the community and the identity of those who could assist if such an emergency were to occur during transportation;

10. State and local laws relating to child abuse and harassment/bullying reporting procedures;

11. State or local laws relating to limits of liability and policies and procedures for risk management;

12. Federal and state rules of confidentiality;

13. Legislative and administrative decisions and procedures concerning “Do Not Resuscitate” (DNR) orders;

14. Addressing the individual special needs of preschool children;

15. Knowledge of evacuation procedures for children with special needs;

16. Utilization of CSRSs in accordance with recommended best practices (Refer to the INFANTS, TODDLERS AND PRESCHOOL section, as well as attached appendices for CSRS best practice and operation);

C. Drivers and Attendants

As direct service providers to students with disabilities, drivers and attendants have a hands-on responsibility to provide safe and appropriate transportation to students with disabilities, including operation of special equipment, management of student behavior and basic first aid, as necessary. Additionally, they must be knowledgeable in how to evacuate all children, passenger-positioning, securing adaptive and assistive devices, and CSRSs and must be familiar with the nature, needs, and characteristics of the types of students they transport.

D. Training components

To perform the responsibilities assigned in a safe and effective manner requires a substantial degree of specific training. Some training components that transportation staff must have are the following:

1. The relationship between special education and the provision of the related service transportation;

2. The impact of individual disabilities on safe transportation;

3. The eligibility process for the related service transportation, including the referral to special education and related services, assessment, and the IEP process;

4. Confidential entitlement under the IDEA and the Family Educational Rights and Privacy Act (FERPA);

5. Legal issues, including federal and state laws, administrative rules, and local policy;

6. Operational policies and procedures, including:

    a. Pre-trip and post-trip inspection procedures for all assistive equipment and devices;

    b. CSRSs, securement systems, and safety equipment;

    c. Loading/unloading (e.g., no child should be carried onto the bus).

**Note**: Except in the case of loading and unloading wheelchairs, during loading and unloading, the driver should remain in the driver's seat to observe traffic flow and the overall safety of the school bus relative to highway and surrounding activity. When loading and unloading children with mobility aids (walkers, wheelchairs) and those children using other adaptive devices, including CSRSs, the driver and attendant (if present) should work as a team to ensure all children and mobility devices are safely and properly secured. The driver must secure the bus before leaving the driver's seat. (See item (3) below.)

d. Securing the bus:

(1) Engage the emergency brake;

(2) Place the vehicle transmission in "neutral" or "park";

(3) Activate the side stop arm and traffic control lights when allowable by state law;

e. Pick-up/drop-off location; transportation staff input in ITP development when considering the amount of adult support (supervision and assistance) necessary at destinations;

f. Evacuation procedures, including the use of emergency equipment, such as webbing cutter(s), fire blanket(s), evacuation aids, etc.;

g. Lifting/positioning procedures/body mechanics; including training in removing a student from their wheelchair for evacuation in a true-time sensitive emergency or to administer emergency medical assistance;

h. Children accountability and observation, including recognizing signs of neglect or abuse;

i. Post-trip vehicle interior inspections for children or articles left in the bus prior to parking;

j. Reporting and record-keeping;

k. Lines of responsibility relative to individuals' roles as educational team members;

l. Lines of communication, including parents and educational staff;

m. Route hazard analysis and route management, including medical emergencies, no adult at home, inclement weather, field trips, etc.;

n. Behavior management:

(1) Techniques for behavior modification and the development of appropriate behavior as well as Behavioral Intervention Plans (BIPs) (see APPENDIX G;

(2) Procedures and techniques for dealing with inappropriate or unacceptable child behavior that creates emergency conditions or poses a risk to health and safety;

(3) Awareness, training, and crisis-intervention planning in the cases of possession and transportation of weapons, drugs, gang activities, harassment/bullying and/or other inappropriate behaviors (also refer to GENERAL OPERATIONS section);

(4) Procedures for documenting and reporting inappropriate or unacceptable child behavior;

(5) Intervention strategies and techniques and emergency response procedures for use with individual children as outlined in their respective IEP and ITP; this is especially important when using CSRSs (i.e., safety vests) that are designed to curb the student's tendency to get out of the CSRS.

When a CSRS is needed in addition to the BIP to keep a child/student safe in the vehicle, the full IEP team should meet to decide the least restrictive mode of occupant restraint/CSRS to be used to meet the student's/child's needs. Selection, fit, and use of the CSRS is the responsibility of the IEP team. A CSRS should in no way be used solely as a behavioral restraint but rather to provide effective occupant protection in the vehicle. When using a Child Safety Restraint System (CSRS), which is a necessary form of "restraint," the IEP team should ensure that a plan is in place to teach the student the proper behavior to stay safe on the bus so that in the future CSRS use may be unnecessary. *

*Aftermarket "modification" devices:

Per NHTSA, buckle-guards and other aftermarket items that alter the intended use of belts, straps, and securements should not be used;

Belt cutter(s), as many as needed for the passenger load, should be positioned in the vehicle to be used to cut the straps in case of an emergency; these child-safe belt cutters must be accessible and secured in a safe place.

**Note**: When a specific change is being considered involving a child's mobility, seating, and/or positioning/trunk support, the IEP team should make the decision; the team should include a physical and/or occupational therapist (PT/OT) as the positioning/postural support subject matter expert(s).

o. Blood borne pathogens and universal precaution procedures, including use of personal protective equipment;

p. Policies and procedures that ensure confidentiality of personal identifying information;

q. Basic first aid, CPR, and proper medical support equipment usage as child's conditions require.

E. Special Equipment Securement, Use and Operation

A variety of equipment is required on vehicles used to transport children with special needs. It is necessary for transportation staff to be familiar with the design and operating procedures for this special equipment, as well as to know how to conduct equipment inspection and (depending on local policy) to make simple "field adjustments" to correct minor equipment breakdowns or malfunctions. It is the driver's responsibility to assure that all assistive and safety-related equipment on the bus is inspected prior to and following each trip as part of an overall vehicle pre-trip and post-trip inspection protocol. Defects or missing equipment must be documented and reported immediately to the transportation or maintenance office in writing or electronically in a standard inspection format. All safety- and operations-related defects must be repaired and missing equipment replaced prior to operating the school bus to transport children. Depending on local policy and training, an attendant may assist the driver with the actual inspection process.

Equipment and procedures include, but are not limited to, the following examples:

1. Power lifts, including procedures for manual operation;

a. It is a best practice and recommended by the National Highway Traffic Safety Administration (NHTSA), that wheelchair lifts on school buses be operated with the child/passenger in a seated position. Due to liability and potential risk of injury, it is recommended no one shall be

allowed to stand on the lift platform during lift operations (including when the lift is in manual mode).

**Note**: While mobility independence is important, a child/passenger using a mobility aid/device other than a wheelchair or equivalent (resulting in other than a seated position) who needs to use the lift, should still use a wheelchair, other wheel-based mobility device, or boarding chair, for boarding and/or exiting the bus, and then should be transferred to a bus seat for the ride. If the mobility device is to be transported, it must be secured properly even if the passenger is seated in a bus seat.

b. Wheelchairs or other wheel-based mobility devices should not be placed on the lift unless they are equipped with a functional wheel-locking system. Powered/motorized wheelchairs must have the power switched to "off" and the motor locks engaged before the lift is activated to raise or lower the chair. Similar to recommended boarding procedures with a wheelchair below, if a stationary boarding chair (without wheels) must be used, the driver/attendant and/or other attending personnel should maintain a continuous hold of the device, as the lift is being elevated and lowered;

**Note:** It is best practice for a driver and attendant to assist each other as a team when transporting a passenger in a wheelchair: the attendant may assist outside of the bus and the school bus driver should assist from inside; allowing the driver to remain inside the bus while the vehicle is in operation.

**Note**: Always adhere to state-specific requirements.

c. Mobility device placement on the lift platform is outward, facing away from the side of the bus, with wheels locked and/or motor locks activated. Platform safety straps, if provided, must be properly secured before the lift platform is raised or lowered. Mobility device occupant positioning belts/harness must be properly worn by the occupant. The lift is operated by a trained adult standing outside the bus at ground level, adjacent to the lift platform while maintaining a continual hold on the wheelchair. A second adult should be positioned inside the bus to either unload or load the wheelchair (and occupant) from or onto the lift platform at the passenger compartment level. Subject to local policy and resolution of potential liability issues, parents, guardians, or other persons authorized and trained by the

local school administration may assist with the loading or unloading of children;

2. Emergency escape exits, including doors, windows and roof hatches;

   **Note:** The width of aisles and emergency exits may limit the evacuation and emergency response procedures possible in any given scenario. The evacuation planning process and training provided must Include strategies to offset these limiting factors.

3. Special fire suppression systems, including emergency fire blanket and evacuation aid;

4. Power cut-off switches;

5. Emergency communications systems;

6. Climate-control;

7. Adaptive and assistive devices used to support and secure children, including mobile seating devices, CSRSs, safety vests, wheelchair tie down/occupant restraint systems (WTORS), assistive technology devices, trays and securement hardware, including their storage and securement when not in use;

8. Two-way electronic voice communication that can be used at any point in the vehicle's route should be provided in all school buses equipped, as well as used, to transport passengers with disabilities and special health care needs;

9. Service animals that can be transported to assist any passenger with disabilities;

   **Note**: District policies and procedures, as well as training, should be established prior to transport.

10. All portable equipment and special accessory items, including the equipment listed in the SPECIALLY EQUIPPED BUS SPECIFICATIONS section shall be secured at the mounting location to withstand a pulling force of five times the weight of the item or shall be retained in an enclosed, latched compartment. The compartment shall be capable of withstanding forces applied to its interior equal to five times the weight of its contents without failure of the box's integrity and securement to the bus;

11. All lap boards and/or trays and ambulation equipment that attach to wheelchairs shall be removed and secured during the time the child is transported in the school bus. The IEP/IFSP team should address case-by-case

where this is not advisable and may consider the possible use of a foam tray when absolutely necessary.

F. Securement of Children and Students Who Use Wheelchairs

Decision-making should be a team effort, not an individual's responsibility. Information on wheelchairs, to include WC19-compliant chairs, shall be made available to transportation personnel. Always consult school staff or a qualified professional.

1. Passengers in wheelchairs should be transported in a forward-facing orientation;

2. Securement systems for wheelchairs should be used in accordance with the manufacturer's specifications and recommendations and should include an occupant restraint of a minimum of a lap/shoulder belt and a 4-point wheelchair tie down (Refer to the SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS section);

3. Wheelchairs designed for transportation safety meeting the voluntary WC19 standard have securement points called "transit options," which will be easily accessible and labeled appropriately. The manufacturer's designated securement points must be used. (Refer to APPENDIX J for guidelines on WC19 from the Ride Safe information provided by ANSI/RESNA, University of Michigan Transportation Research Institute [UMTRI]);

4. Because riding in a vehicle seat is safer than using a wheelchair during transport, the American Academy of Pediatrics encourages transporters of any student who uses a wheelchair to transfer the student to a vehicle seat and secure them in a CSRS whenever possible. (See APPENDIX H for more information about this policy statement). A child's IFSP/IEP/Section 504 team (with participation from a transportation representative) should consider this option and decide whether it is reasonable/feasible/advisable to transfer from a wheelchair into a bus seat with or without use of additional occupant securement (e.g., CSRS, lap or lap/shoulder belt, etc.). Although circumstances (e.g., driver abilities, child size, child fragility) often prevent the transfer option, it is more likely to be possible for smaller students due to their relatively light weight as well as the availability of a range of CSRS options for securement on the vehicle seat. In addition, the challenges of fitting the lap/shoulder belt of the wheelchair tie down and occupant restraint system (WTORS) to a student who rides in a wheelchair are heightened when the occupant is very small. Students who use lightweight, low back wheelchairs (often designed for sport activities) typically can easily transfer into a bus seat. Even if some assistance is needed, these students

should transfer, as their wheelchairs are not suitable for use as a seat in a motor vehicle;

5. If the student/child is unable to transfer, the IFSP/IEP/Section 504 team may recommend that a transit-ready wheelchair meeting the current (since 2017) WC19 standard, be considered when a new wheelchair is being ordered. Wheelchairs meeting the current WC19 standard must offer the option of a crashworthy five-point harness if the wheelchair is rated for a child weight of 25 to 50 pounds. If properly used, a crashworthy five-point harness on a WC19 wheelchair can provide occupant restraint in lieu of the occupant restraint system of a WTORS. In addition, wheelchairs compliant with the current WC19 standard which are designed for larger occupants must offer the option of a wheelchair-anchored lap belt;

6. When using a WTORS that is compliant with WC18, the shoulder belt portion of the occupant restraint system is made to detach and can be fastened to a pin on the lap belt buckle, thereby making use of the WTOR's lap belt unnecessary. These compliant five-point harnesses and wheelchair-anchored lap belts will be labeled with the standard-required circular label/logo to verify that they meet the current WC19 standard. (See APPENDIX H for an example.) If a standardized label/logo is not permanently affixed to a wheelchair's postural harness webbing and/or pelvic postural belt, they should not be relied upon for occupant safety. They are intended to position the child but will not restrain them under crash forces, so the occupant restraint of the WTORS must be used during transport;

7. A child or student who does not have a wheelchair that meets WC19 cannot be denied transportation. The IFSP/IEP/Section 504 team must develop an ITP based on best practice principles detailed in the Ride Safe document which can be found in APPENDIX H as noted above;

8. On wheelchairs without the transit options, points are frequently located just below the wheelchair's seat on non-detachable structural frame members. In addition, the following beneficial criteria should be considered:

    a. Welded sites are preferred; but

    b. Frame members held together with hardened bolts are acceptable.

9. Rear tie down straps should be anchored directly behind the securement points on the wheelchair between the rear wheels, with the front straps outside the front wheels to increase stability. Straps should not be twisted. Retractor hooks should face in (towards the chair) in the front and face out in the rear anchorage position;

10. The lap portion of the occupant restraint system should be threaded through the space between the armrest and the seating frame (or the seat belt, depending on the type of chair used); the goal should always be to place the lap belt close to the occupant. Proper placement of the lap belt is low over the hip bones of the occupant. The lap belt should never be placed over the armrest or with the belt assembly twisted. When optimally placed, the belt's webbing's bottom edge should be touching the occupant's thighs. When looking at the lap belt's path to the floor from the side of the chair, the belt should be angled between 45 and 75 degrees to the horizontal. When using an integrated system (in which the occupant restraint is attached to the rear tie downs of the wheelchair securement system), the rear wheel chair securement site must be selected with this in mind. Whether using an integrated or a parallel system (in which occupant restraint belts are separate of tie down belts), at no time should the occupant ever carry the load of the wheelchair or its tie down system. The occupant must be secured separate of the wheelchair and its tie downs;

11. Proper positioning for the shoulder restraint is over the shoulder and across the upper chest or torso of the occupant when connecting it to the lap belt. The shoulder belt shall not be placed across the neck of the occupant. A height adjuster may be required to achieve appropriate belt position for the shoulder-belt portion of the occupant restraint;

12. On a tilt-in-space wheelchair, the four sites must be either on the base of the wheelchair or on the seat/frame portion of the chair. For example, it is not effective to have the front hooks on the base of the chair and the rear hooks on the seat/frame portion of the chair since that combination would create a "teeter totter" effect. (This warning does not apply to wheelchairs that meet WC19 specifications);

    **Note:** With advances in wheelchair manufacturing design and specifications, verify manufacturer's instructions and/or recommendations for maximum attachment strength.

13. Wheelchair securements must **not** be attached to the crossbar, since this may cause the wheelchair to collapse;

14. Homemade brackets are never acceptable. Securement and restraint systems installed to secure wheelchair/mobility aids and to restrain the occupants should be used all together and in accordance with the manufacturer's recommendations;

15. Immediately after their use, all securement hardware not permanently affixed to vehicle floors and sidewalls (tracks, plates) should be detached and stored in a

bag, box, or other compartment;

16. Wheelchair tracks or plates should be swept, vacuumed, or otherwise cleaned as needed to keep the equipment functional;

17. Wheelchairs with a motion adjustment (e.g., to allow for a child to rock, etc.) should be locked (non-moving) during transport.

G. Medical/Health Issues and Children Who Are Medically Complex and/or Fragile

Legal mandates make it necessary to transport most children who have severe medical/health conditions, and transportation staff may find it necessary to obtain or provide emergency health care to children during the transportation process. Staff may be exposed to contagious and/or communicable diseases; therefore, training regarding medical health issues, including universal precautions, intervention, and management, should be given to all personnel.

Decisions regarding the safe transportation of children who are medically complex and/or fragile should be made by qualified personnel and addressed on the child's IFSP or IEP prior to initiating transportation services. All school buses transporting children who are medically complex and/or fragile should be staffed by personnel who are knowledgeable about an individual child's specific medical needs and should be trained to administer first aid and evacuate children of all ages. IEPs for children who are medically fragile should contain a healthcare plan written by the school nurse based on doctor's orders and/or standard medical practices for applicable health issues. In all cases, transportation providers should have both a comprehensive equipment plan in place as well as a back-up plan should any equipment fail or be out of service. Protocols should be in place for items such as climate control necessary to meet student specific needs, seating, storage, and securement.

1. All decisions regarding medical equipment in the school bus should be made in accordance with state laws and regulations. Decisions regarding medical equipment should be the joint decision of trained personnel who are knowledgeable about the type of medical assistance and support a school-age child, infant, toddler or pre-school child may need while in a school bus;

2. Decisions should be made by qualified team members in attendance at IFSP or IEP meetings, including the parent. The IFSP or IEP document should include all the appropriate information. Safe transportation specifications should be documented on the IFSP or IEP;

3. Some special considerations and recommendations are as follows:

a. All medical support equipment shall be secured at the mounting location to withstand a pulling force of five times the weight of the item;

b. Latched compartments are the preferred methods of transport;

c. All medical equipment should be secured below the window;

d. Oxygen equipment (liquid or gas) should be approved by the manufacturer for transport and should be securely mounted and fastened to the bus prevent damage and exposure to intense heat levels.

**Note:** Refer to the SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS section.

4. Precautionary handling

All transportation staff, including drivers, attendants, technicians, and service personnel (e.g., washing and cleaning staff) should be trained in universal precautions relative to the handling of and exposure to contagious and communicable disease, and they should be informed about available immunizations.

Suggested topics for training with respect to the precautionary approach to medical and health issues may include, but is also not limited to, the following topics:

a. Characteristics of contagious and communicable diseases;

b. Disease management techniques;

c. Use of protective equipment and devices.

5. Care, intervention and management

Children who are medically complex and/or technology-dependent require specific care and intervention. Knowledge of basic first aid and cardiopulmonary resuscitation (CPR) procedures provides adequate training to care for most health concerns during transportation. For those children who need additional care, management, or intervention, or who present specific health risks, a health care plan shall be developed during the assessment/evaluation process by the IEP team. This plan details the care and training needed, as well as the qualifications necessary for those who will

carry out the plan, and specifies and provides the transportation department with the following information:

a. Brief description of the student's current medical, health, or behavioral status, as well as an emergency card including the student's photo (when available) with current information that shall include address, emergency phone numbers, etc.;

b. A description of the medical/health care or intervention necessary during transportation, including the frequency required;

c. A description of who should provide the care or intervention;

d. Types and extent of additional training or skills necessary for the driver and/or attendant;

**Note:** Training may include the securement, inspection, operation and use and care of the student's special adaptive/assistive equipment, including securing items such as oxygen containment systems, suctioning equipment, apnea monitors, ventilation equipment, etc. A trained medical assistant or healthcare professional should be the only person operating medical-assistance devices and administering oxygen on the school bus.

e. A description of emergency procedures to be implemented during a medical/health crisis, including specific observable signs/symptoms that prompt action, and appropriate communication with medical staff;

f. A description of the procedures to be followed in changing the care plan when conditions indicate a change is warranted;

g. A written emergency evacuation plan that gives detailed, student-specific procedures;

h. A description of the precautionary measures, if any, that need to be taken in regard to severe allergies, oxygen dependency, etc.

**Note:** Although it is recommended that drivers and/or attendants provide only routine/customary, non-medical assistance as needed, there are some necessary tasks which non-medical personnel can be trained to handle. (Refer to state and local laws regarding medical assistance and procedure). However, those issues that require either ongoing care or diagnosis should be handled only by a trained medical professional. Specialized training, when necessary, should be provided.

## SERVICE ANIMALS

Students with disabilities not only have the right to bring their service animals to school with them, but also on the school bus. Service animals pose few problems once they are on the bus, but it is important to have procedures in place prior to transporting them.

There are several key aspects to think about as you prepare or modify your transportation policy to include transporting service animals. These areas include definitions, laws, possible roles, school bus logistics, emergencies and evacuations, and behavior issues.

According to the Americans with Disabilities Act (ADA) 28 CFR Part 36, a service animal "means any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability."

The minimum number of hours for training a service dog, as established by Assistance Dogs International, is 120, but many are trained for up to 360 hours.

According to the ADA, a "disability" is a mental or physical condition that substantially limits a major life activity. Examples of major life activities include caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. Obviously, many of these activities become critical to transportation on a school bus.

Service animals are a type of assistance animal that helps children with disabilities in various ways. The types of assistance animals include service, therapy, companion, and social/therapy animals. Service animals are those trained to meet the disability-related needs of their handler. They can assist the person with mobility, hearing, and vision difficulties or deficits. They also can identify the onset of seizure and solicit an alert/response action.

The most predominant animal serving in this category is the service dog. Service animals are not considered "pets," and federal laws protect the rights of individuals with disabilities to be accompanied by their service animals in public places.

A. Knowing the law

One area of concern is the laws related to transporting service dogs on the school bus. These laws include the following:

1. ADA of 1990;
2. Air Carrier Access Act of 1986;
3. Fair Housing Amendments of 1988;
4. Rehabilitation Act of 1973;
5. State laws where applicable;
6. Individuals with Disabilities Education Act (IDEA).

The consensus among those knowledgeable about these laws is that service animals must be treated in the same way that guide dogs are treated. These animals are to be allowed access everywhere except possibly a surgical suite. Service animals must be allowed on the school bus with the student. Students and service animals cannot be required to display special identifications, nor can students be required to disclose their disabilities. However, students can be asked what service a service animal will provide.

Health laws present another area of concern. According to the Delta Society National Service Dog Center (DSNSDC), service dogs must follow any state and local health laws, such as rabies vaccinations. Other immunizations, such as distemper, can be recommended for the dog. However, if for whatever reason the dog's owner refuses to follow these recommendations or to give you these records, you cannot deny school bus transportation for the student or the dog. Alternative choices in transporting the child and dog to school may need to be considered while details are worked out.

B. Pre-planning and procedures

Fear of dogs on the part of the staff or other passengers is not an acceptable reason for denying transportation. A severe allergy to animals has to be dealt with in a sensitive manner. Bus routes for the driver, attendant, or other students may need to be changed in response to their allergic condition.

Services provided by service animals for students with special needs:

1. For those students who are physically weak or experience fatigue, service dogs can pull them in their wheelchairs, providing longer periods of independent mobility;

2. For those who have visual or memory problems, the dogs can help lead them throughout the school and bus area;

3. For those with seizure activity, the dogs can give the student a warning that they are going to have a seizure. This gives students an opportunity to find a place to sit before they go into the seizure activity. Also, in case a student who is alone has a seizure, service dogs are trained to go find help;

4. For those with balance and walking difficulties, the dogs can provide physical support to aid with walking, balance and coordination;

5. For students with limited upper extremity movement and strength, the service dogs can pick up objects that might be out of the student's reach or ability;

6. For those who use motorized wheelchairs, service dogs have often been trained to pick up the students' arms if they drop and place them back on the wheelchair joystick box;

7. For those with phobias or emotional disturbance disorders, the dogs provide a calming effect;

8. In many cases, the service animal provides a social opportunity for the child where one would not have occurred otherwise. Other children are drawn to dogs and begin to chat with the child about the dog, creating important and sometimes therapeutic social interaction. Service animals become constant companions and best friends.

   All adults who interact with both the service animal and the child must demonstrate proper respect for this animal.

C. Loading Logistics

1. A service animal must never be allowed on the bus lift;

2. Lead the service animal up the steps while the student is on the lift and the lift is still on the ground to provide maximum safety for the dog and child;

3. Ambulatory students should ascend the steps separately, with the service animal boarding first so it doesn't block or trip the child during boarding.

D. Riding position and safety

1. Once the student and dog are on the bus, the best position for the service animal is between the wheelchair and the bus wall;

2. Decisions should be made as to whether the service animal should be restrained or remain free to assist the student according to the student's individual needs. The important thing is to minimize potential injury to the service animal and others on the bus in case of a collision;

3. The service animal should never be allowed to block the aisle. Depending on space available, an ambulatory student's service animal may be placed on the floor near the student's immediate seating area;

4. Safety on bus floor surfaces during the actual bus ride with all the stops and acceleration should come into consideration.

E. Emergencies procedures

1. Establish evacuation plans;

2. A service animal may be taken off the bus via the steps or allowed to jump off the back of the bus without assistance;

3. Students or their parents should train bus staff in basic commands, should the student be unable to give the service animal commands;

4. Handling of an injured service animal during an emergency should be left to the direction of the handler. In the event that the handler becomes incapacitated, first responders should determine the best method of evacuation.

F. Dog behavior management

If a service dog begins to bark, growl, or whine, question what is causing it to act this way by consulting with the student/handler to interpret the behavior when possible. The most immediate concern is that something is wrong with the student. If unacceptable behavior continues, you may ask the handler to remove the dog from the bus, but only be if its behavior poses a direct threat to the safety of others.

## SPECIAL EDUCATION TRAVEL TRAINING

Travel training means providing instruction, per IDEA (Part B), as appropriate, to children with significant cognitive disabilities, and any other children with disabilities who require this instruction, to enable them to:

A. Develop an awareness of the environment in which they live;

B. Learn the skills necessary to move effectively and safely from place to place within that environment (e.g., in school, in the home, at work, and in the community). §300.39 (a) (2) (ii), (b) (4)

These services are especially necessary so young adults can adapt to their environment following their "traditional" high school and as they enter their transitional years. This training comes in various forms but most often is seen in school districts that have Community Based Instruction (CBI) programs.

Transportation using school buses is often required and must be provided when requested.

## TRANSPORTATION OF STUDENTS AGES 18-22/POST GRADUATION

A student with a disability who has graduated or matriculated to a transitional post-high school program is still entitled to the related service of transportation based on their IEP. The level of service should be the same as it was pre-diploma and should be provided through a transitional team created plan, in conjunction with any existing and/or necessary related service supports.

Transporters should keep in mind that young adults ages 18-22 very often require the same related services regardless of age and, while travel-training may be in place, the team must identify any barriers the student has in traveling to and from school/programs; these transport needs must be met.

**Note**: many states continue to provide educational services beyond age 22/post-graduation; refer to your local/state guidelines.

## CONFIDENTIALITY

Information provided to transportation staff to assist in the orderly and safe transportation of a student, including the disabling condition, medical/health issues, or other personal characteristics or information, is protected by the provisions of the Family Educational Rights and Privacy Act (FERPA) and the IDEA; therefore, transportation staff shall be trained regarding confidentiality requirements.

## DEVELOPMENT

In education, there are many laws, rules, and regulations that dictate the service that *must* be provided, but few of them offer directions or suggestions as to *how* the service is to be provided. Transportation policies and procedures should be developed, adopted by the governing board or superintendent, as appropriate, and periodically updated to reflect changes in federal, state, and local regulations. Despite such policies and procedures, an individual student's IEP or Section 504 plan or a Behavioral Intervention Plan (BIP) may override specific provisions.

A. Local policies and procedures should address the following issues:

1. Transporting medications;

2. Student management and discipline;

3. Physical intervention and management;

4. Securing the vehicle, loading and unloading;

5. Safety vests and other positioning devices;

6. A plan for students with disabilities during early closing of school due to inclement

weather or other emergencies;

7. Authority to operate special equipment (driver, attendant, parent, students, school staff, or others);

8. A plan to address occasions when no adult is home to receive a student who requires assistance and/or supervision, which may include an alternative, supervised drop-off location; this should include emergency routing and/or re-routing protocols/procedures when children with specific health care needs are on board during an afternoon/evening delay (e.g., in need of medication);

9. A plan to remove from service those pieces of specially designed equipment that are damaged or that present a safety hazard that includes a backup for that equipment that is often in place to meet a child-specific need;

10. A plan to address insufficient information in the child's referral process;

11. Student pick-up and drop-off locations;

12. Control and management of confidential information;

13. A plan for community emergency medical and law enforcement personnel involvement;

14. District policy for Do Not Resuscitate (DNR) orders and requests from parents, to include all appropriate school and transportation personnel.

**Note:** Classroom and school bus policies may differ; however, drivers and attendants should adhere to specific transportation policies.

B. Policy Approval

All policies shall be in writing and formally approved by the appropriate education authority. Procedures shall include establishing timelines for periodic reviews or revisions.

## EMERGENCY EVACUATION OF STUDENTS WITH DISABILITIES

Each bus route should have a written emergency evacuation plan. (See APPENDIX F for sample plan). Driver and attendant teams should have training in the writing of this plan that should always address and reflect each child's ability to evacuate or help others. Students with disabilities should participate in required evacuation drills and should only be excluded if their participation would present a health risk. Parents should be notified in advance of such barriers to their child's participation. Every effort should be made to ensure that all children have a reasonable understanding of the concept of an emergency and how they will exit the bus.

The driver and the attendant must be familiar with any equipment in the bus that would aid in an actual evacuation, to include life-sustaining equipment (e.g., the use of all emergency exits, emergency/fire blankets, webbing cutters, etc.). It is important to enlist the help of school liaisons, parents, and other personnel (e.g., physical therapists) to train and help students and staff understand emergency procedures, including how to exit the bus without use of their mobility devices and equipment (wheelchair, etc.). Local emergency personnel should be involved in developing the plans, especially if the students transported have complex medical conditions.

## EXTENDED SCHOOL YEAR

Transportation as a related service may be required under Extended School Year provisions of IDEA:

A. Extended School Year (§300.106) IDEA Definition:

1. The term extended school year services means "special education and related services that are provided to a child with a disability...

a. Beyond the normal school year of the public agency;

b. In accordance with the child's IEP; and

c. At no cost to the parents of the child and that meet the standards of the State Education Agency (SEA)."

2. Each public agency shall ensure that extended school year services are available, as necessary to provide Free Appropriate Public Education (FAPE).

B. OH Subpart C - 6

1. Extended school year services must be provided only if a child's IEP team determines on an individual basis and in accordance with the IEP provisions that the services are necessary for the provision of FAPE to the child.

2. In implementing these requirements, a public agency may not:

a. Limit extended school year services to particular categories of disabilities;

b. Unilaterally limit the type, amount or duration of those service

# TRANSPORTATION FOR INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN

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# TRANSPORTATION FOR INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN

## INTRODUCTION

The purpose of this section is to assist transportation personnel by clarifying requirements and recommending policies, procedures, and guidelines for transporting children younger than kindergarten age—infants, toddlers, and preschoolers, collectively called birth-to-K children. (In this document, the terms "birth-to-K" and "infants, toddlers, and preschoolers" are used interchangeably to refer to these children.)

Birth-to-K children ride to school for many reasons, including to attend programs like Early Intervention Programs for Infants and Toddlers with Disabilities (Part C, Individuals with Disabilities Education Act), pre-school programs, early childhood grant programs, early education programs for children with disabilities, Head Start programs, Bureau of Indian Affairs programs, and teen parent programs. In addition, federal programs support several discretionary projects that are designed to promote services for birth-to-K children and their families. Many of these young children attend school to benefit from early-intervention services for reasons of socioeconomic need and/or identified disabilities. They live in all parts of the country, including rural, suburban, and urban areas. (Since the number and demographics of the sub-population of school bus riders under the age of five is currently unknown, uniform transportation data should be collected on this group to further illuminate its needs and support appropriate decision-making.)

Being the youngest passengers transported to school, birth-to-K children are among the most vulnerable. Transportation is a critical need for these children and their families; providing access to services that support the child's foundational growth and development. Transportation for these children should be established as the mutual responsibility of parents, transportation, and other service-providers.

The appropriate way to transport birth-to-K children has been determined by testing and research conducted by federal agencies and other safety professionals. Their findings for best practice have been communicated through federal guidelines, and certain aspects of birth-to-K transportation have been established as requirements through regulations, performance standards, and laws. These requirements and recommendations will be covered in this section; further details can be found in APPENDICES G and H. Each state has a child occupant protection law that addresses requirements for the use of CSRS by child age; in most states, school buses are exempt from these laws, but student transporters are not exempt when using any other type of vehicle to transport school children.

Therefore, transportation providers must develop and maintain special skills to meet the unique safety needs of the birth-to-K children they transport, whether in school buses or other vehicles. These children require a great deal of supervision during the school day, including the time they are in and around a school bus. Some issues that must be addressed to assure safe transportation include: physical handling, effective communication, behavior management, knowledge of child

safety restraint systems (CSRS), maintenance of confidentiality, length of ride, personnel training, and parental responsibilities.

## TRANSPORTATION FOR INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN AND WITH DISABILITIES

For birth-to-K children, a physical, cognitive, and/or behavioral disability is sometimes the reason that early school attendance is deemed prudent. The need for additional accommodations for these young children makes it necessary to plan carefully prior to beginning transportation services.

Details on topics such as wheelchair loading/unloading and securement, use of adaptive equipment, management of challenging behaviors, and the relevant characteristics of medically fragile and complex conditions are covered in the Transportation of Students with Disabilities and Special Health Care Needs section. However, the following covers additional considerations that must be taken into account when transporting children with disabilities who are also very young.

A. Laws Guiding Proper Transportation of Birth-to-K Children with Disabilities:

The Individualized Family Service Plan (IFSP), under Part C of the Individuals with Disabilities Education Act (IDEA), is the mechanism for addressing the unique needs of infants and toddlers with disabilities under age three; an IFSP also addresses needs of the child's family, including the pregnant parent prior to childbirth. The Individualized Education Program, under Part B of IDEA, is the mechanism for addressing the needs of older students with disabilities, including preschoolers ages three to five. A key difference between IFSP and IEP services is that the early intervention program under Part C for infants and toddlers is a year-round program, whereas special education services under Part B represents a school-year program, unless otherwise specified by the IEP team. Children with disabilities that aren't identified in IDEA are covered by Section 504 of the Rehabilitation Act of 1973.

A child's IFSP/IEP is the responsibility of a team comprised of the child's parent(s)/guardian(s) and the appropriate interagency personnel for the child's circumstances, which may include special education teachers, nurses/doctors/PTs/OTs, and other school representatives. The IFSP/IEP process has two main parts:

1. IFSP/IEP meetings, where the child's team convenes and jointly makes decisions about an eligible child's early intervention (including related services, like transportation); and

2. The IFSP/IEP document, which is a legal document written by the team to plan for the provision of early intervention services for the child (and family, for an IFSP). While not as formalized, a Section 504 plan should include similar components.

Transportation of children with disabilities should be addressed on the IFSP/IEP/Section 504 plan document when this service is provided. While the decision to provide transportation as a related service is made on a case-by-case basis for older children, all birth-to-K children—by virtue of their age—should qualify for transportation as a related service. As part of the development of an IFSP/IEP/Section 504 plan, an individualized transportation assessment (ITA) should be conducted.

Whether a transportation representative attends the initial IFSP/IEP meeting and/or is an ongoing team member should be made on a case-by-case basis. A transportation representative should be present anytime a school bus is deemed the appropriate vehicle for transporting a birth-to-K child. In addition, a transportation representative should be a member of the IFSP/IEP team anytime the transportation needs of a child require specialized service beyond the scope of what is generally provided for other students. The involvement of transportation personnel should occur as soon as it is known that a child with a specialized need requires transportation.

B. Confidentiality

The child's IFSP/IEP/Section 504 team shall communicate to a child's transportation provider all information that is needed for the child to be safely transported. This includes specific transportation procedures and aspects like equipment needs, specialized training, etc.

Confidentiality of information shall be assured in accordance with the requirements of the Individuals with Disabilities Education Act Amendment of 1997 (Part B and Part C) and the Family Education Rights and Privacy Act (FERPA) Amendments of 1996. All transportation personnel should receive annual training regarding confidentiality requirements.

FERPA allows a student's physical, cognitive, and/or behavioral information to be shared with anyone involved in transporting the student provided it is relevant to the safe transportation of that student. (See APPENDIX G.) This information must be properly managed by all transportation personnel in order to maintain student and family confidentiality.

C. Key considerations when transporting birth-to-k children with disabilities: In order to make decisions regarding appropriate transport of any child with a disability, before service commences there are certain questions that must be addressed by the child's full IEP, IFSP or Section 504 team. For birth-to-K children, the team must also take into account considerations related to the child's youth, like size and development. These deliberations often require input from team members with specialized training, as noted in the following questions that must be viewed through a birth-to-K lens:

1. Is the child medically stable to be transported? (This decision should be made in conjunction with, and leadership of, a school nurse – in consultation with the child's physician, as appropriate- whenever the question arises.)

2. What is the length of the ride? Does the length of ride place the child at risk based upon the child's age, developmental and functional level and/or given environmental factors, such as weather and temperature in the bus?

3. What type of transportation accommodations need to be included in the Individual Transportation Plan (ITP) (and training of staff to enable appropriate delivery of these accommodations) due to physical, cognitive, communicative, social-emotional, and/or behavioral concerns?

4. Which assistive or adaptive devices are necessary to accommodate the transportation needs of the child?

5. What type of supervision is necessary to assure safe transportation? What level of supervision is needed for each aspect of the ride (i.e., loading/unloading, on bus, emergency evacuation)?

6. What parental/guardian responsibilities should be addressed on the IFSP/IEP/Section 504 documents?

7. When a child is medically fragile and requires special handling, who is responsible for emergency procedures, including the use of rescue drugs? (This decision should be made in conjunction with, and leadership of, a school nurse – in consultation with the child's physician, as appropriate – whenever the question arises.)

8. Who is responsible for monitoring universal precautions (best practice for infection control) in the school bus if it is known that a child has an infectious disease that requires special precautions? (This decision should be made in conjunction with, and leadership of, a school nurse – in consultation with the child's physician, as appropriate – whenever the question arises.

9. If a child is transported with a one-on-one nurse, how are the services addressed in their IFSP/IEP/Section 504 plan? (This decision should be made in conjunction with, and leadership of, a school nurse—in consultation with the child's physician, as appropriate—whenever the question arises.)

10. What adaptive equipment/devices and specially equipped school buses or other vehicles are required to accommodate the child's transportation needs and safety? Are any manufacturer-approved equipment/vehicle modifications necessary?

11. Is the child capable of entering/exiting the bus without physical assistance from an adult? If not, how will loading/unloading be undertaken, and who will be responsible for that on each ride?

12. What is the timeline for acquiring/accomplishing any necessary accommodations for safe transport of the child? Allow ample time before start of service to ensure acquiring the equipment/vehicle, as well as training and any necessary set up.

13. Does the child use a wheelchair during the school day? If so, what is the plan for the wheelchair during transport? (This topic is covered in depth in the Transportation for Students with Disabilities and Special Health Care Needs section, but some complexities specific to birth-to-K children are addressed in the next paragraph.)

D. Birth-to-k children who use a wheelchair

As described in the Transportation for Students with Disabilities and Special Health Care Needs section, drivers and attendants must learn and carry out many important safety procedures when transporting children who use a wheelchair. When the child is birth-to-K, several additional considerations should be taken into account.

1. Because riding in a CSRS is safer than using a wheelchair during transport, the American Academy of Pediatrics and NHTSA encourage LEA of any child who uses a wheelchair to transfer the child to a CSRS, whenever possible. (See APPENDIX H for more information about this policy statement.) A child's IFSP/IEP/Section 504 team (with participation from a transportation representative) must consider this option and decide whether it is feasible/advisable to transfer the child from a wheelchair to a CSRS once on the bus or other vehicle; if the ITP of a child who uses a wheelchair fails to address this point, transportation should ask for immediate clarification. Although circumstances (i.e., driver abilities, child size, medical needs, and fragility) sometimes prevent the transfer option, transferring to a CSRS is more likely to be possible for birth-to-K children because they typically weigh less than older students. Transferring a birth-to-K child improves the child's safety and allows them to ride in the manner of their birth-to-K peers, who should also ride in CSRS.

2. Any transportation plan calling for a birth-to-K child to ride in a wheelchair must consider whether the child can be safely restrained by the occupant restraint system (lap-shoulder belt) of the Wheelchair Tiedown and Occupant Restraint Systems (WTORS). The typical challenges of fitting this lap-shoulder belt system to a student who rides in a wheelchair are heightened when the occupant is very small. Failure to meet the criterion of proper occupant restraint system fit shall be cause for a child's IFSP/IEP/Section 504 team to revise the child's travel plan so

that it provides for proper safety restraint, such as by reassigning the child to a different vehicle, reconsidering transfer to a CSRS, or switching to a different wheelchair.

3. Since 2017, for a wheelchair rated for children weighing 25 to 50 pounds to meet the WC19 voluntary standard for transit-readiness, it must be equipped with a crashworthy, wheelchair-anchored, five-point harness that is marked with a circular label/logo. (See APPENDIX H for a label example.) If properly used, a crashworthy five-point harness on a WC19 wheelchair can provide occupant restraint in lieu of the occupant restraint system of a WTORS. Since the CDC's growth charts indicate that 50 pounds is the weight of a very large (95th percentile) five-year-old, this wheelchair-anchored, crashworthy harness provides a safe and convenient option to consider for nearly all birth-to-K children who must remain in a wheelchair for travel. However, many wheelchairs for small children are not equipped with a crashworthy harness, despite having other vestiges of the WC19 standard, like marked tiedown anchorages. LEAs, therefore, must check a wheelchair's harness and shall not use it for occupant restraint unless the harness itself bears the standard-required circular label/logo to verify that it meets WC19. If a standardized label/logo is not permanently affixed to a wheelchair's harness webbing, it will not restrain the child under crash forces. Such a harness is useful for positioning the child—and may be deemed appropriate for use during transport—but the occupant restraint of the WTORS must also be used to provide proper safety restraint.

4. When a child who doesn't have a wheelchair has a disability that prevents them from entering/exiting the bus under their own power, the LEA shall provide the appropriate transportation conveyance in which to seat the child when using the power lift for daily loading/unloading. This scenario is more likely among birth-to-K children with disabilities than older children, as it is not uncommon for wheelchair selection to be delayed until growth/development illuminates the type that's needed and/or until the child can no longer be carried easily by parents and other caregivers. In this situation, it is not appropriate for anyone to carry the child up the bus stairs; for birth-to-K children, an appropriate wheelchair, stroller, or CSRS should be supplied for use on the lift. (See Loading/Unloading School Buses under General Guidelines for Transporting Infants, Toddlers, and Pre-School Children, below, for details on the requirements and techniques involved for this procedure.)

## TRANSPORTATION FOR INFANTS, TODDLERS, AND PRE-SCHOOLERS IN HEAD START

Head Start includes four federal programs that promote school readiness for children from birth to age five in low-income families. Head Start programs warrant special attention for student transporters because, being federally funded and managed, they are the only programs for birth-to-K children that must adhere to federal rules, including those governing transportation. The Administration for Children and Families, under the U.S. Department of Health and Human Services, sets performance standards that must be met by grantees, including 1303 Subpart F—Transportation. (See APPENDIX H)

While Head Start rules do not require grantees to provide transportation to enrollees, transportation rules govern any that opt to do so. When transportation to the program site or special services can be accessed from other agencies, these arrangements are encouraged. However, whether using a center-owned vehicle or providing transportation through an arrangement with another private or public entity, it is the Head Start grantee's responsibility to ensure that Head Start performance standards are followed.

A. Head Start Transportation Performance Standards:
See APPENDIX H for a link to performance standards related to Head Start transportation, including all requirement details, waiver options, and exceptions.

The following paraphrases some highlights of the standard:

1. 1303.71 —Requires use of either school buses or allowable alternative vehicles.

2. 1303.72—Requires each child be seated in a child safety restraint system appropriate to the child's age, height, and weight. In addition to the driver, at least one other adult (called the bus monitor, aka attendant) must always be on board. Before a monitor begins work, they must receive training on boarding and exiting procedures, using child safety restraint systems, completing any required paperwork, responding to emergencies and emergency evacuation procedures, using special equipment, following child pick-up and release procedures, and conducting pre- and post-trip vehicle checks.

3. 1303.73—Addresses requirements for certain aspects of routing, such as trip duration, bus-stop locations, escorting of children outside the school bus.

4. 1303.74—Requires grantees to ensure children who receive transportation services are taught safe riding practices, safety procedures for boarding and leaving the vehicle, how to cross the street to and from the vehicle at stops (if necessary), and recognition of the danger zones around the vehicle. Each child must be taught emergency evacuation procedures every program year, including participating in an emergency evacuation drill conducted on the

vehicle the child will be riding. In addition to this drill, at least two other bus evacuation drills must be conducted during the program year.

5. 1303.75—Addresses children with disabilities who may need school buses or allowable alternate vehicles adapted or designed to transport such children. Whenever possible, children with disabilities must be transported in the same vehicles used to transport other children enrolled in the program. The requirements in a child's IEP or IFSP must be followed, including special pick-up and drop-off requirements, seating requirements, equipment needs, any assistance that may be required, and any necessary training for bus drivers and monitors.

B. Head Start Program Types

The performance standards apply to all programs of Head Start, which include the following:

1. Head Start: Serves children who are three or four years old at the start of the program year.

2. Early Head Start: Serves expectant caregivers and children ages birth to age three.

3. Migrant and Seasonal Head Start: Serves expectant caregivers and birth-to-K children of migrant and seasonal farm workers.

4. American Indian and Alaska Native Head Start: Serves expectant caregivers and birth-to-K children in centers operated by federally recognized American Indian and Alaska Native tribes.

C. Children with Disabilities in Head Start

While the goal of Head Start is to serve children who are members of low-income families, each center is also required to allot at least 10% of program space to children with disabilities; these children do not need to meet income eligibility requirements.

Head Start grantees must participate in and adhere to a child's IFSP/IEP, as applicable. Whatever vehicle is used, a child's Individual Transportation Plan must be followed, and the child's IFSP/IEP/Section 504 team remains responsible for the implementation of a child's ITP when a child's transportation is outsourced. For any child, transportation in a non-school bus vehicle shall adhere to the state's child occupant protection law. (See APPENDIX H for more information.)

D. Confidentiality of Head Start Information

Confidentiality of information shall be assured in accordance with the requirements of the Individuals with Disabilities Education Act Amendment of 1997 (Part B and Part C), Head Start standards, and the Family Education Rights and Privacy Act (FERPA) Amendments of 1996. All transportation personnel should receive annual training regarding confidentiality requirements. FERPA allows a student's physical, cognitive, and/or behavioral information to be shared with anyone involved in transporting the student provided it is relevant to the safe transportation of that student. This information must be properly managed by all transportation personnel in order to maintain student and family confidentiality.

## STAFF RESPONSIBILITIES FOR TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN

The following describes the roles and responsibilities of those involved in the transportation of birth-to-K children, including information on essential training for drivers and attendants who transport these children.

A. Administrator's Role

The lead transportation administrator (or designee) is responsible for the supervision of transportation services for infants, toddlers, and pre-school children. It is essential that this individual be knowledgeable about the unique needs of children in this age group. Other personnel with administrative duties, such as driver/attendant trainers, should also support those who transport birth-to-K children.

Each school district should have policies and procedures in place that proactively address common issues experienced by the industry when transporting birth-to-K children. The policies and procedures, which are the responsibility of the administrator to develop and uphold, should specify when it is required that the transportation supervisor or a designee attends IFSP, IEP, Section 504 Plan or Head Start meetings.

The transportation supervisor (or designee) should be responsible for the following activities:

1. Overseeing the selection of vehicles used by birth-to-K children;

2. Ordering new school buses and other vehicles with the needs of the birth-to-K population in mind. This includes ensuring that a bus (or certain of its rows) have seating set for the maximum spacing allowed under FMVSS 222 (School Bus Seating and Crash Protection) so that there is adequate space for CSRS;

3. Selecting/stocking equipment and CSRS specific to the transportation needs of infants, toddlers, and pre-school children, including maintaining manufacturer

instructions in a manner that can be easily accessed by drivers, attendants, and substitutes;

4. Disseminating information to parents/guardians before bus service begins regarding parental responsibilities with respect to transportation using, whenever possible, the parents' native language. In particular, the necessity for a mature family member or other trusted adult to be present at pick-up and drop-off of birth-to-K children (including when the bus stop is in the child's driveway or near their home), their responsibility to be on time, and the expectation that they provide hands-on supervision of children while at the bus stop. In addition to communicating these requirements prior to bus service, administrators should collect information identifying the family members or other trusted adults who are approved for child hand off, maintain and communicate a system that parents must use for making updates to this list, and give these hand-off instructions to drivers, attendants, and substitutes;

5. Providing information about appropriate practices when transporting young children with disabilities, including medical, behavioral, and emergency information, and establishing procedures for maintaining confidentiality of this information;

6. Establishing emergency policies and procedures, including practicing evacuation drills;

7. Ensuring that the appropriate level of adult supervision and assistance is provided to all children through establishing staffing requirements. The child-to-adult ratio of the birth-to-K classroom serves as a reasonable guide for supervision on the bus, taking into account individually determined child needs, state licensing requirements, and needs in emergency situations;

8. Assuring that transportation decisions for a child are made on a case-by-case basis, appropriate to meet individual needs of a child, including being in accordance with what is recorded on a child's IFSP, IEP, or 504 Plan, if applicable;

9. Ensuring that new and substitute drivers/attendants who transport birth-to-K children are provided with the information, training, and support necessary to transport them at the same level of safety as when they ride with their regular driver and/or attendant;

10. Arranging appropriate, up-to-date training for personnel who transport young children and ensuring that training refreshers and updates are offered on a regular basis. Training should be provided by individuals and/or agencies with expertise regarding birth-to-K child safety, seating, communication, physical handling, health, and medical needs and other special and/or emergency circumstances, as

appropriate for the subject matter delivered. (For a list of training topics, see "D. Training," below; see Appendix K for details on available training materials provided at no charge by the government.); and

11. Overseeing CSRS and other equipment maintenance, including ensuring that inventory is reviewed on a regular basis for damage, expiration, and recalls following a schedule with clearly assigned duties and accountability. CSRS should be routinely ordered on a schedule that will maintain a supply in inventory to adequately meet the replacement and new CSRS needs of children.

B. Driver's Role

The primary responsibility of a driver is the safe operation of the school bus or other vehicle used to transport children. Drivers must not be distracted from this essential duty.

Since birth-to-K children require constant supervision, each driver who transports children in this age group on a school bus should be assisted by at least one attendant (see below). Some situations in which a non-school bus vehicle is used may warrant an attendant, as well; this judgment should be made on a case-by-case basis, considering an appropriate adult-to-child ratio and the needs of the children being transported. While drivers must be knowledgeable about the transportation needs of each child in the school bus, as well as supervise child safety and management while not seated in the driver's seat, at least one attendant should be in charge of supervising the behavior and safety of all young passengers while the bus is being operated by the driver.

In addition to their regular duties, drivers who transport birth-to-K children have special responsibilities and shall have knowledge of the following:

1. Development of young children;

2. Age-appropriate physical handling, communication and behavior management of young children;

3. Correct installation and day-to-day use of equipment needed by birth-to-K children. In particular, this involves the use of child safety restraint systems, but could also involve wheelchair tie down and occupant restraint systems and other equipment. Accessing and using the manufacturer's instructions for safety equipment is essential. (See Child Restraint Systems and, in this section, birth-to-K children who use a wheelchair for information on adaptive equipment.);

4. Safe loading and unloading practices for birth-to-K-children who need extra attention when entering/exiting the bus compared to older students and may be

non-ambulatory and/or unable to enter/exit the school bus on their own;

5. Evacuation involving birth-to-K children, including practicing evacuation drills;

6. Consideration for each child's special health/safety needs, including transportation requirements on a child's IFSP/IEP/Section 504 Plan, to the extent these details are relevant for their safe transport, while adhering to confidentiality requirements. Conditions may include apnea, asthma or other respiratory conditions, life-threatening allergies and their potential triggers, assistive devices, communicable diseases, gastrostomy tubes, oxygen, technological dependence, shunts, tracheostomy tubes, medical devices, medically complex and fragile conditions, uncontrollable seizure disorders and "Do Not Resuscitate" (DNR) orders. See the TRANSPORTATION FOR STUDENTS WITH DISABILITIES AND SPECIAL HEALTH CARE NEEDS section and APPENDIX G for more information on these topics;

7. Effective communication skills with school staff, students, parents/guardians, law enforcement officials, and the motoring public; and

8. Communication of relevant information with other adults on the bus, including substitutes, to ensure all staff are informed in a way that ensures a safe ride for all children.

C. Bus Attendant's (aka Monitor, Assistant, Aide, para, etc.) Role

It is best practice to have a bus attendant assigned to any school bus transporting one or more birth-to-K children because these children require supervision that a driver can't provide while operating the school bus. Depending on the circumstances like child-to-adult ratio and the nature of the children's needs, it may be prudent to assign an attendant to a non-school bus vehicle transporting birth-to-K children, as well.

When a school bus is staffed with one or more bus attendants, the attendant(s) shall assume primary responsibility for the supervision and safety of children while the driver is operating the school bus. When the driver is not behind the wheel, the driver and attendant(s) should work together as a team with respect to managing the behavior and safety of children, with the attendant(s) supporting the driver in all activities.

Bus attendants have identical responsibilities with respect to the safe transport of birth-to-K children as those enumerated above for drivers. To carry out these responsibilities, attendants must be knowledgeable about infant, toddler and pre-school child development and shall receive necessary training in all aspects of birth-to-K transportation needed to develop and maintain their skills.

D. Training

It is essential that all transportation personnel responsible for infants, toddlers and pre-school children receive training, which should follow these guidelines:

1. Those providing training should be knowledgeable about the needs of young children who must be transported. Trainers with appropriate skills may include those who are child passenger safety technicians, child development specialists, representatives of manufacturers of specialized equipment, nurses, occupational therapists, physical therapists, psychologists, respiratory therapists, special educators, transportation supervisors and other personnel, depending on the unique needs of the individuals being transported;

2. Training should take place both in a classroom and in the vehicle;

3. There should be a checklist for the purpose of recording specific skills that have been mastered by each staff member;

4. All personnel who transport young children should be required to complete a first aid and CPR course specifically designed for infants, toddlers and pre-school children;

5. The type of training provided should be directly related to the specific special services that the driver and attendant are required to provide, including developmentally appropriate practices. At a minimum, drivers and attendants transporting birth-to-K children should know how to manage the behavior of birth-to-K children (both in and around the school bus), be able to properly install CSRS and seat/secure birth-to-K children in them, understand confidentiality requirements, and have complete knowledge of emergency evacuation procedures;

6. Training topics for all transporters of birth-to-K children. Certain training is necessary for the specific needs of birth-to-K children:

    a. Age-appropriate behavior management, in line with techniques used by their educators;

    b. Installation and use of child safety restraint systems;

    c. Evacuation of children seated in CSRS, including the use of webbing cutters;

    d. General characteristics of birth-to-K children and how they impact transportation;

    e. Vehicle and seating selection/assignment;

f. Loading/unloading children unable to walk or climb stairs.

The National Highway Traffic Safety Administration (NHTSA) establishes best practices for child passenger safety, so training materials should align with its recommendations. This agency offers an array of ready-to-use training materials/resources (see APPENDIX H);

In addition, NHTSA supports and oversees a curriculum that is used to train certified child passenger safety technicians (CPSTs), individuals with expertise in the basics of transporting children in motor vehicles. Anyone involved in the transportation of birth-to-K children may become a CPST by taking the Child Passenger Safety Technician Training, which may be hosted by a transportation service or a variety of organizations in the community, including law enforcement, hospitals, public health, insurance companies, etc. (Ways to arrange or locate a course are provided in APPENDIX H);

NHTSA has also developed specialized training on the use of child safety restraint systems on school buses for birth-to-K children and students with disabilities. The agency has prepared two versions, one suitable for all audiences and one that's shorter that may be taken only by certified CPSTs. Administrators and other staff with responsibility for transporting birth-to-K children should take this course in order to be prepared for all aspects of transportation involving the use of CSRS;

See APPENDIX H for details regarding these trainings, including the formats available and how to find training opportunities; and

For training and other resources on the topic of age-appropriate behavior management of birth-to-K children, refer to the Early Childhood Learning and Knowledge Center of Head Start. See APPENDIX H

7. Training topics for LEAs of birth-to-K children with disabilities

Since a disability is among the most common reasons to send a child to school prior to kindergarten, specialized training may be necessary for meeting the needs of these children. See APPENDICES G and H for some training details. Depending on the children transported, topics for training might include:

a. Assistive-device management;

b. Development of birth-to-K children with delays/disabilities;

c. General characteristics affecting transportation of children with disabilities;

d. Individualized Education Programs (IEPs);

e. Individualized Family Service Plans (IFSPs);

f. Children who are medically fragile;

g. Children who are unable to walk (including safe lifting, proper loading/unloading procedures);

h. Safe and proper medicine transport;

i. Safe and proper transport of medical devices, oxygen, etc.;

j. Specialized communication;

k. Special medical conditions;

l. Technology-dependent conditions;

m. Wheelchair tiedown and occupant restraint system (WTORS) use; and;

n. Wheelchair transport best practice.

8. General training topics that must be tailored for needs of birth-to-K children. Several topics for training all personnel must be reconsidered as they apply to birth-to-K children, such as:

a. Communicable disease management practices;

b. Communication (age-appropriate);

c. Confidentiality of child information;

d. Emergency evacuation plans and drills;

e. Equipment;

f. Federal and/or state laws and regulations;

g. Loading/unloading practices;

h. Loading zone rules and behavior;

i. Pick-up and drop-off, including provisions for when an adult is not at the drop-off site;

j. Reports;

k. Record-keeping;

l. Universal precautions; and

m. First aid and CPR.

## GENERAL GUIDELINES FOR TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN

The following guidelines are provided to assist anyone involved in decision-making regarding the transportation of birth-to-K children.

A. Supervision at the Pick-up and Drop-off Locations

Birth-to-K children require constant, hands-on adult supervision when waiting for a school bus or other school-transportation vehicle, both before the vehicle arrives and when near the vehicle (in the danger zone). Administrators shall communicate parental responsibilities in this regard prior to the start of service.

At the pick-up and drop-off locations for birth-to-K children, adult-to-adult hand-off shall be strictly maintained. Birth-to-K children are especially at risk of danger-zone issues due to their relatively small size and developmental limitations for rule following. They also have an egotistical mindset, so they are unable to comprehend that their driver may not be able to see them in some places. Therefore, unlike older children, training for safety around vehicles isn't adequate precaution; these risks must be constantly monitored by a responsible adult with appropriate training.

Although it is best-practice to load/unload curbside, if a birth-to-K child must cross the street before boarding or after leaving the vehicle because curbside pick-up or drop-off is not feasible, they shall be escorted across the street by the bus attendant or another trusted/approved adult. This procedure is a performance standard requirement for Head Start transporters.

B. Loading/Unloading School Buses

Due to their still-developing gross motor skills and immaturity, birth-to-K children require special attention and age-appropriate techniques when loading/unloading a school bus.

A driver, attendant, caregiver, or other adult shall not carry a child onto the bus, as this puts both people at risk of injury. For children with disabilities, carrying is often viewed discriminatory and disrespectful of their right to independence. Therefore, other techniques that are safer and more respectful should be selected on a case-by-case basis,

considering the development and needs of the child, the staffing, and equipment available on the bus.

1. Birth-to-K children who are ambulatory and able to use the stairs without the physical aid of an adult:

    a. An attendant should exit the bus at each stop to receive or release birth-to-K children from/to an adult. For loading, teach adults who supervise children at the bus stop to wait with them for the attendant at least ten feet (about five giant steps) from the curb. Once off the bus, the attendant should signal that the child may enter, maintaining an adult-to-adult hand-off of all birth-to-K children. As each birth-to-K child ascends the stairs, an attendant should follow behind, so they are between the child and the ground to assist in case of falling. For unloading, the child(ren) should be trained to wait near the driver until the attendant is on the ground. The attendant should then turn to face the child(ren) and provide supervision, verbal guidance and, in emergency, physical support as each child takes turns descending the stairs and is handed off to a pre-approved adult.

    b. Education and verbal guidance should support these birth-to-K children in developing their skills in independently navigating the steps, such as instructing children to turn sideways to hold onto the handrail with two hands. If a curb is present, drivers should strive to park close to it, if possible, to minimize the height challenge posed by the first bus step.

2. Birth-to-K children who cannot use the stairs to enter and/or exit the school bus without physical assistance:

    a. These children should be loaded/unloaded using the wheelchair lift, following all lift-use safety procedures. To use the lift, a child shall be properly seated and secured in their own wheelchair, a wheelchair or stroller supplied for this purpose or, in the case of an infant, a conventional child safety restraint system (CSRS, see below) that is provided by the transporter. A wheelchair or stroller must have properly functioning locking brakes that are applied while used on the lift. The child must be secured in a postural harness or lap belt that has a positive-locking (non-Velcro) buckle and is mechanically attached to the frame. The wheelchair, stroller, or CSRS shall be stabilized (such as by an adult standing on the ground keeping a hand continually on it) while the lift is operating. (See Children with Disabilities section for a full description of proper lift procedures.)

After being loaded onto the bus in their wheelchair/stroller, unless the child's IFSP/IEP/504 Plan states they must remain in their wheelchair for transport, the wheelchair should be properly secured and the birth-to-K child shall be transferred to a CSRS (the safer, best-practice approach; see Birth-to-K Children Who Use a Wheelchair, above).

3. Infants in a rear-facing-only CSRS (the type with a carry handle, as defined below) that is their appropriate CSRS for transport:

   a. These infants, if properly harnessed, may enter/exit the bus using the lift following proper lift-use procedures if the CSRS can be stabilized on the lift platform while the lift is operating. Stabilization shall be ensured by placing the CSRS handle in its stand position (i.e., fully rotated backward) so that the handle contacts the lift platform *and* by a driver or attendant, standing alongside the bus, keeping a hand on the CSRS at all times. A driver or attendant shall be on the bus to receive an infant in a rear-facing-only CSRS who has been loaded using the lift. Alternatively, if certain techniques are employed and conditions met, the bus's main doorway may be used. Using the doorway may be a more efficient option that can be done safely, following certain guidelines, because these children and CSRS are relatively lightweight and this type of CSRS has been designed for ease of carrying. However, before choosing this loading/unloading alternative, consider the capabilities of the adults present and ensure they are taught these proper techniques:

      (1) Before loading or unloading, the attendant must visually confirm that the infant's harness is properly secured and snug;

      (2) For loading, the adult at the bus stop should place the rear-facing-only CSRS fully onto the top step (bus floor level) using a technique that is suitable for the person's safe body mechanics and given the size/shape of the bus entry. This is likely to involve firmly planting one foot on the first or second step before reaching forward to place the CSRS on the bus floor;

      (3) An attendant on the bus should then place the rear-facing-only CSRS in its assigned location and install it;

(4) For unloading, confirm the CSRS harness properly secures the infants, uninstall the CSRS, and reverse the process in step b;

(5) Throughout these steps, ensure that someone (driver, attendant, parent/guardian) has a hand on the CSRS at all times to maintain its stability; and

(6) In no instance should the adult ascend or descend the stairs while also carrying an infant/CSRS.

C. Child Safety Restraint Systems (CSRSs)

Each birth-to-K child (with or without a disability) shall be secured in a CSRS that is appropriate for the child's age, weight, height, and development when riding on a school bus or other school transportation vehicle. A CSRS is an add-on device (or, in some cases, integrated into bus seating) that provides the positioning and safety restraint required by birth-to-K children when riding in any vehicle.

**Note**: The acronym CSRS is used as both singular and plural.

The rationale for the National Highway Traffic Safety Administration's recommendation that all birth-to-K children use CSRS on school buses of all sizes is provided in a guidance document, "Guideline for the Safe Transportation of Pre-school Age Children in School Buses" (February 1999). (See APPENDIX H for how to find this NHTSA document and free resources for basic education on the use of child car seats and boosters.) NHTSA's guidance document explains that its testing shows birth-to-K children should be protected by CSRS on any school bus.

For passenger vehicles, like vans, SUVs and sedans, a child occupant protection law in each state mandates the use of CSRS for all children, per the details of state code. While these laws typically exclude school buses, they require the use of CSRS in any other vehicle used for student transportation. These laws vary by state with respect to the child ages covered, but all states require children in the birth-to-K cohort to ride in a properly used CSRS or booster seat in passenger vehicles; many states require children up to much older ages to ride in a CSRS or booster in passenger vehicles, as well.

According to NHTSA and the laws of each state, lap-only and lap-shoulder belts are not CSRS. Following product instructions, children in passenger vehicles may use a booster seat (see below) to provide protection and meet state laws, but a booster is not an appropriate device to use when the vehicle is a school bus. CSRSs used in school buses must be appropriate for the individual child and must be used correctly. All of the restraint systems used for transportation must be secured to the bus seat in the manner prescribed and approved by both the school bus and CSRS

manufacturer.

1. All CSRS used in a school bus or another vehicle used to transport children must:

    a. Meet requirements of FMVSS No. 213 (213b, if purchased after December 5, 2026); if purchased after June 30, 2025, must also meet FMVSS 213a;

    b. Be installed and used according to the manufacturer's instructions, including honoring manufacturer-stated product expiration dates;

    c. Not be under a recall that recommends non-use of the CSRS; if other recalls exist, they have been repaired following the instructions of the manufacturer's fix kit;

    d. Have all parts intact and in working order; and

    e. Be installed only on bus seats that meet FMVSS No. 210 using a seat belt that meets FMVSS 209 or lower anchors that meet FMVSS 225 if the CSRS is a conventional type (which requires use of a seat belt or LATCH system for installation).

    To ensure that a CSRS meets all these criteria, the LEA (not the child's parent/guardian) should provide the CSRS. Maintaining this policy allows the transporter to assess CSRS suitability, know the CSRS's full history, and include the CSRS in routine care and maintenance procedures (see below). When transporters make exceptions—as they sometimes do, for instance, when an infant's parent/guardian owns a CSRS with a carry handle that is also used for the child's non-school-related transportation—the transporter remains responsible for ensuring the CSRS is safe to use for every ride, following each of the requirements enumerated above. If any CSRS is not suitable (that is, it is not in good condition, inappropriate for the child, and/or unable to be installed and used properly) or its suitability is in doubt, an appropriate alternative CSRS shall be supplied by the transporter.

2. Elements of Correct Installation and Use of CSRS

    The following elements of proper use apply to CSRS that are used in school buses and/or non-school bus vehicles. Always read and follow the manufacturer's instructions that come with each CSRS. Quality, hands-on training on each of these topics, offered on a routine basis, is essential for transporters of birth-to-K children.

a. Selection

The first step to selecting a CSRS is to identify the types/models that meet a child's age, weight, height, and development/transportation needs. From these options, select the CSRS that can be installed properly in the vehicle, will be used correctly on every ride, and meets budgetary considerations. (See APPENDIX H for CSRS selection guidance documents from the American Academy of Pediatrics and resources for sourcing CSRS.)

Children diagnosed with medical complexities or fragility might require special securement or positioning systems, per their IFSP/IEP/Section 504 Plan. However, it is appropriate for the IFSP/IEP/Section 504 Plan team to first consider whether a conventional CSRS model (or, if transporting on a school bus, a school bus child restraint system) could accommodate the child because these CSRS are typically easier to use and acquire.
For all children, selection of a CSRS with a crotch strap, which will provide crash protection and prevent strangulation caused by slouching during normal driving conditions, is essential.

b. Direction

Position a CSRS rear or forward facing based on product instructions relative to the child's age and size; adjust the recline angle according to instructions. Some rear-facing seats are designed to be rear-facing only and may not be used in a forward-facing position. (Check manufacturer's instructions. The list of CSRS models, below, describes the direction each CSRS type may be used.)

The rear-facing direction is most protective because it allows the child's entire back to absorb crash forces. This is essential for infants and toddlers, who have relatively large heads and bones that are soft and undeveloped. If an infant faces forward too soon, the severe pulling force of a crash could cause severe, possibly fatal, injury to their spinal cord.

Therefore, best practice, according to the American Academy of Pediatrics, is to keep children rear facing for as long as they fit a CSRS's height and weight limits, whether the vehicle is a school bus or other type of vehicle. In any vehicle, a child must *never* ride forward facing prior to age one and, in many states, the law prohibits children from riding forward facing until at least age two. Per FMVSS 213, as of June

30, 2025, all CSRS with a forward-facing mode must state 26.5 pounds or more as the minimum child weight for that mode.

**Note:** These laws and regulations reflect the *minimums* for turning forward. It is recommended to follow best practice and keep children rear facing as long as possible; using readily available models on the market, this is typically until at least age two or longer. The recommendation applies to school buses and non-school buses.

c. Location

CSRS shall be installed only on front-facing vehicle seats, per the instructions of all CSRS manufacturers. On a school bus, use a location that will allow proper space and supervision (often a front seat) that is not in an emergency exit row. If other students will be seated on the same bench, install the CSRS by the window to allow them clearance for egress.

In a non-school bus, birth-to-K children are safer using CSRS in a rear seat. If a front seat must be used, ensure that the air bag is deactivated. Most vehicle instructions prohibit using a rear-facing CSRS in a front seat, and the laws of some states say that children must ride in the rear until they reach a specified age.

d. Installation

(1) Follow all manufacturer instructions for installation, which typically include the following guidance. For add-on CSRS that are installed using a seat belt or the LATCH system, ensure that the correct belt path is used, per instructions. To achieve a tight installation, use a hand to push down on the CSRS to compress the bus/vehicle seat cushion. Then, with the buckle(s) secured, pull the loose end of webbing (of a lap belt, lower anchor attachment, or cam wrap) or the shoulder belt (of a lap-shoulder belt) to tighten the installation. The CSRS should not move more than one inch forward or side-to-side when tested by grasping the seat at the belt path. (See the Use of CSRS Tether section, below, for CSRS that require the attachment of a tether during installation.) When a CSRS with a cam wrap is properly installed, the tightened cam wrap strap should slightly indent the top of the bus seat.

(2) The CSRS must fit properly on the vehicle seat. CSRS installed

adjacent to one another may not overhang into the aisle or press hard into each other. Unrestrained children sharing a bench with a CSRS must have enough room to be properly seated and fully protected by compartmentalization.

(3) To improve CSRS installation and ease of use, since late 2011, FMVSS 222 requires the non-adjustable part of a school bus's lap-only seat belt (aka 2-point seat belt) to be on the side that's relatively closer to the aisle. The buckle on this part of the seat belt must be on webbing that extends no more than one to two inches above the seat cushion, per regulation. When retrofitting older buses that have reinforced seating with a lap-only belt, or replacing existing belts with a different design, these CSRS-friendly specifications should be followed.

e. Harness Strap Use

(1) Follow manufacturer's instructions to properly adjust the harness that holds the child within a conventional CSRS or the straps that restrain the body for all other CSRS types, like safety vests. Check for adjustability at the shoulders, crotch strap, and hips, as well as for the proper use of manufacturer provided inserts and padding. Follow instructions for setting each of these to be appropriate for the child for first use and reassess periodically for child growth.

(2) Place the harness webbing over the child's body according to the CSRS instructions; it should cross both shoulders and hips and have a crotch strap routed between the legs. Adjust the harness snugly on the child for each ride. Use techniques to avoid touching sensitive areas when securing the child in the harness, like keeping the back of the hand toward the child's body. Per NHTSA, a snug strap should not allow any slack, should lie in a relatively straight line without sagging, and should not press on the child's flesh or push the child's body into an unnatural position. To test for proper snugness, slide a thumb and forefinger vertically along the harness webbing to ensure it is not possible to pinch any slack between them.

(3) A chest clip, which holds the harness straps across the shoulders, should be placed at the child's armpit level. A chest clip, when part of a CSRS as provided by the manufacturer, shall not be removed from the CSRS. Its function is pre-crash

positioning of the harness webbing. While this is an essential function, a chest clip is not intended to provide crash restraint. Therefore, it is imperative that the buckle of the harness system also be properly used.

(4) Heavy coats and backpacks should be removed prior to harness use to ensure a proper fit. Do not add any additional padding underneath or behind a child, other than that supplied by the manufacturer for use with the CSRS. Use included padding according to manufacturer instructions. Always follow the CSRS instructions for adjustments that should be made to achieve proper harness fit and child positioning; if all instructions have been followed and harness fit and/or child positioning require further improvement, some instructions allow the use of firmly rolled towels or small, receiving-type blankets alongside a child's body (not head) and/or behind the CSRS's crotch strap.

(5) Special care must be taken when transporting children with medical devices like gastrostomy tubes, shunts, and tracheostomy tubes. The use of a CSRS (ideally in rear-facing mode, if possible) is especially advised for these children, but transporters must ensure that webbing straps are not positioned in a way that could disrupt the proper functioning of the child's medical device. (This sort of negative interaction should be considered when selecting the CSRS, as well.)

3. Types of Child Safety Restraint Systems

All CSRS provide restraint at a child's shoulders, hips and between the legs (crotch strap); each component is essential for protecting the child in a crash and keeping the child in position during normal transport. See Appendix K for resources to assist in assessing, acquiring, and properly using CSRS.

CSRS types that are identified below using the term "conventional" are those that are sold through retailers and have been designed by their manufacturers for the primary use of families in non-school bus vehicles (vans, SUVs, sedans). But conventional CSRS may also be used for school transportation, including use on a school bus, provided the bus seating has adequate space and is equipped with seat belts or lower anchors for proper anchorage. For some children, a conventional CSRS is the only type that will meet their needs.

A term defined by NHTSA for another CSRS category is "school bus child restraint systems," which includes CSRS for use only on a school bus (never a non-school bus, like a van, SUV, or sedan); this type is acquired from a manufacturer or its distributor. Any CSRS that is installed using a cam wrap falls into this category. When a cam wrap is used for installation, the entire bench behind a CSRS installed using a cam wrap shall be unoccupied or occupied only by restrained passengers, per NHTSA labeling.

The following lists the various CSRS types that may be used by transportation providers in school buses and/or non-school bus vehicles. Each CSRS's description indicates whether the CSRS may be used in both school bus and non-school bus vehicles (vans, SUVs, sedans) or only in one of these vehicle types.

a. Rear-facing-only conventional CSRS

(1) Bucket-style, padded CSRS with a five-point harness that typically come with a base, though instructions are usually provided for optional use in baseless mode, as well. Of the two CSRS types for rear-facing use, this type, commonly called an "infant seat," is smaller and has a handle for carrying outside the vehicle. May be used in a school bus or non-school bus vehicle, provided the seating has adequate space and seat belts or lower anchors for anchorage.

(2) Designed for infants (typically from four or five pounds) up to 30 to 35 pounds and who are up to 30 to 35 inches in length, depending on the model. The child's head must be contained within the shell of the CSRS; instructions typically require the top of the child's head to be at least an inch from the top of the CSRS shell. These CSRS must be used in a rear-facing position only. Follow instructions for setting the CSRS to a roughly 45-degree recline, which prevents the child's head from tipping forward and blocking the airway during normal driving conditions.

(3) Harness straps must be snug. Each shoulder strap must emerge from the CSRS at or the next position below the seated infant's shoulders.

b. Convertible conventional CSRS

(1) CSRS with a five-point harness that have both rear- and forward-facing modes. These CSRS have a rigid, padded seating area made of plastic (and sometimes metal) that usually has deep sides that wrap around the child's body and head. May be used in a school bus or non-school bus vehicle, provided the seating has adequate space and seat belts or lower anchors for anchorage. (Some convertible CSRS, called "all-in-one," also have a booster mode that should not be used on a school bus.)

(2) Rear-facing mode may typically be used by children from five pounds to 40 or more pounds and up to 40 or more inches in length, depending on the model. Convertible CSRS are the only alternative to a rear-facing-only CSRS for riding rear facing; being larger, they require more vehicle space, but are the only option when children who are bigger/taller must ride rear facing. The child's head must be contained within the shell of the CSRS, following manufacturer's instructions, which typically require the child's head to be at least an inch from the top of the CSRS shell.

(3) Forward-facing mode is appropriate for children who have outgrown rear-facing mode. Forward-facing mode may typically be used by children who are at least 1 year old and 22 up to 50 or 65 pounds and 40 to 50 inches in height, depending on the model. (For CSRS made June 30, 2025, and after, the minimum weight to ride forward-facing is 26.5 pounds, per federal regulation.)

(4) Set the angle of the CSRS according to the manufacturer's instructions for the mode in use. Typically, a rear-facing convertible CSRS should be reclined to a 30- to 45-degree angle to prevent the child's head from tipping forward and blocking the airway. When forward facing, a convertible CSRS is used more upright, but many models offer semi-reclined positions, as well.

(5) The harness straps must emerge from the CSRS *at* or the next position *below* the seated child's shoulders when rear facing; it must emerge *at* or the next position *above* the shoulders when forward facing. When forward facing, if the child's

shoulders are above the top-most position, the child is too tall to use the CSRS, even if they are within the occupant weight range.

c. Combination conventional CSRS

(1) Forward-facing CSRS with a rigid, padded seating area made of plastic (and sometimes metal) that has a five-point harness mode and a booster mode. May be used in a school bus or non-school bus vehicle, provided the seating has adequate space and seat belts or lower anchors for anchorage.

(2) In harness mode, designed for use by children at least age one and 22 pounds (26.5 for CSRS made June 30, 2025, and after, per federal regulation) and up to 50 to 65 pounds and around 50 inches in height, depending on the model. The child must be able to safely ride in a forward-facing position, so a combination CSRS must never be used by a child younger than age one and ideally not until well over age two; follow the manufacturer's specified minimum age/weight/height that's stated in instructions and any applicable state laws regarding the age at which a child may ride forward facing.

The harness can be stowed for larger children so the CSRS can be used as a booster seat; see instructions for allowed size and age ranges. The booster mode is useful in non-school bus vehicles but should not be used on a school bus. Nonetheless, because these types tend to be less bulky than convertible CSRS—and some models allow use by taller children—they are sometimes useful in their harness mode for children on school buses.

(3) An upright position is often the only option; sometimes a semi-reclined position is offered, per instructions.

(4) Follow instructions for harness adjustment, which typically requires the straps to emerge from the CSRS *at* or in the next slot *above* a seated child's shoulders. If the child's shoulders are above the top-most position, the child is too tall to use the CSRS, even if they are within the occupant weight range.

d. Booster seats (Note: For use in non-school buses only)

(1) A booster seat (aka belt-positioning booster or BPB) is a device for passenger vehicles (vans, SUVs, sedans, etc.) that elevates a child's body and guides a lap-shoulder seat belt across bones rather than soft tissue, allowing the occupant to be safely restrained by the vehicle's seat belt and benefit from its other occupant protection systems of passenger vehicles, like side air bags.

(2) Booster seats are designed for use by children who weigh at least 40 pounds; instructions may also state a minimum height and/or age. They may be used until a child is 80 to 120 pounds and around 57 to 60 inches, depending on the model. A child should be at least age four or five before transitioning from a CSRS with a harness to a booster seat; follow model-specific requirements provided in the instructions and any applicable state laws.

(3) Dedicated booster seats come in backless and/or high back designs. Other boosters are part of multi-modal CSRS, in which a harness system may be used for rear- and/or forward-facing conventional modes and then removed or stowed when the child is ready to transition to using the CSRS in booster mode.

(4) Laws in all states require children in passenger vehicles—including those in the care of student transporters—to use a booster seat if they've outgrown the harness of a convertible or combination CSRS before reaching a specified age, height, and/or weight. (See APPENDIX H for resources for finding state child occupant protection laws.) Student transporters who utilize passenger vehicles to transport birth-to-K children shall follow these laws. A child who uses a booster should continue to do so until they fit the vehicle's seat belt properly. (See APPENDIX H for the Five-Step Test for Seat Belt Readiness.)

(5) Booster seats shall *not* be used in a school bus since, unlike passenger vehicles, school bus seats and their seat belt systems are designed to fit a child's body. Occupants who are too small to properly use a school bus's seat belt (even after adjusting it to its smallest size) or who need more support

should ride in a CSRS instead. (See Appendix D for resources that describe proper use of the seat belt systems found on school buses.)

(6) In alternative vehicles, a booster shall be used to position a lap-shoulder seat belt. A booster *shall not* be used with a lap-only seat belt.

e. Car Bed CSRS

A car bed is a CSRS for very small and/or fragile infants that allows the child to ride lying down. For any vehicle, this type of CSRS is used only on the direct advice of an infant's doctor because the child must remain in a prone, supine, or (allowed for some models) right-side lying position. Children who must ride in a car bed are not likely to be taken to school; whenever possible, an infant should be deemed stable for riding rear facing in a semi-reclined position before transportation is provided. If an infant's doctor says they must use a car bed for transport to school, all instructions from the doctor and car bed manufacturer for proper installation and use in a school bus or non-school bus vehicle shall be followed.

f. Adaptive CSRS

(1) Adaptive CSRS are models that have been specially designed to accommodate one or more needs of a child with disabilities. Models exist for a variety of purposes, including to allow use of a five-point harness by larger children, support a fully reclined position, prevent injury to fragile/sensitive areas, inhibit “escapee” behavior, or accommodate medical equipment (like casts or braces). A list of all available adaptive CSRS models, with prices, approved height/weight ranges, and other details, can be found at www.saferidenews.com (see Adaptive CR Listing under Resources).

(2) Adaptive CSRS are generally heavier/larger, more expensive, and have more complex use instructions than other types of CSRS. Therefore, an adaptive CSRS should be selected for a child only when other options have been evaluated and found to be unacceptable. For many conditions, a conventional CSRS (or, if transporting on a school bus, a school bus child restraint system) can provide adequate support, comfort, recline, and positioning for a birth-to-K child. However, depending on a

child's needs, an IFSP/IEP/Section 504 team (with input from the child's doctor, as appropriate) may specify the permanent or temporary use of a specific adaptive model.

(3) While the elements of correct CSRS use (listed above) apply to adaptive CSRS, adaptive CSRS often have instructions that are not typical of other CSRS and may have specialized accessories that must be used properly. Adaptive CSRS may be used in a school bus or non-school bus vehicle, provided the seating has adequate space and allows for proper anchorage, though many models tend to be more compatible with non-school bus vehicles.

**Note:** Although adaptive CSRS must meet federal standards, they are exempt from the untethered testing requirements that other CSRS must meet. So, another complexity of adaptive CSRS is that instructions typically require a tether to be attached to a designated tether anchor in the vehicle, whether in a school bus or non-school bus. See Tethering CSRS (below) for information on this topic.

g. Safety Vest CSRS

(1) A webbing-based CSRS that fits around the child's torso and has attachment loops at the shoulders and hips to connect it to a seat mount installed in the vehicle.

(2) Safety vests may be used by children starting at 25 or 31 pounds and up to 165 to 168 pounds, depending on the model. The child must be able to safely ride in a forward-facing position, so a safety vest shall never be worn by a child younger than age 1 and ideally not until well over age two; follow the manufacturer's specified minimum age when stated in instructions and any applicable state laws regarding that age at which a child may ride forward facing. Some product instructions allow the continued use of a safety vest as a positioning device after the child reaches the upper weight limit if used under a properly worn seat belt; check instructions for other conditions that must be met for use in this mode with heavier children.

(3) Some safety vests attach to a seat mount that is installed on the school bus seat (traditional or FMVSS 210-compliant)

using a cam wrap, which is a strap that runs through the seat bight and vertically around the seatback. A cam wrap mount (sometimes called a “portable seat mount” when used with a safety vest), shall be used only on a school bus (never on a non-school bus). IMPORTANT: Per NHTSA requirements, to protect the CSRS occupant from the negative effect of double loading the seatback in a crash, the entire bench behind a CSRS installed using a cam wrap must be unoccupied or occupied only by restrained occupants.

(4) Another option for some safety vests is a seat mount with a tether that is used along with a vehicle seat belt worn by a child in a safety vest, following manufacturer instructions. This seat mount type is more commonly used in non-school buses, where it is the only installation option (a cam wrap may not be used in passenger vehicles). This method is more often compatible in non-school buses because, in these vehicles, seat belts are always present and tether anchors have been required since model year 2000. (Although a safety vest used with a seat belt and a tether mount may be used on a school bus, the bus seating and belts must meet federal requirements, and a tether anchor must be present; usually, this is not the case on a school bus. Therefore, on school buses, a cam wrap mount is more appropriate.)

(5) Safety vests are sized according to the child’s circumference at the chest and/or hips and should be adjusted to fit snugly per manufacturer instructions. Heavy clothing like a coat should be removed before putting the safety vest on a child; a coat may be worn over a properly adjusted safety vest. A properly fitted crotch strap shall always be used on a safety vest that accommodates a child up to 80 pounds and is strongly recommended for use on all safety vests. For a child with an IFSP/IEP/Section 504 Plan, the decision to use a vest with a rear zipper closure and/or other anti-escape features should be made by the IFSP/IEP/Section 504 Plan team.

(6) Transportation personnel should check seat mount straps for proper installation and set-up for fit to the child during pre-trip inspections.

h. School-bus-only CSRS

(1) A five-point harness attached to a slim back pad and seating surface (no rigid plastic shell) that installs to school bus seating using a cam wrap. A school-bus-only CSRS shall never be used in a non-school bus vehicle.

(2) May be used by children starting at 20 or 25 pounds and up to 65 to 90 pounds, depending on the model. (At least one model that's available for children with disabilities can be used to a higher weight.) The child must be able to safely ride in a forward-facing position, so a school-bus-only CSRS must never be worn by a child younger than age one and ideally not until well over age two; follow the manufacturer's specified minimum age when stated in instructions and any applicable state laws regarding the age at which a child may ride forward facing.

(3) Installs on the school bus seat (traditional or FMVSS 210-compliant) by means of a cam wrap strap (not a seat belt), which runs through the seat bight and vertically around the seatback. Per NHTSA requirements, to protect the CSRS occupant from the negative effect of double loading the seatback in a crash, the entire bench behind a CSRS installed using a cam wrap must be unoccupied or occupied only by restrained occupants.

(4) The shoulder strap height should be adjusted so it is *at* or the next position *above* the seated child's shoulders. If the child's shoulders are above the top-most position, the child is too tall to use the CSRS, even if they are within the occupant weight range.

i. Belt Converter CSRS

(1) A webbing-based CSRS consisting of shoulder straps and a crotch strap (or straps) attached to a cam wrap or tether that, when installed, turns a seat belt (typically a lap-only belt) into a five-point harness. Must be used with a seat belt that meets FMVSS 209 on seating that meets FMVSS 210 for proper anchorage strength.

(2) A belt converter CSRS may be used by children starting at 25 or 31 pounds, depending on the model. Used in a school bus,

a belt converter may be used up to 168 to 275 pounds, depending on the model; in a passenger vehicle (in which only the tether-mounted option may be used) follow instructions for child weight limits that apply to use of the vehicle's tether anchor(s). To use a belt converter, a child must be able to safely ride in a forward-facing position, so this type shall not be used until a child is at least age two; follow the manufacturer's specified minimum age when stated in instructions and any applicable state laws regarding the age at which a child may ride forward facing. It is also important to recognize that it takes most children longer to attain the stature and maturity needed to properly use a belt converter CSRS than other types of CSRS. Therefore, besides the child's age, these fit and use factors must also be carefully considered when assessing this CSRS type for a child.

(3) A belt converter that installs using a cam wrap (a strap that runs through the seat bight and vertically around the seatback) may be used only on a school bus on seating that is reinforced (meets FMVSS 210) and equipped with a seat belt (meeting FMVSS 209). Per NHTSA requirements, to protect the CSRS occupant from the negative effect of double loading the seatback in a crash, the entire bench behind a cam-wrap-installed CSRS must be unoccupied or occupied only by restrained occupants.

(4) A belt converter that installs using a tether strap requires the seating to be reinforced and equipped with a seat belt and tether anchor. This is the only type of belt converter that may be used in non-school buses. (Although a belt converter that installs using a tether strap may be used on a school bus if the bus seating meets the requirements, the type with a cam wrap is more common and more often suitable for use on school buses.)

(5) The belt converter should be adjusted per the owner's manual instructions, which indicate that the shoulder and crotch straps should be made snug but must not pull the vehicle lap belt upward, off the thigh and onto the child's stomach. To provide crash protection and prevent dangerous slouching during normal driving conditions, the crotch strap shall always be used and properly adjusted.

j. Built-in (aka Integrated) CSRS

(1) A webbing-based CSRS that is permanently mounted to a school bus seatback as purchased from the seating manufacturer. Typically, a padded flap folds down off the seatback to reveal a five-point harness system; the flap becomes a seating surface for the child (often by folding it to provide some elevation). The CSRS's cover flap can be folded back up (often secured using Velcro) when the CSRS is not in use so that the seat can be used by older students, as well.

(2) Built-in CSRS typically may be used by children from 20 or 22 pounds up to 85 to 90 pounds, depending on the instructions provided by the seating manufacturer. To use a built-in CSRS, a child must be able to safely ride in a forward-facing position, so this type shall not be worn by a child younger than age one and ideally not until well over age two; follow the manufacturer's specified minimum age when stated in instructions and any applicable state laws regarding the age at which a child may ride forward facing.

(3) The shoulder strap height should be adjusted so it is *at* or the next position *above* the seated child's shoulders. If the child's shoulders are above the top-most position, the child is too tall to use the CSRS, even if they are within the occupant weight range.

(4) Although a built-in CSRS does not require installation, training on proper harness use, care, and maintenance for this type of CSRS should not be overlooked.

(5) While, in the past, some non-school bus vehicles were equipped with built-in CSRS, these vehicles were rare and are seldom seen in use today. Follow all vehicle manufacturer instructions for using a factory-installed built-in CSRS in a non-school bus vehicle. A non-school bus vehicle should not be retrofitted with seating with built-in CSRS made for a school bus.

4. Care and Maintenance of CSRS

As with all transportation equipment, policies and procedures should be established for cleaning and inspection of the CSRS inventory, both those in use and in reserve, to ensure all CSRS are in good working order. Such policies should

be in writing and a maintenance document should be used to manage tasks and assign duties.

a. Registration: Upon acquiring any CSRS, it should be registered with the manufacturer so that the owner will be notified in the event of a recall or safety update.

b. Recalls: The CSRS inventory shall be regularly checked for recalls. In addition to responding to manufacturer notifications, this procedure should involve proactively checking for recalls periodically at www.NHTSA.gov/recalls for each model (name/model number and manufacture date) and/or by subscribing to NHTSA's email notification service and checking recalls against the transporter's CSRS inventory list. When recalls occur, a CSRS shall be pulled from use and an unrecalled, equally suitable replacement CSRS deployed until the manufacturer's recall fix has been completed and recorded. (See APPENDIX H for resources that offer lists of all recalled CSRS.)

c. Expiration: CSRS should be continually tracked for product expiration; products that exceed the manufacturer's stated lifespan should be taken out of use and replaced, as needed. Instructions and labeling typically explain how long a CSRS may be used, but if a product's expiration date is unclear, contact the manufacturer.

d. Cleaning: Procedures for cleaning CSRS shall follow each manufacturer's instructions for the specific CSRS model. Manufacturer websites typically provide cleaning information, as well. In general, the use of chemicals should be avoided when cleaning any part of a CSRS (webbing, plastic, padding, buckles and other metal parts). Check instructions to learn whether padding can be machine washed and/or dried. Follow product instructions for whether certain parts may be removed for cleaning and, if so, how to remove and replace them properly.

e. Damage Screening/Repair: CSRS used by children shall be checked over for signs of degradation due to use, including, but not limited to, fraying of harness webbing, rusting of metal parts, cracked plastic, and mildew/mold growth on any part. This should involve spot-checking CSRS with each use as well as a more thorough evaluation of all CSRS on a scheduled, routine basis. When damaging wear is identified, appropriate steps to rectify it shall be taken, which may require replacing the CSRS. Any steps taken to fix a worn CSRS shall be undertaken by contacting the product manufacturer and following its approved steps; in some cases, parts can be ordered/replaced.

f. Disposal of CSRS: Proper disposal of damaged, faulty, or expired CSRS involves destroying the CSRS (i.e., cutting harness straps, removing padding, marking plastic as “do not use”) so that it will not be used by others by mistake. In some locales, recycling CSRS parts is an option that should be considered

5. Use of CSRS Tethers

All conventional CSRS that can be used forward facing have a tether strap to add a third point of securement that protects the occupants head when they ride forward facing. These CSRS have instructions that strongly urge that the tether strap be attached to a designated vehicle tether anchor whenever possible. However, for some CSRS, attaching the tether is a requirement, not an option.

Per FMVSS 225, passenger vehicles (SUVs, vans, sedans) made since model year 2001 must have a minimum of three tether anchors for attaching CSRS tethers, with few exceptions. Some passenger vehicles have more than three tether anchors. Whenever a forward-facing CSRS is used in a non-school bus vehicle in a seating position with a tether anchor, the tether anchor should be used, following all vehicle and CSRS instructions. When assigning a seat in a passenger vehicle for a child who rides in a forward-facing CSRS, selecting a seat equipped with a tether anchor should be a priority.

School buses of all sizes are exempt from the tether anchor requirement of FMVSS 225. However, some school bus seating has been voluntarily equipped with tether anchors. Contact the bus seating manufacturer to learn more about the availability of tether anchors on school bus seating.

If instructions for a CSRS require tethering but the seating lacks a factory-installed tether anchor (or the combined weight of the child and the CSRS exceeds a limit stated by the vehicle manufacturer for use of the tether anchor), an alternative solution shall be found that allows proper use. Options to consider include:

a. Using a different CSRS that does not require tethering. (Depending on what is written in the child’s IFSP/IEP/Section 504 Plan, however, this approach may require the team to reconvene to approve a change.)

b. Serving the child using a different vehicle or moving the CSRS to a different seating position within the vehicle.

c. Retrofitting the seating with a tether anchor. This option is especially viable in school buses, provided the seating is reinforced to meet

FMVSS 210. Contact the school bus manufacturer to discuss this option. It is far less likely that a passenger vehicle may be retrofitted with additional tether anchors, but it is sometimes possible for vehicles made in the 1990s. Contact the vehicle manufacturer or a dealer's parts department to discuss this option.

d. Tethering to a seat belt in the row behind the CSRS in school buses or to a third-row seat belt when a child is seated in the second row of a non-school bus. However, before using this technique, contact the CSRS and vehicle seating manufacturer to secure approval; not all manufacturers approve this tethering method. A child passenger safety technician can assist with properly tethering to a seat belt in the row behind a CSRS, which typically involves buckling a seat belt, wrapping the tether around it, and attaching the tether hook to the tether strap. When a CSRS in a school bus is tethered to a seat belt in the row behind it, the entire bench behind the CSRS shall be unoccupied.

D. Handing off Birth-to-K Children

1. All birth-to-K children shall be met at drop-off by a responsible person who has been pre-approved. The receiving person shall be an adult or a person of an age deemed appropriate for child supervision by child protective services. (See the earlier section, Loading and Unloading School Buses, for the specific methods to use when unloading birth-to-K children from the school bus.)

2. Policies shall be in place that outline procedures to follow if someone is not present to receive a birth-to-K child at their stop or if a person present has not been approved for hand-off. Unmet children should be returned to the school or other pre-planned location so that school officials can attempt to contact parents/guardians for resolution. (See Administrators' Role for a description of the responsibilities for developing and carrying out policies regarding trusted and approved adults for hand-off.)

E. Post-Trip and Post-Run Segment Checks

Written policies and procedures shall be in place for post-trip and post-run segment checks. As with any student population, drivers are responsible for conducting a walk-through inspection of the school bus following drop-offs at each school and after the last delivery on each run segment. Prior to departing the bus for any length of time, a walk-through inspection must be conducted. Birth-to-K children are much more likely than older children to have fallen asleep during a school bus ride, so during a walk-through inspection, check on and under the seats for sleeping or hiding children. Identify any items

that may have been dropped or left aboard the bus. Warning flag systems and/or electronic means may be used; however, the school bus driver is responsible for ensuring that the post-trip inspection has been made.

## EMERGENCY-RELATED GUIDANCE FOR TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN

It is essential to prepare for and plan appropriate emergency responses when transporting any student, but the following points must be given special considerations when birth-to-K children are transported.

A. Emergency information collection/maintenance

Because a birth-to-K child cannot reliably provide emergency information, the transportation provider shall ask parents/guardians to fill out an emergency transportation form prior to initiating services. At a minimum, each emergency information form should request the following information, in accordance with state regulations: child's name (including nickname used by the child, if applicable), date of birth, program attending, height, weight, parents/guardians' names, address, two emergency contacts, child's doctor information, hospital preferences, allergies, current medications, medical/communication/behavioral concerns, bus equipment required, and other special considerations. This information should be reviewed semiannually and updated at minimum annually, since children in this age group grow/change rapidly. The bus driver and attendant(s) shall have access to this information in the school bus to safely transport children in CSRS. A photo is recommended if allowed and in accordance with the school district's policy. (This step is especially helpful to substitute personnel and emergency personnel.)

B. Transporting Medications

A written policy and procedure should address transporting medication between home and school. In no instance should a birth-to-K child be allowed to transport medicine to and from the school on their person or in their belongings. Rescue medications (such as EpiPens and inhalers) shall be kept in a secure location that is quickly accessible to the attendant and driver in an emergency.

C. Radios/Two Way Communication and Cell Phones

All vehicles transporting infants, toddlers and pre-school children should have two-way communications systems and designated contact persons during the time the

children are transported in the school bus. Cell phones may be utilized, in accordance with state and local laws, as a communication means when approved by the school district or Head Start agency.

D. Seating Plans

1. All school buses transporting infants, toddlers and pre-school children should have a seating chart that is kept in the school bus and followed when transporting the children. This is necessary in the event there is an emergency and useful for student management, including when there is a substitute driver or attendant. Decisions regarding seating should be made on an individual child basis using information such as the child's transportation needs, occupant protection requirements, and evacuation efficiencies.

2. A seating chart must consider children seated in CSRS that are installed using a cam wrap. Per NHTSA requirements, the entire bench behind a child who rides in a cam-wrap installed child safety restraint system must be unoccupied or occupied only by riders who are properly restrained by a child safety restraint system or seat belt.

3. In vehicles that transport older students as well as birth-to-K children in child safety restraint systems (CSRS), consider how these passengers are commingled. Birth-to-K children should be kept separate from children who are prone to any manner of inappropriate contact because the younger child's immaturity and inability to move (due to their CSRS) make them especially vulnerable. In a school bus crash involving older students who may be unrestrained, the force can present a danger to birth-to-K children in CSRS if an unrestrained body is thrown into them in a crash. (Keep this in mind for how/where attendants are seated, as well.)

E. Universal Precautions

All personnel involved in transportation of infants, toddlers and pre-school children should be trained in universal precautions related to the physical, day-to-day handling of young children and potential exposure to communicable and contagious diseases. Due to the propensity for young children to put fingers and other items in their mouths, special attention must be given to age-appropriate methods for preventing the spread of germs when transporting this population. Information on this topic is available from the CDC and the American Academy of Pediatrics.

F. Evacuation

1. A written evacuation plan shall be prepared for all school buses, and for routes transporting infants, toddlers and pre-school children, the extra

considerations discussed here shall be taken into account when making these plans. Evacuation drills shall be practiced on a scheduled basis, in accordance with approved written policies and procedures, at least as often as they would be with other student populations. Head Start performance standards, which provide a model for all birth-to-K transportation, require Head Start grantees to conduct at least three evacuation drills annually with child participation, including at least one in the bus in which the children will be riding.

2. All staff on buses transporting one or more birth-to-K children shall be trained in the various methods available for swiftly removing a child from a CSRS and how to determine which method should be used for each child in an emergency on a case-by-case basis. This training shall include how to choose among various evacuation options based on factors like the child's abilities and needs, the driver's abilities, the assistance available (including other children), and the nature of the emergency. For children who ride in a CSRS, the decision to evacuate a child in their CSRS, remove them by unbuckling their CSRS webbing, or cut the webbing shall be determined on a case-by-case basis and practiced in drills. Consideration should be given to the fact that a birth-to-K child who remains in their CSRS during evacuation may be safer in that environment once off the bus; however, whether doing so is feasible depends on the child and CSRS type/size, the width of the bus aisle, driver/attendant abilities, and the nature of the emergency.

3. Even if emergency plans prioritize removing children in their CSRS and/or unbuckling the harness, all buses shall be equipped with child-safe webbing cutters to allow for the option of cutting the straps of CSRS and wheelchairs, as needed, when warranted by the nature of the emergency. The number of webbing cutters in each bus shall reflect the size of the bus and number of children in CSRS, with each cutter being stored in a place that's accessible to adults and not children. The most efficient manner to cut the webbing straps for each CSRS type shall be taught to and practiced by all staff who transport children who ride in CSRS or wheelchairs. (See Appendix F for training materials that are available to meet these requirements.)

4. Written evacuation plans should consider the following questions for each child:

    a. What is the child's physical and mental abilities?

    b. Can the child exit the bus independently? If not, who is responsible for helping?

    c. Does the child have any specialized or medical equipment that must be kept with them?

d. How can the child be kept safe when removed from the bus? (Consider whether infants using a RF-only CSRS type should remain in their CSRS, so that they'll be within the security of the plastic shell when off the bus.

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# APPENDIX A:
# Terms and Definitions

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# APPENDIX A:
# TERMS AND DEFINITIONS

## INTRODUCTION

This glossary was developed with three purposes in mind:

1. To provide easy access to the definition of terms used or referenced within the document;
2. To consolidate, in one resource, the acronyms, abbreviations and standard terms commonly used in the industry; and
3. To promote consistency throughout the student transportation industry by providing standard definitions or preferred usages for terms that may be used differently in different parts of the country.

The glossary is not intended to be all-inclusive. There are and will be terms that are excluded and definitions that differ from regional usages. The glossary is an attempt to reflect the language of student transportation, which, like all language, is ever-changing.

## TERMS AND DEFINITIONS

**Access panel:** A body panel which must be moved or removed to provide access to one or more serviceable components.

**Accessibility:** The design of vehicles or facilities to accommodate people with mobility, auditory, visual, or other impairments. Includes any designs, devices, and approaches that enable students with disabilities to ride on school buses with ease and safety.

**Accident:** See *Crash*

**Activity trip:** The transportation of students to any event sanctioned for student attendance or authorized by an officer, employee or agent of a public or private school, other than to-and-from school transportation. (See also *Field trip*.)

**ADA:** The Americans with Disabilities Act, PL 101-336, 42 USC 12101, *et seq.* When referenced in regard to student transportation, ADA generally refers to the specifications of 49 USC 38, Americans with Disabilities Act Accessibility Specification for Transportation Vehicles.

**Adaptive device:** Any item or piece of equipment used to increase, maintain or improve functional capabilities of children with disabilities; also known as *assistive technology device.* (for items utilizing technology), *adaptive equipment,* and *specialized device/equipment.* A student's IEP, IFSP, or 504 team determines which adaptive devices are necessary for a particular student to access

education, including those that may be needed while being transported to/from school or other activities. Examples include child safety restraint systems, wheelchairs/lifts, medical devices, communication aids, etc.

**Adaptive equipment**: See *Adaptive device*

**Advanced EGR (A-EGR):** An exhaust gas recirculation system (EGR) utilizing advanced-electronic fuel management systems combined with proprietary-piston-bowl design and twin-turbo-air - management systems.

**Aide:** See *Attendant*

**Alcohol:** The intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols, including methyl and isopropyl alcohols.

**Allowable alternate vehicle:** A Head Start designation for the vehicle designed for carrying eleven or more people, including the driver, that meets all the Federal Motor Vehicle Safety Standards applicable to school buses except 49 CFR 571.108 and 571.131. (See also under *"Multifunction School Activity Bus* under *Bus".)*

**Alternately flashing signal lamps:** A system of red or red and amber signal lamps mounted horizontally, both front and rear, intended to identify a vehicle as a school bus and to inform other users of the highway that the bus is about to stop or is stopped to load or unload children. The system of red and amber signal lamps is available in either sequential or non-sequential operation. Also known as school bus warning lamps, pupil warning lights, eight-light warning systems, alternately flashing warning bus safety lights, school bus signal lamps, and alternately flashing school bus warning lights.

> **Sequential operation:** The system of red and amber signal lamps is designed to operate in sequence. Amber signal lamps must be activated before the red signal lamps can be activated. (Amber lamps are deactivated when the red lamps are activated.)
>
> **Non-sequential operation:** The system of red and amber signal lamps is designed so that red lamps are activated whenever the entrance doors are opened, regardless of whether the amber lamps have been activated.

**Alternative fuel vehicle (AFV):** A vehicle designed to operate on an energy source other than petroleum-based gasoline or diesel fuel. Such fuels include, but are not limited to, CNG, LNG, LPG and electricity.

> **Bi-fuel:** A vehicle designed to operate on two different fuels, but not simultaneously.
>
> **Dual fuel:** A vehicle designed to operate on a mixture of two different fuels.

**Hybrid power:** The use of two or more power sources to provide the motive force for the vehicle (e.g., electricity to drive the wheels with internal combustion to supplement the battery).

**Alternative Transportation**: The transportation of students by a school, or a third party under an agreement with schools, in any vehicle that is not a Federal Motor Vehicle Safety Standards (FMVSS) defined school bus or Multifunction School Activity Bus (MFSAB). This includes home-to-school and school-to-home transportation, as well as school-related activities. This definition excludes motor vehicles transporting students for which parents or guardians receive direct compensation from a school, motor coaches operating under charter operator authority, and transit buses providing regular route service.

**AMD:** Ambulance Manufacturer Design.

**Anchorage point:** The point of attachment of a securement system or occupant restraint to the vehicle structure, school bus seat, or wheelchair.

**ANPRM:** Advanced Notice of Proposed Rulemaking. A notice published in the *Federal Register* by a federal agency, such as NHTSA, requesting information and inviting comment on a proposed change of regulation.

**ANSI:** American National Standards Institute, an organization which administers and coordinates the development of voluntary industry standards.

**Antilock brakes (ABS):** Brake systems with sensors that automatically control the degree of wheel slip during braking and that relieve brake pressure on wheels that are about to lock up. Also known as *ABS.*

**ARB:** The abbreviation for the (California) Air Resources Board, the state agency in California which sets the state's emission standards.

**Aspect ratio:** Percentage used to express the ratio of a tire's height to its width; also known as *tire profile*.

**Assessment team:** A group of persons, including the parent or guardian of a student with disabilities, who develop a profile of the student in terms of his or her mental and physical functioning in order to determine the student's eligibility for special education. (See also *MDC*.)

**Asset:** A resource with economic value that an individual or entity owns or controls.

**Assistive device:** See *Adaptive device*

**Assistive technology**: See *Adaptive device*

**ASTM:** ASTM International (originally known as the American Society for Testing and Materials); a voluntary standards development organization and a source for technical standards for materials, products, systems and services.

**Attendant:** A adult assigned to assist the school bus driver by addressing behavioral, securement, and medical needs during the transportation process. (May have other names in specific regions.)

**BAC:** Blood or breath alcohol concentration; the measure used to determine alcohol impairment.

**Barrier:** See *Restraining Barrier*

**Baseline Assessment**: A review and documentation of an organization's current capacities, strengths and bottlenecks, technological infrastructure, and existing systems.

**BAT:** Breath Alcohol Technician; an individual who instructs and assists persons in the alcohol testing process and operates an EBT. (See *EBT)*

**Behavior management:** Methods of influencing student conduct on the school bus.

**Belt-converter CSRS:** A webbing-based child safety restraint system that can be installed on a school bus seat using a cam wrap in order to add shoulder and crotch straps to a bus seat's existing lap belt.

**Beltline:** The horizontal section defined by the lower edges of the passenger windows and the top of the seat cushion level rub rail.

**Bi-fuel:** Used to describe a bus capable of running on either of two fuels, although not simultaneously. Engines which can be switched to run on either CNG or gasoline are examples.

**Biodiesel:** Vehicle fuel made from plant or animal matter and used alone or mixed with diesel fuel in engines. B100, or "neat biodiesel," refers to the pure form. Biodiesel can be mixed with Petro diesel in any proportion, but the most common form is B20, which is 20% biodiesel and 80% Petro diesel. Biodiesel, as defined in ASTM D 6751, is registered with the US EPA as a fuel and a fuel additive under Section 211(b) of the Clean Air Act.

**Birth-to-K**: See *Pre-school.*

**Bloodborne pathogens:** Common name for standards adopted by OSHA in 29 CFR 1910 to protect workers against the health hazards of exposure to blood and other potentially infectious body fluids or materials; also refers to the pathogenic microorganisms present in human blood.

**Boarding:** The process of loading passengers into a school bus.

**Body fluids cleanup kit:** Package of materials including, but not limited to, latex gloves, disposal bag and absorbent material, used to clean up spills of potentially infected bodily fluids, under OSHA's Bloodborne Pathogens regulations and Universal Precautions practices; also known as *hygiene kit*.

**Booster seat:** A firm seating platform for non-school bus vehicles that helps a vehicle's lap-shoulder belt properly cross a child's body by raising the height of the thighs and shoulders and providing guides to keep the webbing over bones rather than soft tissue: also called *belt-positioning.*

**Brake:** A device or mechanism used to retard and stop the speed of a moving vehicle or to prevent the movement of a stopped vehicle.

> **Emergency brake:** A mechanism designed to stop a motor vehicle after a failure of the service brake system.
>
> **Foundation brake:** An assembly of the non-rotational components of a brake including its mechanism for developing a frictional force.
>
> **Retarder:** An auxiliary braking device used to reduce brake wear and/or improve braking performance.
>
> **Service brake:** The primary mechanism designed to retard and stop a moving vehicle.
>
> **Parking brake:** A mechanism designed to prevent the movement of a stationary motor vehicle.

**Brake fade:** A condition that occurs as brakes become less effective.

**BTU:** A unit of work or energy known as a British Thermal Unit. One BTU is the energy required to increase the temperature of one pound of water by one degree Fahrenheit.

**Bus:** A motor vehicle with motive power, except a trailer, designed for carrying more than ten (10) persons, including the driver.

> **Activity bus:** A bus owned, leased or contracted by a school district and regularly used to transport students on field trips, athletic trips or other curricular or extracurricular activities, but not used for to-and-from school transportation; must meet all FMVSSs for school buses. (Also known as MFSAB)
>
> **Charter bus:** A bus that is operated under a short-term contract with a school district or other sponsor who has acquired the exclusive use of the vehicle at a fixed charge to transport students to a school-related event.
>
> **DOT bus:** A school bus that meets the FMCSR standards for interstate transportation set forth in 49 CFR 390.
>
> **Intercity bus:** A large bus with front doors only, high-back seats and under-floor luggage storage for high-speed, long-distance trips; also known as *motorcoach* and *over-the-road coach*.

**Motorcoach/Over the Road bus:** Any motorcoach other than a school bus or transit bus used for the transportation of any students enrolled in a public or private school at or below the 12th grade level, to or from school-related activities. Does not meet FMVSS requirements for school buses.

**Nonconforming bus:** Any vehicle designed to carry more than ten (10) passengers, including the driver, that is used to transport students to or from school or school-related activities and that does not meet the federal standards specific to school buses.

**School bus:** A bus owned, leased, contracted to or operated by a school or school district and regularly used to transport students to and from school or school-related activities, but not including a charter bus or transit bus. A school bus must meet all applicable FMVSSs and is readily identified by alternately flashing lamps, National School Bus Yellow paint, and the legend "School Bus," except as may be provided for the multifunction school activity bus.

> **Type A:** A Type "A" school bus is a conversion or bus constructed utilizing a cutaway front-section vehicle with a left side driver's door. This definition includes two classifications: Type A-1, with a Gross Vehicle Weight Rating (GVWR) of 14,500 pounds or less; and Type A-2, with a GVWR greater than 14,500 and less than or equal to 21,500 pounds.
>
> **Type B:** A Type "B" school bus is constructed utilizing a stripped chassis. The entrance door is behind the front wheels. This definition includes two classifications: Type B-1, with a GVWR of 10,000 pounds or less; and Type B-2, with a GVWR greater than 10,000 pounds.
>
> **Type C:** A Type "C" school bus is constructed utilizing a chassis with a hood and front fender assembly. The entrance door is behind the front wheels; also known as a *conventional school bu*s. This type also includes cutaway truck chassis or truck chassis with cab with or without a left side door and a GVWR greater than 21,500 pounds.
>
> **Type D:** A Type "D" school bus is constructed utilizing a stripped chassis. The entrance door is ahead of the front wheels; also known as *rear* or *front engine transit style school bus*.
>
> **Multifunction school activity bus (MFSAB**): "A school bus whose purposes do not include transporting students to and from home or school bus stops," as defined in 49 CFR 571.3. This subcategory of school bus meets all FMVSS for school buses except the traffic control requirements (alternately flashing signal and stop arm).
>
> **Specially-equipped bus:** A school bus designed, equipped, or modified to accommodate students with disabilities

**School tripper bus:** Any motor vehicle routed by, or in the vicinity of, a public or private school, and used for to- or from-school transportation of any student enrolled in that public or private school at or above the ninth-grade level and operated or contracted by, and under the exclusive jurisdiction of, a publicly owned or operated transit system.

**Transit bus:** A bus designed for frequent stops, with front and back-center doors and low-back seating, operated on a fixed schedule and route to provide public transportation by indiscriminately taking on passengers at designated bus stops.

**Bus body:** The portion of a bus that encloses the occupant space exclusive of the bumpers, the chassis frame, and any structure forward of the forward-most point of the windshield mounting.

**Bus pass:** Authorization to ride a school bus other than the student's assigned bus; or prepayment for transit bus rides.

**Bus yard:** An area for storage and maintenance of buses.

**CAA:** Clean Air Act; also known as CAAA, the Clean Air Act Amendments of 1990.

**Cam wrap:** A system for installing specially-designed child-safety-restraint systems to a school bus seat using a strap or straps that wrap vertically around the school bus's seatback.

**Capacity** (See *Seating capacity*.)

**Capital costs:** Long-term costs associated with the purchase of vehicles, buildings and property.

**Carbon monoxide:** A product of incomplete combustion; this gas is colorless, odorless, very poisonous and does not contribute to smog.

**Carrier:** Any public school district, any public or private educational institution providing preschool, elementary or secondary education, or any person, firm or corporation under contract to such a district or institution, engaged in transporting students.

**Casualty insurance** (*See Liability insurance.)*

**Catalytic converter:** An exhaust after-treatment device containing a catalytic material that is used to burn off or reduce unburned fuel or gases and thus reduce emissions, particularly NOx and hydrocarbons. Diesel converters run at cooler temperatures than gasoline converters and require different catalysts.

**CDIP:** Commercial Drivers Instructional Permit. The learner's permit that a CDL applicant receives when he/she passes the knowledge tests; it allows the applicant to drive a CMV when accompanied by a driver with a CDL.

**CDL:** Commercial Driver's License.

**Cetane number:** A measure of self-ignition properties of a fuel after injection in a diesel engine. It relates to the knock properties of fuel. The higher the number, the more easily the fuel will ignite under compression; therefore, higher cetane fuels are usually preferred in diesel engines.

**CFR:** Code of Federal Regulations.

**Chain of custody:** The chronological handling, documentation, or paper trail showing receipt, custody, control, or transfer of students or items (such as medication).

**Chassis:** Vehicle frame with all operating parts, including engine frame, transmission, wheels and brakes.

**Chassis starting interlock circuit:** A device which prevents the engine of a bus from starting if any of the emergency exits are locked or not fully closed and latched.

**Clean diesel:** A combination of improved emission controls and cleaner-burning diesel fuel (see *ULSD)* that significantly reduces the pollutants from diesel engines. Can refer to new vehicles that meet EPA's 2007 or 2010 standards or to older vehicles retrofitted with emission control technology.

**CMV:** Commercial Motor Vehicle. A motor vehicle defined in 49 CFR 390.5.

**CMVSA:** Commercial Motor Vehicle Safety Act of 1986; among other things, authorization for CDL.

**CNG:** Compressed natural gas.

**Combustible gas sensor:** Detector capable of sensing the presence of natural gas.

**Common carrier:** A public bus, train or airplane that travels on a prescribed route and schedule, and accepts passengers indiscriminately.

**Communicable disease:** Any illness that can be transmitted from one person to another, including most common childhood diseases, the common cold and serious illnesses, such as hepatitis and AIDS.

**Community transportation:** Services that address all transit needs of a community, including general and special populations, such as the elderly and disabled.

**Companion animal:** An animal trained to provide assistance for persons with disabilities; can be a guide animal, assistive animal or service animal.

**Completed vehicle:** A vehicle that requires no further manufacturing operation to perform its intended function other than the addition of readily attachable components, such as mirrors or tire and rim assemblies, or minor finishing operations such as painting.

**Conceptual Framework**: The system of concepts, assumptions, and principles used to think about or approach a particular issue or problem.

**Conduct report:** A form authorized by school officials for use by drivers and attendants to report instances of unacceptable behavior by school bus passengers; also known as *discipline report*.

**Continuum of services:** The range of possible options, from least restrictive to most restrictive, available to students with disabilities for transportation services.

**Conspicuity:** The ability of an object to be noticed and recognized without any confusion or ambiguity (SAE J1967).

**Contracted bus services**: Any services purchased from a third-party, including both public and private sector providers, specifically for bus operations.

**Contracted services**: Any services purchased from a third-party, including both public and private sector providers to support operations.

**COWHAT:** Committee on Wheelchairs and Transportation: a group comprised of safety experts, rehabilitation engineers, clinicians, manufacturers and other stakeholders who work under the auspices of RESNA to develop voluntary equipment standards related to providing safer transportation for wheelchair-seated occupants of motor vehicles.

**CPM**: Cost per mile

**Crash:** (1) A motor vehicle collision resulting in any personal injury, death or any damage to one or more motor vehicles or property. (2) A collision involving any vehicle with any student

> **Preventable:** A collision that could have been avoided by reasonable action on the part of the school bus driver.
>
> **Reportable:** A crash required to be reported under FMCSR (i.e., a crash involving a CMV on a public road in which there is a fatality or an injury treated away from the scene, or that requires a vehicle to be towed from the scene as a result of sustaining disabling damage).

**Crash test:** A simulated crash condition which evaluates the ability of a vehicle or vehicle safety system functions to protect an occupant under impact forces.

**Criminal record check:** The investigation of a person's criminal history through submission of fingerprints to state and/or federal authorities; also known as *background check*.

**Crossing arm:** A device attached to the front bumper of a school bus that is activated during loading and unloading and designed to force the students to walk far enough away from the front of the bus to be seen by the driver; also known as *crossing control arm.*

**Cryogenic:** Relates to storage and use at very low temperatures. LNG requires cryogenic systems.

**CSRS:** Child Safety Restraint System; a device (other than lap or lap/shoulder seatbelts) meeting the requirements of FMVSS No. 213, that's used in motor vehicles to restrain, seat or position a child who weighs 36 kg (80 lbs.) or less. Also known as *child safety seat, child restraint* and *car seat*.

**Curb cut:** Area where the street curb has been cut and sloped to allow the sidewalk to lead smoothly to the roadway.

**Curb weight:** The weight of a motor vehicle with standard equipment, maximum capacity of engine fuel, oil, and coolant and, if applicable, air conditioning and additional weight of optional engine, but without passengers.

**Danger zone:** A twelve-foot area immediately surrounding the stopped school bus.

**Data Collection Collaborative**: Engaging with a broad range of stakeholders to gather data on technology needs for proposed project(s) in consideration of operational needs.

**Deadhead:** Movement of a bus without passengers (e.g., from school to bus yard).

**Deadtime:** The period between arriving at an activity trip destination and leaving the destination for the trip home; also known as *waiting time* and *stand-by time*.

**Dealer:** Any person who is engaged in the sale and distribution of new motor vehicles or motor vehicle equipment. Refers primarily to purchasers who, in good faith, purchase any such vehicle or equipment for purposes other than resale.

**Decibel (dB):** A unit used to express the relative intensity of a sound as it is heard by the human ear. The decibel measuring scale is logarithmic. Zero (0 dB) on the scale is the lowest sound level that a normal ear can detect under very quiet ("laboratory" conditions) and is referred to as the "threshold" of human hearing. On a logarithmic scale, 10 decibels are 10 times more intense, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense than 1 decibel.

**Decibel "A-Weighted" (dBA):** The scale for measuring sound in decibels that assigns weights to different frequency ranges to reduce the effects of low and high frequencies in order to simulate human hearing.

**DEF:** Diesel Exhaust Fluid; the reactant necessary for the functionality of the SCR system. It is prepared by dissolving solid urea to create 32.5% solution in water. DEF breaks down into ammonia (NH3) and reacts with NOx in the SCR system to produce Nitrogen (N2) and water (H2O).

**Dispatch:** To relay service instructions to drivers.

**Distributor:** Any person or company primarily engaged in the sale and distribution of motor vehicles or motor vehicle equipment and/or parts for resale.

**DNR:** Do Not Resuscitate; an order from a parent, legal guardian or court that prohibits the use of emergency measures to prolong the life of an individual.

**DOC:** Diesel oxygenation catalyst. Devices that use a chemical process to break down pollutants in the exhaust stream of diesel engines into less harmful components.

**DOT:** United States Department of Transportation.

**DOT driver:** A driver who meets the FMCSR standards, set forth in 49 CFR 391.

**Double run:** One bus making two trips over the same route each morning and afternoon (e.g., first picking up high school students and then returning for elementary students).

**Downtime:** The period when a vehicle is not in service (e.g., due to mechanical failure or scheduled maintenance).

**DPF:** Diesel particulate filter; ceramic devices that collect particulate matter in the exhaust stream of diesel engines. The high temperature of the exhaust heats the ceramic structure and allows the particles inside to break down (or oxidize) into less harmful components.

**Driver applicant:** A person who applies for a position as a school bus driver.

**Driver training:** Instructional programs designed to impart knowledge and improve the skills necessary for school bus drivers, including but not limited to: knowledge of the vehicle, safe driving practices, emergency procedures, passenger control and the use of child safety restraint systems, and other specialized equipment.

> **In-service:** Training provided annually, or more often, to school bus-certified drivers.
>
> **Pre-service:** Training provided to driver applicants prior to school bus certification and/or transporting students.

**Driver qualifications:** Restrictions of state and federal law which determine a person's eligibility to become a school bus driver (e.g., age limits, physical condition, criminal record, driving history, etc.).

**DRL:** Daytime running lamps; head lamps that operate automatically at a reduced voltage during the day to increase the vehicle's visibility; also known as *daytime running lights*.

**Drug:** Any substance, other than alcohol, considered to be a controlled substance listed on schedules I through V in 21 CFR 1308.

**Dry run:** A trip on a route without student passengers for driver training or familiarization of the route.

**Dual brake system** (See *Split brake system*.)

**Dual fuel engine:** Also known as *flex fuel*. Used to describe a gasoline-methanol dual fuel engine using mixtures of gasoline and methanol, such as M85, which is 15 percent gasoline and 85 percent methanol. Dual-fuel engine can also refer to engines operating on any other mixture of fuels simultaneously, such as engines which run on a mixture of CNG and diesel.

**DVIR:** Driver vehicle inspection report. Federal, state or local approved form for reporting results of pre-trip and post-trip inspections; also known as *daily vehicle inspection report* and *pre-trip inspection form*.

**Dynamic testing:** The process of assessing transportation equipment, such as a vehicle, child safety restraint system, wheelchair, or securement system components, by subjecting it to a simulated crash condition, whether via a controlled vehicle crash or a sled apparatus in a test facility. Often, dynamic testing also involves assessing outcomes for one or more crash test dummies.

**EAP:** Employee Assistance Program; a program of education and counseling required by 49 CFR 391 as part of a carrier's drug and alcohol testing program; may also include optional rehabilitation services.

**EBT:** Evidential Breath Testing device; a device approved by NHTSA for testing drivers for alcohol use.

**EDR:** Event Data Recorder; a device which records vehicle functions (e.g. speed change during a crash).

**EGR:** Exhaust Gas Recirculation; A type of in-cylinder NOx reducing technology that involves the re-introduction of metered quantities of cooled exhaust gas back into the cylinder as it fills with air, displacing some of the air volume and hence some of the oxygen. Replacing a proportion of this oxygen reduces the NOx formed during combustion.

**EHA:** The Education for all Handicapped Children Act, passed in 1975 as P.L.94-142. (See also *IDEA*.)

**EPA:** The United States Environmental Protection Agency.

**ESEA:** Elementary and Secondary Education Act; ESEA offered new grants to districts serving low-income students, federal grants for textbooks and library books, funding for special education centers, and scholarships for low-income college students. Additionally, the law provided federal grants to state educational agencies to improve the quality of elementary and secondary education.

**ESSA:** Every Student Succeeds Act; ESSA includes provisions that will help to ensure success for students and schools. The previous version of the law is known as the No Child Left Behind (NCLB) Act. In December 2015, President Barack Obama signed into law the reauthorization of the Elementary and Secondary Education Act (ESEA), known as the "Every Student Succeeds Act" (ESSA). This act introduced significant new requirements for state and local education agencies (LEAs; or "school districts") to continue receiving federal education funding. ESSA also expanded rights for students and parents, including provisions related to pupil transportation. The following information outlines how ESSA relates to pupil transportation and describes the transportation choice options and requirements for school districts. **https://www.everystudentsucceedsact.org/**

**Early bus:** A bus scheduled to run prior to the regular morning run (e.g. to take children to day care programs located in schools).

**Early intervention service:** Education and related services provided to infants and toddlers from birth through two years of age.

**Effective date:** The date at which a regulation or standard takes effect, on or after which compliance is legally required.

**Elastomer:** An elastic substance occurring naturally as natural rubber, or produced synthetically (e.g., butyl rubber, vinyl, etc.).

**Electronic Stability Control system or ESC system;**

A. It augments bus directional stability by having the means to apply and adjust the brake torques individually at each wheel position on the front and rear axles of the bus to induce correcting yaw moment to limit oversteer and understeer;

B. It enhances rollover stability by having the means to apply and adjust the brake torques individually at each wheel position on the front and rear axles of the bus to reduce lateral acceleration;

C. It is computer-controlled with the computer using a closed-loop algorithm to induce correcting yaw moment and enhance rollover stability;

D. It has a means to determine the bus's lateral acceleration;

E. It has a means to determine the bus's yaw rate and to estimate its side slip or side slip derivative with respect to time;

F. It has a means to estimate bus mass;

G. It has a means to monitor driver steering inputs; and

H. It has a means to modify engine torque, as necessary, to assist the driver in maintaining control of the bus.

**Electronic voice communication system:** A means by which the driver of a vehicle can communicate with a dispatcher or other person at a remote location (e.g., two-way radio, cellular phone).

**Emergency**: A serious, unexpected, and often dangerous situation requiring immediate action**.**

**Emergency response plan:** A detailed approach to identifying and responding to potential accidents involving hazardous substances; required for every community by the Emergency Planning and Right-to-Know Act of 1986.

**Emergency roof exit:** An opening in the roof of the bus meeting the requirements of FMVSS No. 217 which provides emergency egress and sometimes ventilation; also known as *roof hatch*.

**Emerging Technologies**: Any product or service characterized as having radical novelty, fast growth, coherence, prominent impact, and uncertainty. Emerging technologies are technologies whose development and/or practical applications are still largely unrealized.

**EOBR:** Electronic on-board recorders; an electronic device that collects, stores, and displays data relative to driver and vehicle performance, including such elements as location, time, speed, and distance traveled.

**Ergonomics:** The study of the design of equipment to reduce human fatigue and discomfort.

**Ethanol:** Grain alcohol, distilled from fermented organic matter and used as a vehicle fuel.

**Evacuation drill:** Simulation of an emergency drill where all people must exit the bus in order to teach adults and students proper emergency procedures and to provide practice in the use of emergency exits; also known as *bus safety drills*.

**Evaluation**: The making of a judgment about the amount, number, or value of something; assessment.

**Extended-year service:** Transportation provided for students subsequent to the end of the traditional school year; especially, transportation as a related service for students with disabilities beyond the normal school year in accordance with the IEP.

**Extraboard driver** (See *Substitute driver*.)

**FAPE:** Free Appropriate Public Education; special education and related services, including transportation, that are provided at public expense in accordance with a child's IEP and meeting their unique needs. FAPE is established as a right for students with disabilities under the Individuals with Disabilities Education Act (34 CFR 300.13 and 300.121).

**FBI background check:** The national criminal record check.

**FCC:** Federal Communications Commission

**FERPA:** The Family Educational Rights and Privacy Act of 1974, 20 USC 1232, which requires confidentiality of student records in public schools, but allows access to necessary information regarding student disabilities and/or health needs to those who have a need to know, including school bus drivers.

**FHWA:** Federal Highway Administration; an agency of the U.S. Department of Transportation.

**Field trip:** The transportation of students to an event or destination which is an extension of classroom activity (e.g., a part of the curriculum). A field trip is one type of *activity trip*.

**Final Rule:** Notice published in the *Federal Register* by a federal agency announcing a new or changed regulation.

**Final stage manufacturer:** A person who performs such manufacturing operations on an incomplete vehicle that it becomes a completed vehicle.

**First aid:** Emergency treatment given to an ill or injured person before regular medical help is available.

**Fixed route:** Transportation service that runs on regular, prescheduled routes, usually with bus schedules and designated bus stops.

**FMCSA:** Federal Motor Carrier Safety Administration; an agency of the U.S. Department of Transportation; formerly the Office of Motor Carrier Highway Safety within the Federal Highway Administration.

**FMCSR:** Federal Motor Carrier Safety Regulations, 49 CFR 383, 390-397, and 399; motor vehicle safety and construction standards under FMCSA that apply to commercial motor vehicles and drivers transporting passengers in interstate commerce.

**FMLA:** Family and Medical Leave Act; requires employers to grant time off to employees for medical reasons or to care for family members.

**FMVSS:** Federal Motor Vehicle Safety Standards, 49 CFR 571; design and performance standards developed and enforced by NHTSA that apply to all new motor vehicles and items of motor vehicle safety equipment, including child safety restraint systems.

**Formaldehyde:** A chemical compound that is a by-product of combustion from engines. Concentrations may be particularly high in emissions from engines fueled by methanol.

**Forward control bus:** a school bus in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter of the vehicle length; also known as *transit-style*. (See also *school bus, type D*.)

**Forward-facing:** Installation of a seat (e.g., fixed bus seat or wheelchair of CSRS) in such a way that the seat and its occupant face the front of the vehicle.

**Four-point tiedown:** A securement system in which four strap assemblies, typically using retractors, attach to the wheelchair frame at four separate points and anchor to the vehicle floor at four separate points.

**FSS:** Fire suppressant system; a fire extinguisher system installed in the engine compartment of a vehicle and activated automatically in response to a fire sensor or manually in response to an alarm.

**FTA:** Federal Transit Administration, part of U.S. Department of Transportation; formerly Urban Mass Transit Administration (UMTA).

**Fuel injection:** System that uses no carburetor but sprays fuel directly into cylinders or into the intake manifold.

**Fumigate:** Literally means "to form a gas or disperse one gas in another." The term is used to describe the injecting of gas, usually CNG, into the intake air of the engine.

**Gap Analysis**: Method for assessing performance as related to a specific operational goal, then determining if the goal is being met, and if not, what steps the operation should take to reach the goal. Transportation operations should prioritize technology investments based on these findings as part of a comprehensive operational needs assessment, choosing investments that offer the greatest alignment with operational goals.

**GAWR:** Gross axle weight rating; the value specified by the manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.

**Glazing**: The glass or glass-like portion of a window.

> **Laminated glass:** Any glazing material that consists of one or more sheets of glass and an inboard-facing surface sheet of plastic, the components being held together by intervening plies of plastic interlayer or by the self-bonding characteristic of the inboard plastic layer.
>
> **Safety glass:** Glazing material constructed, treated or combined with other materials so as to reduce, in comparison with ordinary glass, the likelihood of injury to persons as a result of contact with the glass, either broken or unbroken.
>
> **Storm window:** Two or more sheets of safety glazing material separated by airspace to provide insulating properties and fixed in a common frame or mounting.
>
> **Tempered glass:** Glazing which consists of glass that has been tempered to meet the properties of safety glass.

**GPS:** Global Positioning System; a satellite tracking system that enables a receiver to compute the position and speed of a vehicle.

**Greenhouse gases:** some of these gases are formed by vehicle emissions causing a rise in temperature of the earth's atmosphere.

**Guideline 17:** A highway safety program guide for student transportation safety issued by NHTSA in 23 CFR 1204; formerly Standard 17.

**GVW:** Gross vehicle weight; the actual weight of the fully loaded vehicle, including all cargo, fluids, passengers and optional equipment as measured by a scale.

**GVWR:** Gross vehicle weight rating; the value specified by the vehicle manufacturer as the load-carrying capacity of a single vehicle as measured at the tire-ground interfaces. For school buses, NHTSA has defined in Title 49 CFR, Section 567.4(g)(3), the minimum occupant weight allowance as 120 pounds per passenger times the number of the vehicle's designated seating positions and 150 pounds for the driver. Gross vehicle weight rating shall not be less than the sum of the unloaded vehicle weight, plus the rated cargo load.

**Handrail inspection tool:** A device formed by tying a half-inch hex nut to a 36-inch cord, used to inspect school bus handrails and other areas for possible snagging hazards.

**Hazard lamps:** Lamps that flash simultaneously to the front and rear on the right and left sides of a vehicle, used to indicate caution; also known as *four-way flashers*.

**Head protection zone:** The empty space above and in front of each school bus passenger seat which is not occupied by side wall, window or door structure, the dimensions of which are detailed in FMVSS No. 222.

**Head Start:** A federal program initiated in 1965 to provide comprehensive child development services to preschool children of predominantly low-income families.

**Headsign**: A sign above the windshield of the bus which can be changed from *School Bus* to other wording, such as *Charter*.

**Health care plan:** The general term for a plan of action used to outline care for a student who needs a specific medical response or support during transport. May also be known as Emergency Health Plan or Individualized Emergency Medical Plan.

**Highway:** Any public highway, road, street, alley, parkway or other place open to public motor vehicle travel.

**Horsepower:** The measurement of an engine's ability to do work. One horsepower is the ability to lift 33,000 pounds one foot in one minute.

**Hours of service:** The consecutive or cumulative period of time that a commercial driver may be on duty; for details see reference in the sub-section, "Transportation Other Than To and From School" in the OPERATIONS section of this document.

**HOV:** High occupancy vehicle; a vehicle that can carry two or more passengers.

**Hybrid vehicle:** Generally, refers to a vehicle designed to run on electric power and an internal combustion engine.

**Hydrocarbons:** A gaseous compound formed by incomplete combustion and comprised of unburned and partially burned fuel. It combines with NOx and sunlight to form ozone and is a major contributor to smog.

**Hydrogen fuel cell:** A chemical reaction process to develop electrical current from oxygen and hydrogen.

**ICC:** The former Interstate Commerce Commission, the economic regulation agency within the Department of Transportation. The agency was disbanded in 1997 as a result of economic deregulation, and most functions were transferred to the Federal Highway Administration.

**IDEA:** The Individuals with Disabilities Education Act, a federal law that makes a free appropriate public education available to eligible children with disabilities and ensures special education and related services to those children. IDEA was initially passed in 1990 as Public Law 101-476, replacing the Education for All Handicapped Children Act. *(P.L. 94-142)*. The most recent reauthorization of the IDEA is P.L. 108-446, enacted in 2004.

**IEP:** Individualized Education Program; as required under IDEA Part B, an IEP is a legal document developed by an assessment team to guide the education of each child ages three through 21 who has an eligible disability under the law.

**IFSP:** Individualized Family Service Plan; as required by IDEA Part C, an IFSP is a for legal document that identifies early intervention services for babies and toddlers (age birth to three) who have an identified developmental delay. Services are provided for the child's family, as well.

**Impact test:** See *Crash Test*

**Inclement weather**: when weather conditions are hazardous, unsafe or undesirable.

**Inclusion:** Integration of a student with disabilities into a regular classroom and onto a regular education school bus route; also known as *mainstreaming*.

**Incomplete vehicle:** An assemblage consisting, as a minimum, of frame and chassis structure, power train, steering system, suspension system and braking system (to the extent that those systems are to be part of the completed vehicle) and requiring further manufacturing operations other than the addition of readily attachable components, such as mirrors and tire and rim assemblies, or minor finishing operations such as painting, to become a completed vehicle.

**Incomplete vehicle manufacturer:** A manufacturer of an incomplete vehicle (i.e., a person who performs the first stage of manufacture on a vehicle manufactured in two or more stages of manufacture). (See also *intermediate manufacturer* and *final-stage manufacturer*.)

**Injury incident, school bus:** Any non-crash event resulting in injury to a person while in the bus or while boarding/leaving the bus.

**In loco parentis** (See *Loco parentis*.)

**Inspection:** A close examination of a motor vehicle performed in accordance with local, state and/or federal requirements by an authorized agent of the local, state or federal government.

**Integrated CSRS**: A child safety restraint system meeting FMVSS 213 that is built into the seatback of school bus seating. Also called *built-in* or *integrated child safety seat*.

**Integrated wheelchair-occupant restraint system:** A system in which the lap belt or a crashworthy five-point harness of a wheelchair occupant securement system's occupant restraint component connects directly to, and is dependent upon, the wheelchair frame or the rear tiedown assemblies of the wheelchair/mobility aid's securement system. (Compare to *Parallel wheelchair restraint system*.)

**Intermediate manufacturer:** A person, other than the incomplete vehicle manufacturer or the final-stage manufacturer, who performs manufacturing operations on an incomplete vehicle.

**International symbol of accessibility:** A white emblem on blue background used to indicate that a vehicle can accommodate individuals with disabilities.

**ITP:** Individualized Transportation Plan; written guidance for safely transporting a student with a defined disability, typically as part of the child's IEP, IFSP or 504 Plan.

**Key performance indicator (KPI):** Key performance indicators are used as a best practice to measure performance, goals, efficiency and productivity. Standard measures and metrics can be molded to fit many different sized transportation operations.

A. Cost per student transported: Total direct cost, plus total indirect cost, plus total contractor cost of bus services, divided by the number of riders.

B. Percentage of students receiving transportation: Number of daily bus riders (district and contractor-operated) divided by total number of students.

C. Number of individual routes per bus per day: Number of individual routes per day (district and contractor-operated) totaled divided by the number of daily scheduled buses (district and contractor-operated).

D. Number of student riders per bus: The number of daily bus riders (district and contractor-operated) divided by total number of daily buses.

E. Cost per bus, per year to operate: Total direct transportation costs plus total indirect transportation costs divided by total number of buses (contractor and district)

F. Cost per mile to operate: Total expenditures for the transportation program divided by total annual miles for both district and contracted services.

G. Percent of the district's budget spent on transportation: Total expenditures for the transportation program divided by total district's annual budget.

H. Number of drivers employed versus the number of active buses: Total number of drivers divided by the total number of buses (active and spare buses) in the fleet for both district and contracted services.

I. Percentage of bus stops made at individual homes versus group stops: The number of bus stops made at individual homes divided by the number of group stops.

J. Age of the bus fleet: Take the total years for all school buses divided by the number of school buses (district and contractor-operated). Note: If the bus is nine months or more, round up to one year.

K. Crash frequency, costs, and injuries: Crash frequency can be measured by calculating the number of annual miles divided by the number of annual accidents. Crash costs can be measured by calculating the costs of all crashes in a school year and dividing them by the number of crashes. Crash injuries are calculated by totaling the number of all injuries and dividing them by the number of crashes in a school year.

L. Ratio of buses per mechanic: The total number of buses (district and contract) divided by total number of mechanics and mechanic helpers whose primary responsibility is to service the yellow bus fleet.

M. Average student ride time: The average one-way (single trip) daily ride time in minutes. This measure can be separated for general and special education students.

N. Seat utilization/passenger capacity: The average daily ridership for elementary, middle and high schools divided by total number of passenger seats available for all daily school buses used in the yellow bus home-to-school program (both district-operated and contractor-operated).

O. Time on road vs. number of routes: This ratio is achieved by measuring the total number of minutes for all routes (district and contractor-operated) and dividing them by the total number of routes.

**Kneeling bus:** A bus on which the front or rear end is lowered to allow easier access for passengers with disabilities.

**Lap belt:** A seat belt assembly (sometimes called a two-point belt) that must meet the requirements of FMVSS No. 209 and is intended to limit movement of an occupant's pelvis. NHTSA's terminology is Type 1 Seat Belt.

**Lap/shoulder belt**: A seat belt assembly (sometimes called a three-point belt because it has three points of anchorage, one near each hip and one above the shoulder) that must meet the requirements of FMVSS No. 209 and is intended to limit the movement of an occupant's pelvis and upper torso. NHTSA's terminology is Type 2 Seat Belt.

**Lap tray:** A removeable accessory for a wheelchair/mobile seating device, which may provide support, comfort and/or communication technology for the occupant.

**LATCH system: L**ower **A**nchors and **T**ethers for **Ch**ildren system; a system for CSRS installation, which does not involve a vehicle seat belt, that instead pairs standardized hardware on vehicle seats (lower anchor bars and tether anchors). Per FMVSS 213, All CSRSs sold in the US after 2002 are required to be LATCH compatible. except for models categorized as car beds, harnesses, school bus child restraint systems, or boosters.

**Late bus:** A bus scheduled to leave school at a time subsequent to the end of the school day, usually to provide transportation for students involved in after-school activities.

**Layover time:** Time built into a trip schedule between arrival and departure.

**LEA:** Local educational agency (such as a school district). When referencing a particular child, sometimes called district of residence (DOR).

**Lean burn:** Uses more air than is needed for theoretical complete combustion. This added air allows combustion to take place at a lower temperature, thus reducing the emission of NOx and CO.

**LED:** Light emitting diode; an electronic semiconductor device that emits light when an electric current passes through it. LEDs are commonly used in lamps and digital displays.

**Left:** Left position is determined from the normal driving position as seated in the driver's seat looking in the direction of forward travel.

**Liability insurance:** Protection against the claims of others for injury or property damage; also known as *casualty insuranc*e.

**Life cycle procurement:** A procurement contract based on both the initial capital cost and the cost of operation over the life of a vehicle, intended to identify the most cost-effective time to replace an asset.

**Lift** (See *Power lift*.)

**Live time:** The time when students are in the bus, beginning when the first passenger boards and ending when the last passenger leaves.

**LNG:** Liquefied Natural Gas.

**Load:** To pick up students at a designated bus stop or at school.

**Load factor:** The ratio of passengers actually carried to the vehicle's passenger capacity.

**Loading zone:** Any area where students are boarding or leaving a school bus.

**Loco parentis:** (also in *loco parentis*); legal term meaning the formal authority of a person to act for or in place of the parent of a minor child.

**Longitudinal:** Parallel to the longitudinal centerline of the vehicle, front to rear.

**Low-bid procurement:** Competitive procedure in which the lowest bidder is awarded the contract. (See also *performance-based procurement.)*

**Low-floor vehicle:** A bus in which the floor and entrance are closer to the ground, for easier access by students with disabilities or preschoolers.

**LPG:** Liquefied Petroleum Gas; also known as *propane*.

**LRE:** Least Restrictive Environment; a concept embodied in IDEA which requires that children with disabilities be integrated as fully as possible into situations and settings with their non-disabled peers.

**Mainstreaming** (See *inclusion*.)

**Manufacturer:** Any person engaged in the manufacturing or assembling of motor vehicles or items of motor vehicle equipment, including any person importing motor vehicle equipment for resale.

**MDC:** Multi-Disciplinary Conference; a meeting of a child's assessment/evaluation team to determine eligibility for special education services. The outcome of an MDC may be the creation of an IEP. (See also *Assessment team*).

**MDT:** Multi-Disciplinary Team; also known as PET, Pupil Evaluation Team: (See also *Assessment team*.)

**Mediation:** Efforts by a third party to bring about agreement between dissenting parties (e.g., labor and management or parents and school administration); usually less formal than arbitration.

**Medical support equipment:** Portable equipment used by students to maintain life functions, such as oxygen bottles, intravenous or fluid drainage apparatus.

**Medically fragile:** Refers to students who require specialized technological health care procedures for life support and/or health support.

**MFSAB (**See *Multifunction school activity bus* under *Bus*.)

**Minibus:** A small school bus, usually a Type A-1 or A-2 or Type B-1 or B-2.

**Mirrors:** The system of mirrors required to be installed on school buses in accordance with FMVSS No. 111 and applicable state laws.

> **Crossview:** Convex mirrors mounted on the front of the school bus and designed for student detection during loading and unloading, also known as System B mirrors and including elliptical, quadri-spherical, banana, or standard convex mirrors.
>
> **Driving:** Flat and convex mirrors mounted on each side of the bus designed for viewing the road along the sides to the rear while driving; also known as rearview, double nickel, west coast, or System A mirrors.

**MIS:** Management Information System; a means of data collection for analysis by management.

**Mobility aid:** A wheelchair, walker, crutch, cane or other device that is used to support and help convey a person with a physical disability.

**Mobile Seating Device:** A manual or powered mobility aid designed to support a person in the seated position. May or may not be suitable for use on a school bus. The term encompasses all types of wheelchairs as well as any other devices fitting this description.

**Modesty panel:** A panel located in front of a seat or row of seats to preserve the modesty of the passengers, usually supported by a stanchion and cross bar, and does not meet the performance standards of a *barrier* as defined in FMVSS No. 222. Also, a short panel which extends from the bottom of a *barrier* to or near to the floor for the purpose of reducing the draft from the entrance door—also known as *kick panel.*

**Monitor:** An adult assigned to assist the school bus driver by addressing behavioral, securement, and medical needs during the transportation process. May have other names in specific regions.

**Motor carrier or carrier:** The registered owner, lessee, licensee or bailee of any vehicle who operates or directs the operations of any such vehicle on either a for-hire or a not-for-hire basis.

**MPV:** Multipurpose Passenger Vehicle; any vehicle with a seating capacity of ten or fewer, including the driver, which is built on a truck chassis or with special features for occasional off-road use.

**MRO:** Medical Review Officer; a licensed physician with knowledge of substance abuse disorders required by 49 CFR 40 to receive and evaluate laboratory results generated by a carrier's drug testing program.

**MVR**: Motor Vehicle Record of the driver; also known as *driving history*.

**NAPT:** National Association for Pupil Transportation; a membership organization comprised of individuals and organizations representing all facets of school transportation.

**NASDPTS:** National Association of State Directors of Pupil Transportation Services; a membership organization primarily comprised of state officials responsible for student transportation.

**National school bus yellow:** The color defined in the publication "National School Bus Color Standard" SBMTC-008.

**NCLB**: No Child Left Behind: The No Child Left Behind Act of 2001 (NCLB) was in effect from 2002–2015. It updated the Elementary and Secondary Education Act (ESEA). The law applied to all K–12 public schools in the United States.

**NDR:** National Driver Registry.

**Nebula combustion chamber:** A unique high-turbulence combustion chamber in the top of a piston, which is particularly effective in efficient burning of lean gas-air mixtures.

**Neutral safety switch:** A device which prevents the bus from starting unless the transmission is in neutral gear or the clutch is depressed.

**New Technology**: Any product or service that is not in general use currently within the transportation operation

**NFPA:** National Fire Protection Association.

**NGV:** Natural Gas Vehicle.

**NHTSA:** National Highway Traffic Safety Administration; an agency of the U.S. Department of Transportation.

**NIST:** National Institute of Standards and Technology.

**Nominal dimension:** A dimension which exists in name only (e.g., 5/8" plywood, which is actually 19/32" thick, but is 5/8" nominal thickness). The variation between the actual dimension and the nominal dimension is the result of manufacturing practices and tolerances.

**Non-conforming vehicle:** A vehicle that does not meet all FMVSS for a school bus or MFSAB.

**NOx:** Oxides of Nitrogen; a regulated diesel emission which is a collective term for gaseous emissions composed of nitrogen and oxygen.

**NPRM:** Notice of Proposed Rulemaking; a notice published in the *Federal Register* by a federal agency of a proposed change in regulation.

**NSBY:** National School Bus Yellow: (See also SBMTC-008 for colorimetric specifications.)

**NSC:** National Safety Council.

**NSTA:** National School Transportation Association, a membership organization comprising primarily school transportation contractor companies.

**NSTSP:** National School Transportation Specifications and Procedures; a publication of the National Congress on School Transportation.

**NTSB:** National Transportation Safety Board, an independent federal agency authorized by Congress to investigate adverse transportation events/crashes and to issue safety recommendations.

**Occupant:** A person who occupies space inside a school bus; refers to both passengers and driver.

**OCR:** Office of Civil Rights, an agency of the U.S. Department of Education.

**Octane number:** A measure of anti-knock properties of a fuel that relates to spark ignition engines. The higher the number, the more resistant to knocking. Higher output and more efficient engine designs can be used with higher octane fuel.

**OEM:** Original Equipment Manufacturer.

**On-board monitoring system:** Computerized tracking of driver and vehicle performance, including speed, fuel consumption, etc. (See also *EOBR*.)

**Operating costs:** All costs associated with running the transportation system, which are distinct from capital costs.

**Operator:** The carrier who is responsible for running the transportation system, regardless of ownership of the vehicle.

**OSEP:** Office of Special Education Programs; an agency of the U.S. Department of Education.

**OSERS:** Office of Special Education and Rehabilitative Services; an agency of the U.S. Department of Education.

**OSHA:** Occupational Safety and Health Administration, an agency of the U.S. Department of Labor.

**OTETA:** The Omnibus Transportation Employees Testing Act of 1991, requiring drivers holding CDLs to participate in a drug and alcohol testing program.

**Out of service:** The removal of a school bus from passenger service due to a defective condition.

**Overall vehicle width:** The nominal design dimension of the widest part of the vehicle, exclusive of signal lamps, marker lamps, outside rearview mirrors, flexible fender extensions and mud flaps, determined with the doors and windows closed and the wheels in the straight-ahead position.

**Overhang:** The distance from the center of the rear axle to the rearmost end of the body or from the center of the front axle to the forward edge of the front bumper.

**Overload/Overcapacity**: Surpassing the maximum occupancy of the vehicle according to manufacturer guidelines. Insufficient room for all passengers to securely sit in a seat within the vehicle.

**Ozone:** A pollutant formed from nitrogen oxides (NOx), hydrocarbons and sunlight. This gas has an irritating odor, is poisonous and is used as an oxidizing agent for bleaching.

**P.A. system:** A public address system which allows the driver of a bus to communicate with persons inside and/or outside the bus through a speaker installed on the inside and/or outside of the bus; also known as *external loudspeaker*.

**Parallel wheelchair-occupant restraint system:** A system in which the lap belt of a wheelchair securement system's occupant restraint component anchors directly to the floor track or plates and is independent of the wheelchair or its tiedown system. (Compare to *Integrated wheelchair restraint system*.)

**Paratransit:** Public transit service which is more flexible than a fixed-route system, commonly providing special service for elderly and disabled passengers.

**Parking pawl:** A device fitted to a motor vehicle's automatic transmission designed to engage when the transmission shift lever selector is placed in the PARK position. The parking pawl locks the transmission's output shaft, stopping the shaft (and thus the driven wheels) from rotating.

**Part B:** Refers to the section of IDEA (20 USC 1400 *et. Seq.*) applicable to special education and related services for children with disabilities and to the implementing regulations at 34 CFR 300.

**Part HC:** Refers to the section of the IDEA related to early intervention services for infants and toddlers and to the implementing regulations at 34 CFR 303. Formerly referred to as Part H.

**Particulates:** Small solid particles (soot, etc.) formed by engine combustion. Visible particulates are seen in smoke; however, invisible particles may be present in smokeless exhaust.

**Particulate trap:** An exhaust treatment device used to collect (trap) and periodically burn off particulates and other potential problem emission gases formed in engine exhaust. (See also *DPF*.)

**Passenger:** A person who rides in a school bus but does not operate it. (See also *Occupant*.)

**Passenger compartment:** Space within the school bus interior measured from a point 30 inches ahead of the forward most passenger seating reference point (SRP) rearward to the inside surface of the rear end of the bus at the center of the rear emergency exit.

**Passenger endorsement:** A designation (*P*) on a CDL that indicates the driver is qualified to drive a commercial passenger vehicle. Must accompany an (*S)* endorsement.

**Passenger miles:** The total number of miles traveled by the aggregate number of passengers on a vehicle. (Example: Two students traveling four miles would equal eight passenger miles and five students traveling three miles would equal 15 passenger miles—totaling 23 passenger miles.)

**Performance base procurement:** Competitive procedure in which contracts are awarded based on a combination of price and past performance; also known as *Best Value Procurement*.

**Pilot ignition engine:** An engine using a small quantity of diesel fuel to provide an ignition source for an alternative fuel that will not ignite on its own in a compression cycle.

**Pilot Program**: A limited-scale, exploratory initiative designed to test, evaluate, and refine new technologies, processes, or systems before full-scale implementation. The goal of a pilot program is to assess feasibility, identify potential challenges, gather data, and gain insights into how the innovation performs in a real-world context. By operating on a smaller scale, a pilot program allows for adjustments and improvements based on observed outcomes and stakeholder feedback, ensuring that the technology or process is both effective and scalable for broader adoption. It is inherently iterative, flexible, and focused on learning and adapting rather than adhering to a predetermined procedure.

**P.L.94-142** (See *EHA*.)

**Port injection:** Similar to the throttle body system except that the fuel is injected near each cylinder intake port. The injectors and their controls can be individually controlled for maximum performance and emissions control.

**Positive-locking:** A design feature of a restraint system, like WTORS, in which the attachment and anchoring hardware cannot be inadvertently released or disengaged once properly installed.

**Post-trip interior inspection:** A check of the interior of the bus by the driver at the end of the run to ensure that no children or student belongings have been left behind.

**Postural support:** A seat, belt or other component used to support a child with disabilities in a desired position but not designed or intended to provide occupant restraint in a crash; also known as *positioning device.*

**Power base:** A powered, wheeled platform used to mount a seating device for carrying an individual with a disability; usually characterized by smaller diameter tires.

**Power cut-off switch:** A device that cancels all power from the vehicle batteries.

**Power lift:** A mechanized platform designed to provide access to a vehicle for an occupied mobility aid/wheelchair; also known as a *wheelchair lift*.

**Powertrain:** The group of components used to transmit engine power to the wheels; includes engine, transmission, universal joints, driveshaft, drive axles and gears; also known as *drivetrain*.

**Pphm:** Parts per hundred million

**Pre-school:** A descriptor for a child who is not yet in kindergarten. Pre-school children range in age from birth to five years, and may also be called *birth-to-K children*. By comparison, the similar terms "preschool" and "pre-K" refer to early education programs that typically serve children ages three to five. Therefore, pre-school children include those who attend these programs (preschoolers), as well as even younger children.

**Pre-trip inspection:** A systematic inspection of the bus by the driver before every trip or shift to ensure that the bus is in safe operating condition. The same procedure performed after the trip/shift is the *post-trip inspection*.

**Privatization:** The process of transferring the operation of public services from the public agencies to private companies or nonprofit organizations; also known as *contracting* or *outsourcing*.

**Project Management**: A process that involves strategy and planning to deliver value and move an objective/program forward. Focuses on how the project will be completed successfully.

**Project Planning:** Should occur before the project begins and continue throughout the project. Includes, setting goals, assigning resources, scheduling, defining scope, estimating costs, assessing risks, and assigning tasks.

**Pupil** (See *Student*.)

**Pusher:** A school bus in which the engine is mounted in the rear of the vehicle; also known as *rear-engine bus*. (See also *School bus, Type D*.)

**Pushout window:** A bus window that is hinged at the top or front to enable the window to be swung upward or outward relative to the side of the bus and to provide a means of emergency egress from the bus; also known as *emergency window*.

**Railroad crossing:** The intersection of a highway, street or roadway and railroad tracks; also known as *grade crossing*.

**Ramp:** An inclined plane for use between the ground and the floor of the vehicle to permit access by persons in wheelchairs/mobility aids.

**Reflective:** Refers to the property of materials that cause them, when they are illuminated, to reflect the light to some extent.

**Reformulated gasoline:** Also known as "oxygenated gasoline," reformulated gasoline has oxygen added to improve combustion and reduce emissions.

**Related services:** Transportation and other required support services that assist children with disabilities to attain free and appropriate public education. (Pursuant to the child's IEP)

**Remanufactured:** Refers to a vehicle component that has been structurally restored.

**Request for Information (RFI):** This is a preliminary process that collects written information about a supplier/s capability, such as their products, expertise, production schedule, and shipping capacity. The purpose of an RFI is to educate and explore potential solutions, and to gauge a supplier's soft skills. RFIs can help transportation operations start conversations with supplier/s and understand available options.

**Request for Proposal (RFP):** This is a document that solicits proposals from supplier/s, often through a bidding process. The purpose of an RFP is to compare and evaluate the overall value a supplier can offer. RFPs are more direct than RFIs and ask for explicit service or product information, which can help a transportation operation have a more efficient bidding process. RFPs can be used when a transportation operation has a general idea of what they need, or when they're working on a large, complex project with multiple potential solutions.

**Request for Quotation (RFQ):** This is a request sent to supplier/s for pricing and payment information. Generally, this includes detailed requirements and deliverables, detailing the cost of meeting a specific need. The RFQ rarely includes questions, as the purchaser already knows exactly what they need, a purchase is imminent, and the list of needs and/or products detailed in the request rarely changes.

**Repower installation:** A dedicated natural gas or other engine which was not part of the original chassis at the time of manufacturing.

**RESNA:** Rehabilitation Engineering and Assistive Technology Society of North America; an organization engaged in research and development of assistive technology for persons with disabilities.

**Restraining barrier:** An assembly, similar to a seat back located immediately in front of a single school bus passenger seat or row of seats, which provides crash protection in accordance with FMVSS No. 222; also known as *barrier, crash barrier* and *seat barrier*.

**Restraint system:** A broad term for any devices intended to secure and protect a passenger with or without a mobility aid in a vehicle. Examples include: lap belts, lap/shoulder belts, child safety restraint systems, and WTORS.

**Retractor, automatic-locking:** A spool for webbing (such as part of a seat belt or tiedown system) incorporating adjustment by means of a positive self-locking mechanism that is capable of withstanding restraint forces.

**Retractor, emergency-locking:** A spool for webbing (such as part of a seat belt or tiedown system) that adjusts freely and has a locking mechanism that is activated by sudden vehicle deceleration and/or, webbing movement relative to the vehicle, or automatic action during an emergency, and that is capable of withstanding restraint forces.

**Retroreflective:** Refers to material that is designed to direct light back to its source.

**RFID:** Radio Frequency Identification, use of electromagnetic fields to capture and transfer data.

**RFP:** Request for Proposals; an invitation to submit a contract proposal that is less restrictive than an invitation to bid on a contract.

**Ridership:** The number of passengers using a transportation system during a given time period.

**Right:** Right position is determined from the normal driving position as seated in the driver's seat looking in the forward direction of travel.

**Rim:** The part of the wheel on which the tire is mounted and supported.

**Risk management:** Practices and procedures designed to protect against losses from accidents, passenger and worker injuries, vehicle damage and other losses, and to reduce insurance costs.

**Rolling stock:** The vehicles in a transportation system.

**Roof hatch** (See *emergency roof exit*.)

**Roster:** List of approved riders for a specific run/route/field/athletic/activity trips

**Route:** A designated run (course) regularly traveled by a school bus to pick up students and take them to school, or to deliver students from school to their homes or designated bus stops.

**Route miles:** The total number of miles in one or more routes in the system.

**Route sheet**: A list of all the designated stops on a route.

**Run:** A complete trip on a route. [To illustrate the difference between a run and a route, it is possible to have six daily runs on the same route (i.e., one high school, one middle school, and one elementary run both morning and afternoon).]

**Running gear:** The wheels, axles, springs, frames and other carrying parts of the vehicle.

**SAE:** Society of Automotive Engineers; the leading standards-writing organization for the automotive industry.

**Safety and security inspection**: an internal and external inspection of the vehicle to identify threats to safety and security**.**

**Safety incident**: An occurrence that represents a close call/near miss or recognized heightened level of risk to students traveling to and from school or school-related activities.

**Safe travel training:** Educational programs provided for students to teach safe procedures for travel to and from school and home and to and from school-related activities.

**Safety patrol:** Students whose duties may include acting as crossing guards and safety assistants.

**Safety ridership training:** Educational programs provided for students to teach proper behavior while waiting for, riding in, boarding or leaving school buses; also known as *ridership program*s.

**Safety vest:** A child safety restraint system that consists of webbing or other flexible material, worn by the child and does not include a rigid seating structure. In a school bus, this can be secured to a bench seat using a cam wrap. In other vehicles, a seat belt and tether must be used. (Also sometimes called a "harness").

**SAP:** Substance Abuse Professional; a licensed physician, psychologist, social worker or alcohol and drug counselor who is required to evaluate any employee who violates a carrier's drug and alcohol testing program.

**SBMTC:** School Bus Manufacturers Technical Council; formerly the School Bus Manufacturers Institute (SBMI); a membership organization within NASDPTS which serves as a technical advisor regarding school bus technology and construction.

**School:** An educational institution for children at the pre-primary, primary, elementary, or secondary level, including nursery schools and Head Start programs, but not including day care programs.

**School bus child safety system:** As of 2024, the category in FMVSS 213 for a federally allowed type of add-on child safety restraint system that is manufactured and sold only for use in school buses. The distinguishing feature of these CSRS is a cam wrap (aka seat back mount) for installation, which must display a label conforming with FMVSS 213 S5.3.1(b).

**School bus equipment:** Equipment designed primarily as a system, part or component of a school bus, or any similar part or component manufactured or sold for replacement or as an accessory or addition to a school bus.

**School bus stop:** An area on the street or highway designated by school officials for picking up and discharging students.

**School bus traffic warning lamps:** (See *Alternately flashing signal lamps*.)

**School endorsement:** A designation *(S)* on a CDL that indicates the driver is licensed to operate a school bus.

**School trip** (See *Activity trip*.)

**School tripper trip:** The transportation in a school tripper bus of any student enrolled in a public or private school to or from school or to or from a school-related activity.

**School vehicle:** Any vehicle owned, leased, contracted to or operated by a school or school district and regularly used to transport students to and from school or school-related activities. Includes school buses, activity buses, vans and passenger cars, but does not include transit or charter buses.

**SCR:** Selective catalyst reduction; A type of NOx reducing technology which uses a chemical reductant (diesel exhaust fluid, or DEF) injected into the exhaust stream where it transforms into ammonia and reacts with NOx on a catalyst, converting the NOx to nitrogen gas and water vapor. The reducing agent needs to be periodically replenished.

**Scooter:** A motorized mobile seating device with wheels, a handlebar or tiller and a swiveling seat. Used by students who require mobility assistance but not extensive postural support.

**SEA:** State Education Agency.

**Seat:** A device designed and installed to provide seating accommodations.

> **Activity seat:** A seat designed for passenger comfort with contoured seats and backs with the result that passengers' positions are distinctly separate; characterized by fixed seat backs; may have arm rests and head rests; can be manufactured to meet FMVSS No. 222.
>
> **Bench seat:** A seat designed to accommodate more than one passenger with no apparent partitioning between positions, which is characterized by fixed legs and a fixed back (e.g., the standard school bus seat which meets FMVSS No. 222).
>
> **Davenport seat:** A bench seat that extends from side wall to side wall at the rearmost seating position in the bus; not permitted in school buses.
>
> **Flex seat:** A type of bench seat equipped with lap/shoulder seat belts that can be reconfigured so that the number of seating positions on the seat can change. An example is a seat that can be reconfigured to accommodate either three smaller students or two larger students; also known as *flexible seating systems* or *flexible occupancy seats*.
>
> **Flip seat:** A school bus bench seat designed so that the cushion flips up when the seat is not occupied, similar to a theater seat; used to provide aisle clearance, as required by FVMSS No. 217, when a passenger seat is located adjacent to a side emergency door.
>
> **Integrated child safety seat:** A child safety restraint system meeting the requirements of FMVSS No. 213 that is built into a bench seat back and permanently installed in a motor vehicle. (Also called a *built-in* or *integrated CSRS*.).
>
> **Jump seat:** A seat designed to fold down to provide supplemental seating in a bus (e.g., in the aisle, in front of the door or along the side wall); not permitted in school buses.

**Reclining seat:** An activity seat with a reclining seat back; not permitted in school buses.

**Seat belt ready seat:** A bench seat meeting the requirements of FMVSS No. 222, the frame of which is designed for the installation of lap belts or CSRS attachment devices under FMVSS 210.

**Seat belt:** An occupant restraint system incorporating lap belts or lap/shoulder belts and meeting the requirements of FMVSS Nos. 209 and 210.

**Seating capacity:** The number of designated seating positions provided in a vehicle, including the driver's position. In determining vehicle classification, each wheelchair securement location shall be counted as four (4) designated seating positions.

**Designed seating capacity:** The theoretical passenger capacity that a vehicle would have if it were constructed with the maximum number of seating positions according to standard seating plans; also known as *manufacturer's seating capacity*.

**Equipped seating capacity:** The number of designated seating positions provided in a new bus per manufacturer's body/seating plan.

**Reduced capacity:** The capacity that is achieved when one or more seats are removed from the standard design during or after manufacture of the vehicle.

**Seating position:** The space on a school bus bench seat designated for one student. The number of such positions per seat is determined by dividing the width of the seat by 15" and rounding to the nearest whole number, as described in FMVSS No. 222.

**Seating reference point:** The manufacturer's design point, with coordinates relative to the vehicle structure, which establishes the rearmost normal driving or riding position of each designated seating position and simulates the position of the pivot center of the human torso and thigh.

**Section 402:** Section of 23 CFR that authorizes grant funds for highway safety projects.

**Section 504:** Section of the Rehabilitation Act of 1973, PL 93-112, which prohibits discrimination against individuals with disabilities by any recipient of federal funding.

**Section 504 Plan:** A written plan developed by a 504 team to assist students with disabilities.

**Securement points:** Locations on the base or seat frame of wheelchair/mobile-seating device where the tiedowns should be attached when securing for transport.

**Securement system:** The means of securing a mobile seating device to a vehicle in accordance with FMVSS No. 222, including all necessary buckles, anchors, webbing/straps and other fasteners.

**Seizure:** A reaction to an electrical discharge in the brain, resulting in symptoms which can range from a blank stare of a few seconds to full convulsions.

**Self-insured:** Refers to a company or school district which provides reserved funds against claims or losses.

**Sensor:** An electronic device installed on a school bus for the purpose of detecting animate objects in the loading zone; also known as *object detection system*.

**Shuttle:** A trip driven back and forth over a short route (e.g., between two schools).

**Skid plate:** Stout metal plate attached to the underside of a vehicle to protect the oil pan, transmission, step well or fuel tank from scraping on rocks, curbs and road surface.

**Slack adjuster:** Adjustable device connected to the brake chamber pushrod that transmits brake application force and compensates for lining wear.

**SOS lights:** Stop on signal lights. (See also *Alternately flashing signal lamps*.)

**Special education:** Specially designed instruction to meet the unique needs of a child with disabilities.

**Specialized device/equipment:** See *Adaptive Device*.

**Specially equipped school bus:** Any school bus designed, equipped or modified to accommodate students with disabilities, or preschoolers

**Split-brake system:** A service brake system with two separate hydraulic circuits which, upon failure of either, retains full or partial braking ability.

**Stanchion:** An upright post or bar, usually installed from floor to ceiling in a bus, that provides support for other structural members and/or provides a hand-hold for passengers.

**Stakeholder**: An individual or organization that has a vested interest in the successful outcome of any process that is associated with the identification, acquisition, and implementation of a new or emerging technology.

**State:** As used in this document, "*state*" shall refer to any of the 50 states and commonwealths and any United States territory, possession, or federal agency (e.g., the General Services Administration or the Department of Defense) that may consider, follow or adopt part or all of the specifications and procedures contained herein for school buses and operations.

**State director:** The chief government administrator in charge of a state's student transportation program and responsible for oversight of regulatory functions.

**Stoichiometric burn:** Use of fuel and air (or oxygen) in the exact ratio needed for complete combustion to generate maximum efficiency and power.

**Stop arm:** A device in the form of a red octagon extending outward from the side of a school bus to signal that the bus has stopped to load or unload passengers and meeting FMVSS No. 131; also known as *stop semaphore* and *stop signal arm*.

**Stopping distance:** Braking distance plus reaction distance.

> **Braking distance:** The distance a vehicle travels between the time the brakes are applied and the time forward motion ceases.
>
> **Reaction distance:** Distance a vehicle travels during the time it takes for a driver to recognize the need to stop and to apply the brakes.

**Strobe light:** A bright short duration light that flashes as a result of an electronic discharge of electricity through a gas.

**Stroller:** A light weight folding mobility aid.

**Student:** Any child who attends a school, as previously defined.

**Student rides:** The number of students transported in a given system multiplied by the number of one-way trips in a school bus. [For example, a school district that transports 1,000 students provides 2,000 student rides daily or 360,000 student rides to and from school annually, assuming 180 school days. To determine the total number of student rides annually, the district would add the actual or estimated number of students transported on activity trips (times two) to the figure above.]

**Students with Disabilities**: refers to but is not limited to those with: Physical/Mobility Disabilities; Cognitive/intellectual disabilities; Hearing Loss/Deafness; Vision Loss/Blindness; Deaf-Blindness; Speech/Communication Disabilities; Learning Disabilities; Mental Health/Psychiatric Disabilities; Traumatic Brain Injuries; Autism; Chronic Illnesses.

**Substitute drive**r: A driver who is not assigned to a regular route, but is employed to provide immediate coverage, when necessary, due to driver absences or emergencies; also known as *spare driver* and *extraboard driver*.

**Surrogate wheelchair:** A wheelchair device used by researchers when performing impact tests on securement and restraint systems/WTORS or customized seating.

**Suspension system:** The components of the vehicle that transmit the load of the vehicle's weight from the chassis framework to the ground, including the springs, axles, wheels, tires and related connecting components.

**TDD:** Telecommunication devices for the deaf.

**Temperature control system:** The means of heating or cooling the interior of the vehicle.

**Tether:** An upper anchor strap used in addition to a seat belt to hold certain types of restraint devices in place.

**Throttle body injection:** A gasoline fuel injection system in which the fuel is injected directly into the air intake pipe or manifold. No carburetor is required; electronics monitor engine variables and control the rate of fuel injected.

**Tie down system**: The equipment for securing a wheelchair/mobile seating device to a school bus in accordance with FMVSS No. 222, including all necessary buckles, anchors, webbing/straps and other fasteners. Unless the wheelchair is unoccupied, tiedowns must be used in conjunction with a wheelchair occupant restraint to form a full WTORS. (See WTORS)

**Tier:** Any level of separate runs and routes designed to allow a single bus to complete multiple routing assignments. Multiple assignments typically require the use of staggered school schedules, permitting multiple levels or "tiers" for the daily assignment(s).

**Tire:** The continuous solid or pneumatic rubber elastomeric cushion encircling a wheel intended for contact with the road.

> **Bias ply:** A pneumatic tire in which the ply cords extending to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tire.
>
> **Low profile:** A tire that has a section height that is less than 85 percent of its nominal section width (e.g., a tire with an aspect ratio of less than 0.85).
>
> **Radial:** A pneumatic tire in which the ply cords which extend to the beads are laid substantially at 90 degrees to the centerline of the tread.
>
> **Retread:** A worn tire casing to which tread rubber has been affixed to extend the usable life of the tire; also known as *re-capped* or *retreaded tire.*
>
> **Siped:** A tire which has been scored or cut perpendicular to the direction of rotation (across the tread) to improve traction.
>
> **Snow:** A tire with an obvious aggressive or lug-type tread across the entire width that is designed to be self-cleaning.
>
> **Studded:** A tire to which metal protrusions have been added to improve traction.

**Tire cords:** The strands forming the reinforcement structure in a tire.

**To-and-from school:** Transportation from home to school and from school to home; also, transportation from school to school or from school to job training site.

**Tour:** Transportation of a group on a longer trip, usually by *charter bus* (e.g., senior class trip to Washington).

**Tow devices:** Attachments on the chassis frame for use in retrieving a stuck vehicle and/or for towing the vehicle backwards or forwards; also known as *tow eye*s, *tow hooks* or *towing attachment points*.

**Track seating:** A seating system in which seating units, including mobility aids, are secured to the vehicle structure by attaching them to tracks on the vehicle floor.

**Traffic lights:** Traffic signals which control the flow of traffic at intersections.

**Transverse:** Perpendicular to the longitudinal centerline of the vehicle (e.g., from side to side).

**Trip:** The transportation of students from school to any destination, followed by a return trip back to school. The two together make a *round trip*.

**Tripper service:** Regularly scheduled mass transit service which is open to the public, and which is designed or modified to accommodate the needs of school students and personnel, using various fare collections or subsidy systems. Must be part of the regular route service as indicated in published route schedules.

**TSA:** Transportation Security Administration; an agency of the Department of Homeland Security.

**Turbocharger:** a device which uses the pressure of exhaust gases to drive a turbine that, in turn, pressurizes air normally drawn into the engine's chambers.

**Turnkey:** Partial privatization in which a school district hires a company to supply drivers, maintenance management and/or vehicles; also known as *management contract*.

**Two-way radio**: Electronic communication system which uses a designated airway for transmission between a bus and a base station.
**UL:** Underwriters Laboratory.

**ULSD:** Ultra-low sulfur diesel; Diesel fuel that has a sulfur content of not more than 15 ppm (parts per million). Regular diesel fuel has a sulfur content of 200 ppm.

**UMTA:** Urban Mass Transit Administration; predecessor to FTA.

**Universal Design**: The design and manufacturing of school buses and equipment that accommodate the broadest spectrum of potential users.

**Unload:** To discharge passengers from a school bus.

**Unloaded vehicle weight:** The weight of a vehicle with maximum capacity of all fluids necessary for operation, but without cargo or occupants or accessories that are ordinarily removed from the vehicle when they are not in use.

**Universal precautions:** Method of infection control designed to protect the individual from exposure to disease, which requires that all bodily fluids and secretions are treated as though they were infectious.

**UST:** Underground storage tank.

**Vapor lock:** Boiling or vaporization of fuel in the lines from excessive heat, which interferes with liquid fuel movement and in some cases stops the flow.

**Vehicle miles:** The aggregate number of miles a vehicle travels in a given period.

**Video system:** A means of monitoring student behavior in a school bus. The system includes one or more video cameras to tape activity. Camera housing units mounted in each bus appear to hold a camera, whether or not one is actually in place; also known as *surveillance*.

**VIN:** Vehicle Identification Number; a series of Arabic numbers and Roman letters which is assigned to a motor vehicle for identification purposes.

**Viscosity:** A measure of internal resistance to flow or motion offered by a fluid lubricant.

**Walking distance:** The maximum distance a student can be required to walk to school before transportation must be provided; also known as *non-transportation zone.*

**Weather emergencies:** Weather conditions that require a deviation from normal transportation procedures (e.g., flooding, snowstorm).

**WC19:** A voluntary industry standard that establishes minimum design and performance requirements for wheelchairs that are occupied by users traveling in motor vehicles. The standard applies to a wide range of wheelchair types and styles, including manual wheelchairs, powerbase wheelchairs, scooters, tilt-in-place wheelchairs and specialized mobile seating bases with removable seating inserts.

**Weight distribution:** The distribution proportion of the vehicle load divided between the front and rear axles.

**Wheel:** A rotating load-carrying member between the tire and the hub, usually consisting of two major parts—the rim and the wheel disc—which may be integral, permanently attached or detachable.

> **Ball seat nut mounting:** A wheel mounting system wherein the wheel centering is provided by the wheel mounting studs and the ball seat nuts which, when properly tightened, assure the centering alignment of the wheel.
>
> **Disc:** The part of the wheel which is the supporting member between the hub and the rim.
>
> **Disc wheel:** A permanent combination of a rim and wheel disc.

**Hub:** The rotating outer member of the axle assembly which provides for wheel disc mounting

**Locking ring:** A removable, split rim ring that holds the rim flange in place on a multi-piece rim.

**Piloted hub mounting:** A wheel mounting system wherein the wheel centering is provided by a close fit between the wheel disc and the hub.

**Rim:** The part of the wheel on which the tire is mounted and supported.

**Spoke wheel:** A rotating member which provides for mounting and support of one or two demountable rims; also known as *wheel for demountable rim*.

**Wheelbase:** The distance between the centerline of the front axle and the centerline of the rear axle.

**Wheelchair:** Any mobile seating device that is a system comprised of at least a frame, a seat and wheels that is designed to provide mobility (and, often, support) for a person with physical disabilities.

**Wheelchair lift** (See *Power lift*.)

**Wheelchair Occupant Restraint**: A component of a full WTORS that's made of webbing and anchored at three points to form a lap/shoulder belt system for a wheelchair-seated occupant of a vehicle.

**WTORS:** Wheelchair Tiedown and Occupant Restraint System; a complete set of safety equipment for securing wheelchair-seated occupants of motor vehicles, including school buses. A WTORS is comprised of parts that secure the wheelchair to the vehicle at four or more points (tiedowns) as well as belts that keep the occupant seated and limit movement during emergency vehicle maneuvers or crash events (the occupant restraint).

**ZEB:** Zero-emissions bus.

**ZEV:** Zero-emissions vehicle.

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# APPENDIX B: School Bus Body and Chassis Specifications

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# APPENDIX B:
# SCHOOL BUS BODY AND CHASSIS SPECIFICATIONS

## NATIONAL SCHOOL BUS YELLOW STANDARD

The color known as National School Bus Yellow (NSBY) is specified below.

**School Bus Manufacturer's Technical Council (SBMTC)**

**National School Bus Yellow Color Standard SBMTC-008** (Source Document)

**S1: SCOPE**

This standard defines the color for a newly manufactured school bus having "National School Bus Yellow" by fundamental colorimetric data.

**S2: PURPOSE**

This standard is intended for use by manufacturers of school bus type vehicle body and chassis for purposes of procurement, and inspection.

**S3: APPLICATION**

This standard applies to school buses.

**S4: COLOR DEFINITION**

The color "National School Bus Yellow" is defined as:

> The color resulting from the colorimetric tri-stimulus data shown on the following page.

**COLORIMETRIC (CIE) DATA, C/10°**

| DESCRIPTION | REFLECTANCE Y | CHROMATICITY x | CHROMATICITY y |
|---|---|---|---|
| Centriod | 40.2% | .4882 | .4205 |
| Light Limit | 41.8% | .4882 | .4198 |
| Dark Limit | 38.5% | .4902 | .4206 |
| Green Limit | 40.6% | .4844 | .4217 |
| Red Limit | 40.3% | .4907 | .4174 |
| Yellow Limit | 40.6% | .4901 | .4225 |
| Blue Limit | 40.2% | .4828 | .4162 |

**S5: REQUIREMENTS**

The color "National School Bus Yellow" shall conform to the tolerance limits set in S4.

**S6: COLOR MATCHING**

The colorimetric data should be used for acceptance testing purposes. However, accurate comparison can be made only if values are obtained on the same instrument standardized under the same conditions.

Because this standard is not intended to be a performance standard for the paint and/or materials used in the manufacture of the school buses, color matching procedures provided in this standard cannot be used to determine conformity with this standard of school bus type vehicles in use.

## BUS BODY HEATING SYSTEM TEST

A. Scope

This procedure, limited to liquid coolant systems, establishes uniform cold weather bus vehicle heating system test procedures for all vehicles designed to transport ten (10) or more passengers. Required test equipment, facilities and definitions are included. Defrosting and defogging procedures and requirements are established by SAE J381, *Windshield Defrosting Systems Test Procedure and Performance Requirements—Trucks, Buses, and Multipurpose Vehicles,* and SAE J382, *Windshield Defrosting Systems Performance Guidelines—Trucks, Buses, and Multi-Purpose Vehicles,* which are hereby included by reference.

Purpose - This procedure is designed to provide bus manufacturers with a cost-effective, standardized test method to provide relative approximations of cold weather interior temperatures.

B. Definitions

1. Heat Exchanger System - Means will exist for providing heating and windshield defrosting and defogging capability in a bus. The system shall consist of an integral assembly or assemblies, having a core assembly or assemblies, blower(s), fan(s) and necessary duct systems and controls to provide heating, defrosting and defogging functions. If the bus body structure makes up some portion of the duct system, this structure or a simulation of this structure must be included as part of the system.

2. Heat Exchanger Core Assembly - The core shall consist of a liquid-to-air heat transfer surface(s), liquid inlet and discharge tubes or pipes.

3. Heat Exchanger-Defroster Blower - An air moving device(s) compatible with energies available on the bus body.

4. Coolant - A 50-50 solution of commercially available glycol antifreeze and commercial purity water. Commercial purity water is defined as “that water obtained from a municipal water supply system.”

5. Heat Exchanger-Defroster Duct System - Passages that conduct inlet and discharge air throughout the heater system. The discharge outlet louvers shall be included as part of the system.

6. Heater Test Vehicle - The completed bus as designed by the manufacturer with or without a chassis, engine and driver train, including the defined heat exchanger system. If the vehicle is without a chassis, it shall be placed on the test site in such

a way that the finished floor of the body is at a height, from the test site floor, equal to its installed height when on a chassis, and all holes and other openings normally filled when installed on a chassis will be plugged.

7. Heat Transfer - The transfer of heat from liquid to air is directly proportional to the difference between the temperatures of the liquid and air entering the transfer system, for a given rate of liquid and air flow measured in pounds per minute, and that heat removed from liquid is equal to heat given to air.

C. Equipment

1. Test Site - A suitable location capable of maintaining an average ambient temperature not to exceed 25°F (-3.9°C) for the duration of the test period. The maximum air velocity across the vehicle shall be 5 mph (8 kph).

2. Coolant Supply - A closed loop system, independent of any engine/drive train system, capable of delivering a 50-50 (by volume) solution of antifreeze-water, as defined in 2.4, at 150°±5° (65.5°±1.7°C) above the test site ambient temperature, and 50 lbs (22.7 kg) per minute flow. The coolant supply device shall be equipped with an outlet diverter valve to circulate coolant within the device during its warm-up period. The valve will then permit switching the coolant supply to the bus heat exchanger system at the start of the test.

3. Power Equipment Supply - A source capable of providing the required test voltage and current for the heater system.

4. **Heat Exchange Units** - The heat exchangers used shall be labeled as specified by the School Bus Manufacturers Technical Council Standard No. 001, *Procedure for Testing and Rating Automotive Bus Hot Water and Heating and Ventilating Equipment* (Revised 4/94). The test rating of each unit, and quantity used, shall be recorded.

D. Instrumentation

1. Air Temperature

a. Interior - Recommended air temperature measuring instrumentation are thermocouples or resistance temperature detectors (RTDs). Thermometers are not recommended because of their slow response to rapid temperature changes. Measuring instrumentation shall be placed on alternate seat rows beginning 39±5 inches (99±13 cm) from the rear of the body, at 36±2 inches (91±5 cm) from the finished floor of the body, and on the longitudinal centerline of the body.

b. Ambient - A set of four electrically averaged temperature measuring devices shall be placed 18±5 inches (46±13 cm) from the nearest body surface, 96±5 inches (243±13 cm) above the floor of test site. One measuring device shall be placed at each of the following locations:

(1) Midline of body forward of windshield;

(2) Midline of body aft of the rear surface; and

(3) Midway between the axles on the right and left sides of the body.

c. Driver - Measuring devices shall be placed at appropriate locations to measure ankle, knee, and breath level temperatures with the driver's seat in rearmost, lowest and body center-most position.

(1) Ankle Level - Place a minimum of four electrically averaged temperature measuring devices at the corners of a 10 x 10 inches (25x25cm) square area, the rearmost edge of which begins 8 inches (20 cm) forward of the front edge of, and centered on, the seat cushion. The devices shall be located 3±0.5 inches (7.5±1.3 cm) above floor surface.

(2) Knee Level - Place a minimum of one measuring device at the height of the front top edge of the seat cushion and on the centerline of the seat. This measurement shall be 4±1 inches (10±2.5 cm) forward of the extreme front edge of the seat cushion and parallel to the floor.

(3) Breath Level - Place a minimum of one measuring device 42±2 inches (107±5 cm) above the floor and 10±2 inches (25±5 cm) forward of the seat back. The forward dimension shall be measured from the upper edge of the seat back and parallel to the floor.

d. (Optional) Heat Exchanger Inlet and Outlet Temperature - A minimum of four electrically averaged temperature measuring devices shall be used to measure the inlet air temperature of each heat exchange unit. Additionally, a minimum of four electronically averaged temperature measuring devices shall be used to measure the outlet air temperature of each heat exchange unit. These sensors shall be placed no closer than 2.0 inches (5.1 cm) from the face of any heater core, to prevent any incidence of radiant heat transfer. Outlet sensors shall be distributed throughout the outlet air stream(s) 1.0±0.25 inches (2.5±0.6 cm) from the outlet aperture(s) of the unit heater.

e. (Optional) Defrost Air Temperature - The temperature of the defrost air shall be measured at a point in the defroster outlet(s) that is in the main air flow and which is at least 1.0 inch (2.54 cm) below (upstream of) the plane of the defroster outlet opening. At least one temperature measurement shall be made in each outlet unit. The interior surface temperature(s) of the windshield shall be measured at a point located on the vertical and horizontal centerline(s) of the windshield.

f. (Optional) Entrance Area Temperature - The temperature of the vehicle entrance area shall be measured by two sets of three each electrically averaged temperature measuring devices. One set of three devices shall be placed 1.0 inch (2.54 cm) above the lowest tread of the entrance step, equally spaced on the longitudinal centerline of the tread. The second set of devices shall be placed on the next horizontal surface above the lowest entrance step, 4.0 inches (10.2 cm) from the outboard edge of that surface, spaced identically to the first set of sensors, and placed parallel with the outboard edge of the surface being measured.

2. Coolant Temperature - The temperature entering and leaving the heat exchanger/defroster system shall be measured as close to the entrance and exit points of the bus body as possible with an immersion thermocouple or RTD device which can be read within ±0.5°F (±0.3°C).

3. Coolant Flow - The quantity of coolant flowing shall be measured by means of a calibrated flow meter or weighing tank to an accuracy of at least 2% of setpoint.

4. Coolant Pressure - The coolant differential pressure shall be measured by suitable connection as close as possible to the inlet and outlet of the heat exchanger/defrosting system. Pressure may be read as inlet and outlet pressure and the differential calculated, or read directly as PSID. Pressure readings shall be made with the use of gauges, manometers or transducers capable of reading within ±0.1 psi (689.5 Pa), accurate to ±0.5% of full scale.

5. Additional Instrumentation - Additional instrumentation required for vehicle heat exchanger system testing is a voltmeter and a shunt-type ammeter to read the voltage and current of the complete system. The ammeter and voltmeter shall be capable of an accuracy of ±1% of the reading.

E. Test Procedures

1. Install the heater test vehicle on the test site. Testing shall be conducted in such a way as to prevent the effects of solar heating. At an outdoor test site, testing shall commence and data shall be recorded during the hours following sunset and prior to sunrise, regardless of cloud cover or facility roof. Instrumentation is required to obtain the following readings:

a. Vehicle interior (4.1.1);

b. Inlet coolant temperature, at entrance to the bus body (4.2);

c. Discharge coolant temperature, at exit from the bus body (4.2);

d. Voltage and current at main bus bar connection of driver's control panel;

e. Ambient temperature (4.1.2);

f. Rate of coolant flow (4.3);

g. Coolant flow pressure (4.4);

h. Elapsed time (stop watch);

i. Driver's station temperatures (4.1.3);

j. (Optional) Heat Exchanger Inlet and Outlet Temperatures (4.1.4);

k. (Optional) Defrost Air Temperature (4.1.5); and

l. (Optional) Entrance Area Temperature (4.1.6).

2. Soak the test vehicle, with doors open, for the length of time necessary to stabilize the interior temperature for a 30-minute period as recorded by the vehicle interior temperature measuring devices, and the coolant temperature as measured by the inlet and outlet coolant temperature measuring devices, at the test site temperature, ±5°F (±2.5°C), not to exceed 25°F (-3.9°C). Warm up the coolant device to the test temperature immediately prior to the start of the test. Use the coolant supply outlet diverter valve to prevent heated coolant from entering the bus heating system prior to the start of the test.

3. At this time, set the heater controls and all fan controls at maximum, and close all doors. A maximum of two windows may be left open a total of 1.0 inch (2.5 cm) each. A maximum of two occupants may be in the body during the test period. Record all instrumentation readings at five-minute intervals for a period of 1 hour. Recording time shall begin with the initial introduction of heated coolant from the independent coolant supply. The electrical system shall be operated at a maximum of 115% of nominal system voltage ±0.2 volts, for example: 13.8 VDC ±0.2 volts for a 12-volt (DC) system, and the heat exchanger system shall be wired with the normal vehicle wiring.

*4.* *Optional*: Additional flow rates and/or coolant temperatures may also be used to generate supplementary data. Procedure shall be repeated (see 5. Test Procedure) for each additional flow rate and/or coolant temperature.

F. Computations

1. Chart and Computations - Customary Units - Data shall be recorded on Chart 6.1, or equivalent. Temperature data shall be recorded at the actual temperatures occurring at the time of testing. Air temperature data shall then be adjusted to a 0°F base prior to the construction of graphs. This data reduction shall be directly proportional to the difference between the actual ambient temperature, at the time of test, and 0°F (i.e., actual ambient of 18°F shall result in a reduction of all air temperatures by 18°F and actual ambient temperature of -8°F shall result in an increase of all air temperatures by 8°F). Temperature data shall be presented in graph form as well as tabular form. One graph shall be constructed for the body interior air temperatures (4.1.1) wherein the recording intervals shall be the X-axis and the °F the Y-axis. A separate graph shall be constructed for the driver's temperatures (4.1.3) using the same units for the axes. Optional temperature data (4.1.4, 4.1.5, 4.1.6) may be similarly graphed separate from the interior data.

   a. Optional Computations BTU/Hr. Coolant
   Heat Transfer: $Q_w = CpWw(Tin - {}_{Tout)} \times 60$ where:

      (1) $W_w$ = Flow of Coolant (lb/min) — *measured to ± 2 percent*

      (2) Tin = Temperature of Coolant into System (°F) — *measured quantity*

      (3) Tout = Temperature of Coolant out of System (°F) — *measured quantity*

      (4) $Q_w$ = Heat removed From Coolant (Btu/hr) — *calculated quantity*

      (5) Cp = Specific Heat of Coolant = 0.8515 (BTU/lb/°F) — *given quantity*

2. Chart and Computations - Metric Units - Data shall be recorded on Chart 6.2, or equivalent. Temperature data shall be recorded at the actual temperatures occurring at the time of testing. Air temperature data shall then be adjusted to a - 18°C base prior to the construction of graphs. This data reduction shall be directly proportional to the difference between the actual ambient temperature, at the time of test, and -18°C (i.e., actual ambient of -7.8°C shall result in a reduction of all air temperatures by 10.2°C and actual ambient temperature of -22.2°C shall result in an increase of all air temperatures by 4.2°C). Temperature data shall be presented in graph form as well as tabular form. One graph shall be constructed for the body interior air temperatures

(4.1.1) wherein the recording intervals shall be the X-axis and °C the Y-axis. A separate graph shall be constructed for the driver's temperatures (4.1.3) using the same units for the axes. Optional temperature data (4.1.4, 4.1.5, 4.1.6) may be similarly graphed separate from the interior data.

a. Optional Computations BTU/Hr – Coolant

Heat Transfer: $Q_w = CpWw(Tin - {}_{Tout)} \times 60$ where:

(1) $W_w$ = Flow of Coolant (kg/min) — *measured to ± 2 percent*

(2) Tin = Temperature of Coolant into System (°C) — *measured quantity*

(3) Tout = Temperature of Coolant out of System (°C) — *measured quantity*

(4) $Q_w$ = Heat removed From Coolant (Joules/hr) — *calculated* quantity

(5) $C_p$ = Specific Heat of Coolant = 3559 (joule/kg/ºC) — *given quantity*

**Chart 6.1**

Description of Unit: _____

Purpose of Test: _____

**Date:** **Location:** **Observers:**

| **Readings/Calculations Water** | **0** | **5** | **10** | **15** | **20** | **25** | **30** | **35** | **40** | **45** | **50** | **55** | **60** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow - lb/min | | | | | | | | | | | | | |
| Flow Pressure - PSID | | | | | | | | | | | | | |
| T-in °F | | | | | | | | | | | | | |
| T-out °F | | | | | | | | | | | | | |
| Air Temperature | | | | | | | | | | | | | |
| T1 rear - °F | | | | | | | | | | | | | |
| T2 - °F | | | | | | | | | | | | | |
| T3 - °F | | | | | | | | | | | | | |
| T4 - °F | | | | | | | | | | | | | |
| T5 - °F | | | | | | | | | | | | | |
| T6 front - °F | | | | | | | | | | | | | |
| T7 ambient - °F | | | | | | | | | | | | | |
| T8 Driver Ankle - °F | | | | | | | | | | | | | |
| T9 Driver Knee - °F | | | | | | | | | | | | | |
| T10 Driver Breath - °F | | | | | | | | | | | | | |
| Electrical System | | | | | | | | | | | | | |
| Volts | | | | | | | | | | | | | |

**Chart 6.1 Optional Measurements**

**Date:** **Location:** **Observers:**

| Readings/Calculations | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T11 Windshield CL Left °F | | | | | | | | | | | | | |
| T12 Windshield CL Right °F | | | | | | | | | | | | | |
| T13 Defrost Outlet Left °F | | | | | | | | | | | | | |
| T14 Defrost Outlet Right °F | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T15 Heater-Inlet °F | | | | | | | | | | | | | |
| T15 Heater-Outlet °F | | | | | | | | | | | | | |
| T16 Heater-Inlet °F | | | | | | | | | | | | | |
| T16 Heater-Outlet °F | | | | | | | | | | | | | |
| T17 Heater-Inlet °F | | | | | | | | | | | | | |
| T17 Heater-Outlet °F | | | | | | | | | | | | | |
| T18 Heater-Inlet °F | | | | | | | | | | | | | |
| T18 Heater-Outlet °F | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T19 - 1st Entrance Step | | | | | | | | | | | | | |
| T20 - 2nd Entrance Step | | | | | | | | | | | | | |
| Heat Transfer - BTU/Hr-coolant | | | | | | | | | | | | | |

**Chart 6.2**

Description of Unit: _____

Purpose of Test: _____

**Date:** **Location:** **Observers:**

| **Readings/Calculations Water** | **0** | **5** | **10** | **15** | **20** | **25** | **30** | **35** | **40** | **45** | **50** | **55** | **60** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow - kg/min | | | | | | | | | | | | | |
| Flow Pressure - PaD | | | | | | | | | | | | | |
| T-in °C | | | | | | | | | | | | | |
| T-out °C | | | | | | | | | | | | | |
| Air Temperature | | | | | | | | | | | | | |
| T1 rear - °C | | | | | | | | | | | | | |
| T2 - °C | | | | | | | | | | | | | |
| T3 - °C | | | | | | | | | | | | | |
| T4 - °C | | | | | | | | | | | | | |
| T5 - °C | | | | | | | | | | | | | |
| T6 front - °C | | | | | | | | | | | | | |
| T7 ambient - °C | | | | | | | | | | | | | |
| T8 Driver Ankle - °C | | | | | | | | | | | | | |
| T9 Driver Knee - °C | | | | | | | | | | | | | |
| T10 Driver Breath - °C | | | | | | | | | | | | | |
| Electrical System | | | | | | | | | | | | | |
| Volts | | | | | | | | | | | | | |

**Chart 6.2 Optional Measurements**

**Date:** **Location:** **Observers:**

| Readings/Calculations | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T11 Windshield CL Left °C | | | | | | | | | | | | | |
| T12 Windshield CL Right °C | | | | | | | | | | | | | |
| T13 Defrost Outlet Left °C | | | | | | | | | | | | | |
| T14 Defrost Outlet Right °C | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T15 Heater-Inlet °C | | | | | | | | | | | | | |
| T15 Heater-Outlet °C | | | | | | | | | | | | | |
| T16 Heater-Inlet °C | | | | | | | | | | | | | |
| T16 Heater-Outlet °C | | | | | | | | | | | | | |
| T17 Heater-Inlet °C | | | | | | | | | | | | | |
| T17 Heater-Outlet °C | | | | | | | | | | | | | |
| T18 Heater-Inlet °C | | | | | | | | | | | | | |
| T18 Heater-Outlet °C | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T19 - 1st Entrance Step | | | | | | | | | | | | | |
| T20 - 2nd Entrance Step | | | | | | | | | | | | | |
| Heat Transfer - J/Hr-coolant | | | | | | | | | | | | | |

## RETROREFLECTIVE SHEETING DAYTIME COLOR SPECIFICATION

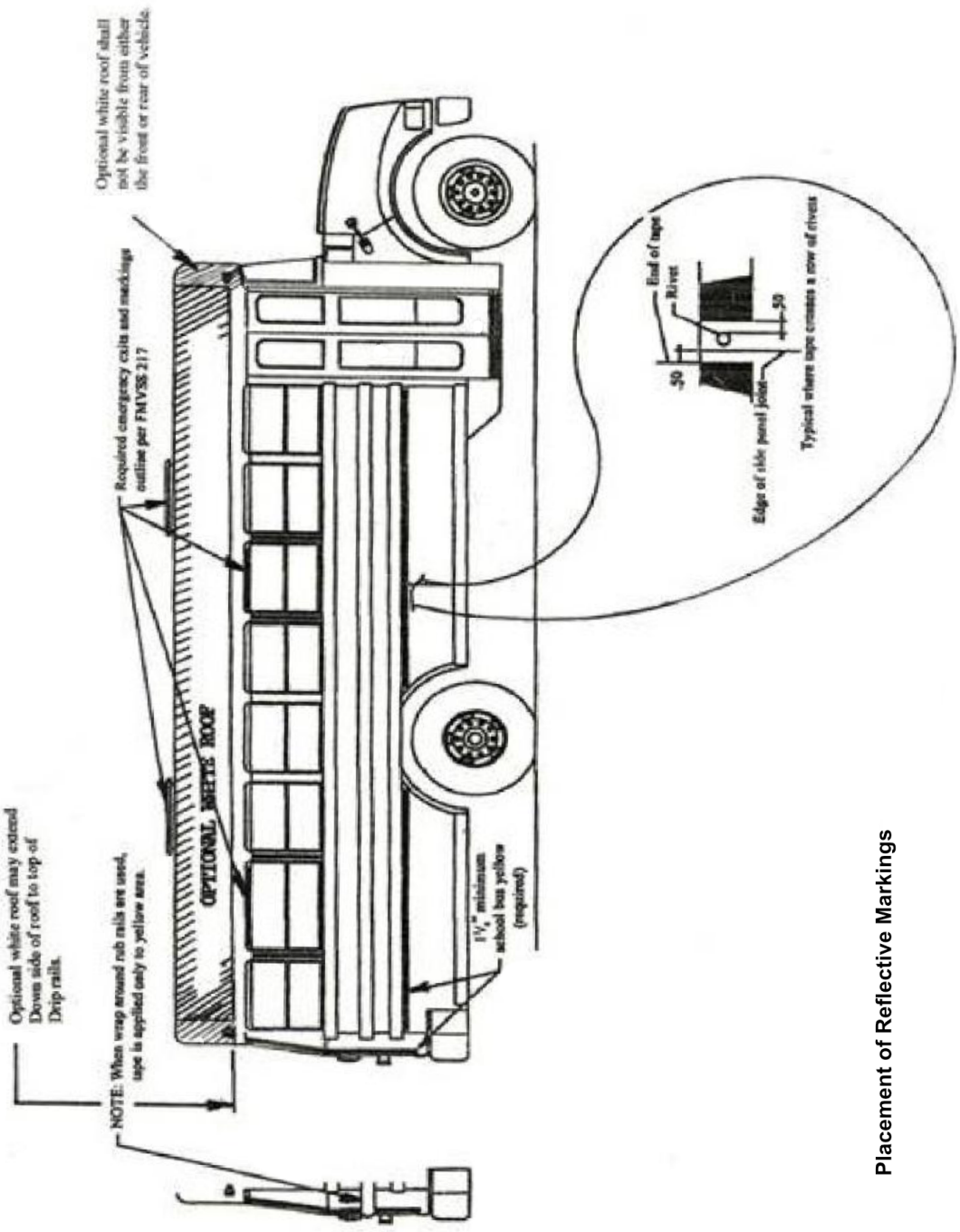
The daytime color of the RETROREFLECTIVE sheeting used to enhance school bus safety requires different color tolerances in order to assure optimum safety benefit, as well as to be consistent with the color of the school bus. The color of the RETROREFLECTIVE sheeting shall conform to the table below when samples applied to aluminum test panels are measured as specified in ASTM E1164. For colorimetric measurements, material is illuminated by Standard Illuminant D65 at an angle of 45 degrees with the normal to the surface the observations are made in the direction of the normal (45/0-degree geometry). The inverse (0/45-degree geometry) with the illuminant at the normal to the surface and the observations at 45 degrees with the normal to the surface may also be used. For materials which are directionally sensitive (e.g., prismatic sheeting), the colorimetric measurements are made using circumferential illumination and viewing and the various measurements are averaged. Calculations shall be done in accordance with ASTM E308 using the CIE 1931 (2 degree) Standard Observer.

Retroreflective Sheeting Daytime Color Chromaticity Coordinates of Corner Points Determining the Permitted Color Area

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Yellow X | 0.484 | 0.513 | 0.517 | 0.544 |
| Y | 0.455 | 0.426 | 0.482 | 0.455 |

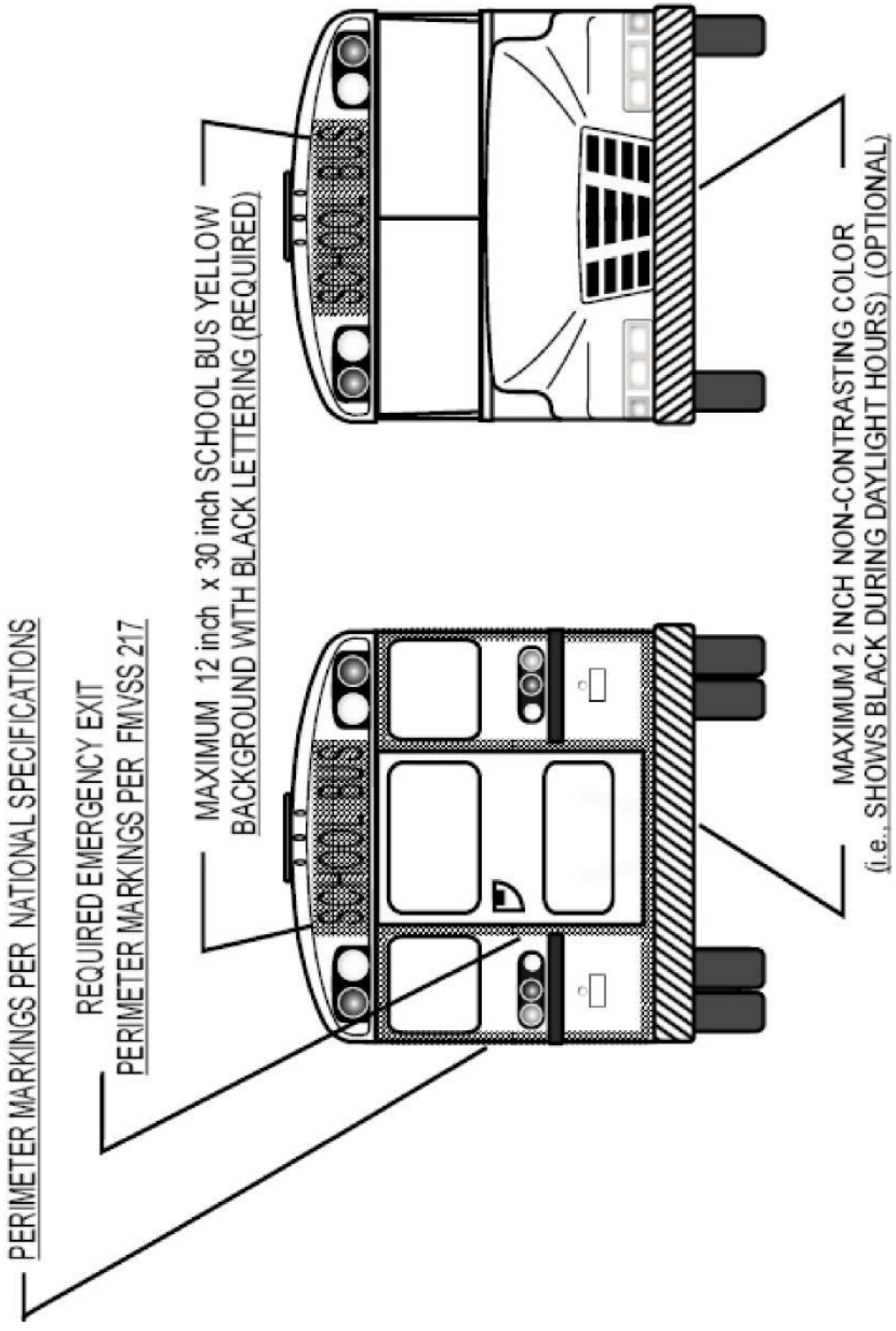
| | | |
|---|---|---|
| Luminance Factor (Y%) | Minimum | 10.0 |
| | Maximum | 36.0 |

**PLACEMENT OF REFLECTIVE MARKINGS AND WHITE ROOF**




Placement of Reflective Markings

**PLACEMENT OF RETROREFLECTIVE MARKINGS**



## NOISE TEST PROCEDURE

A. The vehicle is located so that no other vehicle or signboard, building, hill or other large reflecting surface is within 15.2 m (50 feet) of the occupant's seating position.

B. All vehicle doors, windows and ventilators are closed.

C. All power-operated accessories are turned off.

D. The driver is in the normal seated driving position and the person conducting the test is the only other person in the vehicle.

E. A sound level meter is used that is set at the "A-weighting fast" meter response and meets the requirements of:

1. The American National Standards Institute, Standard ANSI S1.4-1971: *Specifications for Sound Level Meters,* for Type 1 Meters; or

2. The International Electrotechnical Commission (IEC), Publication No. 179 (1973): *Precision Sound Level Meters*.

F. The microphone is located so that it points vertically upward 6 inches to the right and directly in line with, and on the same plane as, the occupant's ear, adjacent to the primary noise source.

G. If the motor vehicle's engine radiator fan drive is equipped with a clutch or similar device that automatically either reduces the rotational speed of the fan or completely disengages the fan from its power source in response to reduced engine cooling loads, the vehicle may be parked before testing with its engine running at high idle or any other speed the operator chooses for sufficient time, but not more than 10 minutes, to permit the engine radiator fan to automatically disengage.

H. With the vehicle's transmission in neutral gear, the engine is accelerated to:

1. Its maximum governed speed, if it is equipped with an engine governor; or

2. Its speed at its maximum rated horsepower, if it is not equipped with an engine governor, and the engine is stabilized at that speed.

I. The A-weighted sound level reading on the sound level meter for the stabilized engine speed condition referred to in H.1. or H.2., above, is observed and, if it has not been influenced by extraneous noise sources, is recorded.

J. The vehicle's engine speed is returned to idle and the procedures set out in paragraphs H. and I. are repeated until 2 maximum sound levels within 2 dBA of each other are recorded. The 2 maximum sound level readings are then averaged; and

K. The average obtained in accordance with paragraph J., with a value of 2 dBA subtracted there from to allow for variations in the test conditions and in the capabilities of meters, is the vehicle's interior sound level at the driver's seating position for the purposes of determining compliance with the requirements of this test procedure.

## SCHOOL BUS SEAT UPHOLSTERY FIRE BLOCK TEST

A. Test Chamber

1. Cross Section

The suggested test chamber is the same cross section as the bus body in which seats are used with the rear section on each end. If a bus section is not used, the cross section is to be 91±1 inch in width x 75 inches ±3 inches in height. There shall be a door, which does not provide ventilation, in the center of each end of the test chamber. The doors shall be 38±3 inches in width and 53±3 inches in height and include a latch to keep the doors closed during the test. (See Figure 1.)

2. Length

The length of the test chamber shall allow three rows of seats at the minimum spacing recommended by the installer. (See Figure 1, Detail A.)

In order that different types of seats may be tested in the same chamber, a length tolerance of plus 45 inches is allowed.

3. Ventilation

One ventilation opening shall be in each end of the test chamber and shall be 325 square inches ±25 square inches. The bottom of the opening shall be 30 inches ±3 inches above the chamber floor. Ventilation openings shall be on the same side of the test chamber. (See Figure 1.)

There shall be no ventilation openings along the length of the test chamber. A forced-air ventilation system may not be used.

Baffles shall be used to prevent wind from blowing directly into the ventilation openings.

4. Camera View Area

An opening covered with glass shall be provided at the midpoint of the test chamber length for camera viewing. The opening shall allow the camera to view the seat parallel to the seat width. (See Figure 1.)

B. Test Sample

The sample shall be a fully assembled seat.

Record the weight of all padding and upholstery prior to assembly. Record the weight of the fully-assembled seat.

C. Ignition Source

A paper grocery bag with dimensions of approximately 7x11x18 inches is used to contain double sheets of newsprint (black print only, approximately 22x28inches). The total combined weight of bag and newspaper shall be seven ounces ±0.5 ounces. After the newspaper is added to the paper bag, the two corners of the bag opening at each end of the 7” dimension may be stapled together using a single staple for newspaper retention if desired.

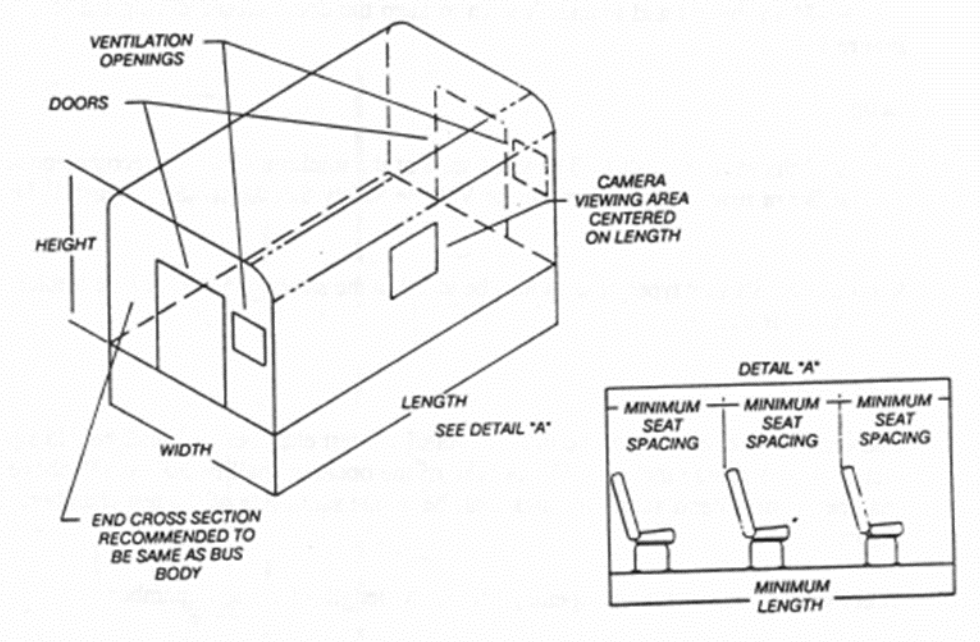
D. Test Procedure

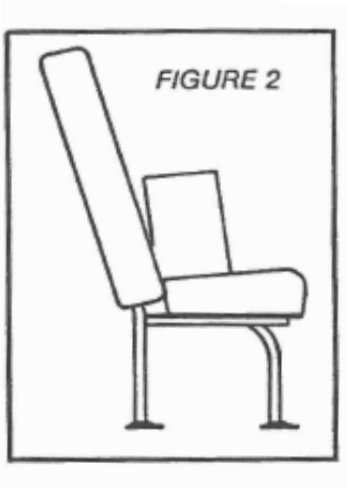
1. Install three seats in the test chamber at minimum spacing, per installer recommendation. Seats shall be perpendicular to the dimension indicated as “length” in Figure 1. Install so that seat frames will not fall during the test. Seat width shall be determined so that maximum passenger capacity per row (two seats) for the seat style shall be tested.

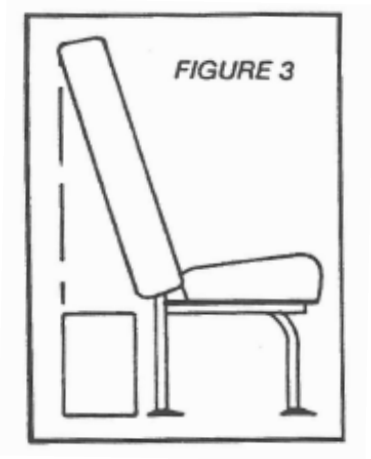
2. For each test, position the ignition source in the following positions outlined. (Figure 1)

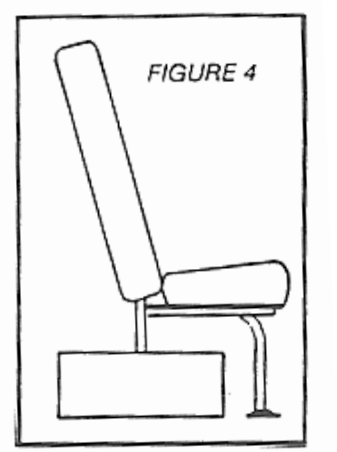
3. A wooden match shall be used to light the ignition source. Time the test, beginning when the ignition source is on fire and ending when all flames are out.

4. After each ignition source position test, weigh seat assembly, including loose material which has fallen off the seat onto the floor.




**Position A**

Position ignition source with 18-inch dimension in contact with the seat cushion and touching the seat back, the 11-inch dimension extending vertically from the surface of the cushion and the 7-inch dimension horizontal. Center the bag on top of the cushion. (See Figure 2.)

**Position B.**

Position the ignition source on the floor behind the seat with 18-inch side resting on the floor and parallel to seat width, centered on width so that the rear of bag does not extend beyond the rear seat back. (See Figure 3.)

**Position C.**

Position the ignition source on the floor on the aisle side of the seat with 18-inch dimension on the floor and perpendicular to the seat width touching the seat leg, with centerline of the bag at the center of the seat back. (See Figure 4.)

E. Performance Criteria

For each ignition source position test, the seat tested must meet all of the following criteria. A new seat specimen may be used for each ignition source position test.

1. Maximum time from ignition to flameout shall be 8 minutes.

2. Flame shall not spread to any other seat with the ignition source in Position A and Position C.

3. Weight loss may not exceed 10% of the pretest weight of padding and upholstery. Padding and upholstery may be combined in the form of integrally bonded seat foam.

F. Sound Generator: Minimum Sound Requirements for Electric and Hybrid School Buses

Electric and Hybrid school buses shall be equipped with a sound generator to warn pedestrians of the school bus's approach. The sound generator shall conform to the SBMTC minimum sound requirements for Electric and Hybrid school buses.

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# APPENDIX C: Alternative Fuels

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# APPENDIX C
# ALTERNATIVE FUELS

**BIBLIOGRAPHY**


49 CFR Part 571, Federal Motor Vehicle Safety Standards. NHTSA (400 Seventh Street SW, Washington, DC 20590).

A.G.A. Requirements for Natural Gas Vehicle (NGV) Conversion Kits, No. 1-85. American Gas Association Laboratories, August 20, 1995.

An Alternative Transportation Fuel, "The LNG Option." Roy E. Adkins Cryogenic Fuels, Inc., September 1989.

An Analysis of the Economic and Environmental Effects of Natural Gas as An Alternative Fuel, EA 1989- 10. December 15, 1989.

Basic Requirements for Compressed Natural Gas Vehicle (NGV) Fuel Containers, ANSI/AGA NGV2, American Gas Association Laboratories,1992.

"CAA Clean Fuel Fleet Requirements." Presented by Glenn W. Passavant, U.S. EPA. 1992 SAE Government/Industry Meeting, Washington, D.C., April 30, 1992.

"Campaigning for NGV's": 4th Annual Meeting Proceedings. Dallas, Texas: The Natural Gas Vehicle Coalition, June 24-25, 1992.

Compressed Natural Gas Conference Proceedings, SAE P - 129 (compilation of papers). Pittsburgh, Pennsylvania, June 22-23, 1993.

Compressed Natural Gas (CNG) Demonstration Project: Transit Facility for Buses. M.S. Consultants, Inc. for the Ohio Department of Transportation, June 1991.

Compressed Natural Gas (CNG) Vehicular Fuel Systems, ANSI/NFPA 52 - 1988 Edition. National Fire Protection Association.

Directory of Natural Gas Vehicle Refueling Stations, Products and Services, 1991 & 1992 Editions American Gas Association.

"Extent of Indoor Flammable Plumes Resulting from CNG Bus Fuel System Leaks SAE 922486" by Michael J. Murphy, Susan T. Brown, & David B. Phillips-Battelle, November 1992.
Florida School Bus Alternate Fuel Manual. Florida Department of Education (Suite 824, 325 West Gaines Street, Tallahassee, FL 322399-0400), 1992. 308

Methanol Use in School Transportation: An Expedition Through the Mind Set of America, SAE 951966 by Wayne B. Johnston and George Karbowski.

Presented to SAE Future Transportation Technology Conference and Exposition, Costa Mesa, CA. National Biodiesel Board, compilation of papers, www.nbb.org, 1998 – 2005.

Potential for Compressed Natural Gas Vehicles in Centrally Fueled Automobile, Truck and Bus Fleet Applications, by Michael E. Samsa. Gas Research Institute, Strategic Planning and Analysis Division, June 1991.

"Putting the Future of Methanol in Proper Perspective" by J.R. Crocco - Presented to 1992 SAE Government/ Industry Meeting, Washington, DC, April 1992.

Technology Conference Proceedings, The Natural Gas Vehicle Coalition, Dallas, Texas, June 24-25, 1992

# APPENDIX D: General Operations

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# SCHOOL BUS OPERATIONS (GUIDELINE #17)

## National Highway Traffic Safety Administration
## Highway Safety Program Guideline #17
## PUPIL TRANSPORTATION SAFETY

I. **Scope.** This guideline establishes minimum recommendations for a State Highway Safety Program for pupil transportation safety including the identification, operation and maintenance of buses used for carrying students; training of passengers, pedestrians and bicycle riders; and administration.

II. **Purpose.** The purpose of this guideline is to minimize, to the greatest extent possible, the danger of death or injury to school children while they are traveling to and from school and school-related events.

III. **Definitions.** "Bus" is a motor vehicle designed for carrying more than 10 persons (including the driver).

"Federal Motor Carrier Safety Regulations (FMCSR)" are the regulations of the Federal Motor Carrier Safety Administration (FMCSA) for commercial motor vehicles in interstate commerce, including buses with a gross vehicle weight rating (GVWR) greater than 10,000 pounds or designed to carry 16 or more persons (including the driver), other than buses used to transport school children from home to school and from school to home. (The FMCSR are set forth in 49 CFR Parts 383-399.)

"School-chartered bus" is a "bus" that is operated under a short-term contract with state or school authorities who have acquired the exclusive use of the vehicle at a fixed charge to provide transportation for a group of students to a special school-related event.

"School bus" is a "bus" that is used for purposes that include carrying students to and from school or related events on a regular basis, but does not include a transit bus or a school-chartered bus.

IV. **Pupil Transportation Safety Program Administration and Operations. Recommendation.** Each state, in cooperation with its school districts and other political subdivisions, should have a comprehensive pupil transportation safety program to ensure that school buses and school-chartered buses are operated and maintained so as to achieve the highest possible level of safety.

A. **Administration.**

1. There should be a single state agency having primary administrative responsibility for pupil transportation, and employing at least one full-time professional to carry out these responsibilities.

2. The responsible state agency should develop an operating system for collecting and reporting information needed to improve the safety of operating school buses and school-chartered buses. This includes the collection and evaluation of uniform crash data consistent with the criteria set forth in Highway Safety

Program Guidelines No. 10, "Traffic Records" and No. 19, "Accident Investigation and Reporting."

B. **Identification and Equipment of School Buses**. Each state should establish procedures to meet the following recommendations for identification and equipment of school buses.

1. All school buses should:

a. Be identified with the words "School Bus" printed in letters not less than eight inches high, located between the warning signal lamps as high as possible without impairing visibility of the lettering from both front and rear, and have no other lettering on the front or rear of the vehicle, except as required by Federal Motor Vehicle Safety Standards (FMVSS), 49 CFR Part 571.

b. Be painted National School Bus Yellow, in accordance with the colorimetric specification of National Institute of Standards and Technology (NIST) Federal Standard No. 595a, Color 13432, except that the hood should be either that color or lusterless black, matching NIST Federal Standard No. 595a, Color 37038.

c. Have bumpers of glossy black, matching NIST Federal Standard No. 595a, Color 17038, unless, for increased visibility, they are covered with a reflective material.

d. Be equipped with safety equipment for use in an emergency, including a charged fire extinguisher, that is properly mounted near the driver's seat, with signs indicating the location of such equipment.

e. Be equipped with device(s) demonstrated to enhance the safe operation of school vehicles, such as a stop signal arm.

f. Be equipped with a system of signal lamps that conforms to the school bus requirements of FMVSS No. 108, 49 CFR 571.108.

g. Have a system of mirrors that conforms to the school bus requirements of FMVSS No. 111, 49 CFR 571.111, and provides the seated driver a view to the rear along both sides of the bus and a view of the front bumper and the area in front of the bus. Mirrors should be positioned and adjusted such that when a rod, 30 inches long, is placed upright on the ground at any point along a traverse line one-foot forward of the forward-most point of a school bus, at least seven 1/2 inches of the length of the rod should be visible to the driver, either by direct view or by the system of mirrors.

h. Comply with all FMVSS applicable to school buses at the time of their manufacture.

2. Any school bus meeting the identification recommendations of sections 1.a.-h. above, that is permanently converted for use wholly for purposes other than transporting children to and from school or school-related events, should be painted a color other than National School Bus Yellow, and should have the stop arms and school bus signal lamps described by sections 1. e. & f. removed.

3. School buses, while being operated on a public highway and transporting primarily passengers other than school children, should have the words "School Bus" covered, removed, or otherwise concealed, and the stop arm and signal lamps described by sections 1. e. & f. should not be operated.

4. School-chartered buses should comply with all applicable FMCSR and FMVSS.

C. **Operations.** Each state should establish procedures to meet the following recommendations for operating school buses and school-chartered buses:

1. Personnel.

a. Every person who drives a school bus or school-chartered bus occupied by school children should, as a minimum:

(1) Have a valid state driver's license to operate such a vehicle. All drivers who operate a vehicle designed to carry 16 or more persons (including the driver) are required by FMCSA's Commercial Driver's License
Standards by April 1, 1992 (49 CFR Part 383) to have a valid commercial driver's license.

(2) Meet all physical, mental, moral and other requirements established by the state agency having primary responsibility for pupil transportation, including requirements for drug and/or alcohol misuse or abuse; and

(3) Be qualified as a driver under the Federal Motor Carrier Safety regulations of the FMCSA, 49 CFR Part 391, if the driver or the drivers' employer is subject to those regulations.

2. Vehicles.

a. Each state should enact legislation that provides for uniform procedures regarding school buses stopping on public highways for loading and discharge of children. Public information campaigns should be conducted

on a regular basis to ensure that the driving public fully understands the implications of school bus warning signals and requirements to stop for school buses that are loading or discharging school children.

b. Each state should develop plans for minimizing highway use hazards to school bus and school-chartered bus occupants, other highway users, pedestrians, bicycle riders and property. They should include, but not be limited to:

(1) Careful planning and annual review of routes for safety hazards;

(2) Planning routes to ensure maximum use of school buses and school-chartered buses, and to ensure that passengers are not standing while these vehicles are in operation;

(3) Providing loading and unloading zones off the main traveled part of highways, whenever it is practical to do so:

(4) Establishing restricted loading and unloading areas for school buses and school-chartered buses at or near schools;

(5) Ensuring that school bus operators, when stopping on a highway to take on or discharge children, adhere to state regulations for loading and discharging including the use of signal lamps as specified in section B. 1. f. of this guideline;

(6) Prohibiting, by legislation or regulation, operation of any school bus unless it meets the equipment and identification recommendations of this guideline;

(7) Replacing, consistent with the economic realities which typically face school districts, those school buses which are not manufactured to meet the April 1, 1977 FMVSS for school buses, with those manufactured to meet the stricter school bus standards, and not chartering any pre-1977 school buses; and

(8) Informing potential buyers of pre-1977 school buses that these buses may not meet current standards for newly manufactured buses and of the need for continued maintenance of these buses and adequate safety instruction.

c. Use of amber signal lamps to indicate that a school bus is preparing to stop to load or unload children is at the option of the state. Use of red warning signal lamps as specified in section B. 1. f. of this guideline for any purpose or at any time other than when the school bus is stopped to

load or discharge passengers should be prohibited.

d. When school buses are equipped with stop arms, such devices should be operated only in conjunction with red warning signal lamps, when vehicles are stopped.

e. Seating

(1) Standing while school buses and school-chartered buses are in motion should not be permitted. Routing and seating plans should be coordinated so as to eliminate passengers standing when a school bus or school-chartered bus is in motion.

(2) Seating should be provided that will permit each occupant to sit in a seat intended by the vehicles' manufacturer to provide accommodation for a person at least as large as a 5th percentile adult female, as defined in 49 CFR 571.208. Due to the variation in sizes of children of different ages, states and school districts should exercise judgement in deciding how many students are actually transported in a school bus or school-chartered bus.

(3) There should be no auxiliary seating accommodations such as temporary or folding jump seats in school buses.

(4) Drivers of school buses and school-chartered buses should be required to wear occupant restraints whenever the vehicle is in motion.

(5) Passengers in school buses and school-chartered buses with a gross vehicle weight rating (GVWR) of 10,000 pounds or less should be required to wear occupant restraints (where provided) whenever the vehicle is in motion. Occupant restraints should comply with the requirement of FMVSS Nos. 208, 209 and 210, as they apply to multipurpose vehicles.

f. Emergency exit access. Baggage and other items transported in

g. The passenger compartment should be stored and secured so that the aisles are kept clear and the door(s) and emergency exit(s) remain unobstructed at all times. When school buses are equipped with interior luggage racks, the racks should be capable of retaining their contents in a crash or sudden driving maneuver.

D. **Vehicle Maintenance.** Each state should establish procedures to meet the following recommendations for maintaining buses used to carry school children:

1. School buses should be maintained in safe operating condition through a systematic preventive maintenance program.

2. All school buses should be inspected at least semi-annually. In addition, school buses and school-chartered buses subject to the Federal Motor Carrier Safety Regulations of FMCSA should be inspected and maintained in accordance with those regulations (49 CFR Parts 393 and 396).

3. School bus drivers should be required to perform daily pre-trip inspections of their vehicles, and the safety equipment thereon (especially fire extinguishers), and to report promptly and in writing any problems discovered that may affect the safety of the vehicle's operation or result in its technical breakdown. Pre-trip inspection and condition reports for school buses and school-chartered buses subject to the Federal Motor Carrier Safety Regulations of FMCSA should be performed in accordance with those regulations (49 CFR 392.7, 392.8, and 396).

E. **Other Aspects of Student Transportation Safety.**

1. At least once during each school semester, each pupil transported from home to school in a school bus should be instructed in safe riding practices, proper loading and unloading techniques, proper street crossing to and from school bus stops and should participate in supervised emergency evacuation drills, which are timed. Prior to each departure, each pupil transported to an activity or field trip in a school bus or school-chartered bus should be instructed in safe riding practices and on the location and operation of emergency exits.

2. Parents and school officials should work together to select and designate the safety pedestrian and bicycle routes for the use of school children.

3. All school children should be instructed in safe transportation practices for walking to and from school. For those children who routinely walk to school, training should include preselected routes and the importance of adhering to those routes. Children riding bicycles to and from school should receive bicycle safety education, wear bicycle safety helmets, and not deviate from preselected routes.

4. Local school officials and law enforcement personnel should work together to establish crossing guard programs.

5. Local school officials should investigate programs which incorporate the practice of escorting students across streets and highways when they leave school buses. These programs may include the use of school safety patrols or adult attendants.

6. Local school officials should establish passenger vehicle loading and unloading points at schools that are separate from the school bus loading zones.

F. **Program evaluation.** The pupil transportation safety program should be evaluated at least annually by the state agency having primary administrative responsibility for pupil transportation.

# SCHOOL BUS DRIVER APPLICATION

**(Sample Form)**

Applicant Name: _____

Present Address: _____

Date of Birth: _____ Social Security No.: _____

Addresses at which applicant has resided during the past three (3) years: _____

Current Driver's License Number: _____

State of Issue: _____ Expiration Date: _____

Class of License: _____ Endorsements: _____ Restrictions: _____

Have you had any type of vehicle accident in the last three (3) years? **Yes** **No**

If yes, give dates and explain: _____

_____

Have you ever been terminated or suspended from previous employment because of a positive drug or alcohol test? **Yes** **No**

Have you been convicted of a moving traffic violation in the last three (3) years? **Yes** **No**

If yes, give dates and explain: _____

_____

Has your driver's license been suspended or revoked during the last three (3) years? **Yes** **No**

If yes, give dates and explain: _____

_____

Has your license ever been revoked, suspended or denied since the time you obtained your original license? **Yes** **No**

If yes, give dates and explain: _____

_____

Have you held a license in another state during the last three (3) years? **Yes** **No**

Which state(s)? _____

**Employment**

List the names and addresses of your current and previous employers during the ten (10) years preceding the date of this application.

Current Employer: _____

Address: _____

Dates: _____

Reason for leaving: _____

Job Title & Duties: _____

Previous Employer: _____

Address: _____

Dates: _____

Reason for leaving: _____

Job Title & Duties: _____

Additional employers may be listed on a separate sheet.

**Education and training**

Education completed: High School College Graduate School

Degrees earned and school(s): _____

Specific experience or formal training related to transportation of students: _____

_____

I understand that the information provided by me may be checked, and previous employers may be contacted for the purpose of investigating my background. This certifies that this application was completed by me, and that all entries and information on it are true and complete to the best of my knowledge.

Date: _____ Signature: _____

I authorize the employer to conduct a criminal history check and to investigate all written information contained on this application.

Date: _____ Signature: _____

# ACTIONS TO BE TAKEN DURING AND FOLLOWING THE OBSERVATIONS OF SCHOOL BUS ROUTES

Supervisory actions that should be taken during and after the transportation director completes a review of bus routes are listed below:

1. Check the route and schedule for accuracy;

2. Determine that loading and unloading occurs only at authorized stops;

3. Check for bus stop hazards;

4. Check to see that vehicles are operated in compliance with prescribed regulations;

5. Observe the driver-student relationship;

6. Check loading and unloading conditions at school centers;

7. Check for evidence of supervision in loading zones;

8. Note hazardous road conditions;

9. Note the nature, frequency, and locations of bus stop law violations;

10. Observe conditions of bus [e.g., cleanliness, tires, windows, emergency exit(s), first aid kits, fire extinguisher, seats, etc.];

11. Observe vehicle inspection guide for evidence of pre-trip inspection;

12. Note driver attitude toward other motorists and pedestrians;

13. Follow the observation with a written report and discussion with the driver (and others, as appropriate). The discussion should be used to encourage the driver to become self-auditing and participate in giving supervisors information that is helpful in improving the overall safety, effectiveness and efficiency of the student transportation system; and

14. File the written report in the driver's permanent record.

# GUIDELINES FOR ENROUTE EMERGENCY BUS EVACUATION PROCEDURES

The intent of these procedures is to provide guidelines for evacuating a bus only when absolutely necessary in an emergency situation, for the safety of students and staff.

## PREPARING AN EMERGENCY EVACUATION PLAN:

Each bus should have an emergency evacuation plan, which should be kept in the bus. The plan should allow for individual capabilities and needs of each student, the type of behaviors that might be exhibited during an emergency evacuation, and the types of wheelchairs or support equipment being used for students. A floor plan with student location and special needs should be in the bus. Issues that should be considered when establishing an evacuation plan are listed below.

A. Whether or not students can help, and to what extent;

B. How to deal with individual emergencies (e.g., seizures) during the evacuation process;

C. Whether students should be evacuated in their wheelchairs, or removed from their wheelchairs before evacuation;

D. How to disconnect or cut wheelchair securement and occupant protection equipment, including belts, trays, and other support equipment;

E. The order or sequence in which students should be evacuated;

F. The length of time a student requiring life support equipment or medical care procedures can survive if such service is interrupted or delayed during the evacuation process;

G. Where to gather once off the bus and how to evaluate different scenarios to make the best decision about where to gather;

H. Training plan and schedules for drivers and students; and

I. Specific emergency equipment needed, training in use and assignment of responsibility to remove from the bus when evacuations occur.

## ASSESSING THE NEED TO EVACUATE

Student safety and control are best maintained by keeping students in the bus during an emergency and/or impending crisis situation if doing so does not expose them to unnecessary risk or injury. A decision to evacuate should include consideration of the following conditions:

A. Is there a fire involved?

B. Is fuel leaking?

C. Might the bus roll or tip, thereby causing further threat to safety?

D. Is the bus likely to be hit by other vehicles?

E. Is the bus in the direct path of a sighted tornado or other natural disaster, such as rising water?

F. Would evacuating students expose them to speeding traffic, severe weather, or another dangerous environment?

G. Considering the medical, physical, and emotional condition of the students, does staying in the bus or evacuating pose the greater danger to the students' safety?

## GENERAL PROCEDURES TO FOLLOW FOR EMERGENCY EVACUATION

A. Keep the situation as orderly and low-key as possible;

B. If time and conditions permit, the bus driver should use the communication system to advise the office of the following information:

1. The exact location, including nearest intersecting road or familiar landmark;

2. The condition creating the emergency;

3. The type of assistance needed (police-fire-ambulance); and

4. Notification that the bus is being evacuated.

C. Analyze conditions to determine the safest exit from the bus and safest gathering location;

D. During evacuation, monitor conditions and adjust procedures to meet unexpected circumstances;

E. Move evacuated students to the nearest safe location at least 100 feet from the bus; and

F. Be prepared to give information to emergency medical personnel regarding individual students' medical or physical requirements.

## EQUIPMENT CONSIDERATIONS

A. As part of their pre-trip inspection, bus staff should familiarize themselves with the location and method of opening all emergency exits.

B. If time permits, a lift platform can be lowered half the distance to the ground, providing a step for evacuating wheelchairs. If there is a smell of spilled fuel, the lift should be operated manually.

C. When re-entry to the bus is not probable, communication equipment and first aid kits can frequently be passed through a window, making them accessible outside the bus. Consideration should also be made for student medication, if carried and needed.

D. If a large bus is being used and evacuation is made through the rear exit door, consideration should be given to the method to be used for re-entry to the bus, if necessary, considering the height of the floor from the ground. (Some states allow a stirrup-type step on the rear bumper.)

E. If a battering ram is needed, a fire extinguisher can often serve that purpose.

F. A webbing cutter shall be stored in the bus in a location readily accessible to the driver when he/she is seated in the normal driving position and location. The cutter should have a protected mouth to restrict the entry of fingers, etc.

## LOCAL DISTRICT POLICY

Bus staff should be familiar with local district policy regarding the following items:

A. Evacuation procedures to follow when students are enroute; or, what to do if a tornado or flash flood, etc. is sighted and no shelter is near.

B. The type of medical information to be available on long distance trips in case of student injury.

**Note:** THE SAFETY OF THE BUS AND EQUIPMENT IS SECONDARY TO THE SAFETY OF THE STUDENTS. NO ATTEMPT SHOULD BE MADE TO SAVE EQUIPMENT OR PERSONAL ITEMS UNTIL ALL STUDENTS ARE REMOVED FROM THE BUS SAFELY, ARE OUT OF DANGER AND ARE ADEQUATELY SUPERVISED.

# SAMPLE CRASH REPORTING FORM

**(For Injury Events Where the School Bus is Physically Involved)**

The school bus crash reporting form has been harmonized with other national crash data collection methods and is provided in two formats: in hardcopy and as an electronic form that can be used to enter data that can be subsequently exported to a spreadsheet or database. This will support efforts to automate data collection on a national level to assist states in developing a uniform web-based format to gather important collision data. This format allows for collection of collision data involving students traveling to and from school and school activities, as occupants in school buses, and as pedestrians. The form collects additional information specific to students riding while seated in wheelchairs or child safety restraint devices.

This form suggests what data is helpful to collect and is designed to allow data to be tabulated, analyzed and compared using consistent criteria. The option of a uniform web-based reporting system allows states to gather information according to reporting criteria established by the individual state mandates, but allows that information to be analyzed nationally by sorting the data by uniform fields and terminology, resulting in timely responses to national organizations or federal agencies that request the crash data. The adoption of this format will provide a realistic uniform database that could be utilized to enhance the safety and economy of student travel in each state.

**SCHOOL BUS CRASH REPORT FORM**

**Date form completed**:_____

**Person filling out form**:_____

**Title of person filling out form**: _____

**Sources of information (check all that apply):**

_____ Police accident report (PAR)
_____ Bus driver interview
_____ Student interviews
_____ Witness interviews
_____ Medical records
_____ Other: (describe) _____

**Event type (check all that apply):**

_____ Bus Crash (fill out pages 2-8)
_____ Pedestrian hit by bus or another vehicle
_____ Entering/exiting bus
_____ Moving vehicle injury incident (includes braking, turning)

**Outcomes (check all that apply):**

_____ School bus damage exceeded $1,000
_____ Property damage exceeded $1,000
_____ Vehicles towed from scene
_____ Bus driver or bus passenger injuries
_____ Bus driver or bus passengers transported for medical treatment
_____ Fatality

## CRASH INFORMATION

**Date of Crash:** _____**Time of Crash:** _____

**Investigating Department:** _____ **Report number:**

**Light Condition**
____ Daylight
____ Dawn
____ Dusk
____ Dark – unlighted
____ Dark, but street lights
____ Unknown

**Road Defects**
____ None
____ Defective surface (pothole, loose gravel, uneven surface)
____ Slippery
____ Inoperative traffic signal
____ Obstructed view (driver line of sight)
____ Construction zone
____ Other (describe): _____

**Weather Condition**
____ Clear
____ Cloudy
____ Fog/smoke
____ Rain
____ Severe wind
____ Snow/blowing snow
____ Sleet/hail/freezing rain
____ Blowing dust/sand
____Other(describe): _____
_____

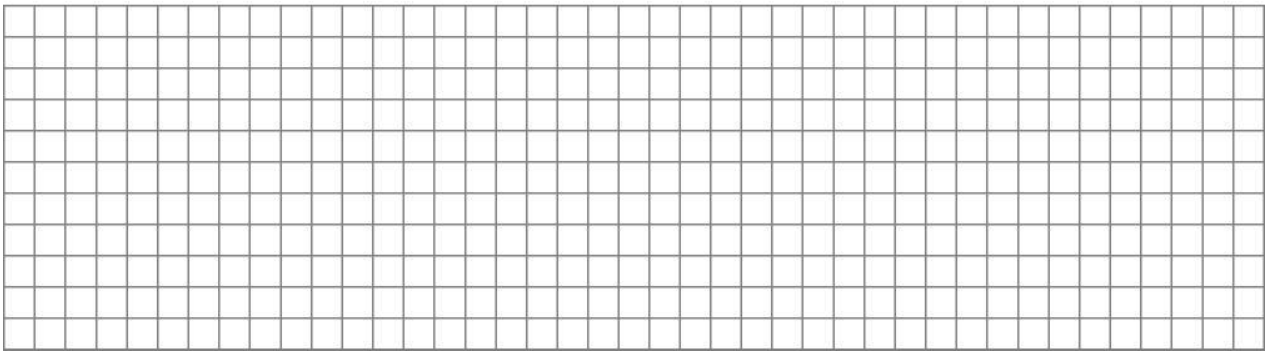
**Road Condition**
____Dry
____Wet
____Icy
____Snowy
____Muddy
____Slushy
____Debris
____Other(describe): _____

**Speed limit:** _____ **Approximate speed of bus:** _____ **Number of lanes:** _____

**Limited-access highway: (Y/N)** **Location**: _____

**Describe crash/event:** _____
_____

**Crash Diagram (not to scale)** *Indicate by arrow direction of North*



## CRASH INFORMATION

**Manner of Collision:**

**____ Single motor vehicle** A crash that involves only one vehicle



**____ Head On** The intended direction of travel for both vehicles is toward each other/in opposite directions.



**_____ T-type** When the intended direction of travel is basically perpendicular for both drivers



**_____ L-type** Traveling in perpendicular directions similar to a t-type, but vehicle is struck on an end, not the middle



**_____ Angle** When two vehicles are approaching in same direction or opposite directions and one vehicle is turning



**_____ Rear End** When the vehicles are traveling in the same direction, one behind the other and the front of one strikes the rear of the other



**_____ Sideswipe Opposite** When vehicles are traveling in opposite directions and they make a glancing side impact



**_____ Sideswipe Same** When vehicles are traveling in the same direction and they make a glancing side impact



## CRASH INFORMATION

**Type of Crash for bus** (check all that apply):

____Passenger vehicle
____Trailer (pulled by motor-vehicle)
____Truck/Tractor-trailer/semi-truck
____Pedestrian
____Pedestrian in wheelchair/scooter
____Bicyclist
____Motorcycle
____Another bus
____Train
____ATV, farm equipment, snowmobile
____Rollover
____Unknown

Other (describe): _____

If rollover; please describe (example: right or left-side leading; end-over-end) how many rolls, final rest of vehicle: left, right, top, wheels: _____

_____

Did crash occur at an intersection? (Y / N)

Any additional information about crash: _____
_____

## CRASH INFORMATION

**Did the bus strike any objects?** Yes No

**Describe Objects** (check all that apply)

**Contributing Circumstances** (check all that apply):

____ Tree
____ Utility Pole
____ Sign
____ Animal
____ Pedestrian
____ Bicyclist
____ Embankment, snow bank
____ Fence
____ Fire hydrant, stump, short post
____ Building
____ Small post, mailbox, delineator
____ Guardrail
____ Bridge rail
____ Culvert, ditch
____ Median/concrete barrier
____ Retaining wall, abutment
____ Curb
____ Parked vehicle
____ Ground (rollover)
____ Other (describe): _____

| | School Bus Driver | Other Vehicle Driver |
|---|---|---|
| No improper action | _____ | _____ |
| Speed | _____ | _____ |
| Failed to yield right-of-way | _____ | _____ |
| Stop sign violation | _____ | _____ |
| Traffic light violation | _____ | _____ |
| Improper warning lights used | _____ | _____ |
| Sudden movement | _____ | _____ |
| Improper distance judgment | _____ | _____ |
| Crossed centerline | _____ | _____ |
| Drove wrong way | _____ | _____ |
| Improper passing | _____ | _____ |
| Improper turning | _____ | _____ |
| Following too close | _____ | _____ |
| Backing up | _____ | _____ |
| Reckless endangerment | _____ | _____ |
| Other (describe) _____ | _____ | _____ |

**School Bus Driver:** Preventable collision (Y / N) Drug/alcohol tested after crash (Y / N)

**Other Vehicle Driver:** Preventable collision (Y / N) Drug/alcohol tested after crash (Y / N)

_____ School bus driver cited (Y / N)
Specify citation: _____
_____
Determined by: _____

_____ Other vehicle driver cited (Y / N)
Specify citation: _____
_____
Determined by: _____

## VEHICLE INFORMATION

**School Bus VIN No.:** **Year, Make, Model:** _____

**School bus use at time of crash:**

_____ Regular route
_____ Field/activity/sport trip
_____ Special needs route
_____ Other: describe

**School Bus Defects Visible:**

____ None _____Lamps
____ Tires _____Other (describe) _____
____ Brakes
____ Steering

**Was school bus towed** (Y/N) **School bus towed to:** _____

**Type of School Bus:** _____A1 _____A2 _____B1 _____B2 _____C _____D

Engine Location: _____Front _____ Rear
Other Features: _____MFASB/MPV _____Lift Equipped
_____**Any damage to bus Y/N** information below taken from police accident report (PAR)

**Area of greatest damage to bus:**

____ Front
____ Right (passenger side)
____ Left (driver side)
____ Back (rear)
____ Top
____ Undercarriage
____ Unknown

**Greatest extent of damage to the bus:**
Code 0 – 7 Select the degree of severity. If a vehicle sustained no damage, a "0" (zero) rating is used. "1" being the least severe and "7" being the most severe.

**Secondary impact to bus: (**Y/N)

____ Front
____ Right (passenger side)
____ Left (driver side)
____ Back (rear)
____ Top
____ Undercarriage
____ Unknown

**Greatest extent of damage from secondary impact to bus:** ____ Code 0 – 7

_____

**Other vehicle Year, Make, Model** (if applicable) _____

**VIN No.: other vehicle**

**Area of greatest damage to other vehicle:**

____ Front
____ Right (passenger side)
____ Left (driver side)
____ Back (rear)
____ Top
____ Undercarriage
____ Unknown

**Greatest extent of damage to other vehicle:** ____Code 0 – 7
**Secondary impact** (Y/N) **Area of damage** _____ **Extent of damage** _____

| | |
|---|---|
| 0 | vehicle not damaged |
| 1 | superficial damage and vehicle can be driven |
| 2 | minor damage and vehicle can be drive |
| 3 | moderate damage and vehicle can be driven |
| 4 | minor damage and vehicle cannot be driven |
| 5 | moderate damage and vehicle cannot be driven |
| 6 | severe damage and vehicle cannot be driven |
| 7 | vehicle totaled and not repairable |

## OCCUPANT INFORMATION

**Bus driver's name:** _____

**Date of birth**: _____ **Age**: _____ **Male/Female**: _____

Seatbelt used (Y / N), Type of Belt:

Airbag Equipped (Y / N) Airbag Deployed: (Y / N)

**Bus Driver's Experience:** _____number of crashes/accidents in past three years

| | Pre-service training | | In-service within last 12 months | |
|---|---|---|---|---|
| | Hours | Dates | Hours | Dates |
| Driving (classroom) | | | | |
| Driving (in-vehicle) | | | | |
| Wheelchair transportation | | | | |
| First aid | | | | |
| Evacuation | | | | |
| Special needs | | | | |
| Child passenger safety | | | | |
| Behavior management | | | | |
| Policies and procedures/laws | | | | |
| Other: describe _____ | | | | |

Within 24 hours prior to crash: Hours of drive time _____ Hours on duty _____ Hours off duty_____

**Most severe injuries to bus driver and passengers** (from police accident report):

_____ O – no injury
_____ C – possible injury (minor)
_____ B – non-incapacitating injury (moderate)
_____ A – incapacitating injury (serious)
_____ K – fatality
_____ U – unknown injuries

**Driver:**
_____ injury

**Bus Passengers:**
_____ injuries

Was the bus driver transported for treatment (Y /N)

Were any passengers transported for treatment (Y / N)

**Please use the following codes for bus driver and passenger information and to fill out the bus occupant form on the following page.** (Code all equipment that applies.)

**Age/Male or Female**

**Equipment in use at time of crash:**

| | |
|---|---|
| AB | airbag |
| LS | lap & shoulder belt |
| LAP | lap belt only |
| SH | shoulder belt only |
| CSRS | child safety restraint system (supplemental form) |
| WC | wheelchair; scooter (supplemental form) |
| TD | wheelchair tie down/securement |
| O | none |
| U | unknown |

**Injury Codes**

| | |
|---|---|
| O | no injury |
| C | possible injury (minor) |
| B | non-incapacitating injury (moderate) |
| A | incapacitating injury (severe) |
| K | fatality |
| U | unknown |

Code on the following page in seat locations: Age/gender, equipment use, injury code

Examples:

**12/F, LS, C** 12-year-old female in lap/shoulder belt with a minor injury

**5/M, CSRS, L, B** 5-year-old male in child safety restraint system secured by lap belt with a moderate injury

**56/F, LAP, WC, U** 56-year-old female seated in wheelchair with lap belt with unknown injuries

**School Bus Occupants:** Total passengers including driver _____

Indicate locations of lifts (L), window emergency exits (VT), door emergency exits (X), and Roof exits (R)

*Front of bus* ↑

| ***L/W/X/R*** | ***Driver*** | | | | | ***Entry/Exit Door*** | | ***L/W/X/R*** |
|---|---|---|---|---|---|---|---|---|
| | ***A*** | ***B*** | ***C*** | **Aisle Row** | ***D*** | ***E*** | ***F*** | |
| | | | | **1** | | | | |
| | | | | **2** | | | | |
| | | | | **3** | | | | |
| | | | | **4** | | | | |
| | | | | **5** | | | | |
| | | | | **6** | | | | |
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| | | | | **12** | | | | |
| | | | | **13** | | | | |
| | | | | **14** | | | | |

## SCHOOL BUS TYPES

**School bus:** A bus owned, leased, contracted to or operated by a school or school district and regularly used to transport students to and from school or school-related activities, but not including a charter bus or transit bus. A school bus must meet all applicable FMVSSs and is readily identified by alternately flashing lamps, National School Bus Yellow paint, and the legend "School Bus," except as may be provided for the multifunction school activity bus. The following describes each of these types and styles of vehicle.

**Type A:** A Type "A" school bus is a conversion or bus constructed utilizing a cutaway front section vehicle with a left side driver's door. This definition includes two classifications:

**Type A-1**, with a Gross Vehicle Weight Rating (GVWR) of 14,500 pounds or less; and **Type A-2**, with a GVWR greater than 14,500 and less than or equal to 21,500 pounds.




**Type B:** A Type "B" school bus is constructed utilizing a stripped chassis. The entrance door is behind the front wheels. This definition includes two classifications: **Type B-1**, with a GVWR of 10,000 pounds or less; and **Type B-2**, with a GVWR greater than 10,000 pounds.




**Type C:** A Type "C" school bus is constructed utilizing a chassis with a hood and front fender assembly. The entrance door is behind the front wheels; also known as a conventional school bus. This type also includes cutaway truck chassis or truck chassis with cab with or without a left side door and a GVWR greater than 21,500 pounds.




**Type D:** A Type “D” school bus is constructed utilizing a stripped chassis. The entrance door is ahead of the front wheels; also known as rear or front engine transit style school buses.




**Multifunction school activity bus (MFSAB**) or **multipurpose passenger vehicle (MPV):** “A school bus whose purposes do not include transporting students to and from home or school bus stops,” as defined in 49 CFR 571.3. This subcategory of school bus meets all FMVSS for school buses except the traffic control requirements (alternately flashing signal and stop arm).

## SUPPLEMENTAL CRASH DATA

**Bus Loading/Unloading-Type Incident**

**Was the bus involved in a non-collision type incident?** ____Yes ____No (If yes, continue.)

**Did the incident occur at school?** _____ Yes _____ No

**Where was the bus at the time of the incident?**

_____ Approaching the bus stop
_____ Stopped at the bus stop
_____Leaving the bus stop
_____Not in sight of the bus stop

**Were any traffic warning devices activated when incident occurred?** (Check all that apply.)

_____ None
_____ Amber lights activated
_____ Swing out stop arm
_____ Unknown
_____ Red lights activated
_____ Other: describe _____

**Where was the student(s) at the time of the incident?**

_____ Getting on the bus
_____ Getting off the bus
_____ Walking to or from the bus
_____ Loading or unloading from a lift (fill out supplemental wheelchair pages**)**
_____ Standing at the bus stop
_____ Unknown
_____ Other: describe _____

**Location of student:**

_____ On the side of the road
_____ On the sidewalk
_____ In the road
_____ Unknown
_____ In a private driveway
_____ Moving to seat
_____ Other: describe _____

**Student injured by:**

_____ Bus
_____ Falling
_____ Unknown
_____ Another vehicle
_____ Other: describe _____

**What area of the bus or other vehicle contacted student?**

_____ Front
_____ Passenger side (right)
_____ Unknown
_____ Back
_____ Driver side (left)
_____ Other: describe _____

**Did student(s) sustain any injuries? (Y/N)** Describe: _____

_____

**Describe student(s) behavior:** _____

_____

**Describe any other information about the incident:** _____

_____

**Wheelchair Securement/Restraint Supplement Report**

**Was a bus passenger seated in a wheelchair? ____ Yes ____No (If yes, continue.)**

**The Wheelchair**

**Make/model/year of wheelchair:** _____

**Location of Wheelchair:**
_____ Row number
_____ Seat location
_____ Orientation in vehicle (facing forward, to left, right, rear, angle)
_____ On lift
_____ Unknown position in vehicle

**Wheelchair type:**
____ Standard Manual
____ Stroller
____ Ultra-light/sport manual
____ Powered
____ 3 or 4-wheeled power scooter
____ Other: specify_____
____ Unknown

**Wheelchair WC19-compliance:**
____ Yes
____ No
____ Unknown

**Post-crash condition of wheelchair:**
____ No damage
____ Minor damage/repairable
Major damage/not repairable
____ Unknown

**Describe damage to wheelchair:** _____
_____
_____
_____
_____

**Rear head rest:**
____ No head rest available
____ Yes – attached to wheelchair
____ Yes – not attached to wheelchair
____ Unknown
____ Other specify

**Post-crash condition of head rest**:
____ No head rest available
____ No damage
____ Detached from wheelchair
____ Detached from vehicle
____ Deformed
____ Unknown

**Wheelchair seating system:**
____ Sling seat and seatback
____ Rigid seat and seatback
____ Special contoured seating
____ Fixed seat and reclining seatback
____ Tilt seating system
____ Degree of tilt <30° <45°
____ Other: specify
____ Unknown

**Condition of wheelchair seating system after the crash/incident:**
____ No damage to seat or seatback
____ Seat broken/deformed
____ Seatback broken/deformed
____ Seat and seatback broken/deformed
____ Frame deformed/damaged
____ Other: specify
____ Unknown

**The Lift**

**Vehicle access for wheelchair:**
____ Powered lift
____ Ramp
____ Other: specify
____ Unknown

**Access location:**
____ Passenger side (right)
____ Driver side (left)
____ Rear (back)
____ Unknown

**The Postural Belts**

**Wheelchair postural belts/supports used (**check all that apply):
____ None used or not available
____ Lap belt
____ Chest belt
____ Harness
____ Side pads: describe
____ Other: describe _____
____ Unknown

**Condition of postural belts/supports after crash:**
____ None used or not available
____ No signs of damage
____ Detached from wheelchair
____ Deformed or unbuckled
____ Other: describe _____

**Were postural belts used properly? (Y/N) Describe:** _____

_____

**Securement of the wheelchair to the vehicle**

**Type of tiedown used:**
____None used, but available
____ None available
____ Four-point straps
____ Docking system
____ Wheel-rim clamps
____ Frame clamps
____ Other: specify
____ Unknown

**Condition of tiedowns after incident:**
____ None used or none available
____ No damage; system intact
____ System intact but deformed
____ Partial failure; but did not release chair
____ Failure; released wheelchair
____ Other: specify
____ Unknown

**Tiedown damage location:**
____ No damage or none available
____ Strap or webbing
____ D-ring
____ Securement hooks (S-hooks)
____ Anchorage on vehicle/tie down
____ Seat anchorage
____ Other: specify
____ Unknown

**Year, manufacturer, model of all tiedowns:** _____

_____

**Describe where tiedowns were secured to the vehicle:** _____

_____

**Were tiedowns used properly? (Y/N) Describe:** _____

_____

**Did wheelchair tip over? (Y/N) Describe:** _____

_____

**Occupant Restraint for the wheelchair user**

**Occupant restraint used:**

____ None used, but available
____ None available
____ Lap belt only
____ Lap belt with separate shoulder belt
____ Lap belt with separate shoulder harness
____ Shoulder belt only
____ 3-point belt
____ 4-point belt
____ 4-point harness
____ 5-point harness
____ Other: specify _____
____ Unknown

**Condition of belt restraints after incident:**
(Check all that apply.)

____ No damage or none available
____ Webbing damage
____ Hardware damage
____ Other: describe
____ Unknown

**Year, manufacturer, model of all restraints:** _____

_____

_____

**Were restraints used properly?** (Y/N) Describe**:** _____

_____

**Describe where restraints were attached:** _____

_____

**Was occupant ejected out of wheelchair?** (Y/N) Describe**:** _____

_____

**Child Safety Restraint System (CSRS)**

**Was the student using a CSRS? _____Yes _____No (If yes, continue.)**

**Where was the student seated on the bus? _____**

**CSRS Make, Model, Year _____**

**_____ Was the child rear-facing? _____ Was the child forward-facing?**

**Was the student in a CSRS seated at an emergency exit window?** _____Yes _____No

**Height and weight of student, if known: _____**

**Type of child safety seat:**
____ Infant seat with base (rear-facing only)
____ Infant seat without base (rear-facing only)
____ Forward-facing seat with harness
____ Booster seat with back
____ Booster seat without back
____ Safety vest
____ Integrated child seat
____ Other: describe _____
____ Unknown

**Type of restraint protecting child:** (Check all that apply.)
____ None
____ 5-point harness on child seat (2 at the shoulder, 2 at the hip, and one between the legs)
____ 3-point harness on child seat (2 at the shoulder, one between the legs)
____ 3-point belt on vehicle (lap and shoulder)
____ Lap belt on vehicle
____ Shoulder belt on vehicle
____ Other: describe _____
____ Unknown

**Observed CSRS usage:** (Check all that apply.)
____ Loose CSRS installation
____ Shoulder straps of harness positioned at or below shoulders
____ Shoulder straps of harness positioned above shoulders
____ Harness straps snug
____ Harness straps loose
____ Child is less than 1 year old and facing forward
____ Child is under 40 pounds and seated on a booster seat
____ Booster used with lap belt only
____ Other: describe
____ Unknown

**Child safety restraint system securement to vehicle:**

____ Not secured
____ Lap belt only
____ Lap/shoulder belt (3-point)
____ Shoulder belt only
____ Latch system (lower anchors and tethers for children)
____ Tether strap (an additional belt that anchors the top of the CSR to the vehicle)
____ Cam strap
____ Other: describe
____ Unknown

Describe bus seat _____

Collision with Pedestrian _____

# IDENTIFYING SCHOOL BUS STOP RISK

## INTRODUCTION:

Each day, nearly 500,000 school buses transport over 26 million school students to and from school, stopping at millions of uniquely determined locations throughout the United States. School district administrators and transportation officials are challenged each year with designing school bus routes and determining the location of bus stops. This is a complex task in and of itself but especially when it involves working with parents, landowners, federal, state, county, city and local, traffic and law enforcement officials, and other stakeholders. But how safe are school bus stops? Are some school bus stops safer than others? Additionally, once the location of a school bus stop has been identified, what steps are taken to determine and rate the safety or relative risk of that school bus stop?

## SCHOOL BUS DESIGN AND SAFETY DEVICES

The school transportation community, school bus manufacturers and their suppliers have gone to great lengths to design and create devices to make a school bus stop safe for pupils. The school bus design features and special added equipment may include, but are not limited to the following:

A. The yellow school bus color;

B. School bus Red/Amber lights;

C. Left side stop arm (front and/or rear;)

D. Extended single stop arm;

E. Stop arm cameras;

F. FMVSS 111 mirror system;

G. PA system with exterior speaker(s)

H. Driver/monitor hand-held stop sign;

I. Bus body mounted cameras/monitors;

J. Extended double stop arm;

K. Movement sensors;

L. Two-way communications systems;

M. Bus tracking system (GPS); and

N. Student tracking system.

These design features and safety devices have enhanced safety at school bus stops but do not ensure that it's safe for a pupil to load or unload from the school bus, particularly when a student is required to cross the roadway to reach the bus or disembark and cross the roadway to get home. Approximately ⅓ of all school bus-related fatalities each year are the result of students being struck by the bus and another ⅓ are caused by other vehicles on the road with the bus. In other words, school bus design features and safety devices simply cannot guarantee that motorists will stop at school bus stops.

According to the National Association of State Directors of Pupil Transportation Services ninth annual survey on illegal passing of school buses (http://www.nasdpts.org/stoparm/), 130,963 school bus drivers reported that 95,319 vehicles passed their buses illegally on a single day during the 2018-19 school year. Throughout a 180-day school year, these sample results point to more than 17 million violations among America's motoring public and the actual number of incidents is likely far greater, since not all school bus drivers participated in the voluntary survey.

The physical presence of an adult school crossing guard/adult monitor or the school bus driver her/himself could ensure that traffic is stopped, and it is safe before allowing a student to cross the roadway to board the bus or before allowing a student to cross the roadway to go home. An adult monitor would also provide additional eyes and ears because students being struck by the bus or caught in the service door is a leading cause of school bus loading/unloading injuries and fatalities.

In addition to the items above, one other deterrent would be increased penalties and fines for motorist that fail to obey state laws at school bus stops. However, that also does not guarantee a motorist will stop for the students. The goal is zero injuries and fatalities and to achieve this will require changes in both school bus driver awareness and the attention of other motorists at school bus stops.

## SCHOOL BUS STOP RISK FACTORS

There are a variety of things that should be considered when designating all school bus stops.
At a minimum, the following list of items should be used to help assess the risks associated with each stop:

A. The age of the students involved;

B. Disabilities and/or special transportation needs of the students;

C. Security threats;

D. Visibility (daylight, darkness);

E. Time of day;

F. The number of students at the bus stop;

G. The physical location of the bus stop;

H. The roadway (single or multi-lane);

I. Traffic on the roadway;

J. Traffic control devices;

K. The terrain surrounding the bus stop;

L. The speed limit of the roadway; and

M. Weather (rain, snow, ice, wind, dust, fog, etc.)

School bus stops should be selected with situational awareness in mind so the driver can anticipate a potential threat or high-risk situation before stopping picking up or discharging students. There are a multitude of other variables that may apply in any given local area that could/should be added to the list above to obtain an accurate rating for each school bus stop. For example, some jurisdictions may have locations where a bus stop is prohibited. One year a property owner may allow a school bus stop, the next it may be prohibited. Additionally, risk factors at a given school bus stop change throughout the year, requiring a periodic assessment of each stop. For example, a low risk stop at the beginning of the year may change and become more dangerous during the school year as a result of seasonal change and/or age of students.

## SCHOOL BUS STOP RISK FACTOR RATING

It is suggested that the following rating system be utilized when assessing the inherent risk of a designated bus stop (The higher the rating the higher the risk):

| "SAMPLE" rating of each school bus risk factor:<br>(Rating Scale: Low Risk = 0 High Risk =10) | RATING GUIDE | BUS STOP RATING |
|---|---|---|
| 1. Pre-School Kindergarten Age pupil(s) | 8 to 10 | |
| 2. Elementary School Age Pupil(s) | 5 to 10 | |
| 3. Middle School Age Pupil(s) | 5 to 10 | |
| 4. Secondary School Age Pupil(s) | 3 to 08 | |
| 5. Special Needs Pupils(s) | 8 to 10 | |
| 6. On the main traveled roadway bus stop (red light crossover) | 5 to 10 | |
| 7. On the main traveled roadway bus stop (Right side only) | 5 to 10 | |
| 8. Off the main traveled roadway bus stop (red light crossover) | 5 to 10 | |
| 9. Off the main traveled roadway bus stop (right side only) (No Rt. Side Passing) | 5 to 08 | |
| 10. Number of pupils at the bus stop | 3 to 08 | |
| 11. Visibility at bus stop (lighting, etc.) | 5 to 08 | |
| 12. Multiple-lane roadways/divided highway/one-way roadways | 5 to 08 | |
| 13. Urban, suburban, or rural traffic conditions | 2 to 05 | |
| 14. Traffic control devices (signal vs. signs) | 3 to 05 | |
| 15. Terrain (Hills, Curves or flat conditions) | 3 to 10 | |
| 16. Highway/roadway speed limit | 3 to 10 | |
| 17. Time of day (daylight or darkness) | 3 to 05 | |
| 18. Line of sight visibility to or from bus stop | 3 to 08 | |
| 19. Road conditions (dirt, mud, ice, pavement, etc.) | 3 to 08 | |
| 20. Weather Conditions (snow, rain, wind, ice, etc.) | 3 to 08 | |
| 21. Climatic conditions (fog, smoke, dust, etc.) | 3 to 08 | |
| 22. Hazardous conditions (animals, waterways, Railroads, ditches, lakes, ponds, etc.) | 3 to 10 | |
| 23. End of route turn around | 5 to 10 | |
| 24. Security threat assessment (Potential for criminal activity) | 3 to 10 | |
| | **TOTAL** | |

## EXTRA CARE LOADING/UNLOADING PROCEDURES AT HIGH-RISK-SCHOOL BUS STOPS

Each school bus stop should be assigned a risk factor rating. The higher the risk factor rating, the greater the need to implement extra care procedures during the student loading and/or unloading process. Some examples of extra care student loading and unloading practices are as follows:

A. Right-side only school bus stops located off the main travel portion of the roadway (prohibits right side Passing of the school bus);

B. Door to door (right-side) only (Off the main travel portion of the roadway);

C. Curb to curb (right-side) only; and

D. Red light crossover escort to or from the school bus (Optional).

# IDENTIFICATION AND EVALUATION OF SCHOOL BUS ROUTE AND HAZARD MARKING SYSTEMS

**Final Report**

**Work Performed Under a Grant from**
**The National Highway Traffic Safety Administration**
**U.S. Department of Transportation**

**Grant # DTNH22-97-G-05155**

**June 1998**

**National Association of State Directors of Pupil Transportation**

**116 Howe Drive**
**Dover, DE 19901**

# IDENTIFICATION AND EVALUATION OF SCHOOL BUS ROUTE AND HAZARD MARKING SYSTEMS

**NHTSA Grant # DTNH22-97-G-05155**
**National Association of State Directors of Pupil Transportation Services**

## BACKGROUND:

An estimated 23 million public school students ride over 400,000 school buses twice daily to go to and from school. Additionally, it has been estimated that another one to two million students ride school buses to and from school-related activities each day. In the course of a school year, school buses transport students over four billion miles. The safety of pupil transportation is of significant concern to Federal, State and local governments, school districts, school administrators, parents, and the general public.

Within the school transportation industry itself, there is a long history of significant efforts to make school transportation safe and efficient. Pupil transportation programs date back to the earliest years of the 20th century. By 1910, thirty states had pupil transportation programs in place. The first "vehicles" used to transport students were nothing more than horse-drawn carts which were borrowed from local farmers. With the development of automobiles and trucks with gasoline-powered engines, the school "wagon" was replaced with the school "truck." During the 1920's and 1930's, the Nation's roadway system was expanding, especially in rural communities. This led to a greater need for vehicles to transport schoolchildren and the formation of an industry of school bus manufacturers.

As the number of school buses operating on the roadways increased, there came the inevitable problems. Several serious tragedies occurred involving school buses which caused school officials to think seriously about developing safety guidelines for school buses. In 1939, representatives from 48 states gathered to develop recommendations for school buses. Since that time, there have been a total of 12 National Conferences on School Transportation where representatives from each state gather to revise existing and establish new safety guidelines for school buses and operating procedures for the safe transportation of schoolchildren, including those with disabilities. The products of these national conferences are referred to as the National Guidelines for School Transportation. The National Conferences are jointly sponsored by the National Association of State Directors of Pupil Transportation Services (which includes the School Bus Manufacturers Technical Council), the National Association for Pupil Transportation, and the National School Transportation Association, the National Safety Council, and Central Missouri State University.

To help ensure the transportation safety of students on school buses, the National Highway Traffic Safety Administration (NHTSA) establishes and enforces a series of Federal Motor Vehicle Safety Standards governing the safety performance and manufacture of school buses. NHTSA also conducts a safety defects investigation program to identify safety defects in motor vehicles, including school buses, and requires manufacturers to recall and remedy defective vehicles free of charge. In addition, NHTSA's Guideline #17, "Pupil Transportation Safety," establishes minimum recommendations for a pupil transportation safety program, including the identification, operation, and maintenance of buses used for transporting students; training of passengers, pedestrians, and bicycle riders; and administration.

Even with the school bus-specific Federal Motor Vehicle Safety Standards, NHTSA's safety defect investigation and recall program, NHTSA's Guideline #17, and the school transportation industry's National Guidelines for School Transportation, a few school bus safety problems continue to persist. One of these problems was identified as a contributing factor in a tragic crash that occurred on October 25, 1995, in Fox River Grove, Illinois. On that day, a commuter train hit a school bus that was stopped at a highway-railway grade crossing. Seven students were killed and the school bus driver and 24 other students were injured. The school bus driver had taken all of the appropriate actions prior to crossing the railroad tracks, but unknowingly failed to completely clear the railway track while the school bus was stopped at a red traffic light. The commuter train struck the rearmost side of the school bus.

At the conclusion of its investigation of the crash, the National Transportation Safety Board identified one of the factors contributing to the crash as an inadequate school district routing and hazard marking system. The Safety Board noted that the substitute school bus driver operating the bus that day was unaware of the hazard at the highway-railroad crossing because "the methods employed by the school district to identify and evaluate route hazards were ineffective."

In addition to the Safety Board's investigation of the Fox River Grove crash, the U.S. Department of Transportation formed a Grade Crossing Task Force to review the decision-making process for designing, constructing, and operating rail crossings. The Task Force published its findings in a March 1996 report, "Accidents That Shouldn't Happen." One recommendation from that report calls for NHTSA to "work with State directors of pupil transportation, through relevant national organizations, to develop a system to improve school bus routing safety by focusing on highway-railroad grade crossings."

As a result of the recommendations from the Safety Board and the Grade Crossing Task Force, NHTSA provided a grant to the National Association of State Directors of Pupil Transportation to:

1. Research the issue of school bus route hazards and route hazard marking systems;

2. Develop a set of guidelines that school transportation officials could utilize in developing a system for identifying school bus route hazards that meets the needs of their locality;

3. Provide suggestions for reasonable and appropriate means of informing school bus drivers of potential school bus route hazards so as to educate them on how to deal with any route hazards that cannot be avoided; and

4. Suggest methods to disseminate the information developed during this project to the school transportation community.

# SCHOOL BUS DRIVER TRAINING

School bus driver training is one of the most important components of the school bus transportation system. A critical component of school bus driver training is the recognition of potential driving hazards and appropriate adjustment of driving behavior to ensure the safety of the school bus occupants. The goal of this project and report is to provide school bus drivers and substitute drivers with a list of locations/situations that should be recognized as being potentially hazardous. School bus drivers should be properly trained to deal with these potentially hazardous conditions. In addition, school bus drivers should be trained to deal with hazardous conditions that occur suddenly or are of a temporary nature. Constant dialogue between school bus drivers and route planners is critical to ensure the continued safe transportation of students in school buses.

## METHODOLOGY

The National Association of State Directors of Pupil Transportation undertook the following activities to develop a school bus route hazard identification system and a means of educating school bus drivers about such hazards. Each of the activities included review and comment by the various state directors of pupil transportation. Throughout this report, specific comments from states are included to illustrate the involvement and insight provided by the state directors.

A. **Define "School Bus Route Hazard"**

The first, and most critical, step was to develop an acceptable and reasonable definition of what constitutes a "school bus route hazard." From a practicable perspective, "school bus route hazards" can be grouped into two distinct categories.

First, there are "driving hazards" that are encountered while operating a school bus route, such as railroad grade crossings and industrial intersections. Second, there are "school bus loading zone hazards" that are encountered at a school bus stop, such as a narrow, busy street without sidewalks or dangerous curves that do not provide the school bus driver, the students, or other motorists with an adequate view of the school bus loading zone. The scope of work for this project only included the first category of school bus route hazards - driving hazards.

B. **Develop a "Model" School Bus Route Hazard Identification System**

Based on the knowledge and expertise of individuals within the school transportation industry, an ideal program that could be used to assist states and local school districts in identifying and evaluating potential school bus route hazards was defined. This ideal program became the "model" against which existing school bus route hazard identification programs were compared.

C. **Review Existing Materials/Information**

Examples of existing state or local school district route hazard identification programs were reviewed and compared with the "model" system described above. The existing programs were reviewed in terms of the ability of the program to identify route hazards and communicate that information to the appropriate individuals.

D. **Develop a Recommended System**

Based on the review of existing programs, as compared to the "model" system, a recommended school bus driving route hazard identification system was developed that could provide states and local school districts with an efficient method for identifying potential school bus route hazards and a means of communicating information about those hazards to school bus drivers and trainers, route planners, and other appropriate school transportation officials.

E. **Dissemination Approaches**

Finally, suggestions were made on how to disseminate the "recommended" system to the school transportation community, and what approaches should be taken to educate state and local school transportation providers on the importance of adopting such a school bus driving route hazard identification system.

## RESULTS OF PROGRAM ACTIVITIES

A. **Result #1 — Definition of a School Bus Route Driving Hazard**

While it is possible to develop a list of the potential hazardous locations/situations that a school bus driver could encounter in the course of driving a school bus route, it is not possible to develop a definitive list of every potential driving hazard. As was pointed out by the state of Indiana during discussions of this project, "Regular review of the route hazards list is encouraged. This will keep the document accurate and permit the addition of 'yet-to-be-discovered' hazards."

Some potential school bus route driving hazards can be considered as "fixed," in that the situation or condition exists (such as a railroad crossing), can be identified, and drivers can be informed and educated about the potential hazard. Other potential driving hazards occur without advanced warning — examples include: (1) inclement weather conditions, such as fog, sand storms, blinding sunlight, snow storms, etc.; (2) conditions that result from weather conditions, such as flooded roadways, fallen trees, downed power lines; and (3) accident locations. This report focuses on potential school bus route driving hazards that are of a "fixed" nature.

B. **Discussion**

Table 1 details many of the potentially hazardous locations/situations that a school bus driver could encounter in the course of driving a school bus route. These potential driving hazards were selected based on the belief that the mere existence of any one of these conditions poses possible serious consequences if the school bus driver is not aware of the existence of the hazard. While a hazard could develop at any time while driving a school bus (for example, a tree could fall across a road during a storm, or a stream could overflow, or a wet road could suddenly ice over), this list defines only fixed conditions that, by their presence, have been deemed a potential driving hazard. Also, this list is limited to the hazardous locations/situations encountered while driving the school bus, not during loading and unloading operations.

For each potential school bus route driving hazard, a list of factors or situations that could contribute to causing the hazard is provided. It is important to remember that this list of potential school bus route driving hazards, and the factors/situations within them, is not "all-inclusive." States and local school districts may encounter factors and situations that are not listed in Table 1, but which they deem are potentially hazardous.

# TABLE 1.

## LIST OF POTENTIALLY HAZARDOUS LOCATIONS/SITUATIONS ON SCHOOL BUS ROUTES

**Railroad Grade Crossing**

- Number of tracks
- Visual obstructions to determine type and travel speeds of trains
- Train schedules (consider unscheduled trains also)
- Presence or absence of grade crossing controls
- Unique characteristics or operation of grade crossing controls
- Presence or absence of traffic control signals, including interaction with grade crossing controls
- Size of queuing area before and after the tracks
- Expected traffic conditions at various times during the day
- Roadway design near the grade crossing

**Dangerous Intersections and Roadways**

- High-frequency crash locations as defined by state transportation and/or law enforcement officials
- Uncontrolled intersections
- Curves and intersections with limited sight distances
- Areas with no shoulders or drop-off to shoulder
- Visibility of traffic control signals
- Coordination of traffic control signals with others in the immediate area

**Bridges, Tunnels/Underpasses and Overpasses**

- Weight capacity
- Height clearances
- Lane width

**Queuing/Storage Areas**

- Short acceleration/deceleration lanes
- Limited median areas crossing multi-lane highways
- Turning lanes

**Industrial Intersections and Construction Zones**

- Areas where heavy vehicles/equipment operate on a regular basis, and may be entering, exiting, or crossing the roadway

**Steep Downgrades**

- Mountainous areas where brake condition and braking operations are important
- Location of out-of-control vehicle run-off areas

**Areas of Significant Speed Differential Between Vehicles**

- On-off ramps to high-speed roads
- Farm vehicle areas, including non-motorized vehicles on the road
- Mountain terrain

**Pedestrian Areas**

- School bus loading/unloading zones
- Narrow streets with parked motor vehicles - children darting between vehicles
- Congested shopping and business areas

**Other Conditions Identified in Local Area**

- Unique roadway locations, for example:
  - Roadways without guardrails that are next to rivers, lakes, etc.;
  - Dirt or gravel roads that could affect braking;
  - Rock quarry or open pits;
  - Areas with problems related to right-turn-on-red laws;
  - Areas with visibility problems due to air quality/industrial smoke/etc.; and
  - Areas where emergency equipment operate on a regular basis:
    - fire stations
    - hospitals

B. **Result #2 - Development of a "Model" School Bus Route Hazard Identification System**

During the course of this project, a "model" school route hazard identification system was outlined. It was recognized that such a system would consist of three major components:

1. A list of potential driving hazards;
2. A specified procedure/schedule for conducting on-site reviews of school bus routes; and
3. An efficient and effective means of informing school bus drivers of the presence of potential driving route hazards.

Of the three components, the first was determined to be the most critical, since without a definition of what constitutes a school bus route driving hazard, the other components would have little utility. Additionally, developing a procedure and schedule for reviewing school bus routes and an information dissemination plan were viewed as administrative

policy decisions that were independent of the technical issues related to identifying potential school bus route driving hazards. Accordingly, the focus of the effort was placed on identifying and listing potential school bus route driving hazards.

An initial list of potential hazards was prepared during a Working Session of state directors during the 1997 annual conference of the National Association of State Directors of Pupil Transportation Services. The results of that session were summarized and provided for review to all state directors of pupil transportation. The final results of that effort are discussed in the previous section of this report, "Result #1 - Definition of a School Bus Route Driving Hazard."

C. **Result #3 — Review of Existing Materials/Information**

A review of existing school bus route hazard identification systems was made to see if any system assessed all of the potential driving hazards developed during the Working Session at the 1997 annual conference. Not one was found. However, this effort identified additional potential hazards that were not previously considered, but were ultimately included in the final list of school bus route driving hazards as defined in Result #1 above.

D**. Result #4 — Defining a Route Hazard Identification System**

The major goal of this project was to develop a system that a state or a local school district could use to:

1. Identify any fixed locations/situations that constitute a potential school bus driving hazard; and
2. Inform school bus drivers and substitute drivers of each identified potential route hazard on the school bus route(s) they drive.

**Identification**

The first component of such a system would consist of an established, systematic process to evaluate all school bus routes to determine whether any potential fixed driving hazards exist. An annual review of each school bus route by a person trained to identify potential route driving hazards would provide the basis for identifying any potential hazards. In addition, school bus drivers should be trained in how to recognize a potential school bus route driving hazard, and to report any new potentially hazardous conditions to the appropriate school transportation officials. In effect, this would provide for continual monitoring and review of school bus routes so school bus drivers are aware of all potential fixed driving hazards on their routes. As stated by Connecticut, "constant communication between school bus drivers and route planners is critical to safety." Hazards can and do change, even on a daily basis. As such, "daily updates of critical route hazards should be foremost in the minds of dispatchers and drivers."

A checklist format based on the above list of potential school bus driving route hazards (Result #1 — Table 1) would provide for a consistent means of ensuring that such items were considered during the review of each school bus route. An example of such a checklist for the items identified in Result #1 appears as Appendix A to this report, * and is based on a format utilized in Oklahoma. It is important to remember that a state or a local school district should ensure that any potential hazards that may be unique to their area, or any potential hazards that they believe were missing, are added to the checklist.

In addition to regular school bus routes, there also can be potential driving hazards along routes taken for field trips or extra-curricular activities. In such cases, drivers may be able to identify potential route driving hazards based on their personal knowledge of the route or on a previous trip to the same location.

** Report being quoted above; checklist found in the appendix following.*

**Information**

The second component of a school bus route driving hazard identification system consists of a means of informing all regular and substitute school bus drivers of the potential driving hazards on their school bus route(s). New Jersey stressed the importance of "the need for drivers and driver trainers to make clear notes of these hazards for all substitute drivers."

In addition to the drivers, school bus route planners/schedulers/dispatchers, etc. should be made aware of all information about potential driving hazards on the school bus routes. This information would allow them to make changes or adjustments to the routes, when reasonable and practicable, so as to minimize or eliminate the exposure of school buses to these route driving hazards.

Informing the necessary people about potential school bus route driving hazards can be accomplished in a number of ways. The most practical, and possibly most easily understandable, appears to be through the use of a map that is visually annotated to identify potential route hazards. The same map could obviously be used for other purposes, including designating the actual school bus route and student pick-up/drop-off locations. Additionally, as the states of Ohio and Virginia noted in their comments to this project, information on the location of police/fire/rescue stations, hospitals, and other emergency care facilities, and "possible 'safe stops' where a school bus may pull off the road and await aid in the event of an emergency" could be added to the map.

A number of local school districts currently use mapping techniques to document the streets in their district, the location of the students' homes, the school bus

stops, and the routes traveled by school buses. Inexpensive color printers allow school districts to print color maps of their bus routes, and computer software allows route planners to incorporate custom information, such as route hazards, on the map.

Whatever means is chosen, it is important that school bus drivers be provided with route hazard information in a standardized, consistent manner. Also, the route hazard information should be available to the school bus driver every day, no matter which school bus is driven on that day.

**Training**

While not a specific part of this project, the importance of training school transportation providers about school bus route driving hazards cannot be understated. In their comments, Ohio noted that the contents of a route hazard identification system are "only good if utilized." In other words, if drivers are not made aware of the potential driving hazards and trained on how to deal with such potential hazards, then no benefits will accrue from efforts to identify potential route hazards. Mississippi commented that its training in route hazards constantly works "to instill in each driver the concept of Expect the Unexpected."
However, training alone does not guarantee success. As Connecticut stated, "Route hazards is an area in which some training can be afforded, but common sense and networking among drivers, local officials, and school district personnel is paramount to a safe and successful route hazard notification program."

## E. Result #5 – Dissemination Approaches

Based on the belief that the ultimate success of a school bus route driving hazard identification system is dependent on the awareness and use of the system by school transportation providers, it is strongly suggested that the results of this project be provided to all state directors of pupil transportation, the appropriate student transportation officials in each school district, and organizations affiliated with private/parochial schools. The dissemination to state directors and public-school districts could be made by use of direct mailings. The dissemination to private/parochial schools could be made through national associations that represent such schools.

As a supplement to direct mailings, the report on this project should be made available on the NHTSA and various school transportation web sites in a form that can be downloaded. In addition, the results of this project should be publicized through the various media that deal with pupil transportation.

## NON-FIXED SCHOOL BUS ROUTE HAZARDS:

As mentioned earlier, this project only dealt with school bus route driving hazards that are "fixed." However, it is recognized that other driving hazards can occur without advanced warning. These often result from inclement/adverse weather conditions or poor visibility conditions. It is important for school bus drivers to be aware of such possibilities and be trained on how to deal with such sudden potential hazards. As an example of some non-fixed driving hazards, Iowa includes in its School Bus Driver's Handbook procedures to follow should a school bus encounter a tornado or Agri-Chemical clouding along school bus routes. Also, Delaware provides drivers with information in its School Bus Driver's Handbook to prepare them for the following:

A. Adverse weather conditions:

1. Extreme cold
2. Extreme heat
3. Rain
4. Fog
5. Snow/ice

B. Conditions affecting visibility

1. Sun glare
2. Darkness
3. Fog/rain/snow
4. Curves and hills

Wild animals are another example of a non-fixed school bus route driving hazard. In many rural and suburban areas, animals such as deer and livestock can be a serious danger to motorists. School bus drivers should be made aware of such situations and learn how to deal with them.

## CONCLUSIONS

Recognizing the importance of identifying school bus route driving hazards, the National Association of State Directors of Pupil Transportation Services has conducted this study for the National Highway Traffic Safety Administration. Verbal and written information from members of the Association was consolidated to focus on the key issues and the best approach for addressing the problem of driving hazards on school bus routes. The following conclusions were reached during the study:

A. Driving hazards can and do exist on school bus routes.

B. Driving hazards on school bus routes that are of a "fixed" nature can be identified.

C. School transportation officials should establish a program to routinely and systematically evaluate all school bus routes for potential driving hazards.

D. A list of potential fixed school bus route driving hazards has been developed for use in evaluating school bus routes.

1. Information on potential school bus route driving hazards should be provided to all regular and substitute school bus drivers, route planners, dispatchers, and other appropriate personnel;

2. School bus drivers should be trained on how to effectively deal with potential school bus route driving hazards, of both a fixed or sudden nature; and

3. The results of this project should receive wide dissemination.

The National Association of State Directors of Pupil Transportation encourages states, local school districts, and private/parochial schools to review this report in conjunction with their school transportation operations and take whatever actions are necessary to ensure that school bus route driving hazards are identified and made known to all appropriate school bus drivers and school transportation personnel.

*(Reference Table 1 Report)*

**Appendix A**

**Checklist for Identifying Potential School Bus Route**

**Fixed Driving Hazards**

**Railroad Grade Crossings**

Railroad Grade Crossing Identification Number:

Location:

How many tracks are present?

What are the times of the scheduled trains?

What types of trains use the track? Passenger Freight Commuter

What are the travel speeds of the scheduled trains?

| | Yes | No |
|---|---|---|
| Are the regulatory signs (crossbucks) clearly visible? | _____ | _____ |
| Are there regulatory devices (lights/gates/bells) present? | _____ | _____ |
| Are there any unique characteristics to the operation of the crossing controls? | _____ | _____ |

What are they? _____

_____

| | | |
|---|---|---|
| When stopped approximately 15 feet from the nearest railroad track, is there an unobstructed sight distance of approximately 1,000 feet in both directions? | _____ | _____ |
| Is there at least enough room on the other side of the furthest railroad track for the largest school bus to stop without encroaching on the train's right-of-way? | _____ | _____ |
| Are there any roadway design features that could affect the safe operation of a school bus at the railroad crossing? | _____ | _____ |

What are they? _____

_____

**Dangerous Intersections and Roadways**

Location

| | Yes | No |
|---|---|---|
| Is this a high-frequency crash location? | _____ | _____ |
| Are traffic control devices present? | _____ | _____ |
| Are there visibility obstructions? | _____ | _____ |

What are they? _____

_____

| | | |
|---|---|---|
| Are there areas with no shoulders or drop to shoulder? | _____ | _____ |
| Are there peculiar roadway features? | _____ | _____ |

What are they? _____

_____

**Bridges, Tunnels/Underpasses and Overpasses**

Location

| | Yes | No |
|---|---|---|
| Is the weight capacity of the bridge/overpass sufficient for a fully loaded school bus? | _____ | _____ |
| Is the height of the tunnel/underpass adequate for the tallest school bus, including open roof hatches? | _____ | _____ |
| Is the lane width of the bridge, tunnel/underpass, or overpass adequate for the widest school bus, including the mirrors? | _____ | _____ |

**Queuing /Storage Areas**

Location

| | Yes | No |
|---|---|---|
| Is there sufficient area for the largest school bus in the acceleration/deceleration lane? | _____ | _____ |
| Is there sufficient area for the largest school bus in the median area between a multi-lane road? | _____ | _____ |
| Is there sufficient area for the largest school bus in the turning lane? | _____ | _____ |

**Industrial Intersections and Construction Zones**
**Steep Downgrades**

Location

| | Yes | No |
|---|---|---|
| Do heavy vehicles enter/exit/cross the roadway frequently? | _____ | _____ |
| Are there highway signs alerting drivers of the industrial/construction traffic? | _____ | _____ |
| Are there highway signs alerting drivers to the downgrade? | _____ | _____ |
| Are there signs alerting drivers to "Check Brakes?" | _____ | _____ |
| Are there areas marked and designated for vehicles to safely leave the road (run-off areas)? | _____ | _____ |

**Areas of Significant Speed Differential Between Vehicles**

Location

| | Yes | No |
|---|---|---|
| Is there sufficient space to accelerate/decelerate a school bus when entering/exiting a high-speed road? | _____ | _____ |
| Does slow-moving farm equipment operate on the road? | _____ | _____ |
| Do non-motorized vehicles, e.g., horse-drawn carriages, operate on the road? | _____ | _____ |
| Are there roadway conditions, e.g., mountainous terrain, that result in vehicles operating at high speeds and low speeds? | _____ | _____ |

What are they? _____

_____

**Pedestrian Areas**

Location

| | Yes | No |
|---|---|---|
| Are there difficulties seeing pedestrians at school bus stops? | _____ | _____ |
| Are there narrow streets with parked vehicles where children may run into the street? | _____ | _____ |
| Are there areas of heavy pedestrian congestion, e.g., shopping and business areas? | _____ | _____ |

**Other Conditions Identified in Local Area**

Location

| | Yes | No |
|---|---|---|
| Are there unique roadway conditions? | _____ | _____ |
| Roads without guardrails that pose a danger, e.g., next to rivers, lakes, quarries? | _____ | _____ |
| Dirt or gravel roads that could affect braking? | _____ | _____ |
| Others? | _____ | _____ |

What are they?

_____

| | | |
|---|---|---|
| Are there roadway conditions that make it difficult to make a "right turn on red?" | _____ | _____ |

What are they?

_____

| | | |
|---|---|---|
| Are there areas with visibility problems due to industrial smoke, air quality, etc.? | _____ | _____ |
| Are there areas where emergency equipment operates on a regular basis, e.g., fire stations or hospitals? | _____ | _____ |

## PLANNING SCHOOL SITES FOR SCHOOL BUS SAFETY

A. In the selection of school sites, major consideration should be given to the safety of students riding school buses. School buses will be forced to utilize the roads in and around the school site, plus public highways leading into the school area. High-density traffic flow near school exits and entrances due to the proximity of freeways, periodic commercial traffic or massive commuter traffic from industrial plants should be avoided. It must be recognized, in many cases, that the area designated for the school site has been selected prior to hiring an architect. It is suggested, therefore, that this information be issued to boards of education and municipal planning authorities, alerting them to the dangers inherent in the process of site selection. It is also suggested that boards of education discuss the selection with the superintendent of schools, traffic engineers and the state office of school plant planning and solicit their help in evaluating possible school sites.

B. The location of the school plant on a site should be determined so as to provide a safe means of entrance and exit for all students. When boards of education are considering school sites, the state, county and local roads servicing the area should have a minimum 30-foot paved width where loading and unloading is contemplated off the main thoroughfare. If it is necessary to load or unload students on the main thoroughfare in front of the school, at least a 40-foot-wide paved road should be provided.

C. All school bus traffic should be considered as one-way traffic flow, preferably with the entrance door side of the bus always next to the loading and unloading zone.

D. Whenever possible, separate pick-up and delivery points some distance from the teacher and student parking areas should be designated for parents, delivery, service, teacher and administrative traffic. Accident-inducing conditions are created by haphazard pick-up and delivery of students in the bus loading zones, particularly during inclement weather.

E. Whenever possible, roads that completely encircle a school should not be constructed. Areas that students must cross to engage in outside activities should be free of all vehicular traffic.

F. All school bus roads entering into or exiting from main arteries should have a 50- to 100-foot radius turn on the inner edge of pavement. Within the school site, roads should have at least a 60-foot radius on the inner edge of pavement on all curves. At least a 50-foot tangent section should be provided between reverse curves. In order to minimize driveway entrance and exit widths, island construction may be required. Driveway openings must conform to local requirements, and driveways opening onto state highways should be approved by the state highway department.

G. Curbing, with suitable drainage, should be constructed on all roads utilized by school buses within the school site. Consideration should be given to state highway department performance specifications. A minimum of 30 feet should be maintained for one-way

traffic and 36 feet for two-way traffic, with roads being wider on all curves.

H. It is desirable to separate all parking areas; however, it might be advantageous if only the visitor parking area were located in close proximity to the school. Care should be exercised in the placement of these areas to preclude the visitor from crossing the school bus traffic pattern.

I. Prior to designing and laying out roads and parking lots, architects should consult with the school administration on the following items:

1. Total number of students and school personnel;

2. Number of present and projected students to be transported;

3. Number of school buses;

4. Type of schedule:

a. Staggered opening and closing times or

b. Single opening and closing times; and

5. Extra-curricular activities that would necessitate use of school buses.

J. It is desirable to locate parked buses on school grounds to prevent glare from reflective surfaces of windows, doors and windshields from being transmitted to the students in the classroom.

K. Attention should be given in planning school bus parking, loading and unloading areas. Parking should exclude the necessity for backing the bus.

L. Sidewalk plans for students walking to school should eliminate crosswalks in front of the buses.

M. Architects' plans for school buildings often include bus canopies. Such units are not considered feasible for schools with large enrollments. Canopies are advantageous in schools attended by students with disabilities. The height of the canopy should accommodate the highest school buses. Each canopy support post adjacent to the driveway curb should have a three-foot minimum setback from the curb to minimize the possibility of crushing a student between the support post and arriving school buses.

N. For areas that will be constantly utilized by heavy school buses, the type of pavement and base should conform to state highway department specifications.

O. All roads within the school site should be graded to avoid configurations that could impair a motorist's vision. It is suggested that a maximum five-percent grade be allowed on all roads and a maximum two-percent grade at entrance and exit points. Blind corners and

intersections should be eliminated. Trees and shrubbery planted on the school site should not obstruct a motorist's vision.

P. Plans for the location of access and service roads should exclude conditions that would require school buses to be backed on the school premises.

Q. Safety at all student loading and unloading areas should be considered and provided on the school site.

R. Plans for loading facilities should include separate areas specially designed for students with disabilities. Attention should be given to entrance ramps and handrails.

S. Plans for roads and loading areas should accommodate emergency vehicles which must have access to the school at all times.

T. Where necessary, traffic control devices should be provided to assist school traffic to enter the regular traffic flow.

## EVALUATION CHECKLIST FOR SCHOOL BUS DRIVEWAYS IN THE VICINITY OF THE SCHOOL

NAME OF THE SCHOOL: DATE:

LOCATION OF THE SCHOOL:

| | | YES | NO | DOES NOT APPLY |
|---|---|---|---|---|
| 1. | School bus loading areas are provided on the school site. | _____ | _____ | _____ |
| 2. | When loading and unloading of school students take place on a main thoroughfare in front of the school, the roadway has a minimum width of 40 feet of hard surface. | _____ | _____ | _____ |
| 3. | The driveway leading to and from the loading and unloading area for school buses has a minimum width of 30 feet of paved surface. | _____ | _____ | _____ |
| 4. | If diagonal parking is provided for buses in the loading and unloading area, a minimum width of 60 feet of paved surface is available. | _____ | _____ | _____ |
| 5. | Parking for loading and unloading of students at school is bumper-to-bumper or diagonal; in either case, the necessity for backing does not exist. | _____ | _____ | _____ |
| 6. | The school bus is not required to back anywhere on school property. | _____ | _____ | _____ |
| 7. | All school bus movement on the school grounds is one-way in a counter-clockwise direction. | _____ | _____ | _____ |
| 8. | School bus traffic does not completely encircle the school building. | _____ | _____ | _____ |
| 9. | The driver has proper sight distance at all points along the driveway. | _____ | _____ | _____ |
| 10. | Crosswalks for students do not exist at the entrance to the school bus driveway. | _____ | _____ | _____ |

| | | YES | NO | DOES NOT APPLY |
|---|---|---|---|---|
| 11. | Separation is maintained between school bus traffic and all other traffic. | _____ | _____ | _____ |
| 12. | Vehicular pick-up points for non-bus students are on a separate driveway from that used by school buses. | _____ | _____ | _____ |
| 13. | Curbing and suitable drainage are provided along driveways. | _____ | _____ | _____ |
| 14. | Curbing and driveway construction comply with state highway specifications. | _____ | _____ | _____ |
| 15. | At ingress and egress areas to and from the school, there is a minimum radius on inner edge of driveway pavement from 50 to 100 feet. | _____ | _____ | _____ |
| 16. | On the school site, there is a minimum radius of inner edge of driveway pavement of 60 feet. | _____ | _____ | _____ |
| 17. | Between reverse curves, at least a 50-foot tangent section is provided. | _____ | _____ | _____ |
| 18. | At ingress and egress points a maximum grade of 2% is adhered to. | _____ | _____ | _____ |
| 19. | A maximum grade of 5% is adhered to on the school bus driveway within the school site. | _____ | _____ | _____ |

**Note:** A "yes" answer for each of the items indicates a well-planned traffic pattern for school buses.

SIGNATURES:
Person making the report:

Title:

Director of School Transportation:

**Note:** Most of the items included in this Evaluation Checklist are based on a 1966 Report of the Special Committee on School Plant Evaluation "School Planning: Safe Transporting," Bureau of Pupil Transportation, Department of Education, Trenton, New Jersey 08652.

# POLICIES, PROCEDURES AND TOPICS FOR STUDENT MANAGEMENT

Policies and procedures that address the following topics should be developed and implemented by school districts:

A. The bus driver's authority over, and responsibility for, students while in transit;

B. The student's right to due process when disciplinary action is taken;

C. A step-by-step procedure for resolving problems when the driver needs assistance;

D. The conditions under which a student might be temporarily or permanently suspended from the bus-riding privilege;

E. Procedures for handling emergencies;

F. Use of bus attendants or monitors;

G. Requirements and responsibility for school bus passenger and pedestrian safety instruction;

H. Parent's or guardian's responsibility for damage caused by their children to the bus or its equipment;

I. Rules and procedures for safe travel;

J. Driver, attendant, student and parent training for student management;

K. Special needs–teamwork, collaboration, and communication between transportation staff, special education staff, health services personnel, and parents in the development of an Individual Transportation Plan (ITP) for each student with a defined disability;

L. Rules and procedures for safe travel; and

M. Driver, attendant, student, and parent training for student management.

## STUDENT RULES:
## SUPERVISION AND DISCIPLINARY GUIDELINES

A. Student shall follow directions of the driver the first time given.

B. Student shall arrive at the bus stop before the bus arrives.

C. Student shall wait in a safe place, clear of traffic and away from where the bus stops.

D. Student shall wait in an orderly line and shall avoid horseplay.

E. Student shall cross the road or street in front of the bus only after the bus has come to a complete stop and upon direction of the driver.

F. Student shall go directly to an available or assigned seat when entering the bus.

G. Student shall remain seated and keep aisles and exits clear.

H. Student shall exhibit classroom conduct at all times.

I. Student shall refrain from throwing or passing objects in, from or into buses.

J. Student is permitted to carry only objects that can be held on his/her lap.

K. Student shall not use profane language, obscene gestures, tobacco, alcohol, drugs, or any other controlled substance in the bus.

L. Student shall refrain from eating and drinking in the bus.

M. Student shall not carry hazardous materials or non-service animals into the bus.

N. Student shall respect the rights and safety of others.

O. Student shall refrain from leaving or boarding the bus at locations other than the assigned stop.

P. Student shall refrain from extending head, arms, or objects out of the bus windows.

Q. Student shall refrain from hitching rides via the rear bumper or other parts of the bus.

## Positive Behavior Intervention and Supports (PBIS) Example

**"Keep Your Riding Privileges"**

FOLLOW THESE RULES

1. Be Safe
2. Be Seated
3. Be Responsible
4. Be Kind to Everyone
5. Be Respectful

# BUS CONDUCT REPORT

BUS NO. _____SCHOOL: _____DATE: _____

Students in the School District who ride buses are subject to rules and regulations designed to provide safe transportation to and from school. Any behavior which distracts the driver is a serious hazard to the safe operation of the vehicle, and as such, jeopardizes the safety of all passengers. Consequence of continued inappropriate behavior could result in your child being denied the bus riding privilege.

_____ has been cited for an infraction of the rule(s) checked below:
(name)

| | | | |
|---|---|---|---|
| 1. | Failure to remain seated | 2. | Lighting matches |
| 3. | Scuffling or fighting | 4. | Throwing objects from window |
| 5. | Profanity or obscene language | 6. | Refusing to obey driver |
| 7. | Smoking in the bus | 8. | Bothering others |
| 9. | Extending arm or head out window | 10. | Throwing objects in bus |
| 11 | Bullying | 12. | Cyber Bullying |
| 13 | Possession of harmful or illegal items. | 14. | Other (See Comment) |

COMMENT: _____
_____

DRIVER'S SIGNATURE: _____DATE: _____

PRINT NAME: _____

DATE OF OFFENSE: _____ FIRST OFFENSE: _____

SECOND OFFENSE: _____ THIRD OFFENSE: _____

SCHOOL ADMINISTRATOR'S ACTION: _____
_____

SCHOOL ADMINISTRATOR'S SIGNATURE: _____ DATE:_____

PRINT NAME: _____

PARENT/GUARDIANS COMMENTS: _____
_____

PARENT'S/GUARDIAN'S SIGNATURE: _____DATE:_____

PRINT NAME: _____

White Copy: School Administrator Canary Copy: Bus Driver Pink Copy: Parent/Guardian Gold Copy: Student

[**Note:** A form, such as the one above, should be used for reporting purposes. First offenses require at least a notification to the student and parent or guardian (either by phone or in person) by appropriate school personnel. Second and subsequent offenses may require a conference with the student, parent or guardian, driver and school administrator(s), which may result in a period of suspension of the student's riding privileges.]

**WHEN BOARDING THE BUS**

# Here's How to Cross the Road

# SAFELY

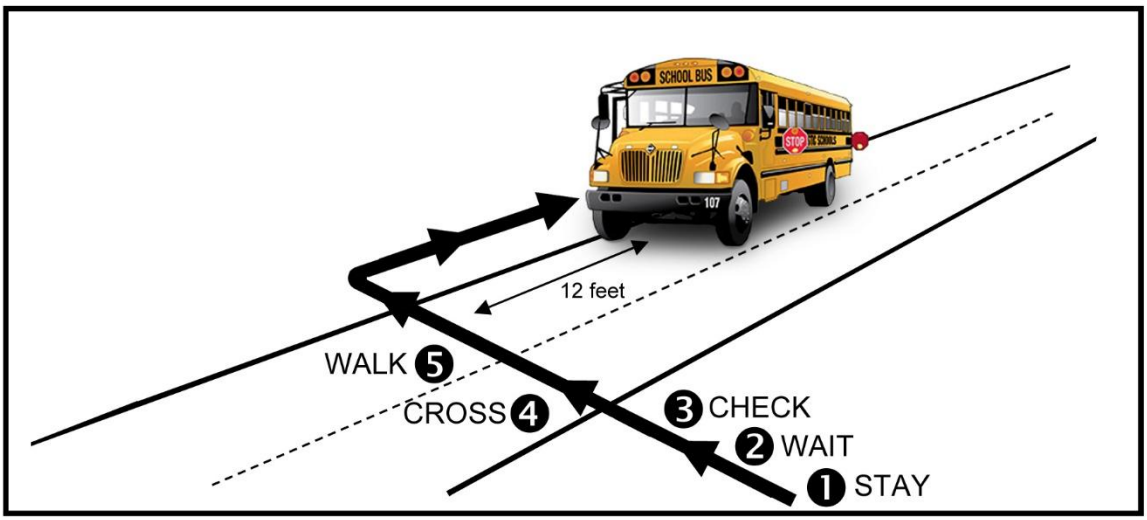
**STAY–** on your side of the road, far away from the traffic.

**WAIT–** for the bus to stop and for your driver's signal to cross.

**CHECK–**traffic both ways, then check again.

**CROSS–**walk directly across, checking traffic both ways

**WALK–**approximately 12 feet ahead of the bumper and board the bus quickly.




*Crossing the Highway is DANGEROUS!*

## Remember

Stay on your side of the road until your driver signals you to cross.

Check and recheck for traffic.

Follow the 12-foot rule.

Board the bus quickly and go directly to

**Drivers SHOULD stop…But THEY MAY NOT!**

**WHEN LEAVING THE BUS**

# Here's How to Cross the Road

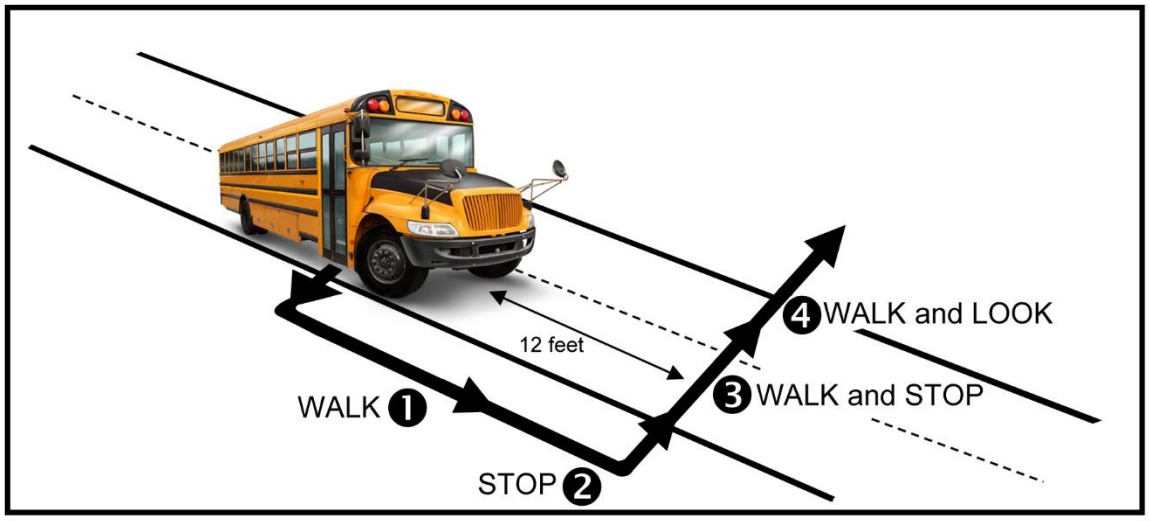
# SAFELY

**WALK–**along the side of the road until you can see your driver.

**STOP–** Wait for the signal to cross.

**WALK & STOP–** Go to the Driver's side cross view mirror and look both ways–wait for the driver's signal to cross.

**WALK & LOOK –** For traffic both ways – if you see a vehicle that has not stopped, go back to the bus – if all vehicles have stopped, cross the road quickly.




*Crossing the Highway is DANGEROUS!*

## Remember

**Walk**
**Stop**
**Walk and Stop**
**Walk and Look**

## Drivers SHOULD stop…But THEY MAY NOT!

## RECOMMENDED LOADING AND UNLOADING PROCEDURES

A school bus driver shall stop to load or unload students only at a school bus stop designated by the school district transportation supervisor or his/her designee. The driver should never take it upon himself/herself to make a decision as to where a bus stop should be without discussing it with his/her supervisor. All bus stops must be approved. If a driver feels there is a safety problem at any stop, he/she should call it to the attention of the supervisor. While the bus is stopped to load or unload, the students are the direct responsibility of the driver. Proper use of safety devices on the school bus will help the driver control traffic when stopped to load and unload students.

A. When a student is to cross the roadway, lamp signal system and stop arm(s) and crossing arm (if equipped) must be in operation;

B. Drivers of school buses must always remember that ultimately the person responsible for the crossing of students is the driver;

C. At all bus stops, whether loading or unloading, the bus should be secured by placing the transmission in neutral or park (if equipped) and applying the parking brake;

D. When loading, buses should not be placed in gear until all students have boarded and are seated. When unloading students will remain seated until the bus comes to a complete stop. In all cases, buses should not be placed in gear until the driver has counted and recounted students and is certain that all students are safely outside the danger zone;

E. All mirrors must be checked and rechecked according to set procedures for the style of mirror the bus has before moving forward;

F. Upon resumption of forward motion, cover the first 10-15 feet at dead-throttle speed. By pulling away slowly the driver is better able to assess safety;

G. It is the driver's responsibility to ensure that the students follow each step of the "safe crossing" procedures; Drivers shall teach and reinforce safe loading and unloading procedures to include safe bus stop behavior;

H. If a situation arises on the route to school, immediately advise the supervisor of the need for assistance and/or an additional bus. In the event of an overload, waiting students may have to be informed to wait for alternative transportation; and

I. A school bus shall not be driven with the service door open with or without students on board.

## RECOMMENDED PROCEDURES FOR ESCORTED CROSSING

(*Legal references in this procedure can be found within California Code of Regulations (CCR) and CA Education Code (EC) and may be adapted for other states)*

A. Begin slowing the bus to get ready for the designated stop;

B. As you approach the stop, turn on the amber warning light, if the bus is so equipped, beginning 200 feet before the bus stop;

C. Apply the brakes with enough pressure to activate the stop lights so that following vehicles will anticipate the bus is preparing to stop;

D. Check all mirrors to ensure that traffic is gone and it is safe to turn to the right and stop;

E. Turn on the right-side turn signal lights during the last 100 feet before turning into the stop;

F. Approach the pupils slowly and with extreme care, considering the roadway surface (wet or slippery, sloped or flat, rough or smooth ground);

G. Do not stop any closer than 12 feet from the waiting pupils. They should be facing the approaching bus; (Refer to School Bus Danger Zone diagram, APPENDIX D.)

H. Once the bus is stopped, cancel the right-side turn signal lights and apply the parking brake;

I. Place a standard transmission in first or reverse gear or, if an automatic transmission, place in the park position. On buses equipped with an automatic transmission that does not have a park position, place the transmission in neutral;

J. Turn off the engine;

K. Remove the ignition key and keep it in your possession;

L. Deactivate the amber warning light;

M. Check all mirrors; activate the flashing red light signal (crossover lights) and stop signal arm, if the bus is so equipped, and wait for traffic to stop;

N. Open the entrance door and look in all directions on the right side of the bus before exiting;

O. Remove the handheld stop sign from the holder;

P. Step off the bus and walk approximately 12 feet in front of the bus before turning to enter the roadway;

Q. Turn toward the bus, look up, and verify that the amber warning light is off and the red-light signal is flashing;

R. Walk from the right edge of the roadway away from the bus at a 45-degree angle and toward the center of the roadway. Stop before entering the traffic lane and look in all directions for traffic. This position allows the best view of traffic coming from the left and is protected. The handheld stop sign shall be used for all escorted crossings and should be held vertically, above waist level, with the word STOP facing traffic in both directions. This is one of the most dangerous places on earth; a public highway. Do not assume that vehicles will stop or that all pupils will follow procedures. Vehicles may try to pass the bus, and pupils may attempt to run across the roadway before you are ready. Take charge of the situation. Upon reaching the center of the roadway, turn and face the pupils (left side of the roadway). This position enables you to have a clear view of the pupils and traffic in both directions;

**Note:** Traffic might not be able to stop immediately during adverse weather (e.g., rain, snow, ice);

**Note:** The signal for pupils to enter the bus will be the flashing of the red-light signal, the school bus driver holding a handheld stop sign in the center of the highway or private road on which the school bus is stopped and verbal direction by the school bus driver to begin crossing the highway to enter the bus, and not simply the bus coming to a stop. Pupils must have received written instruction in school bus emergency procedures and passenger safety before riding a school bus for the first time. Once each year pupils in prekindergarten through grade eight who receive home-to-school transportation shall receive safety instruction on proper loading and unloading procedures, escorting by the driver, and crossing the street, highway or private road (*EC* 39831.5);
**Note:** If the flashing red light signal (crossover lights) becomes inoperative prior to or during the escorting of pupils, the escort procedures must stop. Pupils may cross the highway only under the protection of a properly functioning flashing red light signal system;

S. When traffic has stopped in both directions, tell the pupils to walk, not run, as they cross the highway or private road. Do not use hand motions or gestures to signal pupils. Some motorists may mistake a hand gesture as a signal for them to proceed. The pupils must cross the roadway between you and the front of the bus, never behind you or to the rear of the bus;

T. When the last pupil has crossed the middle of the roadway, turn and face the bus (right side of the roadway). When the last pupil has reached the right side of the roadway, walk immediately to the right side of the roadway, continuing to hold the stop sign so it is visible to traffic in both directions. Check under and around the exterior of the bus to make sure that no pupil is in the danger zones. Enter the bus;

U. On entering the bus, ensure that all pupils have safely boarded and are seated;

V. Immediately place the handheld stop sign in the holder, close the entrance door, and turn off the flashing red light signal (crossover lights) and the stop signal arm if the bus is so equipped;

W. Sit down in the driver's seat and fasten the driver's seat belt;

X. Check to see that all pupils are accounted for and properly seated. Pupils must be seated before you set the bus in motion;

Y. Check all mirrors for pupils, other pedestrians, and traffic. Be sure to check the front cross-view mirror(s) for pupils who may be in front of the bus;

Z. Restart the engine. Account for all pupils before moving the bus;

AA. Place the transmission in gear and release the parking brake; and

BB. Check the traffic and the danger zones by using all mirrors before moving the bus; activate the left-side turn signal lights, and when it is safe to do so, pull into the flow of traffic; cancel the left-side turn signal lights; regain road speed; and proceed to the next stop.

**Note:** School transportation administrators and other transportation officials should adopt policies that standardize signs or signals used by school bus drivers to inform hearing-impaired pupils of when it is safe to cross the highway.

# RECOMMENDED PROCEDURES FOR SCHOOL BUS DRIVERS AT RAILROAD GRADE CROSSINGS

Each year, approximately 4,000 train/vehicle collisions occur at railroad crossings. These 4,000 collisions result in about 500 fatalities and 1,500 injuries. Unfortunately, some of the crashes involve school buses that result in injuries and fatalities to students. In an effort to avert these crashes, the following procedures are recommended to school bus drivers. It is important to note that these recommendations must be considered within the context of individual state laws and regulations.

A. When making stops for railroad crossings, carefully observe all traffic. Use the school bus's hazard warning lamps, and tap the brakes to communicate to traffic that the bus is about to stop. Take these actions far enough in advance to avoid startling motorists behind the bus, which could cause panic stops or rear-end collisions.

B. Bring the bus to a full and complete stop before crossing any track, whether or not the bus is carrying passengers. Stop the bus not less than 15 feet nor more than 50 feet from the rail nearest the front of the bus.

C. On multiple-lane roads, stop only in the right lane unless it is necessary to make a left turn immediately after crossing the railroad tracks.

D. After stopping the bus, fully open the entrance (service) door and the driver's side window, turn off all noisy equipment (radios, fans, etc.), and instruct students to be quiet and look and listen in both directions along the track or tracks for approaching trains. In instances where the school bus loading/unloading red warning lamps are activated by opening the entrance (service) door, deactivate such lamps by using the master control switch.

E. If the view of the railroad track or tracks is not adequate, do not attempt to cross the tracks.

F. If a train passes from one direction, make sure that another train, possibly hidden by the first train, is not approaching on an adjacent track.

G. For railroad crossings equipped with warning devices such as lights, bells, and/or gates, always obey the signals. Never ignore railroad crossing signals. If a police officer or flagman is present at the crossing, obey their directions, but be sure to make your own visual check.

H. Before crossing the tracks, ensure there is adequate room on the other side of the tracks and train right-of-way for the entire bus. It is always possible that the bus may have to stop immediately after crossing the railroad tracks.

I. When the tracks are clear, completely close the bus entrance door and place the transmission in a gear that will not require changing gears while crossing the tracks. In

instances where the loading/unloading red school bus alternately flashing signal lamps are activated by opening the entrance door and such lamps were deactivated by using the master control switch, reactivate the school bus loading/unloading lamps. Leave all noisy equipment turned off, and continue looking in all directions as the bus crosses the tracks. After safely crossing the tracks, turn off the hazard warning lamps.

J. If the bus stalls while crossing the tracks, evacuate the students and move them a safe distance away from the bus as quickly as possible. If a train is approaching, have everyone walk in the direction of the train at a 45-degree angle away from the train tracks. If a radio or telephone is available, notify the school dispatcher of the situation.

K. Weather conditions, such as fog, snow, rain, and wind, can affect the driver's ability to see and hear an approaching train and to determine the safety of crossing the railroad tracks. Additional caution must be exercised during such conditions.

L. Report malfunctioning railroad signals or hazardous railroad crossing conditions to the appropriate school transportation personnel.

Additional information and training materials on railroad crossing safety are available from:

Operation Lifesaver, Inc.
1420 King Street
Alexandria, VA 22314
1-800-537-6224

Although the information and recommendations contained in this publication have been compiled from sources believed to be reliable, other or additional safety measures may be required under particular circumstances.

(Adapted from Fact Sheet, "Recommended Procedures for School Bus Drivers at Railroad Crossings," revised, School Transportation Section, 1998, National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201, (630) 285-1121.)

# INSTRUCTIONS FOR CONDUCTING EMERGENCY EXIT DRILLS

Due to the increased number of students being transported and the increased number of accidents on the highways, there is an urgent need to instruct students on how to properly vacate a school bus in case of an emergency. It is possible for students to block the emergency door if all are trying to get out at the same time. Please note: there is a possibility of danger when students jump from the rear emergency door exit. To avoid these situations, schools should organize and conduct emergency exit drills for all students who ride the school bus, even occasionally.

A. Reasons for actual emergency evacuations:

1. Fire or danger of fire
   Being near an existing fire and unable to move the bus, or being near the presence of gasoline or other combustible material is considered dangerous, and students should be evacuated. The bus should be stopped and evacuated immediately if the engine or any portion of the bus is on fire. Students should be moved to a safe place 100 feet or more from the bus and instructed to remain there until the driver has determined that the danger has passed.

2. Unsafe position
   When the bus is stopped because of an accident, mechanical failure, road conditions, or human failure, the driver must determine immediately whether it is safer for students to remain in or to evacuate the bus.

3. Mandatory evacuations
   The driver must evacuate the bus when the following situations arise:

   a. Fire or threat of fire is apparent;

   b. The final stopping point is in the path of a train or is adjacent to railroad tracks;

   c. The stopped position of the bus may change and increase the danger (e.g., a bus comes to rest near a body of water or at a precipice where it could still move and go into the water or over a cliff). The driver should be certain that the evacuation is carried out in a manner which affords maximum safety for the students; or

   d. The stopped position of the bus is such that there is danger of collision.

4. Sight distance
   In normal traffic conditions, the bus should be visible for a distance of 300 feet or more. A position over a hill or around a curve where such visibility does not exist should be considered reason for evacuation.

B. Important factors pertaining to school bus evacuation drills

1. Safety of students is of the utmost importance and must first be considered;

2. All drills should be supervised by the principal or by persons assigned to act in a supervisory capacity;

3. The bus driver is responsible for the safety of the students. When the driver is incapacitated and unable to direct the evacuation, school patrol members, appointed students or adult attendants should be authorized to direct these drills. It is important to have **REGULAR SUBSTITUTES AVAILABLE;**

4. If operable, the school bus alternately flashing signal lamps (red traffic control lamps) must be activated and side stop arm extended to alert oncoming traffic.

5. Students appointed to direct evacuation drills should possess the following qualifications:

    a. Maturity;

    b. Live near the beginning of the morning bus route or end of the afternoon bus route;

6. Passengers should receive instruction on how to:

    a. Turn off ignition switch/shut down engine;

    b. Set emergency brake;

    c. Summon help when and where needed;

    d. Use kick-out windows or emergency escape exits;

    e. Set warning devices;

    f. Open and close doors and account for all students passing the station;

    g. Help small students off the bus;

    h. Perform other assignments;

    i. Use electronic voice equipment to summon help;

7. School bus drivers and attendants should be active participants;

8. Drills should be scheduled in a manner similar to fire drills that are held regularly in schools. They should be held more often during fall and spring months and

conducted when the bus arrives at the school building with the students;

9. Drills should be restricted to school property and conducted under the supervision of school officials;

10. Types of drills should be varied;

11. The driver should stay in the bus during evacuation drills. He/she must set the parking brake, turn the engine off, and place the manual transmission in the appropriate gear;

12. Students should not be permitted to take lunch boxes, books, etc., with them when they leave the bus. (The objectives are to get students off safely in the shortest time possible and in an orderly fashion.);

13. Students should travel a distance of at least 100 feet from the bus in an emergency drill and remain there until given further directions;

14. All students should participate in the drill, including those who ride only on special trips;

15. Each student should be instructed in proper safety precautions;

16. Students should be instructed in how and where to obtain assistance in emergencies. Written instructions and telephone numbers should be posted in the bus;

17. Sample drill formats:

    a. Everyone exits through the front entrance doors and emergency door configurations;

    b. Everyone exits through the rear-most emergency door(s);

    c. Front half exits through the front door and rear half exits through the rear-most door; or

    d. Other emergency exits (e.g., windows, hatches) are included in drills;

18. All rear-engine buses are equipped with a side emergency exit door in lieu of a rear emergency door. This exit should also be utilized for evacuation drills;

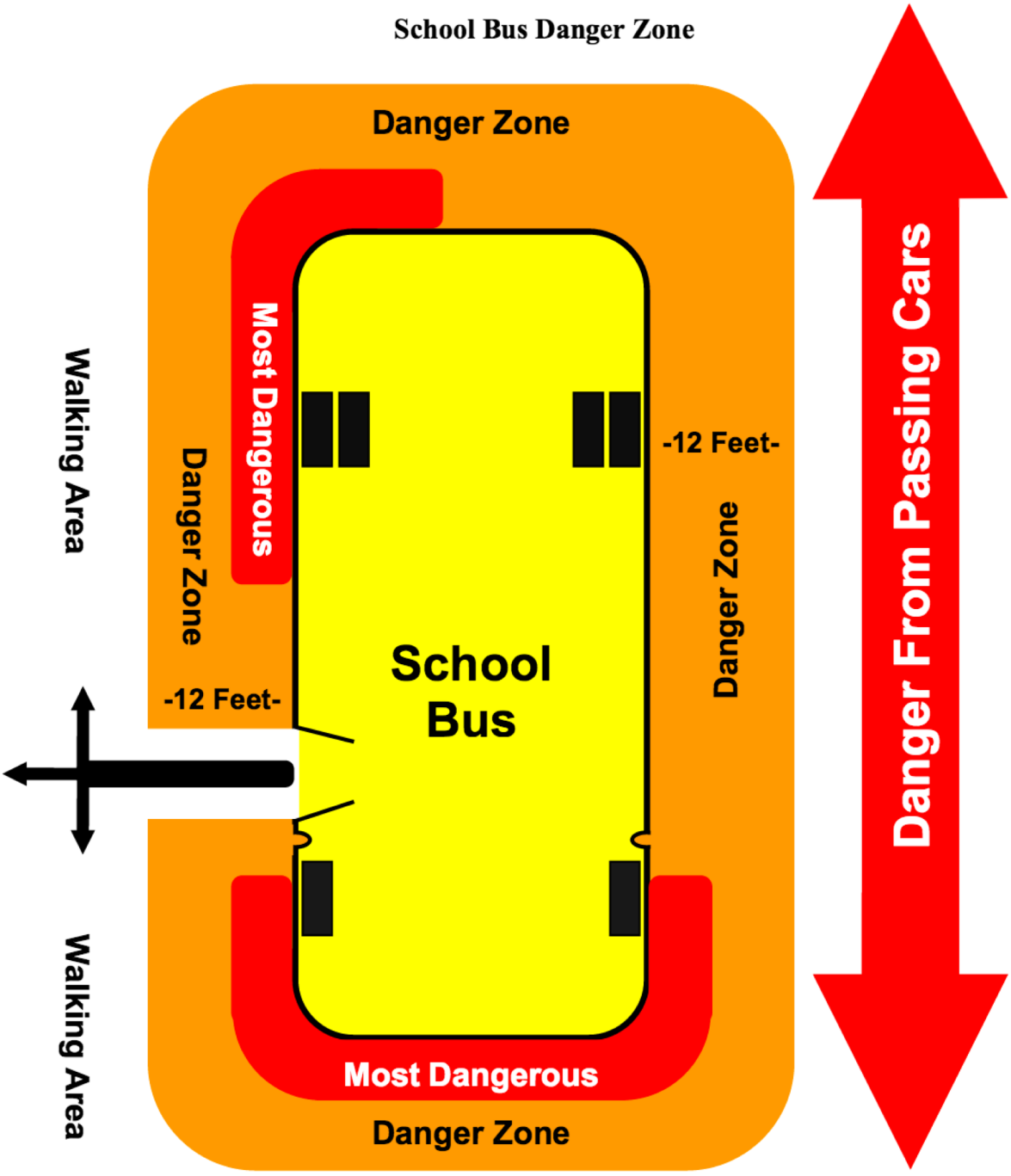
19. Some states also require side emergency exits in addition to rear emergency doors;

20. Students should be familiar with the operation of emergency windows (both side and rear) and roof hatches. All exits should be opened by students during evacuation drills to ensure the students' ability to operate such devices;

21. All school bus drivers shall ensure the students assigned to their buses are familiar with the emergency exit configuration of their assigned bus;

22. Identification of seat rows and positions similar to airline seating is recommended (i.e., left front seat 1, a, b, c, right front seat 1, d, e, f, etc.); and

23. Education staff and coaches should be trained regarding safe travel practices and procedures and should be required to participate in school bus evacuation drills.


School Bus Danger Zone
Danger Zone
Most Dangerous
Danger Zone
-12 Feet-
School Bus
-12 Feet-
Danger Zone
Walking Area
Walking Area
Most Dangerous
Danger Zone
Danger From Passing Cars

# SAMPLE JOB DESCRIPTIONS

**Local Student Transportation Director, Manager, Supervisor, and Private Operator**

A. The local student transportation director's and private operator's specific duties should include, but are not limited to, the following activities:

1. Providing assistance in planning, budgeting, and forecasting for the student transportation system;

2. Assisting in school site selection and facility planning;

3. Providing, when appropriate, chassis, body, and related equipment procurement;

4. Developing and implementing a plan for preventive and on-going equipment maintenance;

5. Recruiting, selecting, instructing, evaluating, and supervising personnel;

6. Routing and scheduling buses for safe, efficient, and economical transportation service;

7. Assisting in the development and implementation of student safety education programs;

8. Working with administrators, teachers, transportation personnel, students, parents, and various public and private agencies to improve their knowledge and the quality of the transportation system;

9. Investigating and reporting crashes and safety-related incidents, when applicable, using the uniform school bus crash reporting criteria and standard safety incident investigation process;

10. Investigating reported problems;

11. Maintaining records and preparing reports, as required;

12. Developing and supervising an on-going evaluation plan for the student transportation system;

13. Implementing a drug/alcohol testing program in compliance with federal regulations for persons in safety-sensitive positions and for commercially licensed drivers;

14. Establishing and ensuring appropriate staffing levels;

15. Recommending vehicle and equipment replacement schedules; and

16. Exhibiting effective skills in conflict-resolution and problem-solving.

B. Minimum qualifications for the student transportation director and private operator who supervise transportation should include the following:

1. An undergraduate degree, equivalent experience or industry certification in one or more of the following fields of study is desirable:

a. Education;

b. Business Administration;

c. Management; or

d. Transportation or a related field;

2. Formal instruction in student transportation management, including classroom instruction and field experience or student transportation industry certification;

3. A basic understanding of the educational process and the corresponding role of transportation;

4. The ability to manage personnel and resources;

5. Basic user-level computer competency with accounting and word processing software and knowledge of web-based information systems;

6. The ability to communicate effectively with school or Head Start Center administrators, teachers, parents, students, bus drivers, law enforcement officials, etc.; and

7. Knowledge of state and federal regulations applicable to transportation of students

**Transportation Specialist**

A. The specific duties should include, but are not limited to, the following activities:

1. Design and regularly update all routes and time schedules;

2. Assign drivers to routes and extra-curricular trips;

3. Prepare routes for bidding (if applicable), including schools served and time expectations;

4. Assign substitute drivers;

5. Accept bus trouble calls, coordinate replacement buses and drivers;

6. Advise building officials and parents of route changes, bus changes, and late arrivals and departures;

7. Prepare annual route schedule for distribution and notification to schools and parents;

8. Assist in planning and presenting staff development programs and annual in-service training for drivers;

9. Assist district in designing new school service areas and boundaries, when necessary;

10. Assist with road checking all drivers annually;

11. Relief-drive, when necessary; and

12. Investigate school bus crashes, unsafe practices, and safety-related incidents and recommend system and procedural improvements leading to improved safety of operations.

B. Minimum qualifications should include, but are not limited to these:

1. Certified state driver instructor (if applicable);

2. Two years of college, equivalent experience or industry certification:

3. Basic computer skills (routing software knowledge preferred);

4. Minimum of one year of experience in an office setting;

5. Knowledge of district, state and federal regulations, policies, and requirements pertaining to driver training and student safety;

6. Ability to plan, schedule, evaluate, and dispatch buses for all district bus routes and extra-curricular trips;

7. Ability to recommend, train, and evaluate drivers, meeting all district, state, and federal requirements;

8. Ability to recommend equipment and personnel requirements for transportation;

9. Ability to effectively work with and direct bus drivers;

10. Ability to maintain cooperative and effective communication with administrators, students, parents, public, and other department employees;

11. Familiarity with vehicle maintenance concepts;

12. Ability to read and interpret road maps; and

13. Ability to communicate on the district's two-way voice communication system.

**Dispatcher (Scheduler)**

A. The specific duties should include, but are not limited to, the following activities:

1. Schedule and dispatch buses and district vehicles to appropriate routes;

2. Dispatch and coordinate bus and driver assignments for school-sponsored trips;

3. Secure substitute drivers due to absences and review routes with substitutes, as necessary;

4. Communicate with drivers via the transportation communication system regarding routes, emergencies and student problems;

5. Develop and maintain records for driver assignments and vehicle scheduling and use;

6. Receive and respond to phone calls from parents or the public concerning transportation by providing information or referring calls to appropriate staff members;

7. Assist in the development of bus routes and schedules and updating routes and schedules throughout the school year; and

8. Assist staff by checking roads during inclement weather.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Class "B" CDL with P and S endorsements;

3. Two years of experience in public or student transportation;

4. Experience as a route planner or dispatcher;

5. Effective oral and written communication skills;

6. Ability to work effectively under pressure;

7. Ability to make independent decisions;

8. Ability to maintain accurate records;

9. Ability to maintain confidentiality;

10. Ability to operate communications systems;

11. Ability to schedule and coordinate activities;

12. Ability to communicate and work effectively with building and department personnel; and

13. Knowledge of student transportation rules and regulations.

**Instructor/Trainer**

A. The specific duties should include, but are not limited to, the following activities:

1. Assist with pre-interview and recommendation to train;

2. Train and retrain, as necessary, all bus drivers and bus attendants;

3. Organize and present safety messages and programs to students;

4. Annually conduct on-the-road evaluations of all bus drivers;

5. Maintain all driver records and notify drivers of license or certification expirations;

6. Recommend hiring, retraining, and disciplinary action for bus drivers and bus attendants; and

7. Work with vehicle maintenance personnel on possible driver training to avoid equipment abuse.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Class “B” CDL with P and S endorsements;

3. Certified state driver instructor (if applicable);

4. Certified first aid instructor;

5. Knowledge of state and federal laws and regulations related to bus drivers;

6. Skill in operating a bus and troubleshooting minor problems;

7. Ability to teach required subjects to obtain state school bus driver's authorization;

8. Ability to instruct CDL requirements;

9. Ability to provide effective instruction in soft skills categories (i.e. confidentiality and intervention strategies);

10. Ability to effectively communicate with staff, peers, and community;

11. Ability to establish and maintain effective working relationships;

12. Evidence of effective oral and written communications; and

13. Proficiency in basic computer and presentation skills.

**Routing Specialist**

A. The specific duties should include, but are not limited to, the following activities:

1. Coordinate the development and maintenance of bus stops, runs, routes, and schedules consistent with district policies and state requirements;

2. Gather criteria necessary for the development of the school district's school boundaries, street address ranges, speed limits, one-way streets, traffic hazards, and hazardous walkway areas;

3. Review all bus route change requests;

4. Communicate with drivers and dispatchers to resolve problems with routes;

5. Communicate with parents, teachers, principals, and others regarding the transportation of students;

6. Generate transportation-related reports, as required by the Transportation Director; and

7. Evaluate existing hazardous walkway areas and determine route revisions, making recommendations to appropriate individuals.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Three years of computerized routing experience;

3. Knowledge of operating procedures for student transportation;

4. Knowledge of routing procedures and methods;

5. Ability to analyze and make recommendations regarding bus routing activities;

6. Ability to work under pressure;

7. Ability to organize, set priorities, and meet deadlines;

8. Ability to maintain accurate records and generate computerized reports;

9. Ability to establish and maintain effective working relationships with a variety of people;

10. Ability to establish a customer service environment; and

11. Working knowledge of computerized routing systems and boundary analysis software applications.

**Administrative Assistant, Clerical**

A. The specific duties should include, but are not limited to, the following activities:

1. Develop and maintain filing and record-keeping systems, both physical and electronic;

2. Finalize correspondence and reports prepared by others, prepare correspondence, reports and other documents, as directed, perform data entry of pertinent information;

3. Design, format and prepare forms and other documents;

4. Ensure that documents are free from typographical errors, misspellings, omissions, logical inconsistencies, and grammatical errors;

5. Ensure that sufficient levels of office supplies are maintained;

6. Arrange for meeting space, send notices and track responses, ensure appropriate refreshments are available, and rooms and equipment are properly set up;

7. Use standard office equipment;

8. Coordinate activities with other clerical staff, departments, and outside agencies;

9. Report employees' hours of work, sick leave, vacation. and other leaves to the payroll department, per district policy and procedures;

10. Maintain permanent employee records, including payroll, evaluations, and leaves, per district policy and procedures;

11. Answer phones while maintaining professional demeanor and answering queries or redirecting caller to the appropriate personnel;

12. Facilitate purchase of equipment by obtaining quotes, and preparing purchase orders. (Which may be the duty of the Purchasing Agent); and

13. Ensure that all financial transactions are properly recorded, totaled, balanced, and reconciled with budget. (Which may be the duty of the Bookkeeper).

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Computer experience in word processing, database, spreadsheet, and desktop publishing;

3. Two years' secretarial experience in an office setting;

4. Ability to create and maintain a filing system;

5. Ability to enter data;

6. Ability to create forms, documents, and pamphlets, using desktop publishing;

7. Ability to maintain good telephone skills;

8. Good organizational and time management skills;

9. Excellent oral and written skills;

10. Ability to handle changing priorities;

11. Knowledge of payroll practices and procedures;

12. Knowledge of general accounting and purchasing procedures;

13. Ability to work effectively under high stress situations; and

14. Ability to maintain confidentiality.

**Bookkeeper**

A. The specific duties should include, but are not limited to, the following activities:

1. Develop and maintain records of budget data, both physical and electronic;

2. Prepare special reports, as required by the Transportation Director;

3. Prepare purchase orders and maintain records;

4. Ensure that all financial transactions are properly recorded, totaled, balanced, and reconciled with budgeted amounts;

5. Invoice departments, schools, and other agencies for transportation services performed;

6. Obtain quotes and prepare purchase orders for buses, supplies, office, and shop equipment;

7. Maintain inventory of all buses and district vehicles, including VIN and license numbers, model, chassis, seat and vehicle-rated capacity, wheelchairs, and occupant restraint systems;

8. Remove and add vehicles for insurance purposes;

9. Assist with insurance claims and warranty work;

10. Assist with development of annual budget;

11. Assist with answering phones while maintaining professional demeanor and answering queries or redirecting caller to the appropriate personnel; and

12. Use copiers and other office equipment.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Experience with word processing, spreadsheets, and database;

3. Experience as bookkeeper in an office setting;

4. Ability to organize tasks and documents in a logical manner;

5. Ability to complete basic formulas and operations, such as sorting and extracting;

6. Ability to operate a ten-key calculator;

7. Ability to use various types of office equipment;

8. Ability to reconcile checking accounts or bank statements;

9. Ability to maintain good telephone skills;

10. Ability to enter data;

11. Knowledge of general mathematics applications;

12. Knowledge of general accounting procedures;

13. Knowledge of purchasing regulations;

14. Knowledge of bidding and/or low-quote purchase of school buses; and

15. Ability to maintain confidentiality.

**Bus Driver**

A. The specific duties should include, but are not limited to, the following activities:

1. Report defective school bus equipment and accessories, including but not limited to, fire extinguishers, highway warning kits, first aid and body fluid cleanup kits, snow chains, sanders, etc., and when necessary, install, service, or replace defective equipment;

2. Perform required operational and safety inspections of the school bus and all related equipment;

3. Ability to clean and service the school bus to include interior cleaning and exterior bus washing, installation of fuel, oil, and other fluids, as directed;

4. Operate all hand and foot controls installed in a school bus, as required;

5. Perform basic first aid, as appropriate, which may include CPR;

6. Work effectively with a group of students of different grade levels, abilities, or program placement;

7. Complete legibly and accurately forms, records, reports, and other documentation/data-logging activities, as required by state or district policy.

8. Be punctual;

9. Dress appropriately and wear proper foot protection;

10. Manage passengers in the school bus;

11. Report unsafe acts or conditions that require the attention of any person other than the driver; and

12. Successfully complete school bus driver training programs and courses established by the state or school district.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent.

2. Hold and maintain a class license with all applicable endorsements for the type of vehicle being driven;

3. Excellent driving record;

4. Physical ability to drive and perform all duties related to school bus operations;

5. Ability to relate effectively with parents, staff, and public in a multicultural and multiracial community;

6. Possess sufficient command of local language so as to communicate with students, parents, district staff members, and other concerned individuals regarding all aspects of their job-related activities;

7. Ability to pass a criminal history background check;

8. Ability to pass a state or DOT medical examination: and

9. Ability to pass a federally mandated drug/alcohol screen.

**Driver (Alternative Transportation Driver)**

A. The specific duties should include, but are not limited to, the following activities:

1. Successfully complete a driver training program and courses established by the state and/or school district;

2. Complete pre-trip and post trip inspections and report defective equipment and accessories to the appropriate person. This includes but not limited to, vehicle components, fire extinguishers, highway warning kits, first aid and body fluid cleanup kits, snow chains, sanders, etc. When necessary, install, service, or replace defective equipment;

3. Perform required operational and safety inspections of the vehicle and all related equipment;

4. Safe loading and unloading of passengers. Proper use of seatbelts and child safety restraints. Specialized equipment as applicable;

5. Proper use of seatbelts and child safety restraints;

6. Work effectively with a group of students of different grade levels, abilities, or program placement. Provide proper accommodations for children with disabilities, and understand the needs of students and how to address behavior management in response to concerning behavior;

7. Adhere to drug and alcohol policies and procedures;

8. Ability to clean and service the vehicle to include interior cleaning and exterior vehicle washing, installation of fuel, oil, and other fluids, as directed;

9. Operate all hand and foot controls installed in a vehicle, adhere to defensive driving, ~~able to~~ drive day, night or under impaired visibility conditions and inclement weather as required;

10. Perform basic first aid, as appropriate, which may include CPR;

11. Complete legibly and accurately forms, records, reports, and other documentation/data-logging activities, as required by state or district policy.

12. Be punctual; and

13. Dress appropriately and wear proper foot protection.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent.

2. Hold and maintain a class license with all applicable endorsements for the type of vehicle being driven;

3. Excellent driving record;

4. Physical ability to drive and perform all duties related to vehicle operations;

5. Ability to relate effectively with parents, staff and public in a multicultural and multiracial community;

6. Possess sufficient command of local language so as to communicate with students, parents, district staff members, and other concerned individuals regarding all aspects of their job-related activities;

7. Ability to pass a criminal history background check;

8. Ability to pass a state or other required medical examination; and

9. Ability to pass a federally mandated drug/alcohol screen.

**Bus Attendant (Monitor, Aide, Driver Assistant, Assistant, Para, Para Professional, Matron)**

A. The specific duties should include, but are not limited to, the following activities:

1. Assist the school bus driver;

2. Assist students to safely embark and disembark from a school bus;

3. Ensure a safe trip for every student;

4. Ensure that students get off at the correct bus stop;

5. Help implement safety standards on board the bus;

6. When applicable, assist with loading/unloading and securing of assistive devices and safety restraints; and

7. Assist driver with student management.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Ability to work with all students;

3. Ability to physically move wheelchairs onto wheelchair ramp and into the bus;

4. Ability to physically remove students from a disabled bus;

5. Ability to get along with co-workers, parents, students, and other staff;

6. Ability to interact with students;

7. Ability to follow directions; and

8. Ability to communicate with staff.

**Vehicle Maintenance Supervisor, Foreman and Manager**

A. The specific duties should include, but are not limited to, the following activities:

1. Supervise and work with technicians in diagnosing malfunctions on vehicles;

2. Supervise and work with technicians to overhaul and rebuild engines, transmissions, and other vehicle components;

3. Purchase parts, materials, and supplies required for proper maintenance of district vehicles, related equipment, and shop facilities, per district procedures;

4. Coordinate maintenance of buses with dispatchers to ensure the bus fleet is ready to meet operational requirements;

5. Recommend and assist with short- and long-term bus purchase planning;

6. Oversee record-keeping, evaluate reports for work assignments, inspect work, as needed, review time and parts used for repair, and maintain inventory at required levels;

7. Evaluate needs and recommend purchase of new or replacement shop equipment, machines, tools, and related items;

8. Assist in evaluating bids and recommend awards for jobs performed by outside vendors;

9. Assume responsibility for cleanliness, upkeep and organization of shop building, as well as safety, security, equipment, and parts;

10. Assume responsibility for hazardous material disposal, following all governmental regulations and required reporting and record-keeping;

11. Assume responsibility for evaluating all shop personnel; and

12. Prepare and maintain preventive maintenance schedules.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Minimum of five years of experience in automotive technician field;

3. One year of full-time experience as a journeyman technician in a truck or bus

maintenance facility;

4. One year of full-time experience at the supervisory level in an automotive maintenance facility;

5. Class “B” CDL with P and S endorsements;

6. Knowledgeable user of computer-based business and fleet management software;

7. Ability to direct and coordinate employees;

8. Ability to communicate with staff;

9. Ability to understand job functions in relationship to school district requirements;

10. Ability to work under pressure;

11. Ability to teach/instruct;

12. Ability to maintain and analyze vehicle records; and

13. Ability to use and understand diagnostic equipment.

**Journeyman Technician**

A. The specific duties should include, but are not limited to, the following activities:

1. Diagnose and repair mechanical, electrical, and engine defects in buses and other automotive equipment;

2. Overhaul and rebuild engines, transmissions, differentials, brake systems, and other major components by repair and replacement of parts;

3. Repair and rebuild generators, alternators, and all other electrical components utilizing testing devices and machine equipment, as required;

4. Perform general tune-ups, utilizing diagnostic equipment;

5. Make roadside repairs, as required;

6. Repair and replace seats, glass, sheet metal, latches, and other body components and assemblies;

7. Change oil and filters, install antifreeze and snow chains, repair tires, adjust brakes, and lubricate chassis, wheel bearings and other assemblies, as required;

8. Perform all required preventive maintenance and regular bus safety inspections;

9. Operate battery chargers, valve re-facing and reseating machines, compression gauges, torque wrenches, welding equipment, grinders, reamers, timing lamps, hoists, jacks, presses, headlight adjustment machines, air wrenches, small lathes, spark plug testers, and other equipment for performing repair and maintenance of motor vehicles;

10. Assist in cleaning and organizing the shop, parts room, and other maintenance facilities; and

11. Complete vehicle maintenance forms and records.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Class "B" CDL with P and S endorsements;

3. Completion of a recognized apprenticeship as an automotive technician, full "journeyman" status as an automotive technician or a minimum of four years' applicable work experience of any equivalent combination of experience and training;

4. Experience in repair and maintenance of heavy duty and diesel vehicles and special vehicular equipment;

5. Ability to identify, diagnose, and repair vehicle malfunctions;

6. Ability to communicate with staff, peers, and students;

7. Ability to understand job functions in relationship to school district needs;

8. Ability to work under pressure;

9. Ability to maintain accurate bus repair and other records; and

10. Be in good physical condition.

**Assistant Technician**

A. The specific duties should include, but are not limited to, the following activities:

1. Assist journeyman technicians in overhaul, rebuilding, and replacing major assemblies and components;

2. Lubricate buses and other automotive equipment to include chassis lube, oil, and filter changes, gearbox fill or drain and flush, wheel bearing pack and all other lubricating and air cleaner service procedures, as required;

3. Verify operational safety of equipment and devices, such as brakes, clutch, lamps, mirrors, glass, fire extinguishers, first aid kits, highway warning kits, horn, warning lamps and buzzers, emergency exits, wipers, signs, tires, etc.;

4. Change and repair tires, perform complete battery service and brake adjustments;

5. Install antifreeze and service cooling systems, inspect and replace hoses, caps, valves, etc.;

6. Make minor repairs by replacing lamps, spark plugs, ignition parts, patches, and switches, as required;

7. Operate lubrication equipment, hoist, compressor, battery charger, diagnostic equipment, headlight adjustment machine, alignment board, spark plug tester, drills, presses, air wrenches, and other tools and equipment, as required in the performance of assigned duties;

8. Drive service truck for roadside service, as required; and

9. Assist in cleaning and organizing the shop, parts room, and other maintenance facilities.

B. Minimum qualifications should include, but are not limited to these:

1. High school graduate or equivalent;

2. Class “B” CDL with P and S endorsements;

3. Minimum two years of general experience in service station-type automotive maintenance, plus one-year related experience on buses, trucks, or other heavy duty vehicular equipment;

4. Possess a basic set of auto technician hand tools and storage cabinet, if required;

5. Be in good physical condition;

6. Ability to work under pressure;

7. Able to follow directions; and

8. Ability to communicate with staff.

**Hiring New Employees**

Employment procedures should be clearly stated in writing and followed by all parties involved in the procedures. There should be no discrimination in the advertisement of a job opening, in the application review process or in the interview. All applicants must be treated equally and interviewed/not interviewed or hired/not hired based on objective and measurable criteria. It is illegal to make any inquiry or keep any record of race, creed, color, national origin, age, sex, marital status, or disability before, during, or after employment for the purpose of discriminating on these grounds.
The following are essential steps to be incorporated in screening and hiring procedures:

A. Advertising

1. Contact the Personnel Department/Human Resources Office for possible applications on file. (Some offices have a phone job line available for posting job openings.) Advertising by word of mouth, newspapers, employment office, school lunch menus, and notices in retail stores or local fire departments are also good methods to get word out to the community regarding job openings; and

2. Provide written procedures, job requirements, and duties to applicants. Pre-employment screening requirements (e.g., criminal background checks, driving record checks, drug screening, etc.) should be listed in each packet of information provided to potential applicants.

B. Applicant screening

1. Check application forms for completeness. Contact applicants as soon as possible to obtain any information that was omitted from the original application documents. One method is to formulate a check-off list to verify the completeness of the applications and that the applicants meet all requirements for the position. A point system or some other grading criteria should be developed that will result in an objectively obtained score. It is advisable for the Personnel Department/Human Resources Office to keep these screening sheets on file, should the district be challenged by an applicant that feels he/she has been discriminated against. The successful applicants should be scheduled for an interview when screening and background checks are completed. This may be done by phone or letter;

2. Conduct background checks, as may be required. Advise applicants of procedures for fingerprinting for criminal records checks, authorization for driving records check, drug/alcohol screening, and any other background checks that are required. Obtain written authorization for any such checks. If a CDL is required prior to employment, a copy of the applicant's current license and physical examination form may be requested at this stage in the procedure;

3. Contact personal references and previous employers listed on application forms. It is very important to check references; however, because personnel issues are confidential, it is very important to receive written permission from the applicant to allow the former employer(s) to release all information, including any available drug and alcohol test results. If you do not have this release, the only information you will usually obtain is date(s) of employment and position held. One question they may answer is this: "Would you rehire?" If the answer is "No," you may want to more thoroughly evaluate the applicant; and

4. Determine amount of pre-service training required for applicants to fulfill job requirements.

C. Interview

1. Planning the interview

Interviews should be held in a pre-determined, pre-appointed setting. The interview team should be selected, seating arrangements determined, and questions prepared before the interview begins. Applicants should not have to wait. It is very important to plan the number of questions to be asked and about how long the interview should take. Allow time in the schedule for the interview team to exchange any thoughts or concerns about the applicants while information is fresh;

2. Interview questions

Questions should be open-ended. Try to avoid asking questions that can be answered with a "yes" or "no." The number of questions depends on the kind of information the interview team wishes to gather and evaluate. Always allow the applicant to ask the team any questions he/she may have. "Look for" answers, predetermined by human resources staff and/or the interview team, must be resolved before the interview. The answer(s) are what the team is "looking for" when the applicant is interviewed. Each member of the team would then grade the answer he/she hears on a pre-designed sliding scale;

Do not ask illegal questions. The perception by the candidate could be that he or she was not picked because of the answer of an illegal/personal question;
The interview team should meet in advance to determine assignments and to stress that all candidates for the position must be treated equally and asked the same questions, preferably by the same interview team member; and

3. Concluding interview activities

After all interviews are completed, interview team members should grade their interview sheets. (These must be kept in the event the district may be challenged

about the decision by an unsuccessful applicant at a later date.) Applicants' composite scores should be tallied and recommendations prepared.

D. Recommend hiring

Applicants for all positions must be screened, and only those applicants that qualify in terms of education, job skills, and experience should be recommended for final consideration.

E. Hire

Hiring an employee is a process with many steps that usually begins with the need to fill an open or new position. Hiring, the final step, should follow a clearly established written procedure, which often must be ratified by the governing authority of the agency involved.

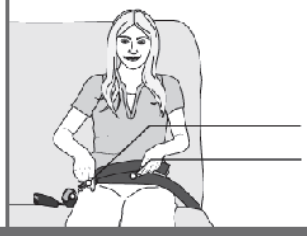
# APPENDIX D – SCHOOL BUS OPERATIONS

## LAP BELT CHART

# Lap Belt Basics

"Buckle, Check, Tight — Your Seat Belt Is Right!"

## Common Seat Belt Parts




I have read and discussed these important safety instructions with my child.

Parent/Guardian Signature _____ Date _____

Child _____ Date _____

Instructor _____ Date _____

## BUCKLE




**A** BUCKLE the latch plate into the matching buckle after lifting the lap belt webbing from the seat and lengthening the lap belt strap. To lengthen the strap, tilt the latch plate and pull it along the strap. LISTEN for the CLICK sound when the latch plate is fastened!



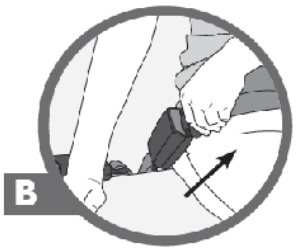
*Be sure to:*

- Sit flat against the seatback.



- Place the lap belt around the lower body, below the waist. Do not let the belt get twisted.

## CHECK




**B** CHECK that the buckle is connected by tugging firmly on the seat belt latch plate.

*Be sure to:*

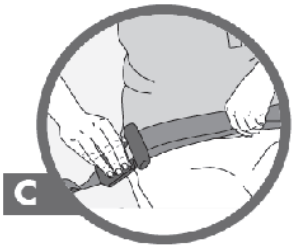
- CHECK while sitting against the seatback.



- Remove any twists in the seat belt when you CHECK.



## TIGHT




**C** TIGHTEN the lap belt by pulling on the end of the strap. Be sure that the lap belt is snug across the lower body below the waist.

*Be sure to:*

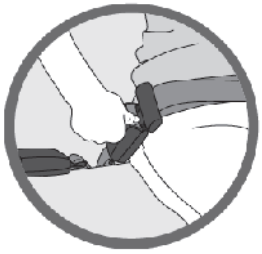
- Properly position lap belt below the waist, not over the stomach.



## APPENDIX D – SCHOOL BUS OPERATIONS

## LAP BELT CHART

### UNBUCKLING



1. Push the red button on the buckle and remove the latch plate from the buckle.



2. As a courtesy to the next passenger, lay the lap belt flat on the seat cushion.

### IMPROPER LAP BELT USE



NEVER sit on or in front of the lap belt.



NEVER allow the belt webbing to be twisted. It should lay flat against your body.



NEVER position the lap belt too high. It should touch the lap and not cross over the waist or stomach.



NEVER insert the latch plate of your lap belt into the buckle for the seat beside you. Be sure to use your own buckle.



NEVER wear the lap belt loosely.



NEVER wear your backpack when you are seated in the bus. Place it on the floor in front of your feet.



NEVER sit on the front or side edge of your seat.

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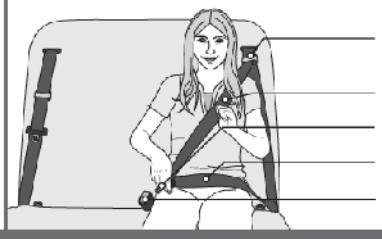
## APPENDIX D – SCHOOL BUS OPERATIONS

## LAP-SHOULDER BELT CHART

# Lap-Shoulder Belt Basics

"Buckle, Check, Tight — Your Seat Belt Is Right!"

## Common Seat Belt Parts




I have read and discussed these important safety instructions with my child.

Parent/Guardian Signature _____ Date _____

Child _____ Date _____

Instructor _____ Date _____

## BUCKLE




**A** BUCKLE the latch plate into the matching buckle after pulling out the shoulder belt webbing from the seatback. LISTEN for the CLICK sound when the latch plate is fastened!

*Be sure to:*

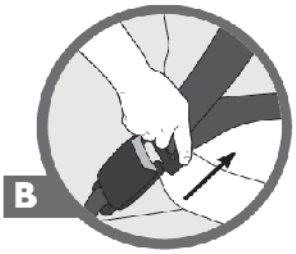
- Sit flat against the seatback.



- Place the lap-shoulder belt over shoulder and around upper body. Do not let the belt get twisted.



## CHECK




**B** CHECK that the buckle connection is secure by tugging firmly on the seat belt latch plate.

*Be sure to:*

- CHECK while sitting against the seatback.



- Remove any twists in the seat belt when you CHECK.



## TIGHT




**C** TIGHTEN the lap portion by pulling upward on the shoulder belt. Be sure that the shoulder belt is snug across the chest and crosses the center of the shoulder.

*Be sure to:*

- Properly position lap portion below the waist, not over the stomach.



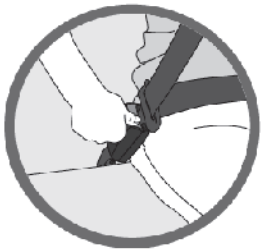
- Position the shoulder-height adjuster at or just above the shoulder. The belt should not cross the face or neck.



## APPENDIX D – SCHOOL BUS OPERATIONS

## LAP-SHOULDER BELT CHART

### UNBUCKLING



1. Push the red button on the buckle and remove the latch plate from the buckle.
2. Allow the shoulder belt to retract into the upper seatback so webbing is not loose.



3. As a courtesy to the next passenger, move the shoulder-height adjuster up to its highest position.

### IMPROPER LAP-SHOULDER BELT USE



NEVER sit in front of the buckled lap-shoulder belt.



NEVER place the shoulder belt behind your back and wear only the lap belt.



NEVER place the shoulder belt under your arm.



NEVER wear the shoulder belt or lap belt loosely.



NEVER allow the belt webbing to be twisted. It should lay flat against your body.



NEVER insert the latch plate of your shoulder belt into the buckle for the seat beside you. Be sure to use your own buckle.



NEVER wear your backpack when you are seated in the bus. Place it on the floor in front of your feet.



NEVER sit on the front or side edge of your seat.

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# SAMPLE: CHILDCARE FACILITY PICK UP AND DROP-OFF ASSESSMENT

Name of facility: _____ Phone Number: _____
Address: _____

Please check any applicable boxes below. This assessment must be completed prior to a stop location being authorized.

1. Is the parking lot passable for school buses at any time of day?

2. Are any obstacles (dumpsters, parked vehicles, overhangs, landscaping, etc.), narrow roadways or other hazards (e.g., moving vehicles, pedestrians, etc.) present that would put a school bus and/or driver at risk?

3. Is there safe access in and out of the facility onto the roadway?

4. Is the turning radius adequate to accommodate the tail swing of the bus and to prevent collisions with fixed objects?

5. Can we load/unload passengers at the entrance door to the facility?

6. Is the driveway (if appropriate) paved, and can the driveway support the weight of a school bus?

7. Are childcare staff assigned in writing to supervise children moving to and from the bus and during loading/unloading activities?

8. Can the bus be safely evacuated in the event of an emergency?

9. Is the school district or private transporter named as an “additional insured” by the day care owners’ insurance policy?

10. This childcare location assessment is subject to approval by Risk Management prior to the location being authorized.

Transportation Department Approval: _____ Date Authorized: _____

Risk Management Approval: _____ Date Authorized: _____

cc: Routing

# SAMPLE: SCHOOL DISTRICT WALK DISTANCE POLICY

Each state and school district should develop transportation eligibility policies.

Such policies should incorporate however are not limited to:

A. Distance between a student's home address and the student's school of attendance;

B. Travel to and from school;

C. Ages and maturity of students;

D. Potential hazards;

E. Roadway and walk pathway conditions;

F. Speed limits;

G. Railroad crossings

H. Lighting conditions; and

I. Cognitive and physical abilities.

Pre-k and elementary school levels: .5 mile*;

Middle school, junior high school levels: 1.0 mile*;

High school: 1.5 mile*.

*(**Note:** Distances may be increased or decreased due to hazardous conditions, remote residences or other safety concerns based upon district criteria.)

# APPENDIX E

# Activity Bus Operations: Transportation Other Than To And From School Or Head Start

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# APPENDIX E: ACTIVITY BUS OPERATIONS:

## TRANSPORTATION OTHER THAN TO AND FROM SCHOOL OR HEAD START OPERATIONAL GUIDELINES

In order to ensure the safest transportation for students, the following guidelines and procedures provide information that can be used by schools, school districts, Head Start grantees and other transporters of pre-school and school-aged children when contracting for a school-chartered motorcoach. A sample trip request form can be found at the end of this section.

A. Drivers

The following training requirements for school-chartered motorcoach drivers MAY be considered:

1. Pre-service training

In addition to successfully completing all pre-service training provided by the employer, a school-chartered motorcoach driver shall complete a required course of instruction which includes, but is not limited to, appropriate state laws, regulations and policies related to school transportation.

2. In-service training

All school-chartered motorcoach drivers shall receive a required amount of in-service training annually, with instruction on handling bodily fluids, and shall be required to maintain a current first aid card in accordance with state regulations.

B. Motor carriers

The following requirements for motor carriers MAY be considered:

1. Pre-qualification list of eligible motor carriers

The school district should establish a list of eligible companies that it will use for charter motorcoach service by pre-qualifying potential providers. Public school systems and Head Start grantees should establish this list centrally so that individual schools do not have to duplicate efforts of other schools and so that motorcoach companies are not asked to provide the same information to multiple schools that are using the same criteria. Further, school districts and Head Start grantees may find it advantageous to join together in a consortium or other working group to cooperatively establish a regional list of eligible companies.

2. Vehicle maintenance

The school district or Head Start grantee should require documented assurance from the motor carrier that (1) it will not knowingly require or permit the operation of any school-chartered motorcoach that is not in safe operating condition or not equipped and maintained, as required by any law or (2) it will not knowingly require or permit any driver to drive in violation of any law.

C. Trip-specific requirements

The following requirements MAY be considered:

Based on specific needs of the trip, the school or Head Start and the motor carrier must understand and establish, in a written contract, exactly what will be involved and must establish methods for verifying that the motor carrier meets all criteria for a given trip.

1. Inspection

Prior to operation, the driver shall inspect each school-chartered motorcoach to ascertain that it is in safe condition, that it is equipped as required by all provisions of law and that all equipment is in good working order. The inspection shall include, but is not limited to, the following items:

a. All required emergency equipment, as well as, first aid and body fluid cleanup kit(s), fire extinguisher(s), reflectors;

b. All gauges, indicators and warning devices;

c. Horn(s);

d. Driver's seat and seat belts;

e. All doors, door emergency releases, overhead hatches and windows;

f. All seats, handrails and modesty panels;

g. Interior and exterior lighting systems;

h. All heating, cooling, and ventilating systems;

i. All glass and mirrors, including adjustment of mirrors;

j. Windshield wipers and washers;

k. All tires, wheels, rims and lug nuts;

l. Wheelchair restraints, tiedowns and loading devices, such as ramps and lifts; and

m. Brake system;

(1) Air compressor governor cut-in and cut-out pressures;

(2) Static pressure for air loss;

(3) Initial applied brake pressure loss;

(4) Low air pressure warning devices;

(5) Emergency stopping systems;

(6) Parking brake;

(7) Antiskid device (if equipped);

(8) Vacuum gauge (if equipped), ensuring it reads not less than 15 inches of mercury;

(9) Low vacuum warning device(s) (if equipped); and

(10) Brake pedal adjustment.

**Note:** Draining reservoirs in dual air systems is not required.

2. Pre-trip inspection checklist

The coordinator of the trip should complete a pre-trip inspection checklist at the time of the trip to make sure that each driver and each vehicle meet all criteria immediately before departure. Motor carriers are required to meet many Federal Motor Carrier Safety Administration regulations.

The company is responsible for ensuring that each driver completes a thorough pre-trip inspection prior to each trip and is further required to repair any safety-related defects discovered prior to the trip. The completion of a pre-trip checklist by a trip coordinator does not relieve the company of the liability for the mechanical condition of the vehicle. The pre-trip checklist should validate the driver's medical card, CDL license with proper endorsements and a basic review of the vehicle (e.g., lamps, safety equipment, etc.).

3. Trip report

At the completion of the driver's work or tour of duty, each driver should submit a daily documented report to the employer indicating the condition of the vehicle and noting any defects found. Whether discovered by or reported to the driver, all vehicle defects and deficiencies likely to affect safe operation or cause mechanical breakdown of the school-chartered motorcoach shall be listed, and a negative report shall indicate that no such conditions are present.

4. Transportation of property

a. Hazardous materials

Motor carriers and drivers shall not transport, or knowingly permit passengers to carry, any substance, material, or device posing an unreasonable risk to health and safety to any passenger. These restrictions shall not apply to the following items:

(1) Portable oxygen tanks medically prescribed for, and in the possession of, a passenger and in a carrier designed for personal use;

(2) Personal-use articles in the immediate possession of a passenger; and

(3) Hazardous materials transported by a carrier subject to federal jurisdiction in compliance with provisions of 49 CFR, Part 177 (E).

b. Fuel

Fuel shall not be transported except in the vehicle's regular fuel tanks.

c. General property

Drivers and motor carriers shall not permit any greater quantity of baggage in vehicles than can be safely and conveniently carried and safely secured. In no event shall aisles, doors, steps or emergency exits be blocked.

d. Animals

A driver or motor carrier may refuse to transport dogs or other animals except certified guide, signal or service animals. All other

animals shall be securely crated and stored to eliminate the possibility of injury to passengers.

5. Transportation of passengers

The driver shall not drive a school-chartered motorcoach transporting passengers in violation of the following provisions:

a. Emergency passenger safety training

Prior to travel, passengers transported in school-chartered motorcoaches shall receive emergency procedure and passenger safety training, as prescribed by state law and/or regulations for school passengers transported in yellow school buses. Training shall include evacuation training on the specific charter motorcoach being used for each trip.

b. Interior lighting

During darkness, the driver shall ensure that the interior lighting is sufficient for passengers to enter and exit safely and whenever otherwise deemed necessary.

c. Ejection of passengers

The driver of a school-chartered motorcoach shall not allow, nor require the disembarking, of any student passenger at any location except the scheduled destination, unless the passenger is given into the custody of a parent, guardian or any person designated by the parent, guardian, school authority or law enforcement official. In case such non-scheduled disembarking is made, complete information will be provided to the trip coordinator at the first possible opportunity.

d. Fueling restrictions

No fueling will take place while passengers are on board the bus.

e. Seating capacity

The number of passengers shall not exceed the number of manufacturer-designated safe and adequate seating spaces. Parents/adults will be provided with and be required to use child safety restraint systems suitable for the age and weight of the individual child.

f. Weight

Passengers shall not exceed the number whose weight, in addition to the weight of any property transported, can be carried without exceeding the manufacturer's maximum gross vehicle weight rating or the combined maximum rating of the tires supporting each axle.

g. Standing passengers

A school-chartered motorcoach with school passengers on board shall not be put in motion until all passengers are seated. All passengers must remain seated while the vehicle is in motion, except for an adult chaperone, parent, guardian or school employee acting upon a request by the driver to supervise or assist a passenger. Passengers shall not be permitted in front of the "standee line" (if present) or forward of the drivers' seat back while the vehicle is in motion.

h. Open doors

A school-chartered motorcoach shall not be put in motion until the doors are closed. The doors shall not be opened until the vehicle is stopped and the parking brake applied.

i. Emergency exits

A school-chartered motorcoach shall not be put in motion with any emergency exit locked or otherwise secured against being opened from the inside or outside.

6. School-chartered motorcoach accident reporting and mechanical failure

a. Whenever any school-chartered motorcoach accident occurs, the driver shall stop at the scene and, in addition to any requisite law enforcement and/or EMS unit, immediately shall notify or cause to be notified the state agency responsible for investigating accidents involving buses engaged in the transportation of school students, the driver's employer and the school district, school or Head Start Center that the students attend.

b. In the event of an accident or emergency, the driver shall not leave the immediate vicinity of the school-chartered motorcoach to seek aid unless the bus is empty. If there are passengers on board, no less than two passengers should be sent to summon help.

c. When a school-chartered motorcoach is rendered unsafe for continued operation due to accident damage or a mechanical failure, the driver shall

discontinue use of the bus and notify the motor carrier of these circumstances. The driver or motor carrier shall then make the necessary arrangements to have the passengers safely transported to their destinations.

d. A school-chartered motorcoach damaged by an accident or other cause shall not be driven from the location where the damage occurred until it has been inspected by a qualified person who has determined that the vehicle is safe to drive.

7. Other operational issues

a. Smoking is prohibited by the driver or any passengers either on the bus or within the loading/unloading area of the bus. (Use of tobacco on or near the school-chartered motorcoach is prohibited.)

b. The driver's view of the roadway shall not be obstructed by any passenger.

c. The driver shall wear the lap or lap/shoulder belt (as equipped) at all times while the bus is in motion.

d. Headlamps shall be illuminated at all times while the bus is in motion.

e. When any passenger is on board, the driver shall not leave the driver's compartment without first stopping the engine, setting the parking brake, placing the transmission in first or reverse gear or park position and removing the ignition keys (if applicable), which shall remain in the driver's possession. (On vehicles with automatic transmissions that do not have a park position, the transmission shall be placed in neutral.)

f. School districts or Head Start grantees shall ensure that motor carriers require each school-chartered motorcoach driver to demonstrate proficiency in the safe operation of each different type and size of bus requiring different driving skills in conditions of daylight, darkness, roadway, and terrain before transporting passengers in those types of vehicles and in those conditions or terrain. Drivers should also receive training in bus operations under all weather conditions likely to be encountered prior to operating such vehicle(s) in those conditions. Once driver proficiency has been recorded, motor carriers shall ensure that driver proficiency is maintained as required by district policy, state regulations, and federal requirements.

g. School districts or Head Start grantees shall ensure that motor carriers equip each school-chartered motorcoach with at least one fully charged fire extinguisher having at least a 10 B:C rating. If the school-chartered motorcoach has been designed or modified to transport passengers in wheelchairs, the vehicle shall be equipped with two extinguishers, each one rated at not less than 8 B:C—one to be placed in the driver's compartment and the other at the wheelchair loading door or emergency exit. Each fire extinguisher shall be securely mounted in the school-chartered motorcoach in a conspicuous place or in a clearly marked compartment, readily accessible. Each fire extinguisher shall be maintained in prescribed operating condition with a current inspection certification and equipped with some means of determining if it is fully charged.

h. First aid and body fluid cleanup kits

School districts shall require motor carriers to equip each school-chartered motorcoach with readily visible, accessible and plainly marked first aid and body fluid cleanup kits. The kits shall be constructed to prevent dust and moisture from reaching the contents and must be maintained in good condition. The kits shall be easily and rapidly removable from the place secured. The required contents of the first aid and body fluid cleanup kits shall conform to state school bus specifications.

## ACTIVITY BUS USE FOR SCHOOL ACTIVITY TRIPS

A. General provisions

1. Pre-service driver training

In addition to successfully completing all pre-service training provided by their employer, school activity bus drivers shall complete at least a state-required course of instruction.

2. In-service driver training

All school activity bus drivers shall receive the state-required amount of in-service training annually and shall be required to maintain a current first aid certificate with instruction in universal precautions.

3. Hours of service

Drivers shall comply with the provisions of CFR 49 395.5.

4. Specially equipped

School activity buses may be designed or modified in accordance with federal motor vehicle safety standards or with the Americans with Disabilities Act requirements to transport passengers seated in wheelchairs.

5. Vehicle condition

It shall be unlawful for the driver to drive a school activity bus that is not in safe operating condition or is not equipped, as required by all provisions of law. The driver is solely responsible for the vehicle condition.

6. Pre-trip inspection

Prior to operation, the driver shall inspect each school activity bus to ascertain that it is in safe condition, that it is equipped as required by all provisions of law and that all equipment is in good working order. The inspection shall include, but is not limited to, the following items:

a. All required emergency equipment, as well as first aid and body fluid cleanup kit(s), fire extinguisher(s) and reflectors;

b. All gauges, indicators and warning devices;

c. Horn(s);

d. Driver's seat and seat belts;

e. All doors, door emergency releases, overhead hatches and windows;

f. All seats, handrails and modesty panels;

g. Interior and exterior lighting systems;

h. All heating, cooling and ventilating systems;

i. All glass and mirrors, including adjustment of mirrors;

j. Windshield wipers and washers;

k. All tires, wheels, rims and lug nuts;

l. Wheelchair restraints, tie downs and loading devices (such as ramps and lifts); and

m. Brake system:

(1) Air compressor governor cut-in and cut-out pressures;

(2) Static pressure for air loss;

(3) Applied brake pressure loss;

(4) Low air pressure warning devices;

(5) Emergency stopping systems;

(6) Parking brake;

(7) Antiskid device (if equipped);

(8) Vacuum gauge (if equipped), ensuring it reads not less than 15 inches of mercury;

(9) Low vacuum warning device(s); and

(10) Brake pedal for brake adjustment.

**Note:** Draining reservoirs in dual air systems are not required.

7. Daily report

At the completion of the driver's work or tour of duty, each driver shall submit a daily documented report to the employer indicating the condition of the vehicle and noting any defects found. Whether discovered by or reported to

the driver, all vehicle defects and deficiencies likely to affect safe operation or cause mechanical breakdown of the school activity bus shall be listed, and a negative report shall indicate that no such conditions are present.

8. Repairs

The driver shall not make any repairs to the bus or its equipment except necessary emergency repairs on the road.

B. Transportation of property

1. Hazardous materials

Motor carriers and drivers shall not transport or knowingly permit passengers to carry any substance, material or device posing an unreasonable risk to health and safety to any passenger. These restrictions shall not apply to the following items:

a. Portable oxygen tanks medically prescribed for, and in the possession of, a passenger and in a carrier designed for personal use;

b. Personal-use articles in the immediate possession of a passenger; and

c. Hazardous materials transported by a carrier subject to federal jurisdiction in compliance with provisions of 49 CFR, Part 177 (E).

2. Fuel

Fuel shall not be transported except in the vehicle's regular fuel tanks.

3. General property

Drivers and motor carriers shall not permit any greater quantity of baggage in vehicles than can be safely and conveniently carried and safely secured. In no event shall aisles, doors, steps or emergency exits be blocked.

4. Animals

A driver or motor carrier may refuse to transport dogs or other animals except certified guide, signal or service animals. All other animals shall be securely crated and stored to eliminate the possibility of injury to passengers.

C. Transportation of passengers

The driver shall not drive a school activity bus transporting passengers in violation of the following provisions:

1. Seating capacity

   The number of passengers (excluding infants in arms) shall not exceed the manufacturer-designated number of safe and adequate seating spaces.

2. Weight

   Passengers shall not exceed the number whose weight, in addition to the weight of any property transported, can be carried without exceeding the manufacturer's maximum gross vehicle weight rating or the combined maximum rating of the tires supporting each axle.

3. Step wells

   Passengers shall not be permitted in front of the “standee line” (if present) while the vehicle is in motion.

4. Standing passengers

   A school activity bus with school student passengers on board shall not be put in motion until all passengers are seated. All passengers must remain seated while the vehicle is in motion, except for an adult chaperone, parent, guardian or school employee acting upon a request by the driver to supervise or assist a passenger, or when it is necessary for a passenger to use the on-board restroom at a location where the bus cannot be stopped in a safe place.

5. Open doors

   A school activity bus shall not be put in motion until the doors are closed. The doors shall not be opened until the vehicle is stopped and the parking brake has been applied.

6. Emergency exits

   A school activity bus shall not be put in motion with any emergency exit locked or otherwise secured against being opened from the inside or outside.

7. Interior lighting

   During darkness, the driver shall ensure that the interior lighting is sufficient for passengers to enter and exit safely and whenever otherwise deemed necessary.

8. Ejection of passengers

   The driver of a school activity bus shall not eject any student passenger unless

the passenger is given into the custody of a parent, guardian or any person designated by the parent, guardian, school authority or law enforcement official.

9. Fueling restrictions

No fueling will take place while passengers are on board the bus.

10. School activity bus accidents reporting

a. Whenever any school activity bus accident occurs, the driver shall stop at the scene, immediately notify or cause to be notified the state agency responsible for investigating accidents involving buses engaged in the transportation of school student passengers, the driver's employer and the school district, private school, or Head Start Center that the students attend.

b. In the event of an accident or emergency, the driver shall not leave the immediate vicinity of the school activity bus to seek aid unless the bus is empty. If there are passengers on board, no less than two passengers can be sent to summon help. A passerby may be asked to call for help, or the driver or any students may use a cell phone to call for assistance. Students should be sent to summon help only in extreme emergencies and if there is no other option.

c. Comply with Title 49 CFR 392.40.

11. Discontinuance from use

When a school activity bus is rendered unsafe for continued operation due to accident damage or a mechanical failure, the driver shall discontinue use of the bus and shall notify the motor carrier of these circumstances. The driver or motor carrier shall then make the necessary arrangements to have the passengers safely transported to their destinations.

12. Other operational issues

a. Smoking is prohibited

b. The driver's view in any direction shall not be obstructed by any passenger.

c. The driver shall wear the lap or lap shoulder belt (as equipped) at all times while the bus is in motion.

d. Headlamps shall be illuminated at all times while the bus is in motion.

e. When any passenger is on board, the driver shall not leave the driver's compartment without first stopping the engine, effectively setting the parking brake, placing the transmission in first or reverse gear or park position and removing the ignition keys (if applicable), which shall remain in the driver's possession. (On vehicles with automatic transmissions that do not have a park position, the transmission shall be placed in neutral.)

f. School districts or Head Start grantees shall ensure that motor carriers require all school activity bus drivers to demonstrate proficiency in the safe operation of each different type and size of bus requiring different driving skills in conditions of daylight, darkness, roadway and terrain before transporting passengers in those conditions or terrain. Drivers shall also receive classroom training in bus operations under all weather conditions likely to be encountered prior to operating such vehicle(s) in those conditions. Once driver proficiency has been recorded, carriers shall ensure that driver proficiency is maintained

13. Unlawful operation

a. No motor carrier shall knowingly require or permit the operation of any school activity bus that is not in safe operating condition or is not equipped and maintained as required by any law and shall not knowingly require or permit any driver to drive in violation of any law.

b. A school activity bus damaged by an accident or other cause shall not be driven from the location where the damage occurred until it has been inspected by a qualified person who has determined that the vehicle is safe to drive.

D. School activity bus stops

1. Designated stops

School activity bus stops made for receiving and discharging passengers shall be approved by the school district prior to the trip. Buses shall stop only at designated stops.

2. Prohibited stops

A school activity bus stop shall not be designated at the following locations:

a. Within 200 feet of the nearest rail of any railroad crossing or grade, except at railroad stations or on highways that parallel the railroad tracks;

b. The left-hand side of any highway; or

c. On a divided or multiple-lane highway where passengers must cross the highway to board or after exiting the bus, unless traffic is controlled by a traffic officer or official traffic control signal. For the purposes of this subsection, a multiple-lane highway is defined as "any highway having two or more lanes of travel in each direction."

E. Fire extinguisher

Every school activity bus shall be equipped with at least one fully charged fire extinguisher having at least a 10-B:C rating. A bus designed to transport wheelchairs shall be equipped with two extinguishers—each one rated at not less than 8-B:C—one to be placed in the driver's compartment and the other at the wheelchair loading door or emergency exit.

a. Each fire extinguisher shall have been rated and labeled by one of the following test laboratories approved by the State Fire Marshal to test and label portable fire extinguisher for sale in the respective state:

(1) Underwriter's Laboratories, Northbrook, Illinois (all sizes and classifications); or

(2) Factory Mutual Research Corporation, Norwood, Massachusetts (sizes 10-B:C, 1A 10-B:C, 2A 40-B:C, 3A 40-B:C, and 4A 80-B:C fire extinguisher filled with Halon 1211 or Halon 301).

b. Securement

Each fire extinguisher shall be securely mounted in the school activity bus in a conspicuous place or a clearly marked compartment and readily accessible.

c. Maintenance

Each fire extinguisher shall be maintained in prescribed operating condition with a current inspection certification and equipped with a gauge or some other means of determining if it is fully charged.

F. First aid and body fluid cleanup kit(s)

A school activity bus shall carry a readily visible, accessible and plainly marked first aid kit and a body fluid cleanup kit. The kits shall be constructed to prevent dust and moisture from reaching the contents and must be maintained in good condition. The kits shall be removable from the place secured. The required contents of school activity bus first aid and body fluid kits shall conform to the requirements of each respective state.

G. Emergency procedures and passenger safety training

Passengers transported in school activity buses shall receive emergency procedure and passenger safety training as prescribed by state law and/or regulations for school student-passengers transported in yellow school buses.

## EVACUATION PROCEDURES FOR ACTIVITY TRIPS AND FIELD TRIPS

In order to ensure the safety of school bus passengers in an actual emergency, every school bus driver assigned to transport students on activity trips or field trips may assign an evacuation team prior to each trip. The team may consist of teachers, coaches, students or any other passenger. A roster should be provided to the driver, accounting for all passengers.

Passengers assigned to evacuation teams must be seated where they can effectively carry out their responsibilities in an emergency.

Each evacuation team will consist of at least the following:

A. A passenger assigned to set the parking brake, turn off the engine, turn on warning flashers and call on the radio or other means and report the incident to the Transportation Department, in case the driver is unable to do so;

B. A passenger assigned to lead passengers to a safe location at least 100 feet from the bus and to take the first aid kit off the bus;

C. Two passengers assigned to stand outside the bus, next to the entrance door, to help students exit the bus and to take the fire extinguisher; and

D. Two passengers assigned to stand outside the bus, next to the emergency exit door, to help students exit the bus.

In addition to assigning an evacuation team, the following information shall be discussed and/or demonstrated prior to each activity trip or field trip:

1. Location and use of the fire extinguisher;
2. Location of the first aid kit;
3. Location of the warning reflectors;
4. Location and use of all emergency exits;
5. How to shut off the engine and set the parking brake;
6. How to open the entrance door, to include, safety releases on manual, air or vacuum doors, if so equipped; and
7. The importance of passengers keeping aisles clear at all times and not blocking emergency exits.

THE DRIVER OF THIS TRIP DID ASSIGN AN EVACUATION TEAM AND EXPLAINED THE EMERGENCY PROCEDURES AND SAFE TRAVEL RULES TO OUR GROUP.

Sponsor's/trip leader's signature: _____ Date: _____

## SAMPLE TRIP REQUEST FORM

Trip date: _____ School: _____

Trip destination: _____

Depart from: _____ No. passengers: _____

Departure time: _____ Arrival time: _____

Extra equipment: _____

Meal stop required? □ yes □ no If yes where? _____

_____

Equipment that will need to be transported: _____

Special needs equipment requirements: _____

Overnight travel requirement: _____

Number of adults accompanying the students: _____

Transportation requested by: _____ Date: _____

Approved by: _____ Date: _____

Reimbursement category: _____

**TRANSPORTATION USE**:

Vehicle assigned: _____ Driver: _____

Spot load time: _____ Spot location: _____

Routing information: _____

Dispatcher's signature: _____ Date: _____

Time out: _____ Time in: _____ Total time: _____

Mileage out: _____ Mileage in: _____ Total miles: _____

Actual no. passengers: _____ Remarks: _____

_____

Driver's signature: _____ Date: _____

Pre-trip mechanical check completed (for overnight trips or trips exceeding _____ miles):

Technician's signature: _____ Date: _____

## SUGGESTED SCHOOL ACTIVITY TRIP SAFETY STATEMENT

(To be read before every school-related or Head Start-related athletic or other activity trip)

Attention Passengers:

I am _____, your driver for this trip. In the interest of your safety and in accordance with recommended procedures, I am presenting the following bus safety information before we begin our trip.

In order to reach our destination safely:

- Remain seated at all times when the bus is not parked;
- Refrain from distracting me, your driver, during the trip;
- Keep bus steps, aisle and emergency exits clear at all times;
- Refrain from sticking any body parts or objects out of the windows;
- Keep voices down to a conversational level, and remain quiet at railroad crossings;
- Never use the emergency exits unless directed to do so by me or my designee;
- Be considerate of the comfort and safety of all passengers; and
- In the event of an emergency, please remain calm and proceed to the closest emergency exit.

** show or verbalize where exits are located **

Do you have any questions or concerns?

Thank you for your attention. Now, let's have a safe and enjoyable trip.

**CERTIFICATION OF COMPLIANCE**

The driver specified a designee to supervise and an evacuation team to assist with the evacuation of the school bus in the event of an emergency. The driver described the basic safety regulations, emergency exits and evacuation procedures.

_____ _____

Signature of Sponsor/Lead Chaperone Date

## STUDENT TRANSPORTATION GUIDELINES FOR ACTIVITY TRIPS

Trip authorized by: _____
*Print School or Other Organization Name*

Trip Sponsor: _____
*Print name of coach, teacher, other district staff or designee*

Traveling To: _____ Trip Date: _____
*Print Name of Destination*

The trip cannot proceed until each of the following is completed:

A. Conduct a bus pre-trip safety and security inspection of the bus before students' load.
B. Have a student roster listing the students riding on the bus. The sponsor must check the roster immediately before students board the bus to ensure that only students listed on the roster are allowed to board the bus and that there are no no-shows on the list. The sponsor provides the roster to the driver. The roster must provide, at a minimum, the student's full name, health plan status, and emergency contact phone numbers. If the student has a health plan, the appropriate health emergency response information must be shared with the driver before the trip begins. The roster must also show the sponsor and chaperones' names. The driver will return this list to the sponsor at the end of the trip.
C. Ensure that every passenger has a safe seating position.
D. Make announcements advising the students:
    1. Of the location and operation of emergency exits;
    2. Of emergency evacuation procedures by performing a mini safety drill;
    3. That access to exits cannot be obstructed by passengers or objects;
    4. That passengers cannot extend any part of their body outside the interior space of the bus when the bus is moving;
    5. That passengers must stay seated when the bus is in motion; and
    6. That passengers cannot throw anything from the bus

<u>During the trip, the driver will depend on the sponsor and chaperones to:</u>

E. Supervise the students and keep order; and
F. Position themselves in various areas within the bus to best monitor the students.

<u>The driver has the authority to:</u>

G. Modify trip times or cancel the trip with approval from the transportation or district leadership due to severe weather conditions or in the event of operational safety issues; and
H. Ensure compliance with all state and federal motor vehicle safety and school transportation laws and regulations.

If the driver is not accompanying the sponsor and students while at the trip destination, the driver must let the sponsor know their exact location and contact telephone number, and when he or she expects to return to the bus. This information is required so that the driver can be reached in case of an emergency.

If the driver leaves the bus for any reason or any period of time, the driver must conduct a safety and security inspection prior to placing the vehicle in operation.
The driver has a responsibility to conduct a post-trip inspection to include a search of the bus for children at the end of each trip.

Sponsor (Coach/Teacher/Other District Staff or Designee):

All trips must have a sponsor on board the bus when students are being transported. The driver cannot begin the trip until there is at least one sponsor on board the bus. The driver may serve as the sponsor.

Sponsor Responsibilities:

A. Assist the driver in assuring that all rules, regulations and laws governing the operation of a school bus are adhered to throughout the entire trip by all passengers;
B. Provide a student roster listing each student's names and emergency phone numbers to the driver for emergency purposes;
C. Help the driver by monitoring and managing the student's conduct and ensuring the students follow the safety rules on the bus;
D. Ensure that students abide by the driver's safety announcements. Staying seated is the best protection in case of an accident or sudden stop. If a sponsor/chaperone needs to conference with a student while the bus is in motion, the sponsor/chaperone may move to the student (the student is not to move to the sponsor/chaperone);
E. Remind students to pick up trash and help keep the bus clean; and
F. Direct and supervise all chaperones.

The sponsor shall ensure the student to chaperone ratio meets district policy.

The driver's primary purpose is to transport students safely. Drivers who experience excessive disciplinary problems are instructed to pull over, secure the vehicle, and determine the appropriate response to the situation. The driver may collaborate with the sponsor to resolve the situation. If the noncompliant student behavior continues, the driver should follow board policy regarding appropriate responses to student conduct, including documentation and reporting of the incident.

I have read and understand the above guidelines and agree to comply for the duration of the activity trip stated above.

Printed Sponsor's Name: _____

Signature_____

## CHAPERONE AGREEMENT

*Reviewed and endorsed by all chaperones prior to departure.*

Trip Destination: _____ Date: _____

Sponsor's Name: _____

School Name: _____

Thank you for agreeing to be a chaperone for this field trip. Your role as chaperone includes following and enforcing the district's bus riding rules.

Sponsors, chaperones, and students are expected to abide by the district's bus riding rules below (students will also abide by the district's student Code of Conduct):

(A sponsor is a school district employee or designee that has full responsibility for the trip and students and chaperone riders.)

Chaperones are adults, including volunteers, who assist the sponsor and bus driver during a trip.

A. All riders are required to have a safe seating position and stay seated while the bus is in motion. No passenger is permitted forward of the front passenger seat when the bus is in motion.
B. Bus aisles and emergency exits must be kept clear and unobstructed; this requires that no objects (coolers, suitcases, sports equipment, etc.), trash and trash bags be in the aisles or block easy access to an emergency exit of any kind, which includes window exits.
C. Electronic devices or players are permitted when individual headsets are used. The headsets must not be of a design, or the sound volume at a level that the rider cannot hear announcements made by the bus driver and others in charge.
D. For safety reasons, no loud music, singing, or cheering are permitted. Profanity, ethnic slurs, or bullying are prohibited. Students will always abide by the district's student Code of Conduct.
E. No part of a rider's body may extend outside the interior of the bus while the bus is in motion. No rider is allowed to throw items from the bus.
F. Personal toiletries (sprays, polishes, lotions, make-up, etc.) may not be applied while on the bus.
G. All food items, drink containers, and trash must be placed in trash bags by students, sponsors, and chaperones prior to the end of the trip; trash bags will be provided by the bus driver. No alcohol, tobacco, or vaping products are permitted on the bus at any time.
H. The district is not responsible for items missing from or left on the bus.
I. The driver is the final authority governing the safe operation of the bus. Buses will not be operated if the passenger load exceeds the safe transport of passengers or if an unsafe

operating condition exists. This includes obstructed aisles or emergency exits. The driver must ensure compliance with all state and federal school transportation laws.

Chaperones will follow the directions of the sponsor and assist in maintaining behavior and accountability of students on a field trip. Chaperones are not permitted to bring passengers on the bus without prior approval of the sponsor.

Signature signifies that the chaperone understands and agrees with the terms and conditions above.

_____ _____

*Chaperone Printed Name* *Date*

_____

*Chaperone's Signature*

*In the event of an emergency, please contact:*

_____ _____

*Print Name* *Phone*

_____

*Address*

## PRIVATE TRANSPORTATION FOR HIRE - DRIVER & VEHICLE INSPECTION

Departure Date: _____ School: _____ Destination: _____

Carrier: _____

Insurance requirements on file □

Driver: _____ Driver's license identification check performed □

Driver's license abstract check □ Valid physical check □ Date physical expires _____

License I.D.# _____ State: _____ Exp. Date: _____

Vehicle #_____ Make_____ Year_____

Inspection Expiration Date: _____ Valid: □ Insurance Card Valid: Yes □ No □

License Plate # _____ State of Issuance: _____

Vehicle Inspection report:

| | O.K. | Defective | Describe checked defects below: |
|---|---|---|---|
| Headlights | □ | □ | _____ |
| Marker lights | □ | □ | _____ |
| Turn signals | □ | □ | _____ |
| Stop /Taillights | □ | □ | _____ |
| Tires /Wheels | □ | □ | _____ |
| Emergency equipment | □ | □ | _____ |
| Exterior appearance | □ | □ | _____ |
| Interior appearance | □ | □ | _____ |

Approved □ Disqualified □_____

School district designee signature / title Date

# APPENDIX F: School Transportation Security and Emergency Preparedness

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# APPENDIX F: SCHOOL TRANSPORTATION
# BEST PRACTICES FOR EMERGENCY MANAGEMENT PLANNING

This document contains best practices the Transportation Security Administration (TSA) believes could be useful to public and private School Student Transportation Providers and School Bus Operators to enhance security in each individual district. It is also important for all levels of employees (superintendents, managers, supervisors, administrators, and other frontline employees and those with security-sensitive functions) to be familiar with security practices relevant to their roles and responsibilities (or required by the provider or operator's security plan) and how to implement them.

These best practices have been compiled by TSA's Office of Transportation Sector Network Management, Highway and Motor Carrier Division after consultation with individual stakeholders and organizations representing this community, including the National School Transportation Association (NSTA), National Association of Pupil Transportation (NAPT), National Association of State Directors of Pupil Transportation Services (NASDPTS), as well as other federal and public security partners. They also reflect information obtained from TSA corporate security reviews (CSR), and the congressionally mandated TSA School Bus Risk Assessment.[1] These practices support the security goals for TSA and this mode identified in DHS sector-specific security plans.

The best practices identified in this document are voluntary and are not intended to conflict with or supersede any existing regulatory or statutory requirements. They remain dynamic and subject to revision as experience, continued security partner feedback and the identification of new threats may require. TSA intends to continue to share best practices with school transportation representatives and welcomes ongoing feedback from the industry. To the extent that TSA should develop more official guidance in the future, TSA will consider these ongoing discussions and all received comments as part of those efforts.

The following definitions are applicable to this document:

**Critical Assets:** TSA understands that the most critical asset in the school transportation business are the student passengers. In this document, however, critical assets also means equipment, facilities, etc. managed, owned or operated by school bus operators or school student transportation providers that are identified through a risk assessment as necessary for the continuity of operation during security incidents.

**First Observer™** means: the portion of the TSA-recognized security domain awareness training program specific to school bus transportation, which is available to providers and school bus operators to enhance provider employee recognition and reporting of suspected security threats.[22]

[1] This classified document was submitted to Congress in February 2010

[2] Note: Editor's Note: First Observer is no longer in place at the time of this printing.

**Security-Sensitive Employee** means: any employee of a school bus operator or school student transportation provider that performs functions that are connected with, or responsible for, the secure movement of students and/or critical assets. It includes frontline employees such as drivers, security personnel, dispatchers, maintenance and maintenance support personnel.

**School Bus Operators or School Student Transportation Providers** means: public and/or private entities providing transportation services for a school or school district.

**School Bus Operators or School Student Transportation Provider Employees** means: both full-time and part-time workers, including contractors, employed by public and/or private entities providing pupil transportation services for a school or school district.

**Secure Areas** means: areas (both physical and virtual) identified, categorized and designated as needing to be protected and thereby restricted from general and public access (access may be limited through implementation of a tiered access control program).

**School Transportation Security Awareness (STSA)** means: a TSA-created and distributed training video developed in cooperation with the school transportation organizations to provide security awareness information and training to the school transportation industry.[3]

[3] The DVD may be available by e-mailing a request to highwaysecurity@dhs.gov.

# GENERAL SECURITY

The security recommendations provided below are TSA suggested "Security Options for Consideration" for highway transportation industries to use in an effort to enhance their security posture. These actions are countermeasures designed to minimize vulnerabilities identified during the base review processes. They should be reviewed and considered for incorporation into the district's/company's current security practices.

## MANAGEMENT AND ADMINISTRATION

A. Designation of Primary and Alternate Security Coordinators

Designate a qualified employee as a Security Coordinator/Coordinator. The coordinator would be ultimately responsible for managing the district's/company's security measures. Duties would include coordinating and working with other district/company/agency managers and employees to ensure that security risks are being effectively managed.

An Alternate Security Coordinator should also be named to act on security issues in the absence of the primary Security Coordinator. Security duties of the Security Coordinator should be specifically set forth and documented.

B. Conduct a Thorough Vulnerability Assessment

Management should conduct and document a site-specific vulnerability assessment for each district/company location. In order for districts/companies to properly address security issues and to develop security mitigation policies, the district/company must first understand what weaknesses (vulnerabilities) it possesses. These vulnerabilities should then be prioritized so that the most critical district/company assets (facilities, vehicles, IT, employees, other) that are necessary for continuation of operations are protected. Funds to correct vulnerabilities should be identified and made available to the extent possible.

C. Develop A Written Security Plan (Security Specific Protocols)

Develop security specific protocols in the form of a security plan. The security plan should be reviewed and approved at the management and executive levels. The security plan should be site specific and cover actions to be taken to prevent security breaches, identify who should be notified in the event of a security incident, and how to respond. The security plan should be routinely reviewed (at least once a year) for accurate contact information and current policy updates. Limit access to the security plan to employees with a "need to know." TSA can supply a security plan template, if requested.

D. Plan for Continuity of Operations

Establish a written plan to restore operations to any site following an emergency event. Some recommendations to be considered would be the ability to relocate and work from an alternate work site and/or an auxiliary power source.

E. Develop a Communications Plan

Management should establish a communication plan to include standard operating procedures (SOP) during normal, as well as emergency conditions. The plan should include procedures for communication between drivers, appropriate district/company/agency personnel and law enforcement, or emergency responders during a security-related incident. Contingencies for the loss of all communications should be addressed. This is not intended to preclude the use of personal or issued cell phones.

F. Safeguard Business and Security Critical Information

Procedures for limiting access to district/company/agency internal and external security information should be established. Management should establish policies to secure, control and restrict (need to know) access to sensitive information such as personnel information, unused/blank forms, business information, and security policies. Management should implement procedures to maintain accountability for all at risk assets (cargo, passengers, computers, equipment, and vehicles) at all times while in transport or under district/company control. Adequate inventory control measures should be in place that can track shipments, product information, material location, passenger information, and delivery/arrival verification.

G. Be aware of Industry Security Best Practices and TSA Options for Consideration

Security management should become familiar with and implement security practices recommended by industry groups, trade associations or government transportation entities to further enhance transportation security. The steps outlined in this document are considered "Security Options for Consideration."

## PERSONNEL SECURITY

A. Conduct Licensing and Background Checks for Drivers/Employees/Contractors

Management should have procedures in place to verify that commercial drivers possess proper commercial driver's licenses with required endorsements for the type of vehicles they operate and passengers they transport. Also verify that drivers possess any other documents required (health card, TWIC, school bus, etc.).

During the hiring process, an employer should conduct a background check for all employees (both drivers and non-drivers) who have access to district/company vehicles, the facilities, or critical information. These checks generally include criminal history, sex offender registries, and motor vehicle records. Background checks should also be required on contracted employees and service providers with unescorted access to district/company facilities, secured areas, or equipment. Appropriate criteria to prohibit a person from becoming employed or continuing employment should be established.

B. Develop and Follow Security Training Plan(s)

General security training for all employees should be conducted, along with additional in-depth security training for personnel having specific security related responsibilities. Districts/companies should ensure that contracted employees are also trained. Any regulatory requirements for security training should also be met. Refresher training should be conducted no less than every three years. Training should include personnel security, physical security, enroute security, and IT security. Records should be maintained to ensure employees received the proper training and refresher training.

C. Participate in Security Exercises & Drills

In an effort to maintain proper security procedures and correct problems, management should consider security drills and exercises to practice and evaluate security readiness of employees and security procedures. Include outside personnel or agencies (law enforcement, fire department and/or other first responders). Include these sources in the evaluation portion of the exercise.

## FACILITY SECURITY

A. Maintain Facility Access Control

Management should control points of entry to all facilities for both employees and visitors, and should secure all other points of access. District/company-issued photo IDs or other visible forms of employee identification should be provided to all employees, including drivers. Certain areas within a facility should be designated as "secure" (e.g., dispatch area, computer room, admin areas, etc.) with limited employee access. A safe and secure "challenge procedure" should be established to address unidentified persons. Vendors, contractors, and visitors with unescorted access to restricted areas should be required to follow established security procedures before entry is authorized.

B. Implement Strong Physical Security

Districts/companies/facilities should have appropriate physical security measures to prevent unauthorized entry, access, or attack. Consider establishing appropriate physical security measures to protect critical assets as defined in the security plan. Measures may include the following:

1. Fencing and barricades;

2. Video monitoring and intrusion detection alarm systems;

3. Security guards;

4. Delivery control areas;

5. Adequate locks to control public access;

6. Security lighting; and

7. Key control.

C. Enhance Internal and External Cyber Security- Information Technology

Policies and procedures to protect security critical data are important. Strict password requirements and IT security training should be in place. The policy should address current methods for restricting access to data by employees as well as external sources. Information systems should be protected from unauthorized access, tested, and backed up. Awareness of security compromises that originate through social media should also be addressed.

## VEHICLE SECURITY

A. Develop a Robust Vehicle Security Program

Policies should be implemented to ensure vehicles are capable of being locked (unless prohibited by law) and are secured when not in service or when parked unattended. The policies should establish a vehicle key control program and secured parking areas. Districts/companies should also consider enhanced security equipment for vehicles such as GPS tracking systems, on-board cameras, and panic button capabilities.

B. Develop a Solid Passenger Security Program

Policies should be implemented to protect passenger or cargo areas. Consideration may be given to implementing and employing additional on-board personnel (school bus or motor coach). Policies should require that drivers and maintenance

personnel lock and verify that vehicles are secured when the vehicles are left unattended, while in transport, or when out of service.

C. Plan for High Alert Level Contingencies

Establish operational policies that should be implemented during periods of increased threat conditions under the National Threat Advisory System (NTAS). These protocols may include cancelling trips or having vehicles return to the facility; enhancing facility security; initiating enhanced communication protocols; or other actions capable of being implemented when directed by competent government authority or when deemed appropriate by management. Management or security personnel should monitor media or other sources for national or local security threat information that should be shared within the company as warranted.

D. Conduct Regular Security Inspections

Establish a security inspection policy for drivers to conduct security inspections in addition to safety inspections. Security inspections should be performed in conjunction with required pre- and post- trip safety inspections and after any stop in which the vehicle is left unattended. For school buses and motor coaches, passenger ticket verification or passenger count should be required during the boarding and/or re-boarding process.

E. Have Procedures for Reporting Suspicious Activities

Districts/companies/facilities should establish reporting policies and procedures for employees (drivers and non-drivers) to follow when they observe suspicious security activities or cargo/passenger anomalies. The procedures should include who is to be notified and require written reports be prepared to maintain accuracy and as much detail as possible.

F. Chain of Custody/Scheduled Service

Policies for scheduling should include pre-planning that establishes an estimated time of arrival (ETA) for pick up and drop off times, and school buses and motor coaches should be required to confirm and report arrival at their final destination or final trip of the day.

G. Preplanning Emergency Routes

Preplanning routes during normal operations, as well as during heightened alert periods, should be practiced. Travel routes should be evaluated while considering factors such as population, travel distances, threats, condition of highways and roadways, road closures, emergency response capabilities, and locations of stops in

cities and towns. Consider policies governing operations during periods of heightened alert levels.

The "Security Options for Consideration" shown here are used as the framework for developing the components necessary for an effective security plan.

# *An Overview of the T-START Program*

The ***Transportation Security Template and Assessment Review Toolkit (T-START)*** is a compilation of five (5) separate Security Guidance "Modules" prepared by TSA's Surface Division that addresses highway transportation security issues. The five Modules are designed to assist companies in developing effective security practices and in the construction of a *Security Plan*.

A ***Security Plan*** is a written document that sets forth actions to be taken by a given transportation entity to address security related prevention, preparation and recovery issues. While a company may have an overall "corporate" Security Plan that sets company-wide security policies that are to be followed, each company location should also have its own site specific plan, setting forth security practices that are unique to that single location. The five (5) *T-START* Modules are:

***Module 1 – Understanding Security Management*** – Appreciating the value of security and the importance of management endorsement of security protocols are critical. Concerns should range from protecting your company against petty theft to preventing it from being the target of a terrorist attack. Ensuring executive-level support is in place, identifying funding sources, engaging all employees in security practices and identifying who will be responsible for developing and implementing the steps needed to secure your company are all essential tasks.

***Module 2 – Understanding Risk*** - Learning to assess the "Risks" your company may face from possible criminal/terrorist activities by examining and understanding the threats, vulnerabilities and consequences that is a vital step in security planning.

***Module 3 – Conducting a Vulnerability Assessment*** – Completing an assessment of existing security practices and policies to identify potential security weaknesses is important. By using the "Vulnerability Assessment Matrix" provided here, a company can identify and prioritize security weaknesses identified. The vulnerabilities reviewed correlate directly with TSA's "Highway Baseline Assessment for Security Enhancements" (BASE) Program.

**Module 4 – *Considering Security Options*** – Becoming knowledgeable about the various industry security "Best Practices" or TSA's "Security Options" available to stakeholders in the highway transportation industry, and implementing those deemed appropriate is the critical phase where your company's security practices become operational.

***Module 5 – Preparing a Security Plan*** – Documenting (and maintaining) your security policies, requirements and actions in the form of a "Security Plan" is the final crucial step toward an effective security program. Using the template provided here, or other appropriate source, to record your company's security operations will ensure a strong corporate security posture. (Refer to Module 5 – "Security Plan Template").

Any or all of the five Modules that comprise TSA's *"Transportation Security Template and Assessment Review Toolkit" (T-START)* can be referenced for security planning guidance, depending on the needs of the individual company. **To request a complete CD send an email request to highwaysecurity@dhs.gov.**

# SAMPLE SECURITY AND PLANNING CHECKLIST

| Numbering | | | Evaluation Criteria | YES | NO |
|---|---|---|---|---|---|
| **1.** | | | **MANAGEMENT AND OVERSIGHT OF SECURITY PLANS** | | |
| | 1.1 | | Does the school district have a written security policy and crisis response plan including procedures that include transportation personnel, equipment and facilities? | | |
| | | 1.1.A | What elements does the security plan encompass? | | |
| | | | Response Plan | | |
| | | | Emergency Plan | | |
| | | | Disaster Recovery Plan | | |
| | | | Other: | | |
| | | 1.1.B | Does someone review and update the security plan? | | |
| | | | If so, how often? | | |
| | | | Monthly | | |
| | | | Quarterly | | |
| | | | Annually | | |
| | | | Every three years | | |
| | | | Every five years | | |
| | | | As needed | | |
| | | | Other: | | |
| | | 1.1.C | Does the student transportation provider/site limit access to the security plan to employees with a need to know? | | |
| | | 1.1.D | Are the plan/policy and procedures communicated to all personnel? | | |
| | 1.2 | | Does the student transportation provider designate a security coordinator? | | |
| | | 1.2.A | Are the security coordinator's duties documented? | | |
| | | 1.2.B | Does the student transportation provider exchange unclassified security-related information with industry peers? | | |
| | 1.3 | | Is the security plan site-specific for all school and facility locations? | | |
| | 1.4 | | Does the plan/policy coordinate with procedures in the school buildings? | | |
| | 1.5 | | Does the planning and policy process include appropriate stakeholders (e.g., first responders, law enforcement, fire department, and media: print, radio, television etc.)? | | |
| | 1.6 | | Does the plan/policy provide for any proactive or preventive technology solutions, which are currently available and that can potentially act as early detection or prevention of potential threats? | | |
| | 1.7 | | Is there a plan available that does not require electrical energy? | | |
| | 1.8 | | Does the plan/policy contain directives on incident management and command? | | |
| | 1.9 | | Does the plan/policy include training requirements for school employees? | | |
| | 1.10 | | Does the plan/policy address pre- and post-trip requirements? | | |
| **2.** | | | **THREAT ASSESSMENT** | | |

| | | | | | |
|---|---|---|---|---|---|
| | 2.1 | | Does the student transportation provider monitor external sources for threat information? | | |
| | | 2.1.A | If so, what sources? | | |
| | | | Federal Bureau of Investigation (FBI) | | |
| | | | Homeland Security Advisory System Threat Level (DHS) | | |
| | | | Law Enforcement Officer (LEO) | | |
| | | | News | | |
| | | | TSA/DHS threat specific information | | |
| | | | Other: | | |
| | 2.2 | | Does the student transportation provider have a procedure for distributing threat information? | | |
| | | 2.2.A | If so, is the procedure documented? | | |
| | 2.3 | | Are school bus routes evaluated annually? | | |
| **3.** | | | **VULNERABILITY ASSESSMENT** | | |
| | 3.1 | | Does the student transportation provider conduct vulnerability assessments? | | |
| | | 3.1.A | Where are the vulnerability assessments documented? | | |
| | | | In the security plan | | |
| | | | Other: | | |
| | | 3.1.B | If so, how often are they reviewed? | | |
| | | | Monthly | | |
| | | | Quarterly | | |
| | | | Annually | | |
| | | | Every three years | | |
| | | | Every five years | | |
| | | | As needed | | |
| | | | Other | | |
| | | 3.1.C | Do the student transportation provider's vulnerability assessments recommend corrective actions? | | |
| | | 3.1.D | Does the student transportation provider implement the security measures recommended by its vulnerability assessments? | | |
| | 3.2 | | Is a security coordinator identified for each school and facility? | | |
| | 3.3 | | Do computer and communications systems exist? | | |
| | | 3.3.A | How is access to computers or systems controlled? | | |
| | | | What are their limitations? | | |
| | | 3.3.B | Can the computers be compromised? | | |
| | | | If so, what can be done to prevent it? | | |
| | 3.4 | | Is the communication system (e.g., two-way radio, land telephone line, cellular telephone, etc.) capable of recording? | | |
| | 3.5 | | Is there a code system to identify emergencies or threats? | | |
| | 3.6 | | Do emergency back-up systems for information and communication exist? | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | If so, what are their limitations? | | |
| | | 3.6.A | Can emergency back-up systems be compromised? | | |
| | | | If they can be compromised, what can be done to prevent it? | | |
| | | 3.6.B | Are the back-up systems stored off site? | | |
| | | | Are they secure? | | |
| | 3.7 | | Do evacuation plans exist? | | |
| | 3.8 | | Is there a designated place to relocate staff or students? | | |
| **4.** | | | **PERSONNEL SECURITY** | | |
| | 4.1 | | Does the student transportation provider conduct background checks? | | |
| | | 4.1.A | If so, for which employees? | | |
| | | | Drivers | | |
| | | | Non-drivers | | |
| | | | Management | | |
| | | | Contractors | | |
| | | 4.1.B | What background information is checked? | | |
| | | | Driving records | | |
| | | | Criminal records | | |
| | | | Employment history | | |
| | | | Employment eligibility | | |
| | 4.2 | | Does the student transportation provider have criteria for disqualification for employment based on driving/criminal/employment history checks? | | |
| | 4.3 | | Does the student transportation provider provide identification cards to employees? | | |
| | | 4.3.A | If so, what technologies do the identification cards incorporate? | | |
| | | | Photographs | | |
| | | | RFID/proximity | | |
| | | | Other: | | |
| | | 4.3.B | Does the student transportation provider require employees to display their identification cards while on duty? | | |
| | | 4.3.C | Does the student transportation provider issue identification cards to contractor personnel? | | |
| | 4.4 | | Is there a “sign in/sign out” system? | | |
| | 4.5 | | Are all employees required to wear uniforms? Do they comply? | | |
| **5.** | | | **TRAINING** | | |
| | 5.1 | | Does the student transportation provider conduct security training for new employees? Do they comply? | | |
| | | 5.1.A | If so, what type? | | |
| | | | Security awareness training | | |
| | | | Security plan training | | |
| | 5.2 | | Does the student transportation provider conduct security training for current employees? | | |
| | | 5.2.A | If so, when? | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Annually | | |
| | | | Every one to three years | | |
| | | | More than three years | | |
| | | | Change of job | | |
| | | | Other: | | |
| | 5.3 | | Does the student transportation provider conduct security training based on a formal curriculum? | | |
| | | | If so, which curriculum? | | |
| | | | Security Awareness Training CD (DOT) | | |
| | | | First Observer (TSA) | | |
| | | | School Transportation Security Awareness (TSA) | | |
| | | | Secure Transport (TSA) | | |
| | | | Security Self-Assessment CD (TSA) | | |
| | | | Other: | | |
| | 5.4 | | Are the student transportation provider's drivers' members of the First Observer program? | | |
| | 5.5 | | Does the student transportation provider maintain employee security training records? | | |
| **6.** | | | **PHYSICAL SECURITY COUNTERMEASURES** | | |
| | 6.1 | | Do the student transportation provider's facilities have physical security barriers? | | |
| | | 6.1.A | If so, what type? | | |
| | | | Fencing | | |
| | | | Locking gates | | |
| | | | Keypad/PIN | | |
| | | | Jersey wall | | |
| | | | Bollards | | |
| | | | Other: | | |
| | 6.2 | | Do the student transportation provider's facilities have intrusion detection systems? | | |
| | | 6.2.A | If so, what type? | | |
| | | | Door/window detectors | | |
| | | | Motion alarms | | |
| | | | Siren | | |
| | | | Silent alarm | | |
| | | | Other: | | |
| | 6.3 | | Do the student transportation provider's facilities have security cameras? If so: | | |
| | | 6.3.A | Do the security cameras pan/tilt/zoom? | | |
| | | 6.3.B | How are the security camera feeds monitored? | | |
| | | | During operation hours | | |
| | | | 24/7 | | |
| | | | Cameras are not monitored | | |
| | 6.4 | | Does the student transportation provider have a key control program? | | |
| | | 6.4.A | If so, what kind? | | |
| | | | Facility key control program | | |
| | | | Vehicle key control program | | |
| | | 6.4.B | Are keys retrieved from departing employees? | | |

| | | | | | |
|---|---|---|---|---|---|
| | | 6.4.C | Are access codes changed? | | |
| | | | If so, how frequently? | | |
| | | | Annually | | |
| | | | Every one to three months | | |
| | | | Other: | | |
| | 6.5 | | Does the student transportation provider's facilities have designated secure | | |
| | | 6.5.A | If so, what kind? | | |
| | | | Dispatch | | |
| | | | IT/computer room | | |
| | | | Admin offices | | |
| | | | Maintenance | | |
| | | | Financial | | |
| | | | Loading dock | | |
| | | | Warehouse | | |
| | | | Storage tanks | | |
| | | | Other: | | |
| | | 6.5.B | Does the student transportation provider use security measures to protect secure areas? | | |
| | | | If so, what areas? | | |
| | | | Keys | | |
| | | | Keypad/PIN | | |
| | | | ID cards | | |
| | | | Guards | | |
| | | | Other: | | |
| | 6.6 | | Does the student transportation provider record access to secure areas? | | |
| | | 6.6.A | If so, whose access to secure areas is recorded? | | |
| | | | Employee access | | |
| | | | Contractor access | | |
| | | 6.6.B | Are the access records to secure areas periodically reviewed? | | |
| **7.** | | | **ENROUTE SECURITY** | | |
| | 7.1 | | Does the student transportation provider require drivers to conduct pre- and post-trip security inspections? | | |
| | 7.2 | | Does the student transportation provider have measures in place to ensure continuity of operations (including security) during a power/connectivity/facility outage? | | |
| | | 7.2.A | If so, what measures? | | |
| | | | Data back-up | | |
| | | | Uninterruptible power supply | | |
| | | | Back-up control center remote access | | |
| | | | Other: | | |
| | 7.3 | | Are students registered on a particular bus? | | |
| | | 7.3.A | Do students have passes? | | |
| | | 7.3.B | Do students have other identification? | | |
| | 7.4 | | Are drivers provided with a list of riders? | | |
| | 7.5 | | Are there procedures for accounting for each individual student, especially on activity trips? | | |

| | | | | | |
|---|---|---|---|---|---|
| | 7.6 | | On activity, field or extracurricular or school-chartered bus trips, are students instructed in safe riding practices and on the location and operation of emergency exits? | | |
| | | 7.6.A | Are students counted at every stop prior to resuming the trip? | | |
| | 7.7 | | Are routes evaluated annually? | | |
| | | 7.7.A | Are stops evaluated annually? | | |
| | | 7.7.B | Are bus waiting areas evaluated annually? | | |
| | | 7.7.C | Are school loading zones evaluated annually? | | |
| **8.** | | | **COMMUNICATION** | | |
| | 8.1 | | What lines of communication exist within the operation? | | |
| | 8.2 | | Do they interrelate with local law enforcement, fire and emergency services? | | |
| | 8.3 | | Are they clearly defined and documented? | | |
| | 8.4 | | Are all employees trained and familiar with them? | | |
| | 8.5 | | Have these lines of communication been tested and proven? | | |
| | 8.6 | | Is there an alternate communication plan if the normal systems are unavailable? | | |
| | 8.7 | | Were the communications effective, as tested? | | |
| **9.** | | | **SECURITY EXERCISES/DRILLS** | | |
| | 9.1 | | Does the student transportation provider conduct security exercises/drills? | | |
| | | 9.1.A | If so, how often? | | |
| | | | Monthly | | |
| | | | Quarterly | | |
| | | | Every six months | | |
| | | | Annually | | |
| | | | Other: | | |
| | 9.2 | | Does the student transportation provider include external personnel or agencies (e.g., law enforcement/first responders) when conducting security | | |
| | 9.3 | | Does the student transportation provider maintain written documentation of the results/lessons learned from security exercises/drills? | | |
| | 9.4 | | Do the procedures of the plan/policy require routinely conducting security exercises/drills; along with a means for assessment, evaluation and improvement at least annually? | | |
| | | | | | |

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# APPENDIX G: Transportation for Students with Disabilities and Special Health Care Needs

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# APPENDIX G:
# TRANSPORTATION FOR STUDENTS WITH DISABILITIES AND SPECIAL HEALTH CARE NEEDS

## SPECIAL EDUCATION DEPARTMENT FORMS

**Sample Form 1**

## CONSENT FOR DISCLOSURE OF MEDICAL INFORMATION AND RECORDS

**(NOTE: Most medical professionals will now require a HIPAA form)**

TO: _____

(Physician's Name and Address)

I, _____, the (parent/guardian) of _____ (Student)

consent and authorize you to disclose and provide to the (School District), its nursing and other necessary service providers, upon the school district's request, any information or records which you have concerning the diagnosis, evaluations, tests, medical problems or conditions, medications, or treatments of my child or ward named above.

I hereby waive any and all privileges which I or my child or ward might have with respect to disclosure of the above information and records to the school district, including the doctor-patient privilege, psychologist-client privilege, and social worker-client privilege.

Signature of Parent or Guardian: _____

Print Name: _____ Dated: _____

PLEASE RETURN TO: _____

_____

# REQUEST FOR MEDICAL VERIFICATION OF HEALTH STATUS AND NEEDS

**Sample Form** 2

SCHOOL DISTRICT: _____

NAME:_____ BIRTH DATE:_____

ADDRESS:_____ PHONE: _____

PARENT/GUARDIAN NAME: _____ PHONE: _____

ADDRESS (IF DIFFERENT): _____

PHYSICIAN: _____

NOTE TO PHYSICIAN: Should you have any questions regarding this request, please contact:

_____PHONE: _____

A. VERIFICATION OF MEDICAL, HEALTH AND BEHAVIOR STATUS.

1. Briefly describe the current medical, health, and behavioral status.
2. Identify any medical conditions not addressed above which could impact the student's participation in the school day including transportation.
3. Identify any health concerns that are not addressed above which could impact the student's participation in the school day including transportation.
4. Identify any behavioral concerns that are not addressed above which could impact the student's participation in the school day including transportation. Give specific consideration to the potential space limitations of a school bus.

B. PARTICIPATION IN THE SCHOOL DAY PROGRAM

1. Briefly describe the staff supervision and interventions necessary for the student to safely participate in the normal school day program, given the student's health and medical status.
2. Identify the training required for all staff, including bus attendants and drivers, to provide the supervision and interventions addressed above.
3. Identify any additional restrictions or modifications in school activities or medical care that would be necessary for the student to safely participate in the school day program.
4. Identify any additional special equipment, aids, restraints, or mobility assistance needed for the student to safely participate in the school day program.

# MEDICAL PROCEDURE AUTHORIZATION

**Sample Form 3**

I delegate and authorize the staff of the _____ School District to perform for _____ (student) the acts, tasks, and functions indicated on the Request for Medical Verification of Health Status and Needs, dated _____, which I previously provided to the district. This authorization is subject to the condition that district staff assigned to perform these activities has been provided the required training, as specified in the above request.

I have reviewed the attached procedures for _____(procedure) that will be utilized, and I approve them, subject to any specific modifications necessary for this student, which I have noted on the procedures.

I agree to supervise the performance of these activities and procedures by being continuously available through direct communications with district staff performing them and by regularly reviewing the student's health/medical status and needs, as well as the procedures being utilized by the staff.

_____ _____

Signature of Physician Date

## STUDENT TRANSPORTATION CARD-STUDENTS WITH DISABILITIES

**Sample Form 4, page 1 of 2**

Student's Name: _____Date: _____

Address: _____ Phone: _____

Father/Guardian Work Phone: _____ Mother/Guardian Work Phone: _____

Emergency Phone: _____

Please indicate your ideas regarding appropriate type of transportation for your child:

- ❑ Walks to bus unassisted
- ❑ Requires a car seat
- ❑ Positioning devices
- ❑ Needs to be met at school
- ❑ On return/home, needs to be met at bus stop
- ❑ Requires assistance to board or exit the school bus
- ❑ Walks to bus, but needs assist.
- ❑ Wheelchair
- ❑ Special equipment
- ❑ Other (Specify)

Please explain in more detail for each box checked above: _____

_____

Names and Addresses of persons near student's residence who have consented to care for the student if the parents/guardians are not available:

Name:_____ Phone: _____

Address: _____Alternate Phone: _____

Name:_____ Phone: _____

Address: _____ Alternate Phone: _____

Name:_____ Phone: _____

Address: _____ Alternate Phone: _____

Please check if any of the following applies to your child:

- ❑ Asthma
- ❑ Diabetes
- ❑ Deaf
- ❑ Non-Verbal
- ❑ Hemophiliac
- ❑ Non-Ambulatory
- ❑ Medically Complex
- ❑ Heart Disease
- ❑ Blind
- ❑ Chronic Respiratory Problems
- ❑ Bee Sting Reaction
- ❑ Allergies—to what?
- ❑ Aggressive Behavior

Please explain in more detail for each box checked above: _____

_____

<u>Other conditions or medical circumstances likely to impact school transportation</u>

Seizures:

How long does seizure last?_____

How often does it occur?_____

Action needed, if any: _____

Individualized Student Health Plan attached
Is your child on medication? ❑ Yes ❑ No

If yes, what medication, for what diagnosis, what dosage, and when given? _____

If local policy allows, is this medication to be transported on the school bus? _____

Family Doctor _____Doctor's Phone Number: _____

Address: _____

Family Designated Hospital: _____ _____

**Parent/Guardian Contact and Approval:** If, in the opinion of the school transportation department, a major emergency exists, the parent(s)/guardian(s) have agreed in writing and will assume the cost of:

| | | |
|---|---|---|
| Contacting the family doctor | ❑ Yes | ❑ No |
| Contacting any doctor available | ❑ Yes | ❑ No |
| Contacting rescue squad | ❑ Yes | ❑ No |
| Transporting to designated hospital | ❑ Yes | ❑ No |

Other Helpful Information: _____

As parent or guardian, I agree to one or more of the above procedures, as indicated, and agree that this information may be shared with my child's transporter.

CONFIDENTIALITY WILL BE MAINTAINED EXCEPT WITH RESPECT TO EMERGENCY PERSONNEL AND AS OTHERWISE PROVIDED BY LAW.

_____ _____

Parent/Guardian Signature Date

**DO NOT WRITE BELOW THIS LINE**

Bus Company: _____
Bus No.: _____ Telephone: _____
Special Instructions for Driver: _____

## TRANSPORTATION SERVICE REQUIREMENTS FOR PASSENGERS WITH DISABILITIES AND HEALTH CONCERNS

**Sample Form 5, page 1 of 4**

SCHOOL DISTRICT: _____

ADDRESS: _____

DATE: _____ ASSIGNED SCHOOL: _____

GRADE LEVEL: _____ SPECIFIC PROGRAM: _____

HOME SCHOOL: _____ NAME OF STUDENT: _____

BIRTH DATE: _____ STUDENT I.D. #: _____

HOME ADDRESS: _____ APT. NO.: _____ ZIP: _____

HOME PHONE: _____

A.M. PICK-UP LOCATION: _____ PHONE: _____

P.M. DROP-OFF LOCATION: _____ PHONE: _____

PARENT/GUARDIAN(S) NAME: _____

FATHER/GUARDIAN WORK PHONE: _____ MOTHER/GUARDIAN WORK PHONE: _____

**1st EMERGENCY / ALTERNATE CONTACT:**

Name: _____ Phone: _____
Address: _____
Name: _____ Phone: _____
Address: _____

**2nd EMERGENCY/ALTERNATE CONTACT:**

Name: _____ Phone: _____
Address: _____
Name: _____ Phone: _____
Address: _____

**EMERGENCY MEDICAL INFORMATION:**

Student's Doctor: _____ Phone: _____

Hospital Preference: _____ Address: _____

Allergy: _____ Reaction? _____

Allergy: _____ Reaction? _____

Allergy: _____ Reaction? _____

MEDICATION(S) STUDENT IS TAKING:_____
_____

DOSAGE: _____

SPECIAL INSTRUCTIONS FOR ATTENDING PHYSICIAN(S):_____
_____

SPECIFIC INSTRUCTIONS IF PARENT(S) ARE NOT AT HOME: _____
_____

LEVEL OF SUPERVISION REQUIRED (Attach Medical Procedure Authorization and Procedures):_____
_____

REQUIRED TRAINING FOR SUPERVISION:_____
_____

INTERVENTIONS REQUIRED (Attach Medical Procedure Authorization and Procedures): _____
_____

REQUIRED TRAINING FOR INTERVENTIONS: _____
_____

OTHER ADDITIONAL RESTRICTIONS OR MODIFICATIONS NECESSARY TO TRANSPORT STUDENT: ____
_____

DISABILITY CONDITIONS AFFECTING TRANSPORTATION: _____
_____

IN WHAT WAYS DO THESE CONDITIONS AFFECT TRANSPORTATION? _____
_____

SPECIAL EQUIPMENT, AIDS OR MOBILITY REQUIRED: _____
_____

SPECIAL TRAINING NEEDED? _____
_____

ADDITIONAL COMMENTS/INSTRUCTIONS: _____
_____
_____
_____

PROCEDURE IF CHANGE IN SERVICE IS NECESSARY: If there are any changes in the student's health, medical, or behavior status which the parent(s), physician, transportation, or other school staff believe may merit changes in staffing, precautions to be taken, interventions, restraints, or any other procedure noted above, the concerned party shall immediately contact:

_____ (phone: _____ ) who will, in turn, initiate the process to evaluate and recommend necessary changes with the involvement of parents/guardian(s), physician, school and transportation staff.

**APPROVAL OF TRANSPORTATION SERVICE REQUIREMENTS**

Each of the following persons has participated in the development of these transportation service requirements and by signing below approves them for implementation.

Dated: _____ Signature of Parent / Guardian:_____

Print Name:_____

Dated: _____ Signature of School District Representative: _____

Title: _____ _____

Dated: _____ Signature of Transportation Staff Representative: _____

Title: _____

Dated: _____ *Signature of Private Contracted Transporter: _____

Title: _____

Dated: _____ *Signature of School Nurse: _____

Dated: _____ *Signature of Physician:_____

Dated: _____ Signature of 1st Emergency Contact _____

Dated: _____ Signature of 2nd Emergency Contact_____

*If an appropriate signature under the circumstances.

cc: All transportation service providers.

# TRANSPORTATION CHECKLIST

**Sample Form 6, page 1 of 2**

Student Name: _____ ID: _____

School:_____ Grade: _____ Date: _____

| | Yes | No | **Special Education Services** |
|---|---|---|---|
| 1. | ❑ | ❑ | Will all services be provided at the school of residence? |
| 2. | ❑ | ❑ | Is the student eligible for extended school year services that may be located at a school other than the school of residence? |
| 3. | ❑ | ❑ | Will the student's IEP address goals and objectives related to transportation access? |
| | | | **Transportation Concerns** |
| 4. | ❑ | ❑ | Have parents been informed of their role and responsibility in transportation of their child? |
| 5. | ❑ | ❑ | Does the student require adult supervision at the bus stop? If yes, parent or designee must meet the child at the stop. |
| 6. | ❑ | ❑ | Are there circumstances that affect the location of the pick-up and/or drop-off locations? If yes, specify: _____ _____ |
| 7. | ❑ | ❑ | Are there specific types of assistance that the bus driver or attendant must provide? If yes, specify: _____ _____ |

List any other characteristics, behaviors or needs (such as seating concerns) that may impact transportation. _____ _____

List any behaviors that could present safety concerns on the school bus. _____

List anything specific to the school bus environment (such as the diesel engine noise etc.) that may affect your child. _____ _____

List anything that comforts your child should they become upset? (Please be specific) _____ _____

8. ❑ ❑ If it is in the best interest of the student to provide atypical transportation services (a vehicle other than a bus), please specify: _____
_____

**Medical Concerns**

To be completed in conjunction with the Nurse/Physician Assessment, Behavior Support Plan and/or Behavior Intervention Plan (BIP). Attach supporting documentation:

9. ❑ ❑ Does the student have a physical disability that is life-threatening and requires monitoring, interpretation or intervention, as determined by the site or special education itinerant nurse?

10. ❑ ❑ Is the student affected by a medical condition that limits the length of time he or she is able to ride on a bus? (Attach assessment and explain).
_____

11. ❑ ❑ Does the student use technology or assistive devices such as tube feeding, a helmet, a ventilator, require oxygen or frequent suctioning? Circle which, and attach assessment.

12. ❑ ❑ Does the student experience uncontrolled seizures, severe hypotonia causing potentially obstructed airway, or apnea? Circle which, and attach assessment.

13. ❑ ❑ Does the student use a walker, manual wheelchair, power wheelchair? Circle which, and indicate wheelchair width, if applicable: _____

14. ❑ ❑ Is the student affected by a chronic medical condition that limits his or her ability to walk to and from school? If yes, explain: _____
_____

15. ❑ ❑ Does the student have difficulty communicating? If yes explain: _____
_____

16. ❑ ❑ Does the student have a Do Not Resuscitate Order (DNR)?

# TRANSPORTING OXYGEN IN SCHOOL BUSES

**Sample Form 7**

Student Name: _____

Grade: _____

Program: _____

Nurse/Practitioner Release on File: ❑Yes ❑ No

Address: _____

Telephone: _____

Bus/Track #: _____

Type of Oxygen Transported:

1. Medical e-grade (less than 24 liquid cubic feet)
2. Liquid Medical d-grade (up to 12 cubic feet)
3. Transported Only
4. Administered During Transport
5. Secured to 5X Weight

Method of Securement (explain): _____
_____
_____
_____

Driver/Attendant Training Completed, as Necessary: _____

Signature: _____ Date: _____

# PROCEDURE FOR LIFTING PASSENGERS

**PURPOSE:** The purpose of proper lifting techniques is to move the passenger without injury to you or the passenger.

**BASIC RULES**

A. Tell the passenger what you are going to do;

B. Estimate the weight of the passenger. Never attempt to carry a student who weighs more than 50 pounds alone unless the student is in immediate danger and no assistance is available;

C. Always attempt to get help if you have any doubts about your ability to lift the student. If there is only a driver in a bus, and the necessity for an emergency evacuation develops, some districts suggest that the driver activate the school bus alternately flashing signal lamps (alternating red lights), as the evacuation procedure is truly an unloading procedure. Such action can draw attention from motorists that you need assistance. District policy should determine if this procedure is appropriate;

D. Be sure your path is clear;

E. Stand with both feet firmly planted about shoulder-width apart for good balance;

F. Always bend from knees, not from back, so that you use your thigh muscles and buttock muscles rather than your back muscles to do the lifting;

G. When lifting and carrying, keep the student as close to your own body as possible; and

H. Shift the position of your feet to move. Do not twist your body. Take small steps to turn.

**SINGLE-PERSON LIFT**

A. Follow the basic rules 1-8. Most strains, fatigue and back injuries caused by lifting are due to using the wrong muscles. Use your strong leg and buttock muscles (by bending at the knees and hips), not your back muscles. Maintain the normal curves of the spine when lifting and avoid rounding of the upper back;

B. Keep equal weight on both feet, and lower yourself to the level of the student by bending your knees and hips before lifting; and

C. Once in position, put one arm around the student's upper back and the other under both knees.

**TWO-PERSON LIFT**

A. Follow basic rules 1-8;

B. To lift from a wheelchair:

1. Position the wheelchair as close to your destination as possible. In an emergency situation, to save time and congestion, leave the chair where it is strapped and blanket-pull or carry the student to the appropriate exit location;

2. One person stands to the side in front; the other person stands in back;

3. The person in front removes the arm rest (if detachable) and folds up the footrest, if time allows;

4. The person in back removes or cuts the seat belt and any other positioning device;

5. The person in front, bending from knees and hips, lowers himself or herself to place hands under the student's thighs;

6. The person in back places his or her arms under student's armpits, reaching forward to grasp both students' wrists firmly (right hand to student's right wrist; left hand to left wrist);

7. Lift together on the count of three. (Remember to use your leg and buttock muscles to lift); and

8. Walk to the area where the student is to be placed and lowered on the count of three, bending from the knees and hips.

C. To lift from a bus seat:

Use the same procedure as above, but first, slide the student to the edge of the bus seat near the aisle.

**EVACUATION AID/BLANKET LIFT**

A. Use an evacuation aid/blanket that has been approved for this purpose by its manufacturer;

B. If a blanket is used, fold the blanket in half, place it on the floor as close to the student as possible;

C. Follow basic rules 1-8, and lower the student to the blanket; and

D. One person lift: Place the student's head toward the direction of the exit, lift the blanket

from the head and slide the student to safety.

## CHARACTERISTICS OF DISABILITIES AS DEFINED BY IDEA

Definitions of disability terms. The terms used in this definition are defined as follows:

A. Autism means:

1. A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. The term does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance, as defined in paragraph (b)(4) of section 300.7 to 300.18.

2. A child who manifests the characteristics of autism after age 3 could be diagnosed as having autism if the criteria in paragraph (c)(1)(i) of section 300.7 to 300.18 are satisfied.

B. Deaf-blindness means: concomitant hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational needs that they cannot be accommodated in special education programs solely for children with deafness or children with blindness.

C. Deafness means: a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, that adversely affects a child's educational performance.

D. Emotional disturbance is defined as follows:

1. The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

a. An inability to learn that cannot be explained by intellectual, sensory or health factors;

b. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;

c. Inappropriate types of behavior or feelings under normal circumstances;

d. A general pervasive mood of unhappiness or depression; and/or

e. A tendency to develop physical symptoms or fears associated with personal or school problems.

2. The term includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance.

E. Hearing impairment means: impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness in this section.

F. Intellectual disabilities means: significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects a child's educational performance.

G. Multiple disabilities means: concomitant impairments (such as intellectual disabilities-blindness, or intellectual disabilities-orthopedic impairment, etc.), the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf blindness.

H. Orthopedic impairment means: a severe orthopedic impairment that adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member, etc.), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns that cause contractures).

I. Other health impairment means: having limited strength, vitality or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that—

1. Is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, and sickle cell anemia; and Tourette syndrome; and

2. Adversely affects a child's educational performance.

J. Specific learning disability is defined as follows:

1. The term means a disorder in one or more of the basic psychological

processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia;

2. The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance or of environmental, cultural or economic disadvantage.

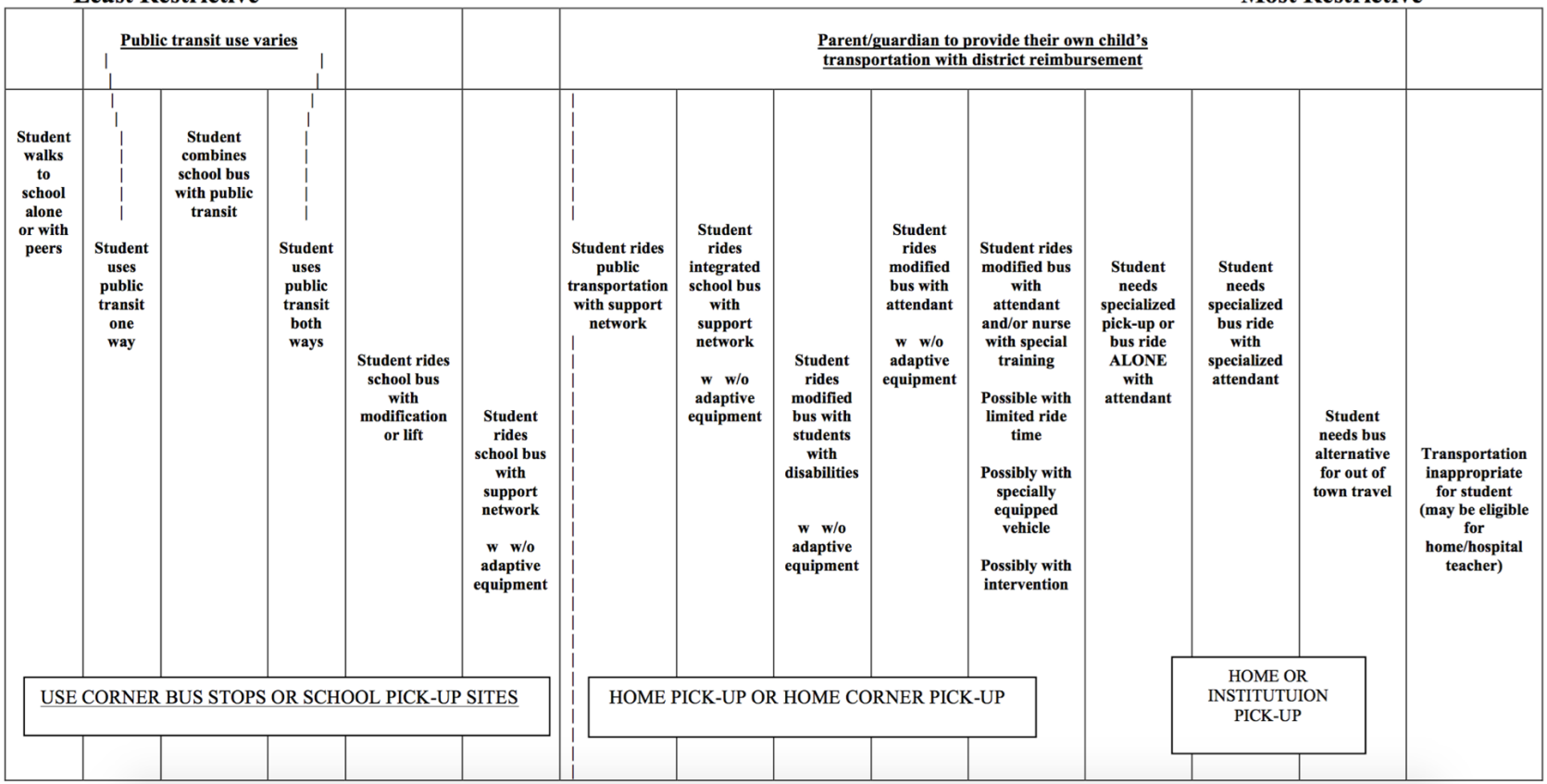
K. Speech or language impairment means: a communication disorder, such as stuttering, impaired articulation, language impairment, or a voice impairment, that adversely affects a child's educational performance.

L. Traumatic brain injury means: an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; information processing; and speech. Traumatic brain injury does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma.

M. Visual impairment, including blindness, means: an impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes both partial sight and blindness.

## SAMPLE CONTINUUM
## OF TRANSPORTATION SERVICES FOR STUDENTS WITH DISABILITIES
## (CHOICE OF OPTION THAT MAY BE AVAILABLE, AS APPROPRIATE)

**Least Restrictive** — **Most Restrictive**



**IDEA-PART B FINAL REGULATIONS DISCIPLINE PROCEDURES**

**(October 2006)**

**INTRODUCTION**

A. The IDEA amendments of 2004 and implementing regulations of 2006

1. Schools can remove a child with disabilities for up to ten consecutive school days at a time for any violation of school rules as long as there was not a pattern of removals, and so long as such removal was also applied to children without disabilities;

2. Schools can remove a child with disabilities for additional periods of not more than ten consecutive school days in the same school year for separate incidents of code of conduct violations as long as there is no pattern of removals that would amount to a change of placement;

3. If behavior that violates the school's code of conduct is determined not to be a manifestation of the child's disability, the school may suspend the child for more than ten days if that suspension is applicable to children without disabilities, as long as that child continues to be able to participate in the general education curriculum and progress toward meeting IEP goals, although in another setting;

4. A child with a disability cannot be long-term suspended or expelled from school for behavior that is a manifestation of his or her disability and;

5. Services must continue for children with disabilities who are suspended for up to ten days if such services are provided to a child without disabilities who is similarly suspended.

6. If the child is removed because of a subsequent suspension in that same school year, school personnel or the IEP team, depending upon whether the suspension amounts to a change of placement, determine the extent to which services are needed to enable the child to participate in the general education curriculum and progress toward meeting IEP goals, although that may be in another setting.

7. Schools may remove a student to an interim alternative educational setting for not more than 45 school days, whether or not the behavior is a manifestation of the child's disability, if the child:

   a. Carries a weapon to or possess a weapon at school, on school premises, or at a school function;

   b. Is found to be in possession of or the sale of illegal drugs and/or;

c. Inflicts serious bodily injury upon another person while at school, on school premises or at a school function.

**Note:** Serious bodily injury is defined by federal law, and refers to a substantial risk of death; extreme physical pain; protracted and obvious disfigurement; protracted loss or impairment of bodily function, organ, or mental faculty.

B. The amendments also added new provisions that require schools to assess a child's troubling behavior and develop positive behavioral interventions to address that behavior, and that describe how to determine whether the behavior was a manifestation of the child's disability.

C. The final regulations incorporate the statutory provisions described above, and provide additional specificity on a number of key issues:

1. Conducting Behavioral Assessments and Developing Behavioral Interventions

The child must receive a Functional Behavioral Assessment to attempt to determine the circumstances around exhibition of particular behaviors by a student with disabilities when a child is suspended for more than 10 days. The child's IEP will develop a behavioral intervention plan designed to address the behavior violations so that it does not recur.

2. Change of Placement; Manifestation Determinations

The regulations provide that a change of placement occurs if a child is removed for more than ten consecutive school days or is subjected to a series of removals that constitute a pattern because they cumulate to more than ten school days in a school year, and because of factors such as the behavior is substantially similar to the child's behavior in previous incidents that resulted in a series of suspensions, the length of each removal, the total amount of time the child is removed, and the proximity of the removals to one another.

Manifestation determinations are required only if a school is implementing a removal that constitutes a change in placement.

# Resources for APPENDIX G

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Dated August 22, 2003

Office of Special Education and Rehabilitative Services

U.S. Department of Education
400 Maryland Ave., S.W.
Washington, DC 20202-7100
Phone (202) 245 7468

OSEP 03-10

**MEMORANDUM**

TO: State Directors of Special Education

FROM: Stephanie Smith Lee
Director
Office of Special Education Programs

SUBJECT: Ensuring Safe and Appropriate Transportation for Children with Disabilities

As you know, being transported to and from school-by-school bus is a major factor of school life for millions of children, nationally, including many children with disabilities. Transportation is a costly venture. For example, during the 1999-2000 school year, the nation's school districts spent over **$13 billion** on home-to-school and school-to-school transportation for students in public schools. Of that amount, an estimated **$3.7 billion** (or 28% of the $13.1 billion) was for special transportation services for children with disabilities.[4]

[4] American Institutes for Research, Center for Special Education Finance, Report 3: *What Are We Spending on Transportation Services for Students with Disabilities, 1999-2000?* (Revised 4/17/03).

In meetings (and correspondence) with representatives of two major national transportation associations (i.e., the National School Transportation Association, and the National Association for Pupil Transportation), these representatives have expressed concerns that transportation providers are often not included in local school district plans or training related to transporting children with disabilities. They also provided examples of problems resulting from not having prior knowledge about the needs of some of these children, and expressed interest in finding ways to ensure that transportation of children with disabilities is safely and appropriately provided.

The current regulations implementing Part B of the Individuals with Disabilities Education Act (IDEA) include a number of provisions related to transportation of children with disabilities. See e.g., -- (1) the definition of related services, which lists transportation, and includes a separate definition of "transportation" (34 CFR §300.24(a); (b)(15)); (2) Appendix A--Notice of Interpretation, which includes questions and answers regarding the provision of transportation in individualized education programs (i.e., Q-30 (64 FR 12478, March 12, 1999) and Q-33 (64 FR 12479); and (3) Attachment 1 to the 1999 Part B Regulations (Analysis of Comments and Changes) that includes a discussion about transportation as a related service (64 FR 12551).

To the extent appropriate, we encourage you to contact the local educational agencies in your State to call their attention to the transportation provisions in the regulations, and to encourage them, as appropriate, (consistent with the confidentiality provisions in §§300-560-300.576), to ensure that there is meaningful and effective communication -- before the fact -- between school district personnel and transportation providers about the transportation needs and potential problems of individual students with disabilities. This effort should be beneficial to all affected parties, but especially the children who are being transported.

Transportation providers play an integral role in the school lives of many children, including children with disabilities, which makes effective communication between the school and the providers essential. We believe that, for the safety and well-being of all children who ride school buses, including children with disabilities, it is crucial that they are appropriately and effectively transported by well-informed and well-trained transportation providers.

If you have questions or comments about this memorandum, please contact your Part B State contact or the persons listed above.

cc: Chief State School Officers
Federal Resource Center
Regional Resource Centers
Parent Training Centers
Protection and Advocacy Agencies Section 619 Coordinators

# NATIONAL ASSOCIATION OF STATE DIRECTORS OF PUPIL TRANSPORTATION SERVICES INFORMATION REPORT

National Association
of State Directors
of Pupil Transportation Services

Information Report
Sharing Student Health and Medical Information with School Transporters
Revised, October 2014

by Peggy A. Burns, Esq.

Background

This Information Report is not intended to be an exhaustive discussion of student records disclosure and confidentiality provisions, since there are multiple situations in which school transporters require student information in order to safely and efficiently carry out their responsibilities. Rather, it focuses on communicating to school transporters and special education directors the necessity -- and legitimacy -- of disclosure of student health and medical information. Included in the category of "school transporters" are transportation administrators, drivers, and other appropriate school transportation staff members, as well as bus contractors hired by school districts and educational units to transport students to and from school and school activities. School transporters and special education directors are urged to seek legal advice regarding specific applications of this information.

It is critical that school transporters have relevant health and medical information about the students who ride their buses, and in some cases it is legally mandated. Even where there is not a statutory or regulatory mandate to provide this information to school transporters, any reasonable risk management analysis readily leads to the conclusion that the potential harm from failure to share this information far outweighs any risk that a school district or contractor could incur as a result of transporters having this information.

It has long been true that, with parental permission, school administrators can share student information – including health and medical information – with school bus personnel. But obtaining prior permission from parents can be difficult and time-consuming, and laws and regulations recognize that educators and service providers may sometimes need to have access to student information without parental permission.

Despite these facts, however, special education administrators and other school personnel are often reluctant to share student health and medical information with school transporters. Many are adamant about their "inability" to provide information about students' conditions and needs which may impact travel on the school bus. The reason: misinformation about and/or misunderstanding of the law's confidentiality requirements.

Questions.

- Can school transporters legally receive health and medical information about students who ride their buses?
- What factors should be considered in determining whether transportation personnel, special education personnel, medical personnel and parents should collaborate to accomplish this sharing of information?
- What are the prerequisites to the sharing of student health information with school transporters?
- How can compliance with these prerequisites be achieved?

Discussion

*Application of relevant statutory and regulatory information.*

Several clear guiding principles emerge from an understanding of applicable law, especially the Regulations implementing Part B of the Individuals with Disabilities Education Act (hereafter, "IDEA"), and the Family Educational Rights and Privacy Act of 1974 (hereafter, "FERPA.")

Principle 1 -- Rationale for Disclosure

School transportation professionals need operational information about the way in which a student's special needs impact the ride, and necessary accommodations and modifications that the transportation department must implement. Knowing a child's diagnosis or "label" isn't enough and, in fact, is of limited actual value. Instead, school transportation professionals need to know "the what" and "the how" of *this* child's disability-related transportation needs, 34 CFR 300.323(d).

Federal agencies have begun to recognize the strong rationale for disclosure of student information to pupil transportation professionals. In a document setting forth "Questions and Answers on Serving Children with Disabilities Eligible for Transportation" released on November 9, 2009, the Office of Special Education and Rehabilitative Services (OSERS) reiterated a statement by the Office of Special Education Programs (OSEP) in its August 22, 2003 *Memorandum to State Directors of Special Education* (https://www2.ed.gov/policy/speced/guid/idea/letters/2003-3/leeds082203relsvcs3q2003.pdf) recognizing that, "Transportation providers play an integral role in the school lives of many children, including children with disabilities." OSERS marked the "essential" need for "effective communication between school and transportation providers."

When transportation is provided as a related service to a special education student -- that is, because transportation is necessary for the child to access Individualized Education Program (IEP) services -- then transporters are related service providers. [See IDEA Regulations (hereafter "Regs"), Section 300.24.] Under such circumstances, the school district *must* provide necessary information to school transporters. That information includes setting forth the role of transportation personnel in meeting the unique needs of the child as identified in his/her IEP, and those "accommodations, modifications, and supports" identified in the child's IEP which relate in any way to the transportation environment. [See Regs., Section 300.342(b) (2) and (3).]

Furthermore, related services providers must receive information about relevant IEP changes when the changes are made without the direct involvement of those providers. Specifically, when an IEP has been revised – and there are times this can occur without an IEP meeting – the Analysis states that "it is important that the personnel responsible for implementing the revised IEP be notified and informed of the changes with respect to their particular responsibilities." That means, for example, that if a behavior intervention plan is added to an IEP in response to behavior which a student displays both in the classroom and on the school bus, the child's driver and attendant should be notified of any responsibilities under the plan.

While the IDEA Regulations impose a mandatory duty on school districts when transportation is a related service, FERPA gives broader permission to disclose information about a child under two situations:

(1) when a parent consents to the disclosure; or

(2) to "school officials" with a "legitimate educational interest" even when the district has not obtained such prior consent.

*Who is a school official with a legitimate educational interest?*

When FERPA was modified in 1996, a "Model Notification of Rights Under FERPA for Elementary and Secondary Institutions" was included in Appendix B. That Model Notification clearly demonstrates Congressional intent as to who might reasonably be entitled to receive student information:

> "A school official is a person employed by the District as an administrator, supervisor, instructor or support staff member. . .; a person serving on the School Board; a person or company with whom the District has contracted to perform a special task. . ."

And, a school official has "a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility."
It is clear that school transporters meet this standard when having and understanding student health and medical information is necessary to enable the safe and efficient transport of a student.

Principle 2 -- Publication of Criteria for Disclosure.

Under FERPA, school districts and contractors must annually publish a notification to parents that includes the district's criteria for disclosing student information to school officials without parental permission, 34 CFR 99.7. The Official Commentary to the FERPA regulations states, "At the discretion of a school [district], school officials may include school transportation officials (including bus drivers. . . ." among those entitled to have information necessary to enable them to do their jobs, and, therefore, privy to student information without parental permission.

The 2006 Amendments to the IDEA regulations underscore the need for service providers who work directly with students with disabilities to have access to necessary information. Each related service provider must have access to the child's IEP and be informed of his or her specific responsibilities related to implementing the IEP, and of the "specific accommodations, modifications, and supports that must be provided to the child in accordance with the IEP, 34 CFR 300.323(d). How this information is conveyed is left up to individual school districts.

These combined requirements are easily met by including in student/parent handbooks a statement like the following suggested in Appendix B to FERPA:

> "Federal law permits the school district to disclose personally identifiable information in the student's education records to 'school officials with legitimate educational interests.' School officials include persons employed by the district as an administrator, supervisor, teacher, or support staff member (including but not limited to,. . . transportation personnel. . .);. . . a person, agency, or company with whom the District has contracted, or otherwise arranged to perform a special task or service. . . Such individuals have a legitimate educational interest if s/he needs to review an education record in order to fulfill his or her professional and/or official responsibility. A legitimate educational interest also exists where the staff member or other individual works directly with students and needs to review education records to increase his/her awareness of steps necessary for the safety and welfare of students and staff members."

Principle 3 – Confidentiality.

The IDEA Regulations recognize that confidentiality requirements apply to the provision of necessary student information to school district employees and school transportation contractors. These requirements do not prohibit disclosure, but merely impose on "agency or institution that collects, maintains or uses personally identifiable information, or from which information is obtained" the duty to protect the confidentiality of such information "at collection, storage, disclosure and destruction stages." [See Regs., Sec. 300.572 (a).] This duty is further defined by the FERPA requirement that a school district share personally identifiable information from an education record only on the condition that the recipient of the information will not disclose the information to any other party without the prior consent of the parent or eligible student.

School bus companies must be under the "direct control" of the district regarding the use and maintenance of education records. This requirement may be fulfilled by including allocation of responsibilities and mutual understandings in the contract between the parties.

In addition, transportation departments and school bus companies must make reasonable efforts to protect the student information they receive, whether they use physical means, like keeping the information under lock; or administrative means, through the use of training and policies prohibiting all disclosure other than sharing with another school official who has a legitimate educational interest; or key technological means like providing it on computers only when password-protected. Protocols concerning student information security should be codified in a policy that is widely distributed, implemented, and monitored. The federal Privacy Technical Assistance Center (PTAC) has developed a body of best practice resources to help education stakeholders in this sometimes complicated arena. The PTAC "toolkit" includes case studies, webinars, checklists and other information related to (1) data sharing, (2) disclosure avoidance, (3) security best practices, (4) data governance, and (5) legal references. Please see: http://ptac.ed.gov/toolkit.

Since student information is, increasingly, stored electronically on in-house or cloud-based servers, more needs to be said about this evolving area of information maintenance. Consider requiring those who claim a need to access student information via technology to fill out a specific request form, indicating, among other details, the specific business reason for the need, and a statement as to why the information is not available in another way. When student information is stored or communicated electronically, current best practices and applicable policies for electronic information security should be followed. It is wise to employ or contract for the services of professionals with expertise in this area who can serve as resources and provide guidance or training to prevent and, if necessary, address, a security breach.

For additional information on keeping student information secure, see the PTAC website, http://ptac.ed.gov/.

Principle 4 – Training.

In order to receive student information which is otherwise confidential, school transporters must receive training -- like all other personnel who receive this information in the course of their job duties.
All related services personnel must be "trained," and the Official Commentary to Section 300.24 of the Regs specifically includes "bus drivers" among such personnel. The Regs further state that "all persons collecting or using personally identifiable information must receive training or instruction regarding" limitations imposed by IDEA and FERPA and state policies and procedures which implement the disclosure and confidentiality provisions of these federal laws. [See Regs., Section 300. 572 (c).]

The Bottom Line: Why Should School Districts Ensure That Pupil Transportation Officials Have Access to Student Information?

*Participation in IEP Meetings.*

As indicated above, the duty to inform is mandatory under IDEA Regulations when school transportation is provided as a related service. School transporters are essential participants in the decision which must be made as to whether transportation is a related service for a particular child. Section 300.344 of the Regs provides that a local education agency may include related services personnel as appropriate at the IEP meeting. Appendix A of the IDEA Regulations include many useful questions and answers.

- The answer to Question 30 states: ". . .[I]t is appropriate for [related services personnel] to be included if a particular related service is to be discussed as part of the IEP meeting."

- The answer to Question 33 states: "In determining whether to include transportation in a child's IEP and whether the child needs to receive transportation as a related service, it would be appropriate to have at the IEP meeting a person with expertise in that area." That expertise will be most evident -- and most valuable -- when members of the IEP team have necessary information about the needs of the student.

In its *Letter to Smith* (July 12, 1995), and in a number of letters and opinions since then, the Office of Special Education Programs (OSEP) of the U.S. Department of Education stated that the IEP must include more than a "yes" or "no" to the question "Is transportation a related service?" Rather, it must include accommodation, modifications, and supports which must be provided for the child in accordance with his/her unique needs. Transporters are likely to be more aware of the availability of assistive technology devices applicable to transportation than anyone else on the IEP team, and certainly will have the responsibility to properly use such devices in response to the child's needs. Health and medical information is essential to this end. OSEP has specifically noted in *Letter to Smith*: "In all instances, each student's need for transportation as a related service and the type of transportation to be provided are issues to be discussed and decided during the evaluation process and individualized education program (IEP) meeting, and the transportation arrangements agreed upon should be included in the disabled student's IEP."

"Transportation arrangements" are obvious components of the information transporters must receive. But remember, Section 300.342(b)(3) of the Regulations implementing Part B of the IDEA mandates that each related service provider knows what s/he must do specifically to implement the IDEA. Consequently, other information such as behavior intervention plans or assistive technology details must be shared with transporters to comply with this provision.

Finally, in order to determine necessary components of training for transporters, it is critical to share student health and medical information with driver trainers, and the occupational therapists, physical therapists, nurses and others who will work with them. How else can drivers and bus attendants be aware of proper responses to the unique medical needs of students?

Are There Risks to School Districts if Information is shared with Transporters?

Generally, a single mistake by a school district or contractor will not amount to a violation of FERPA. However, the Family Compliance Office of the U.S. Department of Education, which investigates, processes and reviews complaints and violations under FERPA, may take steps regarding individuals who improperly disclose information from education records. Section 99.33 of the Regulations implementing FERPA provides:

> "If this Office determines that a third party improperly re-discloses personally identifiable information from education records in violation of [FERPA], the educational agency or institution may not allow that third party access to personally identifiable information from education records for at least five years."

The implications of this section are significant. Since a school district makes a commitment when sharing information with a bus driver that the driver will not inappropriately "re-disclose" the information to a third party, there can be strong sanctions if that condition is not met. Since a driver needs certain information in order to do his/her job, a restriction which prevents access to necessary information for at least five years means that the driver cannot do his or her job. That situation would most likely result in termination. Even absent federal agency determination of a breach of confidentiality, or a privately brought action based on invasion of privacy or inaccuracy of the information, a school district might well consider this a sufficiently serious rule violation to impose consequences up to and including termination.

A school district violates FERPA if it has a policy of denying access to records to parents, or it has a policy of wrongly disclosing information to third parties. A parent or student over the age of 18 may file a complaint giving specifics about why that person thinks a school district has violated FERPA. The complaint must be submitted within 180 days of the alleged violation or of the date that the complainant knew of or reasonably should have known of the alleged violation. Following an agency investigation in which it is determined that a violation has occurred; the Family Compliance Office may take a number of steps:

- It will give the school district a reasonable period of time to comply with specific steps set out by the Office; and
- If the school district does not comply within that period, the Office may withhold federal monies, and/or issue an order to compel compliance.

Before the extreme sanction of loss of eligibility for federal funds is applied, a school district must not only have a policy of violation, but also refuse to take steps to comply with FERPA within a reasonable period of time. Therefore, the school district which shares necessary information with drivers risks little. That is especially true in comparison with the potential risks to the safety and welfare of the student if important information is not shared. On the other hand, the driver who does not take that responsibility seriously risks losing his or her job.

*What about **the Health Insurance Portability and Accountability Act of 1996** (HIPAA; final Privacy Rule at 45 CFR 160 and 164)*

The relationship between HIPAA and FERPA has, apparently, been a source of confusion that has led well-meaning school administrators to refuse to share student medical and health information with school transportation professionals on grounds that such sharing would constitute a violation of HIPAA. But see the joint guidance document from the Department of Education and the Department of Health and Human Services (http://www2.ed.gov/policy/gen/guid/fpco/doc/ferpa-hipaa-guidance.pdf) first published in 2008, that helps to sort out the relationship between FERPA and HIPPA. An invaluable resource for educators and school transportation professionals, it includes an overview of FERPA, an overview of HIPAA, a discussion of places the two laws may intersect, and FAQ's. In general, the HIPAA Privacy Rule does not apply to an elementary or secondary school: they are typically not HIPAA covered entities. Rather, student health and medical records held by schools are subject to FERPA, as described above, and HIPAA in no way prevents disclosure of necessary information to school transporters.

Conclusion

School transporters can legally receive information about students' health and medical conditions when these conditions may impact transportation planning and implementation. Factors to be considered in setting conditions for such disclosure include: the determination of legitimate educational interest; compliance with FERPA requirements of notice; requiring confidentiality of the transporters to whom the information is disclosed, and, training. It is clear that once transporters are trained regarding the requirement of confidentiality, school district and medical personnel are well-advised to share this information.

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BIOGRAPHICAL INFORMATION: PEGGY A. BURNS, ESQ.

Peggy Burns served as in-house legal counsel for a large suburban school district in Colorado for twenty years. She now consults full-time as the founder and president of Education Compliance Group, an organization committed to addressing compliance issues in education. A former high school English and forensics teacher, and licensed attorney for more than thirty years, Peggy has devoted the past twenty-seven years specifically to legal issues affecting public education.

Peggy is sought after as a presenter at state, regional, and national conferences, focusing most often on legal issues related to school transportation and special education. She works with school districts and bus companies to avoid risk, solve problems, and enhance policy and training. Peggy serves as a Tenured Faculty Member for the National Board of Advisors of the National Conference and Exhibition on Transporting Students with Disabilities. She is editor of Legal Routes, and a frequent contributor to other industry publications. She demonstrates her commitment to the pupil transportation industry with her accessibility and willingness to support school transportation professionals everywhere.

Peggy is the author, with Lisa J. Hudson, of the book Defensible Decisions about Transporting Students with Special Needs: Lessons Learned from Legal Disputes. She is also the author of four training video programs for school bus drivers. Peggy is also the co-author of a Risk Management Manual for Utica National Insurance Company.

# Ride Safe

**Information to help you travel more safely in motor vehicles while seated in your wheelchair**



**wc-transportation-safety.umtri.umich.edu**

UMTRI TRANSPORTATION RESEARCH INSTITUTE UNIVERSITY OF MICHIGAN

**When traveling in a motor vehicle,** it is generally safest for wheelchair users to transfer to a vehicle seat and use the vehicle seatbelt system or a child safety seat that complies with federal safety standards. The wheelchair should then be stored and secured in the vehicle.

If transferring is not feasible or practical, it is very important to secure the wheelchair to the vehicle facing forward and to use crash-tested seatbelts for the wheelchair-seated rider.

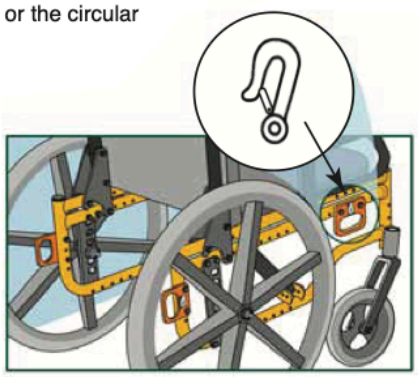
## 1 START WITH THE RIGHT EQUIPMENT

### The Wheelchair



▼ **It is best if you have a wheelchair that has been designed and tested for use as a seat in motor vehicles, often referred to as a WC19 wheelchair.** These wheelchairs comply with ANSI/RESNA WC19, a voluntary standard developed by safety and rehabilitation experts. Wheelchairs that meet the requirements of the WC19 standard will be labeled with words or the circular logo shown.

▼ Most importantly, a WC19 wheelchair has four, crash-tested securement points where tiedown straps and hooks can be easily attached. These points are clearly marked with a hook symbol.



▼ If a WC19 wheelchair is not available, the next best choice is a wheelchair with an accessible metal frame where tiedown straps and hooks can be attached at frame junctions.

### The Wheelchair Tiedown and Occupant Restraint System (WTORS)




▼ It is important to use a complete WTORS to secure the wheelchair and provide the wheelchair occupant with a properly fitting lap and shoulder belt system.

▼ **Always use a WTORS that has been crash tested and labeled as complying with ANSI/RESNA WC18,** a voluntary standard developed by safety and rehabilitation experts. The most common type of wheelchair tiedown uses four straps to secure the wheelchair to the vehicle. Although it requires someone other than the wheelchair rider to secure and release the wheelchair, this tiedown can secure a wide range of WC19 and non-WC19 wheelchairs.

▼ To protect the rider during a crash or sudden braking, a seatbelt system with **both** lap and shoulder belts must be used. This will decrease the likelihood of injury caused by contact with the vehicle interior.

# 2 SECURE THE WHEELCHAIR

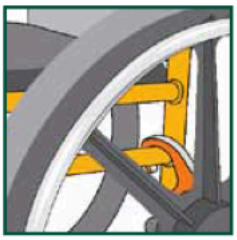
## Four-Point Tiedowns

▼ Always position the wheelchair and rider facing forward in the vehicle.

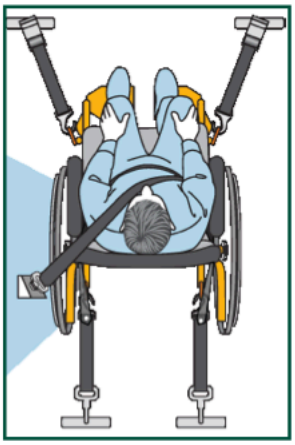
▼ When securing a WC19 wheelchair, attach the four tiedown straps or hooks to the securement points provided on the wheelchair. Tighten the straps to remove all slack.

▼ If you do not have a WC19 wheelchair, it is best to attach the tiedown hooks or straps to welded junctions of the frame or to other structural areas where the frame is fastened together with hardened steel bolts -- often indicated by six raised lines or bumps on the bolt head.





▼ **Do not attach tiedowns to adjustable, moving, or removable parts of the wheelchair such as arm supports, foot supports, and wheels.**

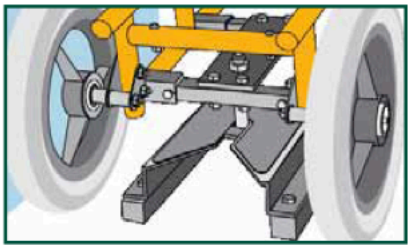


▼ When securing non-WC19 wheelchairs, choose structural securement points as cose to the seat surface as possible to provide greater wheelchair stability during travel. It is best if the rear securement points are high enough to result in angles of the rear tiedown straps between 30 and 45 degrees to the horizontal.

▼ If you have a non-WC19 wheelchair with a tilt seat, make sure to attach both the front and rear straps to either the seat frame or to the base frame. Mixing wheelchair securement points between the seat and base can result in the tiedown straps becoming slack if the angle of the seat changes during a crash.

▼ It is best if floor anchor points for rear tiedown straps are located directly behind the rear securement points on the wheelchair. If possible, the front tiedown straps should anchor to the floor at points that are spaced wider than the wheelchair to increase stability during travel.

## Other Methods of Wheelchair Securement



▼ In some cases, wheelchairs can also be secured using a docking tiedown device. This method is mostly used in private vehicles since it requires added adaptor hardware on the wheelchair frame that will engage with the docking tiedown device in the vehicle. Docking securement devices allow the wheelchair rider to secure and release the wheelchair without assistance.

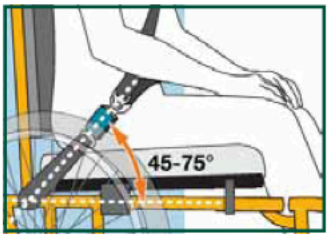
▼ If you plan to secure your wheelchair with a docking tiedown device, you should check with the WTORS or wheelchair manufacturer to ensure that your wheelchair model has been successfully crash tested with their system.

▼ Clamp-type securement devices are not recommended since they do not provide effective wheelchair securement in frontal crash testing.

# 3 PROTECT THE WHEELCHAIR RIDER

▼ In addition to securing the wheelchair, **it is very important to provide effective restraint for the wheelchair user with a crash-tested lap and shoulder belt or with a child restraint harness.** Postural support belts attached to the wheelchair are **not** strong enough to withstand crash forces and are usually not positioned correctly to protect the person safely in a crash.

▼ The lap belt should be placed low across the front of the pelvis on the upper thighs, not on the abdomen. When possible, the lap belt should be angled between 45 and 75 degrees to the horizontal when viewed from the side. Some wheelchair features, like armrests, can interfere with good belt fit. To avoid placing the lap belt over the armrest and to keep the lap belt low on the pelvis, it may be necessary to insert the belt between the armrest and the seatback, or through openings between the backrest and seat.






▼ A diagonal shoulder belt should cross the middle of the shoulder and the center of the chest, and should connect to the lap belt near the hip of the wheelchair rider. The upper shoulder-belt anchor point or guide should be anchored above and behind the top of the occupant's shoulder, so that the belt is in good contact with the shoulder and chest while traveling.

▼ Newer WC19 wheelchairs offer the option of a crash-tested lap belt that is anchored to the wheelchair frame. If the wheelchair has an onboard crash-tested lap belt, complete the belt system by attaching the lower end of a shoulder belt to the lap belt. Crash-tested wheelchair-anchored lap belts will be labeled to indicate that they comply with WC19.

## Other Important Points

- Read and follow all manufacturers' instructions.
- It is best to ride with the wheelchair backrest positioned at an angle of 30 degrees or less to the vertical. If a greater recline angle is needed, the shoulder belt anchor point should be moved rearward along the vehicle sidewall so the belt maintains contact with the rider's shoulder and chest.
- Maximize the clear space around the rider to reduce the possibility of contact with vehicle components and other passengers in a crash. Cover rigid vehicle components that are close to the rider with dense padding.
- Check wheelchair and WTORS equipment regularly and replace worn components. If involved in a vehicle crash, check with the manufacturer to determine if the equipment needs to be replaced. Keep WTORS anchorage track free of debris.
- If possible, remove hard trays and secure them in the vehicle to reduce the chance of rider injury from contact with the tray. Consider the use of foam trays instead of rigid trays during transit. If it is not possible to remove a hard tray, place dense padding between the rider and the edge of the tray and make sure that the tray is securely attached to the wheelchair so it will not break loose and cause injury to other occupants in a crash.
- A properly positioned headrest may help protect the neck in a rear impact.
- If it is necessary to use a head and neck support during travel, choose a soft, light, neck collar because stiff collars and head straps are more likely to cause neck injury in a crash. The soft collar should not be attached to the seating system.
- Secure medical and other equipment to the wheelchair or vehicle to prevent it from breaking loose and causing injuries in a crash.
- Seating systems can be crashed tested to ANSI/RESNA WC20 and then used with a WC19-compliant frame to create a crashworthy wheelchair.

# RESOURCES

## Organizations

University of Michigan Transportation Research Institute
www.umtri.umich.edu
wc-transportation-safety.umtri.umich.edu

RESNA Rehabilitation Engineering and Assistive Technology Society of North America
www.resna.org

## Wheelchair and Seating Manufacturers
## (Ask for Products that have been Successfully Tested to WC19 and/or WC20)

ADI - Accessible Designs, Inc.
adirides.com; 888-684-2234

Amylior Inc.
www.amysystems.com; 888-453-0311

Bergeron Health Care
www.specialtomato.com; 866-529-8407

Broda Seating
www.brodaseating.com; 844-552-7632

The Comfort Company
www.comfortcompany.com; 800-564-9248

Convaid / R82
www.convaid.com; 844-876-6245

Drive Medical / Inspired by Drive
www.drivemedical.com; 877-224-0946
www.inspiredbydrive.com; 800-454-6612

Dynamic Health Care Solutions
www.dynamichcs.com; 866-875-2877

Eurovema AB
www.eurovema.se; +46-371-390-100

Freedom Designs
www.freedomdesigns.com; 800-331-8551

Gunnell
www.gunnell-inc.com; 800-551-0055

Harris Medical LLC
Eztransportchair.com; 954-609-4214

Hoggi
www.hoggi.de; +49 2623 92499-0
or 877-767-9462

Icon Wheelchairs, Inc.
www.iconwheelchairs.com; 888-461-5759

Innovative Products
www.mobility4kids.com; 800-950-5185

Invacare
www.invacare.com; 800-333-6900

Ki Mobility
www.kimobility.com; 800-981-1540

Leggero, LLC
leggero.us; 844-503-KIDS (5437)

Maple Leaf Wheelchair
www.mapleleafwheelchair.ca; 905-564-2250

Medifab / Spex
www.spexseating.com; +64 3 307 9790

Merits Health Products, Inc.
meritshealth.com; 800-963-7487

Metalcraft Industries
www.metalcraft-industries.com; 888-399-3232

Motion Composites
www.motioncomposites.com; 866-650-6555

Motion Concepts
www.motionconcepts.com; 888-433-6818

NuTec Rehab
www.nutecrehab.com; 888-448-0093

Permobil / TiLite / ROHO
www.permobil.com; 800-736-0925

Pride Mobility Products Corp.
www.pridemobility.com; 800-800-8586

Product Design Group
www.pdgmobility.com; 888-858-4422

Rolapal Ltd
www.rolapal.co.nz; +64 9 634 2300

Stealth Products
www.stealthproducts.com; 800-965-9229

Sunrise Medical
www.sunrisemedical.com; 800-333-4000

Therafin Corporation
www.therafin.com; 800-843-7234

V-Trak
www.v-trak.com; 866-632-1755

Varilite
www.varilite.com; 800-827-4548

WHILL, Inc.
whill.us; 844-699-4455

XPlore Mobility
www.xploremobility.com; 888-575-9225

**Wheelchair Tiedown and Occupant Restraint Manufacturers**
**(Ask for Products that Comply with WC18)**

B&D Independence
bdindependence.com; 618-262-7117

EZ-Lock
www.ezlock.net; 225-214-4620

New Haven
www.safehaven-usa.com; 800-421-8700

Orthosafe
www.orthosafe.com; 609-587-9444

Q'Straint
www.qstraint.com; 800-987-9987

SureLok
www.sure-lok.com; 866-787-3565

# GLOSSARY OF TERMS

**Anchor point:** The location on a vehicle, wheelchair, or wheelchair tiedown where a belt-restraint or wheelchair-tiedown anchorage is attached.

**ANSI/RESNA WC18 (SECTION 18 RESNA WC-4:2017):** A voluntary standard for WTORS.
NOTE: ISO 10542 is an international standard that is comparable with WC18.

**ANSI/RESNA WC19 (SECTION 19 RESNA WC-4:2017):** A voluntary standard for wheelchairs designed for use as a seat when traveling in a motor vehicle.
NOTE: ISO 7176-19 is an international wheelchair standard that is comparable with WC19.

**ANSI/RESNA WC20 (SECTION 20 RESNA WC-4:2017):** A voluntary standard for wheelchair seating systems designed or used as part of a wheelchair when traveling in a motor vehicle.
NOTE: ISO 16840-4 is an international wheelchair standard that is comparable with WC20.

**SAE Recommended Practice J2249:** A Society of Automotive Engineers Recommended Practice for WTORS that has been replaced by ANSI/RESNA WC18.
NOTE: WC18 is an enhanced version of this standard and ISO 10542 is a similar international standard.

**Belt:** A length of energy-absorbing webbing material used in occupant restraint systems.

**Docking tiedown:** A method for securing wheelchairs where portions of the wheelchair frame, or add-on brackets fastened to the wheelchair frame, engage with a securement device anchored to the vehicle.

**Four-point strap-type tiedown:** A method for securing a wheelchair where four straps are attached to the wheelchair at four separate securement points and attached to the vehicle at four separate anchor points.

**Occupant restraint:** A system or device designed to protect a motor vehicle occupant in a crash by keeping them in the seat and minimizing contact with objects inside or outside the vehicle.

**Postural support:** A padded component and/or belt used to help maintain a person in a desired position during normal wheelchair use. In general postural supports are **not** designed to provide effective occupant restraint in a motor vehicle crash.

**Securement points:** Specific structural points on the wheelchair base or seat frame that are designed for attachment of wheelchair tiedown straps.

**Strap:** A length of webbing material used in wheelchair tiedown systems.

**WC19 wheelchair:** A crash-tested wheelchair with four clearly identified securement points that meets ANSI/RESNA WC19.

**WC20 seating system:** A crash-tested seating system and its attachment hardware that meets ANSI/RESNA WC20 and is used with a WC19 compliant frame to create a crashworthy wheelchair.

**Wheelchair tiedown and occupant-restraint system (WTORS):** A complete system for securing the occupied wheelchair and a belt-type restraint system for limiting occupant movement in a motor vehicle crash.

**University of Michigan Transportation Research Institute**

**University of Michigan Health System**

**Initially funded through a grant from the FRIENDS of the University of Michigan Hospitals**

**2018**

## REFERENCES


www.504idea.org for information on IDEA/504/NCLB

ADA 2008 Reference
https://www.eeoc.gov/statutes/americans-disabilities-act-amendments-act-2008

Rescue Medicine for Epilepsy in Education Settings
https://publications.aap.org/pediatrics/article/137/1/e20153876/52853/Rescue-Medicine-for-Epilepsy-in-Education-Settings

School Bus Transportation of Children With Special Health Care Needs
https://publications.aap.org/pediatrics/article/141/5/e20180513/37887/School-Bus-Transportation-of-Children-With-Special?autologincheck=redirected

# APPENDIX H: Transporting Infants, Toddlers, and Pre-School Children

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# APPENDIX H:
# TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOL CHILDREN

## REQUIREMENTS AND BEST-PRACTICE RECOMMENDATIONS RELATED TO TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOLERS

A. "NHTSA Guidance Document: Guideline for the Safe Transportation of Pre-school Age Children in School Buses"

Best-practice guidance from the National Highway Traffic Safety Association, February 1999 Search "pre-school" from the www.NHTSA.gov homepage or go to:

https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-10/Guideline-Safe-Transportation-Preschool-Age-Children-School-Buses.pdf

Excerpt from the document:

"NHTSA conducted crash testing of pre-school age size dummies in school bus seats. The test results showed that pre-school age children in school buses are safest when transported in child safety restraint systems (CSRS) that meets FMVSS 213, Child Restraint Systems, and are correctly attached to the seats."

Based on its research, NHTSA recommends pre-school age children transported in school buses always be transported in properly secured CSRS. In partial response to questions from school (and childcare) transportation offices, this Guideline seeks to assist school and other transportation managers in developing and implementing policies and procedures for the transportation of pre-school age children in school buses.

NHTSA also offers a School Bus Regulations FAQ page at https://www.nhtsa.gov/school-bus-regulations-faqs.

B. Head Start Performance Standards

As federal programs, all centers that contract with the U.S. Department of Health and Human Services for any type of Head Start program must follow Head Start's set of Program Performance Standards, including those that set rules related to transportation. The transportation requirements for Head Start can be considered best-practice guidelines for any transporter of birth-to-K children.

Head Start is a federal preschool program initiated in 1965 by Public Law 97-35, The Head Start Act, to provide a comprehensive child development program for low-income children. Initially, the program served only children who were three years old to school attendance age. However, the program has grown to include Early Head Start, Migrant

and Seasonal Head Start, and American Indian/Alaska Native Head Start. These programs expand the reach of Head Start to infants, toddlers, and children with disabilities.

Part 1303—Subpart F: Transportation

General transportation-related standards for Head Start are established in Part 1303—Subpart F: Transportation. To find the document, search Performance Standards at (https://headstart.gov/policy/45-cfr-chap-xiii/1303-subpart-f-transportation) or search for the standard number in the Code of Federal Regulations (https://www.ecfr.gov/current/title-45/subtitle-B/chapter-XIII/subchapter-B/part-1303/subpart-F).

Each Head Start program grantee is responsible for ensuring compliance with Part 1303—Subpart F, including when transportation is provided by a partner or contracted transporter.

Part 1303—Subpart F includes requirements for Head Start programs on the following topic areas:

1303.70 Purpose

1303.71 Vehicles

1303.72 Vehicle operation

1303.73 Trip routing

1303.74 Safety procedures

1303.75 Children with disabilities (See the section below for more on this topic.)

These standards cover the topics of conducting community needs assessment, route planning, allowed vehicles, child safety restraint systems, vehicle maintenance, record keeping, and vehicle evacuation drills. Examples of specific requirements set forth within the standards include that Head Start grantees must:

1. Help families arrange transportation for their child to and from the program (whether or not transportation is provided directly by the program);

2. Offer transport and riding safety education;

3. Only release children to adult individuals who have been authorized in writing to receive them by their parent or guardian;

4. Follow requirements for hiring, training, and keeping records on bus drivers and monitors;

5. Ensure, when transportation is provided or arranged by the grantee, that children are restrained in a CSRS that is:

   a. In compliance with Federal Motor Vehicle Safety Standards;

   b. Appropriate for the age, height, and weight of each child; and

   c. Properly installed.

1302 Subpart A, 1302.16 Attendance

This standard includes the requirement for Head Start program grantees to examine barriers to regular attendance for each child, such as access to safe and reliable transportation, and where possible, provide or facilitate transportation for the child if needed. Programs that have an average daily attendance rate that falls below 85% have further requirements to consider systemic problems that may lead to lower enrollment, which may warrant establishing a center-based or contracted transportation program.

Per 1302.16 (c)(2), if a child in Head Start experiencing homelessness is unable to attend classes regularly because the family does not have transportation to and from the program facility, the program must utilize community resources, where possible, to provide transportation for the child.

C. State Child Occupant Protection Laws

Each U.S. state has a unique child occupant protection (COP) law that applies when transporting children within its jurisdiction. These laws establish the requirements for the proper use of child safety restraints based on factors like the child's height, weight, and/or age.

Those transporting children to any destination, including school, must follow these laws. Find the text of a state's law through its highway safety department; a summary for each state is provided by the Insurance Institute for Highway Safety at www.iihs.org (under topics, select Child Safety and scroll to the interactive map).

Whenever a non-school-bus vehicle is used to transport children, state child occupant protection laws apply. Most states exempt school buses from following the state's COP law, but not all. Many states have clauses to clarify whether the law applies to for-hire vehicles, like taxis and/or rideshare services.

D. American Academy of Pediatrics policy

1. "School Bus Transportation of Children with Special Health Care Needs"

This guidance document can be found at https://publications.aap.org/pediatrics/pages/policy. Select Browse by Topic and then Injury, Violence, and Poison Prevention to find this policy statement or go to https://publications.aap.org/pediatrics/article/141/5/e20180513/37887/School-Bus-Transportation-of-Children-With-Special?searchresult=1

2. "Child Passenger Safety"

This guidance document can be found at https://publications.aap.org/pediatrics/pages/policy. Select Browse by Topic and then Injury, Violence, and Poison Prevention to find this policy statement or go to https://publications.aap.org/pediatrics/article/142/5/e20182461/38525/Child-Passenger-Safety?searchresult=1

3. "Transporting Children with Special Health Care Needs"

This guidance document can be found at https://publications.aap.org/pediatrics/pages/policy. Select Browse by Topic and then Injury, Violence, and Poison Prevention to find this policy statement or go to https://publications.aap.org/pediatrics/article/143/5/e20190724/37167/Transporting-Children-With-Special-Health-Care?searchresult=1

## TRAINING RELATED TO TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOLERS

A. Certified Child Passenger Safety Technician (CPST) Training

Safe Kids Worldwide is the certifying body of this federal certification program for child passenger safety technicians, which is supported by the National Highway Safety Administration. From the certification homepage at https://cert.safekids.org:

1. Select "Become a Tech" to learn about the program and how to become a technician.

2. Select "Find a Tech" to search for CPSTs in your community, with options to filter by name, state, city, zip code, special training and/or language abilities. CPSTs are trained to provide child passenger safety education to the public and can assist school transportation providers on a number of topics related to the transportation of birth-to-K children. For those using a school bus to

transport birth-to-K students, search for a CPST identified as having extra training on school buses.

3. Select "Find a Course" to identify opportunities to register for an upcoming course. If a suitable course isn't currently offered, sign up on this site to be notified when a course becomes available

B. NHTSA CPS on School Buses National Training

An eight-hour training for pupil transportation personnel, offered in in-person or hybrid (e-learning plus in-person) formats, is available. Go to www.cpsboard.org/trainings to learn more and locate training opportunities.

C. School bus and other CPS e-learnings and webinars: Car Seat Education Learning Portal

The Car Seat Education Learning Portal, located at https://carseateducation.org, offers free e-learning segments from the CPS in School Buses National Training (see above). This site is managed by the National Safety Council with the support of the National Highway Traffic Safety Administration. The public may take any or all of the e-learnings without being signed up for a full course.

How to access trainings:

Users of the Car Seat Education Learning Portal must create an account at https://carseateducation.org, which then provides them with a dashboard for accessing selected trainings, reviewing progress, and viewing certificates. To take a training, users put the desired course into a "cart" and "purchase" it (for $0). Then the training is automatically loaded onto their dashboard, where they can go to begin the training. A user may stop/start/resume and even rewatch any training on one's dashboard.

1. School-bus specific modules:

   From the portal's homepage, click "View All Courses" to find the School Bus Learning Library. There are a total of twelve modules in the School Bus Learning Library; examples of some titles are CSRS Basics and Features; CSRS Types: Conventional & Integrated; CSRS Types: CSRS With Cam Wraps; CSRS and Children with Disabilities; CSRS and Emergency Evacuation

2. Interactive CPS basics e-learning:

   The Car Seat Education Learning Portal offers Car Seat Basics, a free, one-hour e-learning course that covers use of CSRS in non-school-bus vehicles. Find it under General Education.

3. Recorded webinars on CPS topics:

The site also offers an array of recorded webinar presentations coordinated by the National CPS Board and Safe Kids Worldwide. These webinars feature experts covering a wide variety of child passenger safety subjects, many of which may provide support for school transportation providers.

D. CSRS on school bus use videos

The many videos included in the CPS in School Buses Training (see above) are available as stand-alone videos at www.youtube.com/CPSBoard. Click on Playlists from the homepage, select the Child Passenger Safety on School Buses playlist, and then "View Full Playlist" to see the category's full set of video titles. These videos are free to view and may be used by trainers to enhance existing or new training materials.

## SUPPORT RELATED TO TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOLERS

A. Head Start official website

The official information hub for the Office of Head Start (which was formerly called The Early Childhood Learning and Knowledge Center, or ECLKC) can be found at https://headstart.gov. Look under Topics for an array of resource links to support the education of birth-to-K children, including resources for behavior management.

B. MyPeers

MyPeers is a Head Start social platform for connecting, sharing, and collaborating with fellow early childhood professionals. Members can join communities and workgroups dedicated to specific regions, roles, and topics, including the Transportation Station community. To join, go to https://eclkc.ohs.acf.hhs.gov/form/mypeers-account-request-form.

C. American Academy of Pediatrics (AAP)

The AAP offers support for transporting children and other topics at www.healthychildren.com. For various transportation-related topics, select On The Go under Safety & Prevention. Notable among these resources is the AAP's annual product listing of all conventional child safety restraint systems organized by type and providing allowed use ranges and prices. Best practice guidelines are also provided.

D. State Child Passenger Safety Coordinators

State CPS coordinator/training coordinators are individuals who oversee child passenger safety training, resource management, and other related activities for a state. A list of these professionals by state can be found at *www.NHTSA.gov* (search CPS coordinator) or

go to https://www.nhtsa.gov/car-seats-and-booster-seats/training-contacts-state-child-passenger-safety.

E. Child Passenger Safety Technicians (CPSTs)

CPSTs are trained to provide child passenger safety education to the public and can assist school transportation providers on several topics related to the transportation of birth-to-K children.

1. Safe Kids Worldwide, Find-a-Tech: https://cert.safekids.org (select Find-a-Tech)

2. NHTSA's Car Seat Inspection Tool: https://www.nhtsa.gov/vehicle-safety/car-seats-and-booster-seats#installation-help-inspection

## RESOURCES FOR TRANSPORTING INFANTS, TODDLERS, AND PRE-SCHOOLERS WITH DISABILITIES

See the TRANSPORTATION FOR CHILDREN WITH DISABILITIES AND SPECIAL HEALTH CARE NEEDS section and its related appendix for information and resources regarding transporting children with disabilities. The following information adds resources that are especially relevant for students with disabilities who are infants, toddlers, or preschoolers.

A. Head Start Program Performance Standards related to transporting children with disabilities

Part 1303–Subpart F: Transportation 1303.75 is shown in full, below.

Each agency must work with a child's Individual Education Program or Individual Family Service Plan team to implement any special accommodations or goals related to transportation services (45 CFR §1303.75(b)).

Key aspects include:

1. Pick-up and drop-off

2. Seating arrangements

3. Equipment needs

4. Special assistance

5. Specific training for bus drivers and monitors

Part 1303 Subpart F—Transportation, 1303.75 Children with disabilities

a. A program must ensure there are school buses or allowable alternate vehicles adapted or designed for transportation of children with disabilities available as necessary to transport such children enrolled in the program. This requirement does not apply to the transportation of children receiving home-based services, unless school buses or allowable alternate vehicles are used to transport the other children served under the home-based option by the grant recipient. Whenever possible, children with disabilities must be transported in the same vehicles used to transport other children enrolled in the Head Start program.

b. A program must ensure special transportation requirements in a child's IEP or IFSP are followed, including special pick-up and drop-off requirements, seating requirements, equipment needs, any assistance that may be required, and any necessary training for bus drivers and monitors."

B. Logo for Crashworthy Harnesses on WC-19 Wheelchairs

Since 2017, in order for a wheelchair rated for children weighing 25 to 50 pounds to meet the WC19 voluntary standard for transit-readiness, it must be equipped with a crashworthy, wheelchair-anchored, five-point harness that is marked with the circular label/logo shown below. If this standardized label/logo is not permanently affixed to a wheelchair harness' webbing, the harness has not been made to restrain the child under crash forces. Such a harness is useful for positioning the child—and may be deemed appropriate for use during transport—but the occupant restraint of the WTORS must also be used to provide proper safety restraint.




For more information on transporting children of any age in wheelchairs, visit https://wc-transportation-safety.umtri.umich.edu.

## RESOURCES FOR USING CHILD SAFETY RESTRAINT SYSTEMS (CSRS)

A CSRS manufacturer's website and customer service are the essential resources for learning about availability and specific usage questions regarding any given CSRS. Information for contacting a CSRS's manufacturer must be provided on the label and in the owner's manual. The following resources can provide additional assistance for finding manufacturers, as well as troubleshooting, selecting, assessing, and sourcing CSRS.

A. Contacting CSRS manufacturers

Manufacturers have customer service call centers to field questions or concerns about their products; many also offer support through email, online chat, and virtual checkups. Most manufacturer websites offer digital copies of CSRS owner's manuals and instructional videos.
Information for contacting the manufacturer of the CSRS must be provided on CSRS labels and in the owner's manual. The following resources can also be used to help with contacting manufacturers.

1. The Baby Safety Alliance (formerly called the Juvenile Product Manufacturers Association) list of manufacturers of conventional CSRS: https://babysafetyfoundation/car-seat-directory

2. Safe Ride News Publications' listing of adaptive CSRS: https://www.saferidenews.com/resources/adaptivecrs

B. Selecting/Assessing CSRS

1. NHTSA's "Find the Right Seat" tool helps identify the appropriate conventional CSRS type for a child and lists available models by entering a child's age, height, and weight: https://www.nhtsa.gov/campaign/right-seat

2. NHTSA's "Car Seat Ease-of-Use" assesses various aspects of the use of conventional CSRS using a star rating format: https://www.nhtsa.gov/car-seats-and-booster-seats/car-seat-ease-use-ratings

3. SafetyBeltSafe USA's "5-Step Test to Safety Belt Readiness" can be applied in any vehicle to assess whether a child should continue to ride in a CSRS (or, if in a non-school bus, a booster seat) or is large enough to properly use a seat belt. Find it at www.carseat.org (search 5-Step) or go to https://carseat.org/wp-content/uploads/2018/08/Try-the-5-Step-Test-Today.pdf.

C. Learning about Available CSRS

1. Conventional CSRS

A list of all available conventional CSRS models, with prices, approved height/weight ranges, and other information, is posted at www.healthychildren.org (see CR Product Listing under Safety & Prevention/On the Go).

2. Adaptive CSRS

A list of all available adaptive CSRS models, with prices, approved height/weight ranges, and many other details, is posted at https://www.saferidenews.com/resources/adaptivecrs.

D. Sourcing CSRS: Distributors and institutional sales resources

1. CSRS for school buses only: CSRS that may be used only on school buses are sold through the manufacturer's authorized distributors. Contact the manufacturer or visit their website to find a local distributor.
2. Adaptive CSRS: CSRS made to accommodate children with disabilities may be available directly from the manufacturer or through an approved distributor. Contact the manufacturer or visit their website to find a local distributor.
3. Conventional CSRS: CSRS made for use in passenger vehicles can be purchased online or at some department stores. For organizations that buy in bulk, some conventional CSRS companies have institutional sales divisions; contact the company to ask about institutional sales.
4. Two third-party companies offer discounted pricing on conventional and adaptive CSRS.

    a. Child Source: https://childsource.com, (330) 721-6560

    b. Prevention Alternatives, Inc.: email shinn@comcast.net or call (517) 927-7731

E. Finding CSRS Recall Lists

The following organizations post free lists of all CSRS recalls. While NHTSA does not offer a list of all CSRS recalls, the information for individual CSRS can be entered into a recall-finder tool at www.nhtsa.gov/recalls.

1. Safe Ride News Publications: www.saferidenews.com/recalls

2. SafetyBeltSafe U.S.A.: www.carseat.org (select or search Recalls and Replacement Parts)

3. University of North Carolina Highway Safety Research Center: https://www.hsrc.unc.edu/car-seat-recall-list

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# APPENDIX I:
# 17th Congress Resolutions

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# APPENDIX J: 17TH CONGRESS RESOLUTIONS

## RESOLUTION A

## 2025

**WHEREAS** the 17th National Congress on School Transportation (NCST) recognizes the leadership and tireless service of Patrick McManamon in serving as NCST Chair from 2015 to 2024.

**WHEREAS** the NCST Steering Committee expresses appreciation to Patrick for his dedication and service,

**THEREFORE, BE IT RESOLVED** that the 17th NCST on May 6th, 2025 adopts the resolution of Appreciation to Patrick McManamon.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025.

## RESOLUTION B

## 2025

**WHEREAS** *School Transportation News* in a March 2024 publication identified a reporting issue that indicates the school bus is disappearing.

**WHEARAS** the article identifies that various medias are reporting different ridership numbers,

**WHEREAS** there is a need to develop a standardized reporting system for collecting correct ridership data,

**THEREFORE, BE IT RESOLVED THAT THE 17TH NCST** requests the Interim Steering Committee of the 18th NCST to appoint a focus group to research and develop recommendations for standardization of data collection relative to ridership on school bus and make periodic reports to the Interim Committee.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025.

# RESOLUTION C

# 2025

**WHEREAS:** The delegates of the 17th National Congress recognize the dedication and hours of service by many individuals,

**THEREFORE, BE IT RESOLVED THAT THE 17TH NCST** expresses APPRECIATION to the individuals serving as officials on-site for their dedication and service. Mike LaRocco, Conference Chair; Mike Bullman, Vice-Chair; Charlie Hood, On-site Chair; Susan Miller, On-site Coordinator; Lori Wille, Editor; Laura Meade, Parliamentarian; Renee Dawson, Reginald White, Timekeepers; Marisa Wessinger, Keith Kaup, Registration Coordinators; Samantha Kobussen, NSTSP Art Work; Zander Press, Printer. Ronna Weber, and NASDPTS leadership in making the Congress a success in the manner it was organized and conducted.

**AND IT BE FURTHER RESOLVED THAT THE DELEGATES OF THE 17TH NCST** recognize for their dedication and contributions to the success of the Congress.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025.

## RESOLUTION D

## 2025

**WHEREAS,** The delegates of the 17th NCST recognize the importance of the document produced in May 2025 and

**WHEREAS,** The sponsoring organizations the National State Directors of Pupil Transportation (NASDPTS); National School Transportation Association (NSTA); National Association for Pupil Transportation (NAPT): National Safety Council (NSC); and School Bus Manufacturers Technical Council (SBMTC); strongly urge that the Specifications and Practices established by the 17th NCST be adopted to provide the greatest protection for the safety of our children; now

**THEREFORE, BE IT RESOLVED THAT THE 17TH NCST** provide copies of the proceedings of the 17th NCST to the National Highway Traffic Safety Administration (NHTSA) and any other organizations or individuals deemed appropriate.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025.

# RESOLUTION E

## 2025

**WHEREAS,** the 17th National Congress on School Transportation (NCST) is aware of the safety concerns associated with Sexual Predators, Offenders and Human Trafficking.

**WHEREAS,** there has been an increase in sexual predators and human trafficking across the United States.

**THEREFORE, BE IT RESOLVED** that the 17th NCST encourages transportation professionals to plan bus stops that are not in proximity to known registered sexual offenders when made aware, when possible. Training programs should be provided to all transportation personnel on recognizing and reporting suspected or known human trafficking.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025.

# RESOLUTION F

# 2025

**Request for Clarification on FMVSS 213a and 213b Final Rules**

**WHEREAS,** the school transportation industry, which transports our nation's most precious cargo, takes great pride in providing the safest form of transportation available. Preschool and special needs transportation are a sizable component of the industry, and the safe transport of our smallest and most vulnerable children is of significant concern to the industry.

**WHEREAS,** to ensure children requiring securement based on age and weight are carried safely and securely, Child Restraint Systems (CRSs) are attached to the seat back to ensure a secure fit for the child. It is believed that there are approximately 310,000 – 335,000 Child Restraint Systems (CRSs) specifically designed for school buses on the road today.

**THEREFORE, BE IT RESOLVED** in light of the recent final ruling (Docket No. NHTSA–2023–0040; RIN 2127–AL34) issued by the National Highway Traffic Safety Administration (NHTSA) regarding Federal Motor Vehicle Safety Standards (FMVSS) 213a and 213b, which pertain to the performance and use of Child Restraint Systems (CRSs) on school buses, the National Congress on School Transportation (NCST) respectfully submits the following resolution for immediate transmission to NHTSA:

The National Congress on School Transportation (NCST) recognizes the critical importance of ensuring the safety of child passengers in transportation and appreciates the continued efforts of the National Highway Traffic Safety Administration (NHTSA) to enhance protective standards. However, the implementation timeline and scope of the final rules have raised specific questions concerning their applicability to Child Restraint Systems (CRSs) that are uniquely designed for school bus use.

In the interest of ensuring compliance, continuity of service, and the safety of transported children, the NCST requests timely clarification from the National Highway Traffic Safety Administration on the following items:

**Resolution and Questions for Clarification**

**Exemption of School Bus-Specific CRS's**

Are Child Restraint Systems specifically designed for school buses (e.g., IMMI Star, BESI ProTech, and HSM Portable Child Restraint) exempt from the side-impact requirements under FMVSS 213a as of the effective date of June 30, 2025?

**Use of Pre-Existing Devices**

If the aforementioned CRSs are not exempt, will devices manufactured prior to June 30, 2025, still be permissible for continued use beyond the implementation deadline?

**Approved Alternatives**

In the event the specified CRSs are not exempt, and in consideration of maintaining a high standard of safety, what alternative CRS models or types would be deemed acceptable for continued use on school buses?

**Future Guidance and Rulemaking**

Will NHTSA be issuing any additional guidance or initiating rulemaking specifically addressing the use and approval of CRSs for school bus applications prior to the effective date of June 30, 2025?

**Training Program Revisions**

Will NHTSA be updating the curriculum for the Child Passenger Safety on School Buses training courses to reflect the forthcoming changes, particularly those involving add-on school bus securement systems?

**Conclusion**

The NCST respectfully urges NHTSA to provide a formal response and guidance at the earliest possible opportunity, mindful of the June 30, 2025 implementation date, to support informed decision-making, training readiness, and procurement planning by school transportation providers nationwide.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025

# RESOLUTION G

## 2025

**WHEREAS,** the 17th National Congress on School Transportation (NCST) recognizes that in order for the Congress to be a success, it requires the dedication and leadership of an exceptional executive leader.

**WHEREAS,** without this leadership, NCST would not have been as successful in the coordination of the NCST Steering Committee and the NCST event planning starting in December 2023.

**WHEREAS,** this coordination was critical in getting the NCST process in order after the extended period without a Congress.

**WHEREAS,** after becoming the Executive Director of NASDPTS in 2021, she demonstrated her leadership for an outstanding Congress,

**THEREFORE, BE IT RESOLVED** that the delegates of the 17th NCST on May 6th, 2025, adopt this resolution in APPRECIATION to Ronna Weber, Executive Director of NASDPTS.

**Note:** This resolution was passed by the 17th National Congress on School Transportation on May 6th, 2025.

# ROSTER
# 17th National Congress On School Transportation

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# STATE DELEGATES AND ALTERNATES

**Alabama**

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| Beane, Robert | Delegate |
| Hollon, William | Delegate |
| Thigpen, Frank | Delegate |

**Alaska**

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| Best, Melody | Delegate |
| Wolske, Garry | Delegate |

**Arizona**

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| Hall, Denice | Delegate |
| Hartman, Thomas | Delegate |
| Havens, Vern | Delegate |
| Lunt, William | Delegate |
| Swietek, Paul | Delegate |
| Franklin, Nick | Alternate State Delegate |

**Arkansas**

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| Rutherford, Jason | Delegate |
| Sturdivant, Jon | Delegate |
| Twisdale, Denise | Delegate |

**California**

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| Sawyer, Michael | Delegate |
| Stevenson, Chrissie | Delegate |
| Weaver, Craig | Delegate |

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| Stewart, Fred | Delegate |
| Sykes, Rebecca | Delegate |

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| Gorman, Lamont | Delegate |
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| Sutton, David | Delegate |

**Florida**

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| Stephenson, Don | Delegate |
| Underhill, Brad | Delegate |
| Wen, William | Delegate |
| Wheeler, Fred | Delegate |

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| Johnson, Ken | Delegate |
| Osborne, John | Delegate |
| Stowill, Walter | Delegate |
| Studstill, Trey | Delegate |

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| Lindstrom, Mark | Delegate |

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| Daw, Lanette | Delegate |
| Dehnert, Jessica | Delegate |
| Metzler, Colton | Delegate |
| Sorenson, Lloyd | Delegate |

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| Parr, Chris | Delegate |
| Richards, David | Delegate |
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| Pitts, Sarah | Delegate |
| Vandiver, Dwayne | Delegate |

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| Errthum, Chris | Delegate |
| Funk, Joe | Delegate |
| Kellen, Codie | Delegate |
| Bolibaugh, Ernie | Alternate State Delegate |
| Bos, Tony | Alternate State Delegate |
| Johnson, David | Alternate State Delegate |
| Schmadeke, Cory | Alternate State Delegate |

**Kansas**

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| Godfredson, Jessica | Delegate |
| Moore, Bert | Delegate |
| Tate, Dennis | Delegate |

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| Meehan, Carl | Delegate |
| Napier, Monica | Delegate |

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| Storer, Christopher | Delegate |
| Upton, Jeffrey | Delegate |

**Maryland**

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| Groff, Michael | Delegate |
| Johnson, Bryan | Delegate |
| Nelson, William | Delegate |
| Tonkins, Jason | Delegate |

**Massachusetts**

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| Lieber, Tammy | Delegate |
| Winnie, Joy | Delegate |

**Michigan**

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| Doelker, Frederick | Delegate |
| Higgins, Mark | Delegate |
| Korth, Thomas | Delegate |
| Lyons, Rhonda | Delegate |
| Morris, Katrina | Delegate |

**Minnesota**

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| Forbord, Kathryn | Delegate |
| Hudson, Christian | Delegate |
| Klaseus, Nick | Delegate |
| Tiedens, Amy | Delegate |

**Mississippi**

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| Thompson, Caleb | Delegate |
| Weathersby, Randy | Delegate |

**Missouri**

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| Mulder, Kenny | Delegate |
| Richmond, Jared | Delegate |
| Schwartz, Gerald | Delegate |
| Speer, Scott | Delegate |
| Tramel, David | Delegate |
| Fowler, Donald | Alternate State Delegate |

**Montana**

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| Krout, Mike | State Delegation Chair |

**Nebraska**

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| Skorupa, Phil | Delegate |

**Nevada**

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| Canning, Seth | Delegate |
| DeFrancesco, Robert | Delegate |
| Hush, Michael | Delegate |
| Mulhern, Chris | Delegate |

**New Jersey**

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| Verdi, Christopher | Delegate |

**New Mexico**

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| Lupardus, Amanda | State Delegation Chair |
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| Fierro, Luis | Delegate |
| Huish, William | Delegate |
| Ortiz, Antonio | Delegate |

**New York**

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| Gallagher, Richard | Delegate |
| Lawrence, Peter | Delegate |
| Mori, Paul Quinn | Delegate |
| Overbaugh, Paul | Delegate |
| Rogan, James | Delegate |

**North Carolina**

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| Watson, Marion | Delegate |
| Reed, Danny | Delegate |

**Ohio**

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| Dement, Justin | Delegate |
| Ellis, William | Delegate |
| Killian, Brian | Delegate |
| Landis, Jacob | Delegate |
| Leeth, Jason | Delegate |

**Oklahoma**

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| Ryan, Donnie | Delegate |
| Vann-Jackson, Rosalyn | Delegate |
| Luse, Matthew | Delegate |

**Oregon**

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| Bowers, Keith | Delegate |
| Crockett, T.J. | Delegate |
| Ellison, Christopher | Delegate |
| Pruitt, Craig | Delegate |
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| Scott, Nick | Delegate |

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| Eubanks, Jena | Delegate |
| Ferrell, Dewayne | Delegate |
| Gaskill, Raymond | Delegate |
| Kong, Elizabeth | Delegate |
| Yarbro, Brian | Delegate |
| Hinerman, Joshua | Alternate State Delegate |
| Phillips, Ricky | Alternate State Delegate |

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| Shields, Anthony | Delegate |
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| Weisinger, Marisa | Delegate |
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| Bower, Austin | Delegate |
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| Stone, Wesley | Delegate |

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# COMMITTEES AND SUPPORT STAFF

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| Mike Bullman, Vice Chair | SC Department of Education | SC | NASDPTS |
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| Patti Enbody | WA Department of Education | WA | NASDPTS |
| Keith Henry | Missouri Association for Pupil Transportation | MO | NAPT |
| Peter Lawrence | PTSI | NY | NAPT |
| Donnie Fowler | Fowler Bus | MO | NSTA |
| Dan Kobussen | Kobussen Bus | WI | NSTA |
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| Laura Green-Halley | First Student | OH | NSC |

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| Teresa Fleming | Robertson County Schools | PA |
| Joshua Hinerman | Robertson County Schools | TN |
| Jerry Miliken | Retired | WV |
| Rosalyn Vann-Jackson | Broken Arrow Public Schools | OK |
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| Billy Huish | Farmington Municipal Schools | NM |
| Rick Johnson | Bethel School District | WA |
| Dave McDonald | Rosco Vision Systems | NY |
| Nick Mitchell | Blue Bird Corporation | GA |
| Ricky Stanley | Thomas Built Buses | NC |
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| Libby Kimmel | Forest River Bus | KS |
| Warren Lanphier | School Bus Inc. | |
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| Kyle Svanda | Tea Area School District | SD |
| Darryl Webb | Anderson School District Five | SC |
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| Janet Clarke | AR Department of Education | AR |
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| Daniel Hernandez | | |
| Morgan Judge | EverDriven | |
| Susan Miller | CO Department of Education | CO |
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| Trisha Nolen | Q'Straint/Sure-Lok | TX |
| Joseph O'Neil | Indiana School of Medicine | IN |
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| Maritza Valentin | AMF Bruns America | FL |
| Charlie Vits | IMMI SafeGuard | IN |
| Patricia Waites | Hamilton Southeastern Schools | IN |
| Marisa Weisinger | Texas Association for Pupil Transportation | TX |

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| Joe Labonte | IC Bus | Canada |
| Teena Mitchell | Greenville County Schools | SC |

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