



**CO L O R A D O**

**Department of Education**

School Finance and  
Operations Division

**School Bus**  
**Multifunction Bus**  
**Motor Coach Bus**  
**Operator Guide**

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**SCHOOL TRANSPORTATION UNIT**  
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## Introduction

The Colorado Department of Education (CDE) School Transportation Unit issued these guidelines to assist public school districts and Boards of Cooperative Educational Services (BOCES) with developing policies and procedures for the safe transportation of students. These guidelines provide interpretations, suggestions, options, industry standards, best practices and ideas that are consistent with the Colorado Minimum Standards Governing School Transportation Vehicles, 1 CCR 301-25; the Colorado Rules for the Operation, Maintenance and Inspection of School Transportation Vehicles 1 CCR 301-26, which promote safe transportation integrity in school transportation departments. It is hoped that this publication will serve as a resource to assist transportation providers as they work toward compliance with legislation and regulations.

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## Unit 1 - Driver Role and Responsibility

Do you remember one of your school bus drivers by name?

Interesting how many of us can recall their names isn't it? School bus drivers have had significant impact and influence in many of our lives during our adolescent years and you may not have recognized it until this very minute.

Learning to drive a vehicle the size of a school bus is an extremely difficult task, involving knowledge of related information, visual skills, judgments, decisions and accurate responses. Competent school bus drivers and uniformity in the operation of buses throughout the State of Colorado is imperative to provide efficient, economical transportation with the least amount of risk to our pupils and public.

The school bus driver is the first representative of the school system to meet the children in the morning and the last to see them at night. They are also one of the most trusted people in our society noting that parents are placing the safety of their children into the hands of a complete stranger. While the children are on the bus, their safety is entrusted to you.

School Bus Driver's that operate their vehicle on the roadway obeying all traffic laws, exercising extreme caution, following all district policies, adhering to all state and federal requirements while maintaining good order will be appreciated and respected in their community as a person who performs a difficult and necessary service. Responsibilities of each driver are numerous and vary from seemingly insignificant tasks to very critical decision making that may involve the well-being of a passenger or liability of the school district.

### The Transportation Team

Each team member involved in pupil transportation is important. Knowing the role and responsibility of each team member will better equip the driver to become a supportive member. A proper understanding of these other roles is important to the driver's subsequent action.

US Department of Transportation - its mission is to "Serve the United States by ensuring a fast, safe, efficient, accessible, and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future". It was established by an act of Congress on October 15, 1966 and began operation on April 1, 1967. It is governed by the United States Secretary of Transportation.

National Highway Traffic Safety Administration (NHTSA) - its mission is to “Save lives, prevent injuries, reduce vehicle-related crashes”. It is an agency of the US Department of Transportation, and charged with writing and enforcing Federal Motor Vehicle Safety Standards (FMVSS), vehicle identification number (VIN) system and other safety related functions.

Federal Motor Vehicle Safety Standards - legislatively mandated to issue U.S. federal regulations specifying design, construction, performance, and durability requirements for motor vehicles and regulated automobile safety-related components, systems, and design features.

Federal Motor Carrier Safety Administration - regulates the trucking industry in the United States. The primary mission of the FMCSA is to reduce crashes, injuries and fatalities involving large trucks and buses.

Colorado Department of Education - Section 42-4-1904 - The state board of education, by and with the advice of the executive director of the department, shall adopt and enforce regulations not inconsistent with this article to govern the operation of all school buses used for the transportation of schoolchildren and to govern the discharge of passengers from such school buses.

Colorado Department of Education - School Transportation Unit - its mission is to create a supportive, encouraging learning environment for the school districts serving Colorado’s public school children, through professional, knowledgeable ideas, utilizing the best resources available to achieve safe transportation programs.

Boards of Cooperative Educational Services (BOCES) - are agencies that are an extension of the local member school districts. They exist to supply educational services to two or more school districts that alone cannot afford the service, or find it advantageous and cost-effective to cooperate with other districts. They also operate as Special Education Administrative Units, in which Colorado Revised Statutes require a minimum number of students or participants in order to qualify.

Colorado Public School District - means any public school district organized pursuant to law. (Article 30 of title 22 of Colorado Revised Statutes) or a board of cooperative services (BOCES) organized pursuant to Article 5 of Title 22 of Colorado Revised Statutes. They provide and administer the pupil transportation system for eligible pupils living within the school district.

Charter Schools - means a public school that enters into a charter contract pursuant to the provisions of this part 1 (Section 22-30.5-103(2) of the Colorado Revised Statutes.

School Board - Create, adopt and administer school board policies.

Superintendent - an administrator or manager in charge of a school district.

Principals - an educator who has executive authority for a school. The principal may handle problems that arise on the bus which involves pupils from their building.

Teacher - a person who teaches or instructs as a profession. An important person to share open and honest communication regarding student needs.

Transportation Director/Supervisor - Provides direct administration and supervision to all pupil transportation personnel and operations.

Fleet Director/Supervisor - Provides direct administration and supervision to all pupil transportation mechanics/technicians, vehicles, maintenance, purchasing and inspections.

Mechanic/Technician - Provides maintenance and repair of all machinery, vehicles, and equipment used in the operations of school transportation operations.

Dispatcher - Provides direct communication and relays important information between school transportation vehicles and operators regarding student transportation.

Pupils - the reason for us being here. They are young students who are learning under the supervision of a teacher. Conduct themselves in an acceptable manner so the bus driver can carry out their tasks in a safe and efficient manner.

Parents - Responsible to have pupils prepared to arrive at the bus stop on time. Provide support by expecting that each child conduct him/herself in an appropriate manner while on the bus.

Chaperone - Any adult present in order to maintain order or propriety at an activity of young people.

Coaches - Trains athletes or teams of athletes. May drive school transportation vehicles on activity trips.

### **Laws, Rules, Regulations, Policy and Recommendations**

A Law is a requirement that has been passed by a legislative body and signed by the chief executive.

Rules and Regulations are synonymous terms to describe a requirement adopted by an executive department.

A **Policy** is a course of action or guiding principle adopted by an authoritative body, such as a school board.

A **Recommendation** is a statement giving advice or counsel.

Let's go into the definitions a little deeper:

A **law/statute** is a requirement that has been passed by a legislative body and signed by the chief executive. At the Federal level the legislative body is the Congress. At the State level it is the state legislature. Laws/statutes are requirements that must be obeyed. The Colorado Revised Statutes are an example of State statute, the Individuals with Disabilities Education Act (IDEA) is an example of a Federal law.

**Rules and regulations** are synonymous terms to describe a requirement adopted by an executive department with the authority to establish rules for carrying out the program. A definite procedure must be followed when adopting administrative rules. When adopted, the rules have the same effect as though they were laws. They are requirements that must be obeyed. The Colorado Department of Education Annual Inspection/Operation Rules for the School Transportation and the Colorado Minimum Standards Governing School Transportation Vehicles are examples of Rules.

A **policy** is a course of action, guiding principle or procedure adopted by any authoritative body that is considered to be expedient, prudent, or advantageous. Policies are principles or procedures that one is expected to follow, and should follow, but it is not absolutely mandated as a law or rule. School boards may have policies and procedures at the local school district level related to the pupil transportation program. A school district policy example is a student discipline policy, dress code policy, etc.

A **recommendation** is a statement giving advice or counsel. Any organization or individual might recommend some type of action. Recommendations are very important, because if you fail to follow a manufacturer's recommendation, you may void warranties, and cause unnecessary injury. An example of a very important manufacture recommendation is the use, placement and maintenance of Child Safety Restraint Systems (CSRS). The manufacturer recommends that students are not seated in the seat directly behind a student that is in a CSRS, unless they are also restrained. If you do not follow a recommendation, you may increase your risk of liability.

It is important for school bus drivers to understand these differences; but it is most important that they develop a positive attitude in accepting and obeying all laws, .

rules/regulations, policies and recommendations as a mandatory part of their support as part of the pupil transportation team.

### **The Professional School Bus Driver**

Don't ever say "I'm just the Bus Driver"! You should say "I am a Professional School Bus Driver!" Being a school bus driver isn't something that just anyone can do. In addition to all of the specialized training required there are so many other important qualities that a school bus driver must possess. For instance, we are required to drive a large vehicle in every possible weather condition imaginable, over all types of terrain from the plains to the mountains, control traffic flow, be on time at every stop and maintain order of possibly up to 70+ students that are seated behind us and our only means to see them is via a small mirror over our head. That is not a job for just anyone! You are special.

A commercial driver's license (CDL) provides every school bus driver appropriate on-the-road training. In addition to the CDL license, other requirements include drug/alcohol testing, and passing a DOT medical examination. Training must also include the ability of the school bus driver to work successfully with students. Every school bus driver has immeasurable influence on students through attitude, ethics, respect, and personality. School bus drivers are well-trained. The school bus driver profession is unique in comparison to the usual CDL driver. Every driver has immense responsibility to passengers, parents, community, school administrators, teachers, and peers.

### **Your Personal Pre-Trip**

The personal pre-trip is just as important as the vehicle pre-trip. Factors that influence a driver's well-being are physical, emotional, and mental attitude. Stress in any of these areas can affect driving performance. Under physical, emotional, or mental stress a driver may have trouble concentrating and may experience slowed reaction time.

**Being Well Rested** - Fatigue is one of the major contributing factors to accidents. A well-rested driver is more alert to emergency situations and is less likely to misjudge speed and distance. A driver who gets an adequate amount of rest is less likely to overreact to stress created by traffic and passengers.

**Physical Health** - Both illness and the medicine to combat it can interfere with concentration, coordination, and decision-making abilities. Medications such as cold treatments may cause more problems with driving ability than the illness itself. Behind the wheel of a school bus is no place to combat the flu.



**Proper Dress** - Clothing contributes both to safety and the school bus driver's professional image. Loose clothing, drawstrings, unsecured long hair, and jewelry may be caught in equipment. Shoes with smooth soles or spiked heels may cause ankle injuries or slipping and falling on uneven or slick surfaces. Clothing and footwear must be appropriate for road and weather conditions. Footwear should be firm and stable, with no open toes or heels, and should fit securely to the foot. Remember, as a professional driver, clothing that is provocative, advertises drugs, tobacco, alcohol, or sex should not be worn. Individual districts/service providers should establish a proper dress code.

**Drugs and/or Alcohol** - The use of any drugs or alcohol prior to or while driving is prohibited.

**Confidence** - Confidence is also a factor. Over confident drivers may take unnecessary chances. Under confident drivers may not make critical driving decisions in a timely manner.

**Emotional and Personal Problems** - Driving is no place to rehearse arguments or re-live family fights. When such strong emotional events dominate drivers' thoughts, safe driving observations or the ability to make sound decisions is affected.

**Mental Health** - Generally speaking, the problems that fall into this category do not come on suddenly and, while treatable, this usually requires time. Mental health is closely related to emotional upsets and/or to physical problems. Being depressed over a long period of time, with or without apparent reason, may be related to physical factors or brain chemical imbalances that characterize a mental condition. Drivers experiencing on-going mental or emotional problems may need help from a professional. Seeking out available resources is the first step.

**Self-Esteem** - These factors generally cannot be changed in a short period of time, but they do affect driving. Studies show that drivers who lack self-esteem have more accidents.

In conclusion, know when you, the professional driver, are "fit and ready" to drive the school vehicle. Know and acknowledge when you need help in becoming "fit and ready" to safely transport students. Safely transporting students is our business.

Five keys to being a successful school bus driver are:

- Competence
- Positive Attitude
- Communication
- Cooperation
- Safety Awareness

### What is My Job?

Your job is one of great public contact. You drive a vehicle with the name of your school district/company displayed in bold letters. The school bus is like a moving billboard. If something goes wrong on the route, it is likely that your supervisor will receive a phone call before you return to the bus garage. As a professional school bus driver, you offer a safe transportation service to many different and challenging customers. Who are your customers? The customers riding school buses will include students, who may be very young and may also include young adults, through age 26. Other customers may include supervisors, teachers, parents, coaches.

### Performance Abilities

- Operate varying sizes and types of school buses used to transport pupils
- Familiarity with the geographic service area of district
- Knowledge of local, state, and federal rules, regulations, ordinances, and laws regarding school bus operation
- Alert with ability to exercise good judgment concerning emergencies, disabled vehicles, and abnormal driving

### Responsibilities

- Follow established schedules/routes
- Maintain appropriate fuel level of vehicle
- Maintain an acceptable standard of cleanliness of vehicle
- Monitor mechanical condition by performing daily inspections (pre-trip, in-between and post trips). Report deficiencies to mechanic using Daily Inspection Report
- Drive safely and defensively at all times
- Be prepared to conduct emergency evacuation drills
- Report bus and/or student accidents/injuries to transportation supervisor or his/her designee
- Administer first aid as necessary
- Uphold district school bus passenger rules and regulations
- Maintain behavior logs as directed by transportation supervisor or his/her designee
- Prepare and submit Bus Conduct Reports to the transportation supervisor or his/her designee
- May be requested to attend parent meetings by the transportation supervisor or his/her designee
- Maintain acceptable communications with transportation supervisor, staff, and the public
- Exhibit a positive image as a representative of the school district



## CDE School Transportation Vehicle Operator Requirements

### 4204-R-5.00 School Transportation Vehicle Operator Requirements

5.01 School transportation vehicle route operators (transporting students to and from school or from school to school) driving a School Bus with the capacity of 16 or greater passengers (counting the driver) and school transportation vehicle operators, other than route operators, driving vehicles with the capacity of 16 or greater passengers (counting the driver), including a School Bus, Multifunction Bus and Motor Coach Bus, shall meet or exceed the following requirements:

- 5.01(a) The operator shall possess a valid commercial driver's license (CDL) with the proper class and endorsements for size and type of vehicle(s) to be driven and the associated Medical Examination Report pursuant to 49 CFR 391.43.
- 5.01(b) The operator shall be a minimum of 18 years of age.
- 5.01(c) The district or service provider shall obtain a motor vehicle record of each operator prior to transporting students and annually thereafter.
- 5.01(d) The operator shall be given and/or have access to the CDE School Bus/Multifunction Bus/Motor Coach Bus Operator Manual prior to transporting students.
- 5.01(e) The operator shall receive a minimum of six hours of in-service training annually which may include required training in 1 CCR 301-26-R-5.00. A portion of this annual in-service requirement may occur during the school year.
- 5.01(f) The operator shall successfully pass a CDE School Bus/Multifunction Bus/Motor Coach Bus Operator written test for the current school year prior to transporting students and annually thereafter.
- 5.01(g) The operator shall successfully pass a driving performance test including a pre-trip inspection prior to transporting students and annually thereafter. This test shall be conducted in a vehicle, which is similar in type and size to the vehicle the applicant is assigned to operate. Districts have the option to re-test at their discretion.
- 5.01(h) The operator shall receive pre-service training on the type of





vehicle(s) to be driven, the type of duties they may be required to perform and in student confidentiality requirements prior to transporting students.

- 5.01(i) Prior to driving a school transportation vehicle pursuant to 1 CCR 301-26-R-12.11, operators shall receive training on towing a trailer.
  - 5.01(j) The operator shall have written documentation evidencing that they have received first aid training, including cardiopulmonary resuscitation and universal precautions within 90 calendar days after initial employment. If the operator holds a current first aid, cardiopulmonary resuscitation certificate it will meet the requirements of this section. Operators shall receive first aid training and/or re-certification every two (2) years thereafter.
  - 5.01(k) The operator shall receive training regarding the proper use and maintenance of Child Safety Restraint Systems (CSRS) and proper wheelchair securement, when the operator is engaged in transportation involving these systems and devices prior to transporting students.
- 5.02 School transportation vehicle route operators (transporting students to and from school or from school to school) driving vehicles with the capacity of 15 or fewer passengers (counting the driver), including Type A Multifunction Bus and Small Vehicle, shall meet or exceed the following requirements:
- 5.02(a) The operator shall possess a valid driver's license.
  - 5.02(b) The operator shall be a minimum of 18 years of age.
  - 5.02(c) The district or service provider shall obtain a motor vehicle record of each operator prior to transporting students and annually thereafter.
  - 5.02(d) The operator shall be given and/or have access to the CDE Type A Multifunction Bus /Small Vehicle Route Driver Manual prior to transporting students.
  - 5.02(e) The operator shall receive a minimum of six hours of in-service training annually which may include required training in 1 CCR 301-26-R-5.00. a portion of this annual in-service requirement may occur during the school year.



- 5.02(f) The operator shall successfully pass a CDE Type A Multifunction Bus/Small Vehicle Route Operator written test for the current school year prior to transporting students and annually thereafter.
- 5.02(g) The operator shall successfully pass a driving performance test including a pre-trip inspection prior to transporting students and annually thereafter. This test shall be conducted in a vehicle, which is similar in type and size to the vehicle the applicant is assigned to operate. Districts have the option to re-test at their discretion.
- 5.02(h) The operator shall receive pre-service training on the type of vehicle(s) to be driven, the type of duties they may be required to perform and in student confidentiality requirements prior to transporting students.
- 5.02(i) The operator shall have written documentation evidencing that they have received first aid training, including cardiopulmonary resuscitation and universal precautions within 90 calendar days after initial employment. If the operator holds a current first aid, cardiopulmonary resuscitation certificate it will meet the requirements of this section. Operators shall receive first aid training and/or re-certification every two (2) years thereafter.
- 5.02(j) The operator shall receive training regarding the proper use and maintenance of Child Safety Restraint Systems (CSRS) and proper wheelchair securement, when the operator is engaged in transportation involving these systems and devices prior to transporting students.

5.03 School transportation vehicle operators, other than route operators, driving vehicles with the capacity of 15 or fewer passengers (counting the driver), including Type A Multifunction Bus and Small Vehicle, shall meet or exceed the following requirements:

- 5.03(a) The operator shall possess a valid driver's license.
- 5.03(b) The operator shall be a minimum of 18 years of age.
- 5.03(c) The district or service provider shall obtain a motor vehicle record of each operator prior to transporting students and annually thereafter.



- 5.03(d) The operator shall be given and/or have access to the CDE Type A Multifunction Bus /Small Vehicle Operator Guide prior to transporting students.
- 5.03(e) The operator shall successfully pass a Type A CDE Multifunction Bus/Small Vehicle Operator written test for the current school year prior to transporting students and annually thereafter.
- 5.03(f) The operator shall annually complete the CDE Multifunction/Small Vehicle Operators Medical Information Form (STU-17). Any yes annotations shall require a doctor's release.
- 5.03(g) The operator shall receive pre-service training on the type of vehicle(s) to be driven, the type of duties they may be required to perform and in student confidentiality requirements prior to transporting students.
- 5.03(h) The operator shall be given and/or have access to first aid information, including cardiopulmonary resuscitation and universal precautions.
- 5.03(i) The operator shall successfully pass a driving performance test including a pre-trip inspection prior to transporting students. This test shall be conducted in a vehicle, which is similar in type and size to the vehicle the applicant is assigned to operate. Districts have the option to re-test in subsequent years at their discretion.
- 5.03(j) Prior to driving a school transportation vehicle pursuant to 1 CCR 301-26-R-12.11, operators shall receive training on towing a trailer.
- 5.04 School transportation paraprofessional is a person assigned to assist a school transportation vehicle operator control behavior of students in the bus and/or ensure the safety of students getting on and off the school transportation vehicle.
  - 5.04(a) The school transportation paraprofessional shall receive pre-service training for the type of duties they may be required to perform prior to assisting with transporting students.
- 5.05 School transportation vehicle operators and school transportation paraprofessionals are required to be able to perform all essential functions including emergency evacuations when transporting students as determined by the school district or service provider job qualification standards.



- 5.05(a) The employing school district or service provider has the authority to require at any time a medical evaluation of a school transportation vehicle operator or school transportation paraprofessional for any condition that could impair the employee’s ability to operate a vehicle safely, assist student(s) as required by their position, and/or perform other required job duties, and may take appropriate action on the outcome of such evaluation.
- 5.05(b) School transportation vehicle operators and school transportation paraprofessionals that have medical conditions which result in temporary loss of performance abilities shall provide return to work documentation from their physician, and any other requirements per district policy to the employing school district/service provide prior to returning to their assigned duties.

#### **4204-R-8.00 Pre-trip/Post-trip Vehicle Inspections**

- 8.01 Each school transportation vehicle shall have a daily pre-trip and post-trip inspection performed and documented by the school transportation vehicle operator or a district or service provider authorized transportation employee. A daily pre-trip inspection shall be completed prior to a vehicle being placed in service. A daily post-trip inspection shall be completed at the end of daily operation of each vehicle.
- 8.02 The pre-trip and post-trip inspection requirements for school transportation vehicles, other than small vehicles, shall include at a minimum all items listed on the CDE School Transportation Vehicle (School Bus/Multifunction Bus/Motor Coach Bus) - Pre-Trip and Post Trip Requirements Form (STU-9).
- 8.03 The pre-trip and post-trip inspection requirements for school transportation small vehicles shall include at a minimum all items listed on the CDE School Transportation Vehicle (Small Vehicle) - Pre-Trip and Post Trip Requirements Form (STU-8).
- 8.04 School districts and service providers shall have a procedure in place to verify that students are not left on an unattended school transportation vehicle.

**“To be respected you must be respectable.”**

Not only during the course of our work day is it important to be professional in our conduct, outside of our work day it is important as well. How you conduct yourself in public has a direct impact on your school district and the publics’ impression of you.

You are in a fish bowl. Whether you like it or not, when you work with children the public and parents have an extremely high expectation of your skills, your integrity and your ethics. They expect high quality, responsible people to care for the safety of their children. Studies show that when students respect leadership there are significantly lower incidents of disciplinary issues.

How you represent yourself and your district is so very important. Ask yourself these questions daily:

1. Am I dressed as a professional driver? (Clean, modest clothing, proper footwear, etc.)
2. Is the bus placed in my care, properly cleaned and maintained?
3. Can my employer people count on me to arrive on time at work?
4. Can parents count on me to be at my bus stops on time?
5. Can my students count on me to be fair and impartial?
6. Am I setting the example of respect to my students by exhibiting respect to others?
7. Am I conducting myself in a manner that reflects positively on me and my district?

If you can answer “yes” to all of these questions, then you are well on your way to having a successful experience as a professional school bus driver.

### **Other Important Information**

Per the Colorado Schools Law 2015

22-32-109.1 (8)

#### **8) Employee screenings.**

Each board of education shall adopt a policy of making inquiries upon good cause to the department of education for the purposes of screening licensed employees and non-licensed employees hired on or after January 1, 1991. Licensed employees employed by school districts on or after January 1, 1991, shall be screened upon good cause to check for any new instances of criminal activity listed in section 22-32-109.9 (1) (a). Non-licensed employees employed by a school district on or after January 1, 1991, shall be screened upon good cause to check for any new instances of criminal activity listed in section 22-32-109.8 (2) (a).

22-32-109.1 (9)

#### **(9) Immunity.**

(a) A school district board of education or a teacher or any other person acting in good faith in accordance with the provisions of subsection (2) of this section in carrying out the powers or duties authorized by said subsection shall be immune from criminal prosecution or civil liability for such actions; except that a teacher or any

other person acting willfully or wantonly in violation of said subsection shall not be immune from criminal prosecution or civil liability pursuant to said subsection. A teacher or any other person claiming immunity from criminal prosecution under this paragraph (a) may file a motion that shall be heard prior to trial. At the hearing, the teacher or other person claiming immunity shall bear the burden of establishing the right to immunity by a preponderance of the evidence.

(b) A teacher or any other person acting in good faith and in compliance with the conduct and discipline code adopted by the board of education pursuant to paragraph (a) of subsection (2) of this section shall be immune from civil liability; except that a person acting willfully and wantonly shall not be immune from liability pursuant to this paragraph (b). The court shall dismiss any civil action resulting from actions taken by a teacher or any other person pursuant to the conduct and discipline code adopted by the board of education pursuant to paragraph (a) of subsection (2) of this section upon a finding by the court that the person acted in good faith and in compliance with such conduct and discipline code and was therefore immune from civil liability pursuant to paragraph (a) of this subsection (9). The court shall award court costs and reasonable attorney fees to the prevailing party in such a civil action.

(c) If a teacher or any other person does not claim or is not granted immunity from criminal prosecution pursuant to paragraph (a) of this subsection (9) and a criminal action is brought against a teacher or any other person for actions taken pursuant to the conduct and discipline code adopted by the board of education pursuant to paragraph (a) of subsection (2) of this section, it shall be an affirmative defense in the criminal action that the teacher or such other person was acting in good faith and in compliance with the conduct and discipline code and was not acting in a willful or wanton manner in violation of the conduct and discipline code.

(d) An act of a teacher or any other person shall not be considered child abuse pursuant to section 18-6-401 (1) and 19-1-103 (1), C.R.S., if:

- (I) The act was performed in good faith and in compliance with the conduct and discipline code adopted by the board of education pursuant to paragraph (a) of subsection (2) of this section; or
- (II) The act was an appropriate expression of affection or emotional support, as determined by the board of education.

(e) A teacher or any other person who acts in good faith and in compliance with the conduct and discipline code adopted by the board of education pursuant to paragraph (a) of subsection (2) of this section shall not have his or her contract nonrenewed or be subject to any disciplinary proceedings, including dismissal, as a result of such lawful actions, nor shall the actions of the teacher or other person be reflected in any written evaluation or other personnel record concerning such teacher or other person. A teacher or any other person aggrieved by an alleged violation of this paragraph (e)



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may file a civil action in the appropriate district court within two years after the alleged violation.



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## Unit 2 - District and Federal Requirements

### District Requirements

- Physical examination requirements
- Per CFR 49 383.35 All employers shall request the information specified in paragraph (c) of this section from all persons applying for employment as a commercial motor vehicle operator. The request shall be made at the time of application of employment.
- Pre-employment drug test
- Shall have all employees that transport student's home to school, school to school, school to home and to and from events sanctioned by the school district requiring a CDL license shall be in a US DOT approved substance abuse random testing program.
- Motor Vehicle Record (MVR) for proper driving clearance
- Temporary instruction permit (TIP, CLP)
- Prerequisite and Behind the Wheel Training by a licensed CDL driver
- Directed to the Department of Revenue to complete required knowledge tests
- Complete all of the above requirements proving to be a competent and safe school bus driver, after which he/she will be scheduled for a road test by an authorized third party examiner
- Submit the certificate from the third party examiner to the Department of Revenue to secure his/her commercial driver's license
- Each new CDL driver will receive a temporary Commercial Learner's Permit (CLP) followed by the permanent driver's license

- Every district is required to give a minimum of 6 hours in-service training annually for each certified school bus driver within the organization. This is essential to maintain and emphasize safety standards.
- Per 4204-R-4.01, School districts and service providers shall outline job responsibilities and develop job qualification standards for each school transportation vehicle operator and school transportation paraprofessionals, consistent with federal and state regulations. A copy of these requirements shall be provided to each school transportation vehicle operator and paraprofessional upon employment.
- Per 4204-R-4.02, School districts and service providers shall maintain separate files for each school transportation vehicle operator, school transportation paraprofessional, and school transportation annual inspector with written documentation evidencing all listed requirements indicated in Rule 5.00, Rule 6.00 and Rule 7.00, as applicable. Training documentation shall include the trainer name, date of the training, description of the training, duration of each topic covered and the signature of all attendees.
- Per 4204-R-4.02(a) If a school transportation vehicle operator works for more than one school district, each district shall maintain a file with documentation in accordance with this rule.
- Per 4204-R-4.03, School districts and service providers shall ensure all employees required to possess a commercial driver's license (CDL) shall be in a US DOT approved substance abuse testing program.
- Per 4204-R-4.04, School districts and service providers shall not permit a school transportation vehicle operator to transport students, while the operator's ability or alertness is so impaired, through fatigue, illness or any other cause, as to make it unsafe for the operator to transport students.
- Per 4204-R-4.05, School districts and service providers shall have written emergency procedures and/or contingency plans to be followed in the event of a traffic accident, vehicle breakdown, unexpected school closing, unforeseen route change or relocation of a student stop in an emergency.



- Per 4204-R-4.06, School district and service providers shall ensure that documentation outlining transportation related services and requirements, including required use of Child Safety Restraint Systems and medical and behavioral information as it relates to student transportation, is available to applicable school transportation vehicle operators and paraprofessionals prior to providing transportation services.
- Per 4204-R-8.04, School districts and service providers shall have a procedure in place to verify that students are not left on an unattended school transportation vehicle.
- Per 4204-R 11.01, School districts and service providers must ensure all school transportation vehicles are systematically inspected, maintained and repaired to ensure that school transportation vehicles are in safe and proper operating condition.
- Per 4204-R-11.02, School districts and service providers shall have a system to document preventative maintenance, reported defects and repairs made to school transportation vehicles.
- Per 4204-R-11.03, School districts and service providers shall maintain separate files for each school transportation vehicle with documentation of all annual inspections, all preventative maintenance and all reported damage, defects or deficiencies and the corresponding repair and maintenance performed.
- Per 4204-R-11.07, School districts and service providers shall not transport students in a school transportation vehicle which is not in safe and proper operating condition. A school transportation vehicle shall be designated as “out-of-service” by a school district or service provider, a school transportation annual inspector or the CDE School Transportation Unit.
- Per 4204-R-11.07(a) Exemption - Any school transportation vehicle discovered to be in an unsafe condition while being operated on the highway, roadway or private road may be continued in operation only to the nearest place where repairs can safely be affected. Such operation shall be conducted only if it is less hazardous to the public than to permit the vehicle to remain on the highway, roadway or private road.
- Per 4204-R-13.04, School districts and service providers shall consider the size of the passengers when determining the number of passengers that can safely occupy a school transportation vehicle seat.

- Per 4204-R-18.03, School district and service providers shall maintain records documenting that the required evacuation drills were conducted and/or evacuation instruction was given.

## **CDL Overview**

### **What Type of CDL Do I Need?**

**Class A** – Combination Vehicles. Any combination of vehicles with a gross combination weight rating (GVWR) of 26,001 pounds or more provided the gross vehicle weight rating (GVWR) of the vehicle(s) being towed is in excess of 10,000 pounds.

**Class B** – Heavy Straight Vehicles. Any single vehicle with a GVWR of 26,001 pounds or more, or any such vehicle towing a vehicle not in excess of 10,000 pounds GVWR.

**Class C** – Small Vehicles. Any single vehicle or combination of vehicles that meets neither the definition of Class A, nor that of Class B, but that is either designed to transport 16 or more passengers, including the driver, or is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations 49 CFR part 172, Subpart F.

### **CDL Endorsements**

T - Double/Triple Trailers - knowledge test

**P - CDL Passenger vehicle - knowledge and skill tests**

N - Tank Vehicle - a knowledge test

H - Hazardous Materials - knowledge test

**S - School Bus - knowledge and skill tests**

X - Hazmat/Tanker Combination

### **CDL Restrictions**

L - Not Air Brake Equipped CMV - If an applicant either fails the air brake component of the knowledge test, or performs the skill tests in a vehicle not equipped with a “full” air brake system, the person is restricted from operating a CMV equipped with a “full” air brake system.



K - Intrastate only. For individuals between the ages of 18 through 20, or for individuals who do not meet the Department of Transportation (DOT) medical requirements but have been issued a waiver from the Colorado State Patrol (CSP) to operate a CDL vehicle.

E - No manual transmission. Tests in a vehicle with a transmission other than a manual.

M - No Class A passenger vehicle. Tests in Class B Passenger Vehicle.

N - No Class A and B passenger vehicle.

C - Passenger Vehicle.

O - No tractor trailer. Tests in a vehicle with a coupling system other than a Fifth Wheel.

P - No passengers. Passengers not allowed on the vehicle.

X - No Liquid in Tank.

V - Medical Variance (49 CFR 383.95(q) and 153(a) (10) (viii))

Z - No full air brake equipped CMV. Tests in Vehicle with Air over Hydraulic Brake type system.

### Legal Age: 18

You must be at least 18 years of age to apply for a Commercial Learner's Permit or to receive a CDL. Drivers 18 through 20 years of age will be issued the "K" restriction to operate a CDL vehicle within the boundaries of Colorado.

### Medical Examination

To obtain the medical examination form you should contact your employer, physician, or download the form at: <http://www.csp.state.co.us/mcsap.html> and have a registered medical doctor certify the form.

<https://nationalregistry.fmcsa.dot.gov/NRPublicUI/home.seam>

### CLP- Commercial Learners Permit

If you have an out-of-state driver's license, you must be issued a Colorado Regular Driver's License before applying for a Colorado Commercial Learner's Permit (CLP).

The CLP is required before the CDL Driving Skill Tests are administered.

**To receive the CLP - Commercial Learners Permit:**

- Have a Colorado regular driver's license.
- Show acceptable legal presence documentation.
- Show acceptable identification.
- Be at least 18 years of age.
- Show proof of your Social Security Number.
- Show evidence of a current DOT medical examination certification.
- Clear Commercial Driver License Information System (CDLIS) and National Driver Register (NDR) record's checks.
- Pass the required CDL Knowledge tests.
- Pay the Instruction Permit fee.

The CLP allows you to operate the class of vehicle shown on the permit only when you are accompanied by a person who is at least 21 years of age and holds a valid CDL of the same class of license or higher, with the required endorsements for the vehicle being operated. The person must be in the seat closest to the driver.

**Knowledge Tests**

You will have to take one or more knowledge tests, depending on what class of license and what endorsements you need. The CDL knowledge tests include:

- The general knowledge test, taken by all applicants.
- The passenger transport test, taken by all bus driver applicants.
- The air brakes test, which you must take if your vehicle has air brakes, including air over hydraulic brakes.
- The School Bus test is required if you want to drive a school bus.



## **Skills Tests**

If you pass the required knowledge test(s), you can take the CDL skills tests. There are three types of general skills that will be tested: Vehicle inspection, basic vehicle control, and on-road driving. You must take these tests in the type of vehicle for which you wish to be licensed. Any vehicle that has components marked or labeled cannot be used for the Vehicle Inspection Test.

- **Vehicle Inspection.** You will be tested to see if you know whether your vehicle is safe to drive. You will be asked to do a Vehicle inspection of your vehicle and explain to the examiner what you would inspect and why.
- **Basic Vehicle Control.** You will be tested on your skill to control the vehicle. You will be asked to move your vehicle forward, backward, and turn it within a defined area. These areas will be marked with traffic lanes and cones. The examiner will tell you how each control test is to be done.
- **On-road Test.** You will be tested on your skill to safely drive your vehicle in a variety of traffic situations. The situations will include left and right turns, intersections, railroad crossings, curves, single or multi-lane roads, streets, or highways. The examiner will tell you where to drive.

## **Medical Documentation Requirements**

If you are applying for a CLP; or are renewing, upgrading, adding endorsements to a CDL; or transferring a CDL from another state, you are required to provide information to the Colorado Driver license office regarding the type of commercial motor vehicle operation you drive in or expect to drive in with your CDL. Drivers operating CDL Commercial Vehicles will be required to submit a current medical examiner's certificate and/or DOT Waiver that you have been issued (i.e. Vision, Skills Performance or Diabetic waivers, or other exemptions) to the Colorado Driver license office to obtain a "certified" medical status as part of your driving record. You may fax the DOT medical card to (303)-205-5709. If you fail to provide and keep up-to-date your medical examiner's certificate you become "not- certified" and may lose your CDL. For the purpose of complying with the new requirements for medical certification, it is important to know how you are using the CMV. The following information will help you decide how to self-certify:

### **Self-Certification Choice**

Non-expected interstate. - A person must certify that he or she operates or expects to operate in interstate commerce is both subject to and meets the qualification

requirements under 49 CFR part 391 and is required to be medically examined and certified pursuant to 49 CFR 391.45

Excepted interstate - A person must certify that he or she operates or expects to operate in interstate commerce, but engages exclusively in transportation or operations excepted under 49 CFR 390.3(f), 391.2, 391.68 or 398.3 from all or parts of the qualification requirements of 49 CFR part 391 and is therefore not required to be medically examined and certified pursuant to 49 CFR 391.45

Non-excepted intrastate - A person must certify that he or she operates only in intrastate commerce and therefore is subject to state driver qualification requirements

Excepted intrastate - A person must certify that he or she operates in intrastate commerce, but engages exclusively in transportation or operations excepted from all or parts of the State driver qualification.

### **Driver Licensing Requirements**

1. Each driver applying for a CDL or learners permit shall be a resident of Colorado, at least 18 years of age, and comply with the testing and licensing requirement of the Department.
  - (a) The CDL and CLP will indicate the class of license, any endorsements and any restrictions for that individual driver. The CDL is valid for the operation of a non-CMV including a motorcycle with the appropriate motorcycle endorsement on the license.
  - (b) A Colorado CDL may be issued upon surrender of a valid CDL from another state without additional testing except that the applicant must test for a hazardous material endorsement and school bus endorsement.
  - (c) An individual with an out-of-state CLP cannot transfer that CLP to Colorado but must apply for a Colorado CLP and take all applicable CDL knowledge tests.
2. Each driver applying is required to make one of the applicable self-certifications for the type of commercial driving the individual intends to do.
3. Each driver shall meet the medical and physical qualifications under FMCSR Part 391.41. Each driver shall submit their medical examiner's certificate and if applicable any federal variance or state medical waiver or Skills Performance Evaluation to a Driver License Office.



## **Drug and Alcohol Regulations (FMCSA)**

**<https://www.fmcsa.dot.gov/regulations/drug-alcohol-testing/implementation-guidelines-alcohol-and-drug-regulations-chapter-2>**

### **What the Regulations Require**

The FMCSA regulations require that the following program elements be implemented or updated:

A policy statement on controlled substances use and alcohol misuse in the workplace.

Supervisor education and training program.

A controlled substances and alcohol testing program for persons, used in duties requiring the driving of CMV's.

Evaluation of the driver who has violated the controlled substances and alcohol regulations.

Administrative procedures for recordkeeping, reporting, releasing information, and certifying compliance.

### **Employees Who Are Affected**

All drivers who drive commercial motor vehicles(CMV) must be included in your alcohol misuse and controlled substances use program. No other employees may be included. Although this sounds like a simple distinction, it is important to understand the definitions of "driver" and "safety-sensitive function."

"Driver" means anyone who operates a CMV, whether full-time, part-time, casual, intermittent, occasional, volunteer, leased, or independent. Independent drivers are included whether they are directly employed or under lease and whether they operate their own CMV or one of yours. As long as an independent driver is operating at your direction, he/she must be included in your program.

### **Education and Training**

You must provide to all drivers' educational materials that explain the requirements of your policies and procedures for the FMCSA controlled substances and alcohol testing regulations (382.601). Information on the effects and consequences of substance abuse on personal health, safety, and the work site, as well as indicators of substance abuse, must be provided.

Driver supervisors must receive additional training on the physical, behavioral, and performance indicators of controlled substances use or alcohol misuse to determine when drivers must be tested under reasonable suspicion (382.603).

## **Testing**

You must establish a controlled substances and alcohol (part 382, subpart C) testing program that follows FMCSA regulations for controlled substances testing and alcohol testing. The types of tests are:

- Pre-employment (required for controlled substances only, optional for alcohol)
- Reasonable suspicion
- Post-accident
- Random
- Return-to-duty
- Follow-up.

## **Stand-Down**

The drug testing process provides for an Medical Review Officer (MRO) to receive test results from the laboratory, verify a positive or negative result, and only then contact the employer to report the test result.

## **Referral for Evaluation**

You must immediately remove every driver who has violated the prohibitions in Part 382, subpart B from driving CMV's and performing other safety-sensitive functions and refer the driver to a substance abuse professional for an evaluation. The evaluation is to determine the level of assistance the driver needs in resolving problems with alcohol misuse and/or controlled substances use.

The employer must advise the driver of the various resources available to the driver. These must include, but are not limited to, the names, addresses, and telephone numbers of substance abuse professionals, counseling, and treatment programs. Employers that have established employee assistance programs or have health insurance programs that include substance abuse treatment may refer their drivers to these programs.

## **State and Local Issues**

The FMCSA regulations (382.109) preempt any State or local law, rule, regulation, or order when:



- Compliance with both the State or local requirement and these regulations is not possible,
- Compliance with the State or local requirement is an obstacle to accomplishing and executing any requirement in these regulations.

However, these regulations do not preempt any provisions of State criminal law that impose sanctions for conduct leading to loss of life, injury, or damage to property.

### **Federal Motor Carrier Safety Administration - Mobile Phone Restriction Rules for Commercial Motor Vehicle Drivers**

#### *Part 392 - DRIVING OF COMMERCIAL MOTOR VEHICLES*

*392.82: Using a hand-held mobile telephone.*

*(1) No driver shall use a hand-held mobile telephone while driving a CMV.*

*(2) No motor carrier shall allow or require its drivers to use a hand-held mobile telephone while driving a CMV.*

*(b) Definitions. For the purpose of this section only, driving means operating a commercial motor vehicle on a highway, including while temporarily stationary because of traffic, a traffic control device, or other momentary delays. Driving does not include operating a commercial motor vehicle when the driver has moved the vehicle to the side of, or off, a highway and has halted in a location where the vehicle can safely remain stationary.*

*(c) Emergency exception. Using a hand-held mobile telephone is permissible by drivers of a CMV when necessary to communicate with law enforcement officials or other emergency services.*



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## Unit 3 - Vehicle Familiarization

Buses come in all shapes and sizes. They can have engines in the front, rear, or middle of the bus. They also vary in the kind of fuel they burn. Fuels can be gasoline, diesel, bio-diesel, natural gas, or propane. However, let's look at the legal description of a School Bus, Multi-function Bus, and Motor Coach.

### What is a School Transportation Vehicle?

#### **1 CCR 301-25, 2251-R-5.04 Definitions**

5.04 School Transportation Vehicle means every motor vehicle which is owned by a school district or charter school and operated for the transportation of students to and from school, from school to school, or to school related events or which is privately owned and operated for compensation provided that such transportation service is sponsored and approved by the local board of education or school's governing board.

- 5.04(a) This does not include informal or intermittent arrangements, such as sharing of actual gasoline expense or participation in a car pool.
- 5.04(b) Exemption: Vehicles that carry students as part of their operation as a common carrier under the jurisdiction of United States Department of Transportation or Public Utilities Commission are not included within the definition of school transportation vehicle.

### What is a School Bus?

#### **1 CCR 301-25, 2251-R-5.05 Definitions**

5.05 School Bus means a passenger motor vehicle which is designed or used to carry more than 10 passengers in addition to the driver, and which the Secretary determines is likely to be significantly used for the purpose of transporting preprimary, primary, or secondary school students to such schools from home or from such schools to home.

## What is a Small Vehicle?

### **1 CCR 301-25, 2251-R-5.06 Definitions**

5.06 Small Vehicle shall be a motor vehicle, which does not meet the requirements of a Type A, B, C or D school bus, designed for general purpose use. A small vehicle shall meet or exceed section 20.05 of these rules. These vehicles may be used to carry students to and from school, from school to school, or to school related events.

5.06(a) Small vehicles shall bear name of school district/service provider plainly visible on each side.

## What is a Multifunction Bus?

### **1 CCR 301-25, 2251-R-5.07 Definitions**

Multifunction bus shall be a motor vehicle with motive power, built to federal multifunctional school activity bus standards, designed for carrying students. These buses may be used to carry students on activity trips. Multifunction buses of 15 or less capacity may also be used on route.

## What is a Motor Coach?

### **49 CFR Part 571.3**

Motor Coach - Motor coach means a bus with a gross vehicle weight rating (GVWR) of 11,793 kilograms (26,000 pounds) or greater, 16 or more designated seating positions (including the driver), and at least 2 rows of passenger seats, rearward of the driver's seating position, that are forward-facing or can convert to forward-facing without the use of tools. Motor coach includes buses sold for intercity, tour, and commuter bus service, but does not include a school bus, or an urban transit bus sold for operation as a common carrier in urban transportation along a fixed route with frequent stops.

Let's discuss some of the physical characteristics of these vehicles which are very important for a driver to be aware of and take extra precautions to avoid associated problems. They are longer, wider, higher, and heavier than an automobile, all of which increase the potential for accident producing situations.

## Length

- A conventional 65 passenger school bus is approximately 35 feet long. Buses can be as long as 45 feet.
- The length of the bus will affect merging with other traffic and changing lanes. A longer gap in traffic is necessary to complete these maneuvers.
- The length of the bus causes problems in knowing when to begin turning the steering wheel for right turns. The rear wheels serve as the pivot point and, if



the steering wheel is turned too soon; the rear wheels will go over the curb. If turned too late, the bus will not remain in the correct lane.

- More attention must be paid to avoid bumps and holes in the pavement. Pupils sitting in the rear of the bus are more severely jolted than the driver when the rear wheels ride over these highway defects.
- Drivers should avoid backing up, but on occasion backing up will be necessary. The length of the bus makes it extremely difficult to see and judge distances to the rear. There is an approximate 10-foot overhang behind the rear wheels on the bus.
- Pupils sometimes like to play tricks on the driver. If a few pupils sit in the back of the bus and start bouncing up and down, they will cause a bouncing motion of the bus which may cause steering loss.
- When turning right on a narrow two lane street the rear of the bus may swing out into the adjoining lane.
- When backing into a parking stall the rear of the bus may extend up to 10 feet beyond the curb before the rear wheels hit the curb. Any tree, pole or post near the curb could easily be struck before you realize the rear of the bus is beyond the curb.

### Width

- A school bus can be approximately 8 ½ feet wide. When the west coast mirrors are considered, buses are nearly 10 ½ feet wide. The width of the bus does not leave much maneuvering room within a lane. Lanes vary in width from 9 feet on some narrow city streets to 12 feet on the interstate system. Drivers must be aware of traffic next to their vehicle in adjacent lanes and fixtures near the edge of the road which may be struck by the protruding mirrors.
- There is another trick pupil's can play on the driver that relates to the width of the bus. If pupils sitting on both sides of the bus begin swaying from side to side in a coordinated fashion they can cause the bus to sway. This further reduces the limited maneuvering room that the bus has in its lane.

### Height

- A school bus is 9 to 11 feet high. The height of the bus is of concern when going under overpasses and canopies. Height clearances are generally posted on the bridge or canopy. Close attention should be paid to them. Related to the height of the school bus, is the high center of gravity of the bus. The bus floor is 3 feet or more above the ground. This high center of gravity makes the vehicle unstable and prone to tip over.
- When the bus is fully loaded, the center of gravity is even higher because the bus seats are 1 ½ feet above the floor. This additional weight high in the bus



makes the bus even more prone to tip over. Standees further increase the problem.

- Bus bumpers and skirting are approximately 18 to 26 inches high. Low bumpers and skirting, along with the long rear overhang, causes problems when going up or down short, steep grades such as driveways. This is especially likely to occur when the bus is loaded. Low bumpers and skirting, along with the low undercarriage of the bus, can also cause a problem when backing into a parking area. As the rear overhang extends beyond the curb it could scrape objects hidden in the grass.
- The bottom step is approximately 14 inches from the ground. The height of the step makes it very difficult for young children to climb. There is always the danger that in the process of lifting their legs so high, and in trying to pull themselves up, they might slip and slide under the bus.
- An unloaded conventional or transit school bus weighs 6 to 10 tons. When loaded this weight increases to 10 to 14 tons. Total load weight includes the weight of the bus, the number and weight of the passengers and any equipment, luggage or baggage that is carried.
- Weight of the bus is of concern when crossing bridges. Axle weights are generally posted on the bridges. A bridge should never be crossed if the axle weight of the bus exceeds the weight restriction.
- Weight affects acceleration and stopping ability. It takes longer to increase speed in a school bus than it does in an automobile. This is important to remember in any situation requiring acceleration such as starting from a stop or during such maneuvers as merging or passing.

Characteristics	School Bus Vehicle Type	
	<i>Conventional</i>	<i>Transit</i>
Length	33-45 feet	35-45 feet
Height	9-11 feet	9-11 feet
Weight		
Unloaded	6 tons (12,000 lbs.)	7 tons (14,000 lbs.)
Loaded	10 tons (20,000 lbs.)	12 tons (24,000 lbs.)
Axle		
Unloaded	3.5 tons (7,000 lbs.)	5 tons (10,000 lbs.)
Loaded	5 tons (10,000 lbs.)	7 tons (14,000 lbs.)
Width		
Legal	8 ½ feet (102 inches)	8 ½ feet (102 inches)
Operational	10-12 ½ feet	10-12 ½ feet



Capacity	11-78	48-90
Wheelbase	20-22 feet	22-24 feet

The heavier the vehicle the longer it takes to stop. Buses cannot stop as fast as automobiles so it is extremely important to have adequate space between your vehicle and the vehicle in front of you, and to also take your foot off the gas pedal and begin the stopping procedure sooner.

### **Blind Spots and Danger Zones**

There are a number of locations ahead, behind and to the sides of school buses that are particularly dangerous because they are hidden from the driver's direct view. Drivers must be aware of these locations and know how to adjust and use their mirrors so they can avoid any dangers within these blind spots.

One danger zone is immediately in front of the bus. The blind spot in front of the vehicle extends much further in a conventional vehicle than in a transit vehicle, because in a conventional vehicle the hood is so high and sticks out several feet in front of the driver. In both types of vehicles, however, there is a blind spot immediately in front of the vehicle.

How far the blind spot extends in either type of vehicle will vary depending upon the eye level of the driver when sitting in the driver's seat. The lower the eye level, the longer the blind spot. Any object below the driver's viewing angle cannot be directly seen by the driver.

A second danger zone is directly behind the vehicle. The intent of the inside mirror is to have it adjusted so the driver can observe the passengers; not traffic directly behind the vehicle. Therefore, there is a blind spot directly behind the vehicle that cannot be seen with either outside mirror.

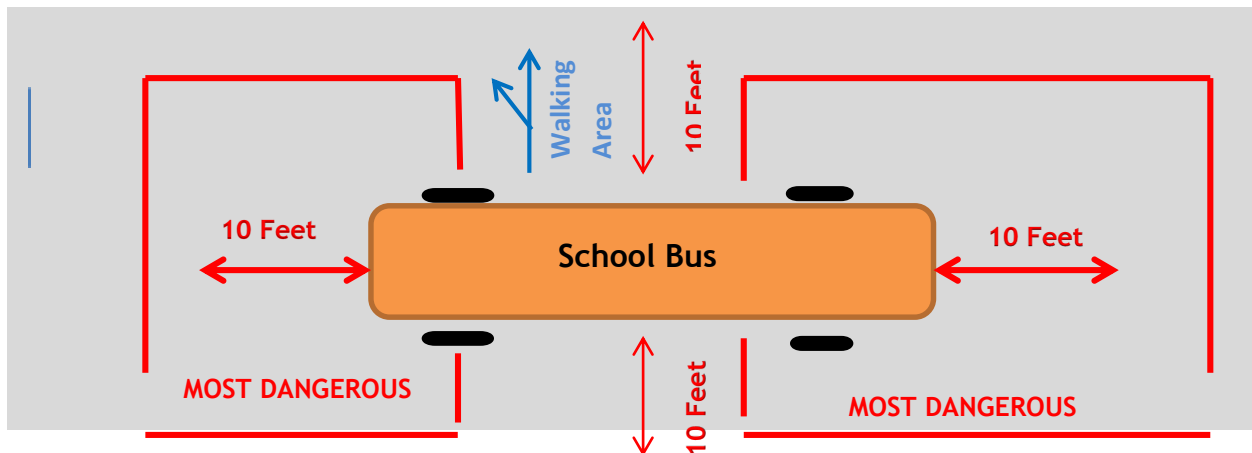
A third danger zone is on the driver's side of the vehicle. The blind spot on the driver's side of the vehicle is created by the fact that the driver cannot see directly below the window level. How far the blind spot extends will also vary depending upon the eye level of the driver when sitting in the driver's seat. Any object below this angle cannot be seen directly by the driver.



The final danger zone is on the passenger side of the vehicle. This blind spot is also created by the fact that the driver cannot see directly below the window level. The blind spot on the passenger side, however, will extend further to the side of the vehicle than on the driver's side of the vehicle because the driver is sitting further away from the window.

The greatest danger area on this side of the vehicle is directly in front of the front and rear wheels where pupils may be struck by the vehicle.

How far the blind spot extends will also vary depending upon the eye level of the driver when sitting in the driver's seat. Any object below this angle cannot be directly seen by the driver.



### Mirror Laws

Per 1 CCR 301-25, 2251-R-30.00, Exterior mirrors shall meet FMVSS 111.

### Guidelines for Mirror Adjustments

- Using the front crossover mirror, you should be able to see:
  - All the way across the front bumper of the school bus plus not less than 2 feet on either side from the ground to the point where direct observation is possible and not less than 12 feet in front of the school bus.

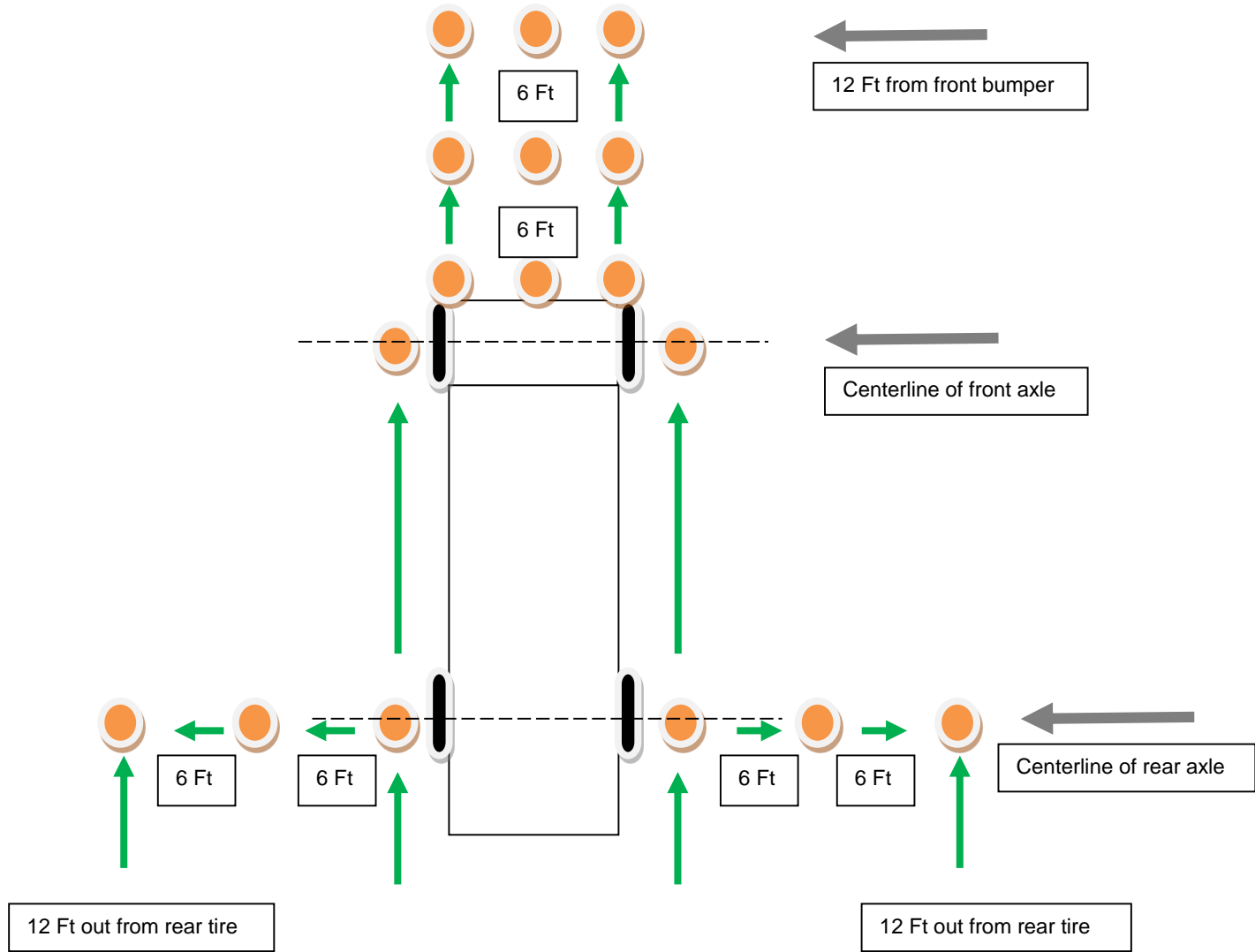


- **Using the right convex mirror, you should be able to see:**
  - The right front tires making contact with the ground
  - The entrance door area
  - Along the side of the rear of the school bus
  
- **Using the left convex mirror, you should be able to see:**
  - The left front tires making contact with the ground
  - Along the side to the rear of the school bus to reduce the left side blind spot
  
- **Using the side flat mirrors (west coast) you should be able to see:**
  - The side of the bus in the edge of the mirror but not enough to enable you to count the windows.
  - Parallel to sides of the bus at least on traffic lane
  - The ground within approximately 6 inches of the rear dual wheel
  - Approximately four (4) bus lengths behind the bus
  - **Remember:** Your side flat mirrors (west coast) when adjusted and properly used will give you a wider viewing area, but, they also create blind spots that can hide a vehicle as large as a semi-truck. When approaching an intersection, be cautious and lean towards the steering wheel to peer around the mirrors to see if traffic has cleared.
  
- **Inside Rear View Mirror**
  - The rear view mirror should be adjusted to see the students inside the bus and any traffic directly behind the bus. If you cannot adjust the mirrors to your satisfaction, you may need to ask your supervisor and/or mechanic for bracket adjustment.



### FMVSS 111, Convex Cross-View Mirrors on School Buses

If there is not sufficient room to paint the grid, try using different colored Frisbees laid out at the distances shown in the diagram.





## Unit 4 - Vehicle Inspections

Vehicle Inspection is a term given to the process of a recommended, systematized sequential procedure for inspecting a vehicle's condition to transport passengers.

During the inspection, drivers try to locate possible mechanical, electrical and/or other conditions by feeling, touching, looking, listening and/or smelling, that may cause an interruption of timely service or a collision.

Even though many school districts perform inspections somewhat differently, the procedures are basically the same. Performing the inspection is an implied driver duty.

The transportation of pupils is a sensitive job requiring concern for safety and liability.

**Never attempt to drive a defective school bus.**

### Why Should I Perform Inspections?

#### Model Traffic Code for Colorado

##### 202. Unsafe vehicles - penalty - identification plates.

*(1) It is unlawful for any person to drive or move or for the owner to cause or knowingly permit to be driven or moved on any highway any vehicle or combination of vehicles which is in such unsafe*

*condition as to endanger any person, or which does not contain those parts or is not at all times equipped with such lamps and other equipment in proper condition and adjustment as required in this section and sections 204 to 231 and part 3 of this Code, or which is equipped in any manner in violation of said sections and part 3 or for any person to do any act forbidden or fail to perform any act required under said sections and part 3.*

*(2) The provisions of this section and sections 204 to 231 and part 3 of this Code with respect to equipment on vehicles shall not apply to implements of husbandry or farm tractors, except as made applicable in said sections and part 3.*

*(3) Nothing in this Code shall be construed to prohibit the use of additional parts and accessories on any vehicle, consistent with the provisions of this Code.*



*(4) Any person who violates any provision of this section commits a class A traffic infraction.*

**Colorado Department of Education Operation of School Transportation Vehicles  
Rules 1 CCR 301-26**

*4204-R-8.00 Pre-trip/Post-trip Vehicle Inspections*

*8.01 Each school transportation vehicle shall have a daily pre-trip and post-trip inspection performed and documented by the school transportation vehicle operator or a district or service provider authorized transportation employee. A daily pre-trip inspection shall be completed prior to a vehicle being placed in service. A daily post-trip inspection shall be completed at the end of daily operation of each vehicle.*

*8.02 The pre-trip and post-trip inspection requirements for school transportation vehicles, other than small vehicles, shall include at a minimum all items listed on the CDE School Transportation Vehicle (School Bus/Multifunction Bus/Motor Coach Bus) - Pre-Trip and Post Trip Requirements Form (STU-9).*

*8.03 The pre-trip and post-trip inspection requirements for school transportation small vehicles shall include at a minimum all items listed on the CDE School Transportation Vehicle (Small Vehicle) - Pre-Trip and Post Trip Requirements Form (STU-8).*

*8.04 School districts and service providers shall have a procedure in place to verify that students are not left on an unattended school transportation vehicle.*

**Colorado Department of Revenue - Commercial Driver's License**

**1.1.2 - Skills Tests**

*Vehicle Inspection. You will be tested to see if you know whether your vehicle is safe to drive. You will be asked to do a Vehicle inspection of your vehicle and explain to the examiner what you would inspect and why.*

**Safety of Passengers**

Safety is the most important reason you inspect your vehicle. Good inspections provide safety for you and for other road users. A vehicle defect found during an inspection could save you problems later. You could have a breakdown on the road that will cost time and dollars, or even worse, cause a crash because of the defect. School officials and parents trust us with the safety of their children while they are in our care. If you did not perform your pre-trip and a child was injured due to a malfunction of your vehicle that you may have discovered during the course of a pre-trip, how would you possibly explain to that parent why you did not perform your duties as required?

### **Prevent Breakdowns**

A vehicle inspection can, if done properly prevent breakdowns. You are trying to prevent a breakdown by maintaining your bus in its best possible condition. By using a prepared checklist many items can be checked to determine if the bus is safe and ready to drive.

Preventing breakdowns can eliminate frustrations for you. For instance, by checking the fan belt, its potential to break while on route can be reduced. This will eliminate the frustration of having to wait for repairs or a bus replacement during the bus run.

Every breakdown regardless of the severity causes you and your students to be placed in potentially unsafe circumstances. Anytime a vehicle is along the edge of a roadway it creates a hazard for other motorists, and a school bus on the shoulder will have more than the usual amount of people stopping asking if you need assistance, thus creating an even bigger hazard.

When a school bus has a breakdown it causes great anxiety to some of our younger students, and if you have any medically fragile students it could be life threatening. For instance, consider the student that is a severe diabetic and needs medication at particular times and you are delayed for a substantial amount of time due to a breakdown that could have been prevented by doing a thorough pre-trip.

### **Reduce Delays**

Repairing worn and broken parts not only eliminates frustrations for you, but it also eliminates delays for your passengers. When students do not arrive on time to their destination, problems are caused for the students, teachers and parents.

When students do not arrive on time the phones in the transportation department start to ring “off the walls!” Many families depend on their students to arrive within a specific time frame due to work schedules, and after school events. In the morning when a bus runs late, it could make parents late for work which causes them unnecessary stress and conflict, or worse yet, expose students to potential threats from wildlife, environment and potential predators.

### **Prolong Vehicle Life**

The daily inspection will help keep the bus in good working order. This, in turn, will prolong the life of the bus and reduce transportation costs.

**You are responsible for what happens on your bus run.  
Vehicle inspection helps make for a safer trip.**

## Types of Vehicle Inspections

- Pre-Trip
- Between-Trip
- Post-Trip
- Preventative Maintenance
- Annual Inspections
- School Transportation Assistance Review (STAR) - Vehicle Inspection

### **Pre-Trip**

One of the most important inspections is the one that you perform as a school bus driver. During this inspection you will check every component listed on your pre-trip inspection form to determine if your bus is ready for operation.

You have already reviewed the reason for conducting the inspection and found that they are both legal and required by local school districts.

As you become aware of defects you must report them immediately. You have a responsibility to drive a safe bus. Mechanics cannot make necessary repairs, nor do they know something is in need of repair, unless they receive appropriate feedback from you.

Pre-trip inspection forms must be kept by your district for at least six months. The inspection form must be filled out completely with great care. Each inspection form should have a full driver signature.

You may want to consider keeping a copy of your pre-trip inspections to verify that you have completed the pre-trip inspection in the event it is ever questioned by supervision.

Your trainer will go over the specific items of the pre-trip inspection, what should be checked, how it is checked and how to determine if it is defective.

### **Between- Trip Inspections**

After you complete a bus run and have some layover time you should perform a Between Trip Inspection. There are a number of items that should be checked.

- Check for pupils remaining in the bus. This is accomplished by walking from the front to the back of the bus, and checking in and around every bus seat. See 4204-R-8.04.
- Leaving even one child unattended on a school bus is a serious concern for families and schools. The possibility of leaving a child on the bus after a completed bus route is not acceptable and has potentially serious safety



ramifications. This is a preventable problem that can be addressed with an effective policy that requires drivers to check their bus before they exit it at the end of their route.

- Check for adequate fuel
- Check for vandalism of seats, walls, windows, etc., that may have occurred during the trip
- Check for anything that should not be on the bus, such as a bag or package that might look suspicious
- Check for materials that pupils may have left behind
- Pick up trash on the floor, sweep if needed
- Secure bus if not going out on a run immediately

### **Post Trip Inspections**

When you complete your final run for the day a number of things should be checked to secure the vehicle and get ready for the next day.

You have already reviewed the reason for conducting the inspection and found that they are both legal and required by local school districts Post Trip Inspections shall include in addition to items listed on the STU-9.

- Check for pupils remaining in the bus. This is accomplished by walking from the front to the back of the bus, and checking in and around every bus seat.
- Refuel bus. Record mileage and amount of fuel taken in
- Check for needed supplies
- Clean bus interior. The heaviest amounts of dirt are brought on your bus in the morning when students have been waiting outside to board. If you sweep your vehicle after your morning run, in the afternoon all you have to do is pick up any trash and do a quick sweep and your bus will look neat and clean all day long. Studies show that school buses that are kept clean demonstrates to students that the driver takes pride in caring for the vehicle and in return students will take better care of it as well. It also shows that buses that are well kept, drivers tend to have less discipline issues.
- Park bus in designated location
- Secure the vehicle
  - Close windows and door
  - Remove key (follow your district procedures)
  - Remove other equipment, if required
  - Turn in items left by pupils
  - Turn in all necessary paperwork and records

## Preventative Maintenance

### **4204-R-11.00**      *Maintenance and Repair*

*11.01 School districts and service providers must ensure all school transportation vehicles are systematically inspected, maintained and repaired to ensure that school transportation vehicles are in safe and proper operating condition.*

There are specific requirements stated in 4204-R-11.00 regarding preventative maintenance inspections for air drum brake systems, air disc brake systems, and hydraulic brake systems in addition to all of the items indicated under the PM heading and specified on the CDE STU-26.

### **4204-R-8.00**      *Pre-trip/Post-trip Vehicle Inspections*

*8.01 Each school transportation vehicle shall have a daily pre-trip and post-trip inspection performed and documented by the school transportation vehicle operator or a district or service provider authorized transportation employee. A daily pre-trip inspection shall be completed prior to a vehicle being placed in service. A daily post-trip inspection shall be completed at the end of daily operation of each vehicle.*

*8.02 The pre-trip and post-trip inspection requirements for school transportation vehicles, other than small vehicles, shall include at a minimum all items listed on the CDE School Transportation Vehicle (School Bus/Multifunction Bus/Motor Coach Bus) - Pre-Trip and Post Trip Requirements Form (STU-9).*

*8.03 The pre-trip and post-trip inspection requirements for school transportation small vehicles shall include at a minimum all items listed on the CDE School Transportation Vehicle (Small Vehicle) - Pre-Trip and Post Trip Requirements Form (STU-8).*

*8.04 School districts and service providers shall have a procedure in place to verify that students are not left on an unattended school transportation vehicle.*

### **School Transportation Assistance Review (STAR) Vehicle Inspection**

Approximately every 4 years the CDE School Transportation Unit will be performing an on-site review of all district vehicle inspections and garage operations. During that review CDE will randomly do a visual inspection of school transportation vehicles to determine any potential non-compliant concerns with the vehicles and required documentation. It will also review and any non-compliant concerns with annual inspectors and inspections performed for the district either by in-house technicians or

outside CDE approved inspection sites. During the visual inspection if CDE determines that a vehicle(s) has defects that are listed in the CDE Out of Service Criteria or other defects determined to be potentially dangerous, the vehicle will be placed out of service until all repairs have been completed.

Some of the most common items found during STAR reviews;

- First Aid Kit - Missing and/or missing items
- Seats - padding broken down, seat bottoms not secured
- Clean Up Kit - Missing and/or missing items
- Instructional stickers by emergency exits peeling or missing
- Lack of documentation - If you didn't write it down, you didn't do it
- Unsecured items in the passenger compartment
- Cleaning supplies, unmarked, unsecured (not permitted to hang on the inside of wastebasket)
- Electrical Systems/Lights - headlights, tail lights, inoperative or with broken lenses
- Emergency exits - hard to open due to lack of inspection, buzzers not working

**ALL** of the items listed above should be discovered by the school transportation vehicle operator performing a thorough pre-trip, between trip and/or post trip inspection.



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## Unit 5 - Vehicle Operations

Driving a school bus takes a great deal of skill and understanding of procedures relating to vehicle operations and laws, or “Rules of the Road” that we must follow. There is an extremely high expectation from the public that we should be nothing short of the very best drivers on the road, because we are transporting members of their families. It is important to follow ALL traffic laws not only when you are driving a school bus, but in your private vehicle as well. How you drive your private vehicle, is more than likely how you will drive your school bus.

### Standard Operating Procedures

Please follow your district vehicle operating procedures.

**Getting Ready to Drive** - After completing the pre-trip inspection, it’s time to position yourself for driving.

- Become familiar with all controls and lights on the vehicle.
  - Adjust the seat to enable you to reach and operate the panel and floor controls easily and comfortably.
  - Check all mirrors for optimum rear vision of traffic behind the vehicle, for proper vision to both sides and across the front of the vehicle.
  - Properly fasten and adjust seat belt.
  - If vehicle is equipped with a manual transmission, review shift pattern.

**Starting the Engine** - The procedure used in starting a vehicle engine must become a routine matter. It must incorporate principles of safety and be performed in conjunction with good engine preventative maintenance practices.

- Ensure parking brake is set to keep the vehicle from moving.
- Depress clutch pedal (standard transmission).
- Shift gear lever into neutral position (standard/automatic).
- Turn on ignition key to complete electric circuits.
- In vehicles with a diesel engine and glow plugs or air inlet heater, wait until the indicator light has shut off before engaging the starter. These components must warm up to the proper temperature before the engine will start.
- Allow vehicle to cycle through computer set-up, or “Wait to Start” (if equipped), and ABS light, if so equipped.

- Turn the key farther to engage starter.
- Use accelerator sparingly
- Warm up engine without racing the engine. Check with the service technician for proper rpm during warm-up time as authorized by your district.
- Check instrument gauges ensuring they are registering properly.

### **Shifting an Automatic Transmission**

Most school buses are equipped with an automatic transmission.

- Depress foot brake before releasing the park brake.
- Move selector lever or push button selector to the drive position.
  - The drive position will be sufficient on level terrain and without a load.
  - With a load and/or uneven terrain, a position of lower range will be necessary.
- Release parking brake.
- Release foot brake and depress accelerator (prevent rolling).
- Manual shifting up or down the gear range, or staying in a particular gear may be necessary depending upon load and/or terrain. When going down a hill, shift into a gear or next lowest gear that would be used going up the hill. Shift one gear at a time without lugging the engine.

Read the manufacturer's manual or ask the service technician for recommended gear selection. Always emphasize proper gear usage and encourage the driver to practice using the gears.

Transmission shifting procedures should follow district, fleet, and owner manual procedures.

In the lower ranges (1, 2, and 3), the transmission will not shift up above the highest gear selected unless the recommended engine governed speed for that gear is exceeded. Do not exceed governed engine speed.

### **Shifting a Standard Transmission**

- Shifting gears is a phase of vehicle driving that requires skill and practice. You must learn the correct range of speed (or tachometer range) in changing gears upward or downward. You must shift the gears without losing your view of the road. Many school buses have synchromesh standard transmissions. Generally, vehicles are equipped with either four (4) or five (5) speed standard transmissions.



- Learn the gear positions and shift pattern.
  - Check chart on shift lever or on the dash.
- Depress clutch pedal.
- Shift gear lever into starting position.
  - With average terrain and load, this should be first or second gear. Check district procedure.
  - Never start out in a gear higher than second, as this places undue load and wear on the engine and clutch.
  - Drivers must always be aware of the gear they are in.
- Depress foot brake.
- Release parking brake.
- Release clutch gradually to friction point and hold. You will at this point, have the clutch just at the point of friction and the foot brake ready to release. Friction point is when clutch starts to engage and vehicle begins to move.
- Release the foot brake.
- Hold friction point and slightly depress accelerator increasing the power to prevent stalling.
- Release the clutch.
  - Slowly and gradually release the clutch to the remainder of the pedal travel while slowly increasing acceleration.
  - Remove foot from clutch pedal completely.
  - Increase to proper rpm before shifting to next higher gear.
- Shift to next higher gear.
  - Depress clutch pedal and release accelerator.
  - Shift to next higher gear.
  - Release clutch smoothly and more quickly than in starting gear. Depress accelerator smoothly and quickly.
  - Prevent loss of vehicle speed.
  - Do not race the engine and slip the clutch.
  - Remove foot from clutch pedal completely.
- Proceed in this gear until proper vehicle speed is reached for shifting to next higher gear.
- Repeat until the vehicle is in cruising gear.



- Skipping a gear in shifting up or downshifting causes undue engine and clutch wear. **NEVER SKIP A GEAR!**
- Shift up or down as necessary to prevent engine lugging or excessive rpm.

*If you are in doubt, and/or using your brakes too much, shift to the next lower gear.*

- When going down a hill, shift into the gear that would be used going up the hill, or one gear lower. Ratios vary according to equipment. Check district procedures for proper shifting speeds and rpm.

**\*Refer to Unit 6, Adverse and Mountain Weather\***

- Approximate miles per hour (mph) before shifting up or downshifting (mph may vary slightly depending on make of engine, transmission, gear ratio, and terrain.)
- Never allow the vehicle to “coast” in neutral.

***WARNING--Allowing your vehicle to coast in neutral is against state law (42-4-1009, C.R.S., Coasting prohibited). This practice can result in severe transmission damage. Use the proper shifting pattern and speeds for your standard transmission.***

### **Safety Restraints and Safety Belt Use**

The greatest lifesaving and injury reducing safety device drivers have on the bus for their own protection is the safety belt. However, if you don't use it, not only are you exposing yourself, your passengers and other motorists to danger, but you are violating the law. Not only are you required to wear your seat belt, but as the school bus driver you are also responsible to ensure that the passengers you transport are properly secured in their safety belts and/or safety restraint devices.

#### **1 CCR 301-26 4204-R 5.00 - District Responsibilities (Excerpts)**

- 5.01(j) *The operator shall receive training regarding the proper use and maintenance of Child Safety Restraint Systems (CSRS) and proper wheelchair securement, when the operator is engaged in transportation involving these systems and devices prior to transporting students.*
- 5.02(k) *The operator shall receive training regarding the proper use and maintenance of Child Safety Restraint Systems (CSRS) and proper wheelchair securement, when the operator is engaged in transportation involving these systems and devices prior to transporting students.*



#### **4204-R-14.00 Safety Restraints**

14.01 *A school transportation vehicle operator shall have the safety belt fastened, worn correctly and properly adjusted prior to the school transportation vehicle being placed in motion.*

14.02 *All passengers in a school transportation vehicle under 10,000 lbs. GVWR shall have their safety belts fastened, worn correctly and properly adjusted prior to the school transportation vehicle being placed in motion.*

#### **4204-R-12.00 Operation of a School Transportation Vehicle**

12.05 *Use of tobacco products as defined in Section 18-13-121(5), C.R.S., use or possession of illegal controlled substances, use or possession of alcohol and use or possession of marijuana or cannabinoid product, except as otherwise allowed by law, aboard any school transportation vehicle shall be prohibited at all times.*

#### **Per CRS 25-14-103.5. Prohibition against the use of tobacco products and retail marijuana on school property - legislative declaration - education program - special account (Excerpt)**

*(1) The general assembly finds that many of the schools in this state permit the use of tobacco products in and around school property. The general assembly further finds that secondhand smoke generated by such activity and the negative example set and frequently imitated by our school children are detrimental to the health and well-being of such children as well as to school teachers, staff, and visitors. Accordingly, the general assembly finds and declares that it is appropriate to create a safe and healthy school environment by prohibiting the use of tobacco products on all school property.*

*(2) As used in this section, unless the context otherwise requires:*

*(a) "School" means a public nursery school, day care center, child care facility, head start program, kindergarten, or elementary or secondary school through grade twelve.*

*(b) "School property" means all property, whether owned, leased, rented, or otherwise used by a school, including, but not limited to, the following:*

*(l) All interior portions of any building used for instruction, administration, support services, maintenance, and storage and any*



*other structure used by a school; except that such term shall not apply to a building primarily used as a residence;*

*(II) All school grounds surrounding any building specified in subparagraph (I) of this paragraph (b) over which the school is authorized to exercise dominion and control. Such grounds shall include any playground, athletic field, recreation area, and parking area; and*

*(III) All vehicles used by the school for the purpose of transporting students, workers, visitors, or any other persons.*

*(c) "Tobacco product" shall have the same meaning as set forth in section 18-13-121 (5), C.R.S.*

*(d) "Use" means the lighting, chewing, smoking, ingestion, or application of any tobacco product.*

*(3) (a) (I) The board of education of each school district shall adopt appropriate policies and rules that mandate a prohibition against the use of all tobacco products and all retail marijuana or retail marijuana products authorized pursuant to article 43.4 of title 12, C.R.S., on all school property by students, teachers, staff, and visitors and that provide for the enforcement of such policies and rules.*

Notice that this says “use” of tobacco products. Noting that there are many drivers that use tobacco products, it is not prohibited for you to carry them on your person or in your private bag, purse, etc. However, it is prohibited from using tobacco products at any time, not just when students are on board. There are many people that have medical conditions that can be aggravated by tobacco smoke, so if you are going to smoke tobacco make sure you are far enough away from the school transportation vehicle that smoke does not enter the vehicle.

**Just a friendly reminder** - As a school bus driver the public holds you at a higher expectation, please do not wear clothing that promotes the use of tobacco, alcoholic or controlled substances. Follow your districts dress code.

### **Food and Drink**

#### **4204-R-12.00 Operation of a School Transportation Vehicle (Excerpt)**

*12.06 A school transportation vehicle operator shall not consume food unless the vehicle is stopped at a safe location with the park/emergency brake set.*

## Who and how many can ride on the school bus?

### 4204-R-13.00 Authorized Passengers

- 13.01 *Only district personnel, students enrolled in a district, law enforcement officials or individuals that have received prior authorization from the school district or service provider may be passengers on any school transportation vehicle.*
- 13.02 *The number of passengers transported on any school transportation vehicle shall not exceed the maximum seating capacity of the vehicle. Small vehicle capacity shall not exceed the number of safety belts as designed by the vehicle manufacturer.*
- 13.03 *Passengers shall not be permitted to stand in any school transportation vehicle while the vehicle is in motion. This does not preclude authorized persons (such as school transportation paraprofessionals) from completing their duties as required.*
- 13.04 *School districts and service providers shall consider the size of the passengers when determining the number of passengers that can safely occupy a school transportation vehicle seat.*

This is pretty self-explanatory, but what about the chaperones' 6-month old baby or the drivers' 3-year-old that isn't enrolled in a school sponsored program? They may ride ONLY if they are given authorization. If they are given authorization then you, the school bus driver will be responsible for the proper securement of that child. Check your district policy.

*Excerpt: \*The National Association of State Directors of Pupil Transportation Services believes all children riding in school buses, or other buses used to transport pupils to and from school or school-related activities, should be properly and safely seated facing forward. In addition, the State Directors Association believes there should be adequate space on the seat for the child to be seated completely within the seating compartment.*

### **\*School Bus Seat Capacity Position Paper 1999 \***

National Highway Traffic Safety Association recommends that all passengers be seated entirely within the confines of the school bus seats while the bus is in

motion. Federal motor vehicle safety standard No. 222, "School Bus Passenger Seating and Crash Protection" requires that the interior of large buses provide occupant protection so that children are protected without the need to buckle-up. Occupant crash protection is provided by a protective envelope consisting of strong, closely-spaced seats that have energy-absorbing seat backs.

**Persons not sitting or sitting partially outside of the school bus seats will not be afforded the occupant protection provided by the school bus seats.**

Manufacturers seating capacity in school buses can vary greatly depending on the vehicle. They normally set the capacity limits based on 3 students per seat. So for 3 students to fit in each seat they would be required to be elementary students that are quite small. Attempting to put 3 secondary or high school students in one seat would make it very uncomfortable for the students and more than likely cause one of them to have their feet in the aisle producing a trip hazard and reducing the use of compartmentalization. If you believe that your bus is overloaded, check with your supervisor to see what can be done to reduce your student count. Also, check your district policy regarding "in-use" capacity.

### **Use of Hazard Warning Lights**

Drivers may, under specific circumstances use their hazard warning lights to provide an extra margin of safety.

#### **Per the Colorado Commercial Drivers Manual**

Use the four-way emergency flashers for times when you are driving very slowly or are stopped.

Warn other drivers in any of the following situations:

**Trouble Ahead.** The size of your vehicle may make it hard for drivers behind you to see hazards ahead. If you see a hazard that will require slowing down, warn the drivers behind by flashing your brake lights.

**Tight Turns.** Most car drivers don't know how slowly you have to go to make a tight turn in a large vehicle. Give drivers behind you warning by braking early and slowing gradually.

**Stopping on the Road.** Truck and bus drivers sometimes stop in the roadway to unload cargo or passengers, or to stop at a railroad crossing. Warn following drivers by flashing your brake lights. Don't stop suddenly.

**Driving Slowly.** Drivers often do not realize how fast they are catching up to a slow vehicle until they are very close. If you must drive slowly, alert following drivers by turning on your emergency flashers if it is legal.



## Strobe Lights

### **4204-R-12.00 Operation of a School Transportation Vehicle (Excerpt)**

*12.07 When a school transportation vehicle is equipped with a roof mounted strobe lamp, the use of the strobe lamp is permitted only when the vehicle presents a hazard to other motorists, such as loading or unloading students in inclement weather or to enhance visibility of the vehicle when barriers inhibit such visibility.*

*12.08 A school transportation vehicle operator may use the strobe, in addition to the four-way hazard lamps, to warn other motorists that the vehicle is not in motion or is being operated at a speed of twenty-five miles per hour or less.*

Have you ever followed a vehicle that is using a strobe light down the roadway for several minutes, especially in the dark? Were you distracted by the strobe? Strobe lights are intended to ADD additional safe guards to school buses. They should be used in the following circumstances;

- A blind intersection due to roadway construction, natural environment, inclement weather such as fog, rain, snow and sun glare - engage the strobe to give notice to other motorists that your vehicle is entering a blind intersection.
- If conditions merit the use of the strobe through your entire route, turn the strobe light on at your first pick-up/drop-off of your route in inclement weather such as fog, rain, snow and sun glare, but turn it off when you are no longer picking-up/dropping off students. If conditions only merit the use of the strobe light for limited stops, turn the strobe on prior to the stop(s) and immediately turn off when not needed.
- May be used in addition to hazard lamps when traveling a speed of 25 mph or less even when inclement weather is not present, to warn other motorists

Strobe lights should not be used when a school bus is in transit (driving down the road) to a school or school related event when inclement weather is not present and the vehicle will not be performing student bus stops.

## Basic Speed Law

**Colorado Model Vehicle Code - 1101. Speed limits.**

*(1) No person shall drive a vehicle on a highway at a speed greater than is reasonable and prudent under the conditions then existing.*



*(2) Except when a special hazard exists that requires a lower speed, the following speeds shall be lawful:*

- (a) Twenty miles per hour on narrow, winding mountain highways or on blind curves;*
- (b) Twenty-five miles per hour in any business district, as defined in section 42-1-102 (11) CRS;*
- (c) Thirty miles per hour in any residence district, as defined in section 42-1-102 (80) CRS;*
- (d) Forty miles per hour on open mountain highways;*
- (e) Forty-five miles per hour for all single rear axle vehicles in the business of transporting trash that exceed twenty thousand pounds, where higher speeds are posted, when said vehicle is loaded as an exempted vehicle pursuant to section 507 (3);*
- (f) Fifty-five miles per hour on other open highways which are not on the interstate system, as defined in section 43-2-101 (2), C.R.S., and are not surfaced, four-lane freeways or expressways;*
- (g) Sixty-five miles per hour on surfaced, four-lane highways which are on the interstate system, as defined in section 43-2-101 (2), C.R.S., or are freeways or expressways;*
- (h) Any speed not in excess of a speed limit designated by an official traffic control device.*

*(3) No driver of a vehicle shall fail to decrease the speed of such vehicle from an otherwise lawful speed to a reasonable and prudent speed when a special hazard exists with respect to pedestrians or other traffic or by reason of weather or highway conditions.*

*(4) Except as otherwise provided in paragraph (c) of subsection (8) of this section, any speed in excess of the lawful speeds set forth in subsection (2) of this section shall be prima facie evidence that such speed was not reasonable or prudent under the conditions then existing. As used in this subsection (4), “prima facie evidence” means evidence which is sufficient proof that the speed was not reasonable or prudent under the conditions then existing, and which will remain sufficient proof of such fact, unless contradicted and overcome by evidence bearing upon the question of whether or not the speed was reasonable and prudent under the conditions then existing.*

*(5) In every charge of violating subsection (1) of this section, the complaint, summons and complaint, or penalty assessment notice shall specify the speed at which the defendant is alleged to have driven and also the alleged reasonable and prudent speed applicable at the specified time and location of the alleged violation.*

“posted speed limit” would also include the speed indicated on any advisory speed signs.

Let’s look at the words “reasonable and prudent”.

Reasonable is described as;

1. (of a person) having sound judgment; fair and sensible. “no reasonable person could have objected” synonyms: sensible, rational, logical, fair, fair-minded, just, and equitable;
2. as much as is appropriate or fair; moderate. “a police officer may use reasonable force to gain entry” synonyms: within reason, practicable, sensible;

Prudent is described as;

1. acting with or showing care and thought for the future. “no prudent money manager would authorize a loan without first knowing its purpose” synonyms: wise, well judged, sensible, politic, judicious, sagacious, sage, shrewd, advisable, well advised

Just remember who is going to determine if your speed was reasonable and prudent! Your idea of reasonable may not be the same as their idea of reasonable. Always error on the side of safety and reduce your speed.

When you are on school grounds, you should always be going at an extremely low speed, even creeping due to the high volume of people in the general vicinity. If a student were to dart out in front of your vehicle, or slip off the curb would you be able to stop?

***SLOW DOWN ON SCHOOL PROPERTY!***

### **Speed Limit When Not Posted**

42-4-1101(3) C.R.S. “No driver of a vehicle shall fail to decrease the speed of such vehicle from an otherwise lawful speed to a reasonable and prudent speed when a special hazard exists with respect to pedestrians or other traffic or by reason of weather or highway conditions.”

### **Reduced Speed Zones**

*At various locations, such as school zones and construction zones, a reduced speed is required during certain hours or periods of the day when temporary hazards exist. Signs will indicate when the lower speed limit is in effect.*

*Unless otherwise posted, Colorado speed limits are as follows (42-4-1101 (1) C.R.S.):*

*20 M.P.H. - on narrow, winding mountain highways or on blind curves.*

*25 M.P.H. - in any business district, as defined in section 42-1-102(11).*

*30 M.P.H. - in any residential district, as defined in section 42-1-102(80)*





*40 M.P.H. - on open mountain highways.*

*45 M.P.H. - for all vehicles in the business of transporting trash, where higher speeds are posted, when said vehicle is loaded as an exempted vehicle pursuant to section 42-4-507(3)*

*55 M.P.H. - on other open highways which are not on the interstate system, as defined in 43-2-101(2), C.R.S., and are not surfaced, four-lane freeways or expressways.*

*65 M.P.H. - on surfaced, four-lane highways which are on the interstate system as defined in section 43-2-101(2) C.R.S. or are freeways or expressways.*

**Colorado Commercial Driver Manual** - When you're driving in heavy traffic, the safest speed is the speed of other vehicles. Vehicles going the same direction at the same speed are not likely to run into one another. In many locations, speed limits are lower for trucks and buses than for cars. It can vary as much as 15 mph. Use extra caution when you change lanes or pass on these roadways. Drive at the speed of the traffic, if you can without going at an illegal or unsafe speed. Keep a safe following distance.

The main reason drivers exceed speed limits is to save time. But, anyone trying to drive faster than the speed of traffic will not be able to save much time. The risks involved are not worth it. If you go faster than the speed of other traffic, you'll have to keep passing other vehicles. This increases the chance of a crash, and it is more tiring. Fatigue increases the chance of a crash. Going with the flow of traffic is safer and easier.

## **Right Turn**

### **Making a Right Turn**

- Activate right turn signal at least 100 feet before desired turning point (200 feet when traveling over 40 mph).
- Reduce speed and downshift standard transmission to proper gear needed to execute the turn.
- Position vehicle in **proper** lane. Use outermost lane for double/triple turns.
- When required stop at point of entry into the intersection, at sign, signal, or crosswalk line (with wheels straight).
- Check for a clear right-of-way. Check traffic 3 times (left, right, left), prior to executing your turn look for:
  - Traffic signals, signs, pedestrians, or vehicles.
  - Check right and left mirrors.
  - Yield right-of-way to vehicles already on the road.

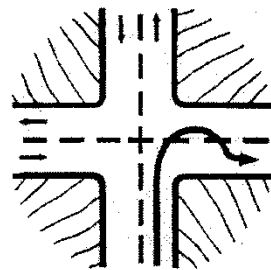




- Turning vehicles must yield right of way to pedestrians in a crosswalk.
- Look for suitable gap in traffic, and when safe, accelerate smoothly into lane.
- If stopping is necessary, keep front wheels straight and brake pedal depressed. This activates the brake lights and prevents rolling. If struck from the rear, this will keep your vehicle from being pushed into the traffic lane. Do a traffic check using both outside mirrors before proceeding.

***Check again for both bicyclists and pedestrians before completing the turn.***

- Execute the turn.
  - Drive into the intersection and make the turn smoothly and without strain on the engine.
  - Never shift gears during a turn. You should downshift prior to making the turn.
  - Check left and right mirrors while executing the turn. Check left mirror for tail swing.
  - Enter the **proper** lane and cancel turn signal if necessary.
  - After completing a right turn upon a multiple lane highway, resume proper speed; check traffic in both outside mirrors.
- If you are driving a bus that cannot make a right turn without swinging into another lane, turn wide as you complete the turn, as shown in the diagram below. Look to right and left to determine whether there are vehicles in motion on the roadway to be entered.



**Left Turn**

**Making a Left Turn**

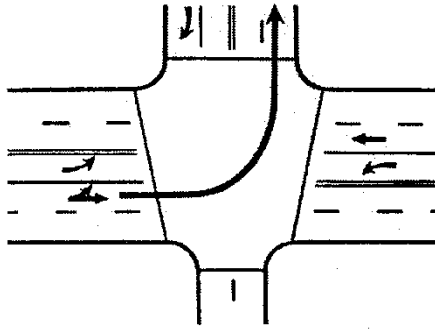
- Activate left turn signal at least 100 feet before desired turning point (200 feet when traveling over 40 mph).



- Reduce speed and downshift standard transmission to proper gear needed to execute the turn.
- Position vehicle in the proper lane. Use outermost lane for double/triple turns.
- When required stop at point of entry into the intersection, at sign, signal, or crosswalk line (with wheels straight).
- Check for clear right-of-way. Check traffic 3 times (left, right, left), prior to executing your turn. Check for:
  - Traffic signals, signs, pedestrians, or vehicles.
  - Check right and left mirrors.
  - Yield right-of-way to vehicles already on the road.
  - Turning vehicles must yield right of way to pedestrians in a crosswalk.
  - Look for suitable gap in traffic and when safe, accelerate smoothly into lane.
  - If stopping is necessary, keep front wheels straight and brake pedal depressed. This activates the brake lights and prevents rolling. If struck from the rear, this will keep your vehicle from being pushed into the oncoming traffic lane. Do a traffic check using both outside mirrors before proceeding.

***Check again for both bicyclists and pedestrians before completing the turn***

- Execute the turn.
  - Drive straight approximately half-way into the intersection, make turn smoothly and without strain on the engine.
  - Never shift gears during a turn. You should downshift prior to making the turn.
  - Check left and right mirrors while executing turn. Check right mirror for tail swing.
  - Enter the **proper** lane and cancel turn signal if necessary.
  - After completing a left turn upon a multiple lane highway, resume proper speed, check traffic in both outside mirrors, activate right turn signal, and move into right lane as soon as it is safe to do so.



**Important: If in doubt ALWAYS yield the right-of-way. Never take it!**

### Crossing Intersections

- Observe traffic ahead, to the left and to the right, at least three times, when approaching an intersection.
  - Cover brake pedal to be prepared to brake if needed.
  - Watch for any vehicles that are approaching the intersection.
  - Watch for approaching vehicles that are signaling but may not be turning.
  - When stopped and your vision is obscured by buildings, trees, parked vehicles, or blind spots created by parts of your vehicle, stop at the intersection and lean forward or back in your seat to eliminate the blind spots before proceeding.
  - Always yield the right-of-way.
- Check traffic using all outside mirrors.

### Lane Use and Position on the Roadway

- Center vehicle in the proper lane. Do not encroach on other lanes.
- The shoulder or parking lane is only for stopping and parking.
- When there is more than one lane for traffic going the same direction, travel in the farthest right driving lane unless passing or turning to the left.
- When following other vehicles, drive at a safe distance behind.

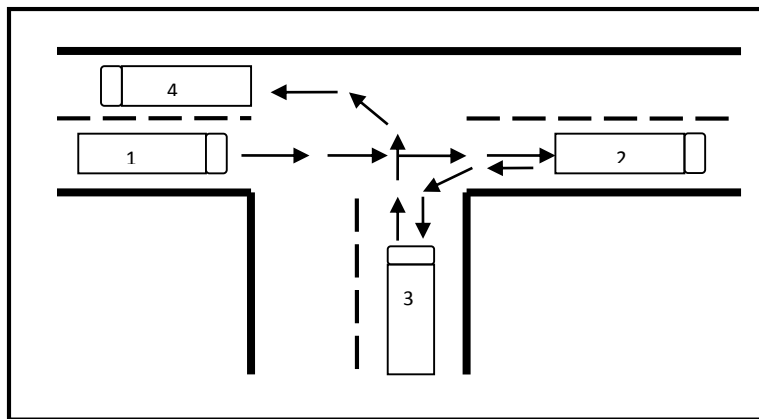
### Changing Lanes

- Look for traffic behind and beside you before deciding to change lanes. Do not change lanes in or near an intersection. Any person who violates any provision of this section commits a Class A traffic infraction.



- Move your head enough and lean forward or back in the seat to eliminate any blind spots.
- On a multi-lane road, look for vehicles about to enter the new lane from an adjacent lane.
- Check all mirrors to observe any vehicles passing, closing fast from the rear, or vehicles about to enter the new lane. Use proper turn signal 100 feet (200 feet if going over 40 mph) before lane change (allow the signal to flash at least three times).
- Ensure the proper following distance from the vehicle in the lane you are changing into. Ensure at least one and one half bus lengths following distance for the vehicle that will be behind you. When a vehicle is attempting to pass the bus, and an oncoming vehicle is too close for the passing vehicle to complete the pass, consider:
  - Slowing the bus to allow the passing vehicle to safely pass before oncoming vehicle reaches or
  - As a last resort, move the bus to the shoulder, parking lane. Leave the roadway only if doing so doesn't create a hazard for vehicle or passengers.

### Turning Around



### Executing a Back-Up Turnaround

- Tap brake to activate brake signal well in advance of turnaround.
- Use 4-way hazard lights and tap horn before backing.
- Stop bus in proper position on roadway.
  - One bus length beyond the road to be used. (Position 2)
  - There should be good visibility in either direction.



- Before backing, check traffic to the front and rear.
- If possible, have traffic pass the bus before backing.
- Back off of the main roadway into least traveled roadway or driveway. Use right and left mirrors. (Position 3)
- Pull forward to re-enter main roadway. (Position 4)
- **ALWAYS** have students inside the vehicle while making a back-up turnaround.

### **Backing in a Straight Line**

Careful planning can minimize the need for backing; however, there are situations that require backing maneuvers. A bus driver must be able to back into a given space without allowing the bus to scrape or hit stationary objects. This maneuver must be made safely and without interfering with other traffic.

- Stop bus in correct position to begin backing maneuver.
- Direct a responsible person, if available, to stand outside, near rear of bus in plain view of the driver, to signal for safe backing.
- Check the mirrors to make certain the way is clear.
- Honk horn or use audible warning device and activate 4-way hazard lamps before backing.
- Using the mirrors, back slowly and smoothly in a straight line.
- Stop at desired point.
- Follow district procedures.

### **Following Distances**

Colorado Commercial Driver Manual - Of all the space around your vehicle, it is the area ahead of the vehicle - the space you're driving into - that is most important.

**The Need for Space Ahead.** You need space ahead in case you must suddenly stop. According to accident reports, the vehicle that trucks and buses most often run into is the one in front of them. The most frequent cause is following too closely. Remember, if the vehicle ahead of you is smaller than yours, it can probably stop faster than you can. You may crash if you are following too closely.

**How Much Space?** How much space should you keep in front of you? One good rule says you need at least one second for each 10 feet of vehicle length at speeds below 40 mph. At greater speeds, you must add 1 second for safety. For example, if you are driving a 40-foot vehicle, you should leave 4 seconds between you and the vehicle ahead. In a 60-foot rig, you'll need 6 seconds. Over 40 mph, you'd need 5 seconds for a 40-foot vehicle and 7 seconds for a 60-foot vehicle.



### Heavy Vehicle Formula

For timed interval following distance

- 1 second required for each 10 feet of vehicle length at speeds under 40 MPH
- Above 40 MPH use same formula, then add 1 second for the additional speed

For example: 40-foot truck (under 40 mph) = 4 seconds  
50-foot truck (above 40 mph) = 6 seconds  
60-foot truck (under 40 mph) = 6 seconds

To know how much space, you have, wait until the vehicle ahead passes a shadow on the road, a pavement marking, or some other clear landmark. Then count off the seconds like this: “one thousand and-one, one thousand-and-two” and so on, until you reach the same spot. Compare your count with the rule of one second for every ten feet of length. If you are driving a 40-foot truck and only counted up to 2 seconds, you’re too close. Drop back a little and count again until you have 4 seconds of following distance (or 5 seconds, if you’re going over 40 mph). After a little practice, you will know how far back you should be. Remember to add 1 second for speeds above 40 mph. Also remember that when the road is slippery, you need much more space to stop.

### Managing Your Space

In Unit 3 of this manual we discussed vehicle familiarization - make sure you know the length, height, width, weight to determine clearances for your vehicle.

**Behind (Tailgaters)** - You cannot prevent other vehicles from following you too closely, however, there are a few things you can do to reduce some of the risk they create.

**Slow down** - Reduce your speed slowly. By reducing your speed, you reduce risk. If you are traveling at a slower speed, and they want to pass..... let them.

**Increase your following distance** - When you slow down you should also increase the distance between your vehicle and the vehicle in front of you. This will give you more room to avoid a sudden stop and reduce the possibility of being struck from behind.

**Avoid sudden changes** - Signal early. Give them time to react if you are turning.

**Do Not Play Tricks** - Flashing your taillights or applying your brakes suddenly will not do anything but escalate your frustration and increase the possibility of injury to your passengers.

**Below** - On occasion there may be animals and other debris in the roadway. Know how much clearance you have between your vehicle and the roadway. Don't take the chance that you could get your vehicle hung up or worse yet have considerable damage done to your undercarriage.

**DO NOT attempt to go through flood waters no matter what the depth, turn around find a different route.**

**Overhead** - If you have any reason to doubt that you have ample overhead clearance under a bridge or overpass, go a different route. Warnings for low clearance are normally posted, but be alert. Overhead clearances can also be an issue with building overhangs, trees, branches and overhead wires. When in doubt, double check or go a different route. If you discover low-hanging branches notify your supervisor about the unsafe condition, and document it.

**Sides** - The average school bus is 8 ½ feet without mirrors, add mirrors and you are now at least 10 feet wide. The average width of a lane on a roadway is approximately 9 - 12 feet wide. Due to the size of your vehicle in comparison to the lane you have very little room for error. It is important to keep your vehicle centered in the lane as much as possible. Driving too close to the centerline or to the edge of the road can create additional hazards for pedestrians, mailboxes and other motorists to list just a few.

When driving a Type B and D school bus when the engine is behind the windshield be extremely mindful of your lane position. Often times the driver seat is located up against the driver side wall of the bus instead of having a control panel width of several inches between you and the wall. Because of the positioning of the driver seat, your perception will be different and you may need to "hug" the centerline to ensure that your tires are not dropping off the roadway. Do not drive a Type B or D vehicle until you have received training in these vehicles. They require different skills particularly when making turns.

Avoid when possible driving alongside other vehicles. Do not travel in their blind spot, move forward or drop back to make sure that they can see you. When exiting tunnels, you can experience strong winds that can make it difficult to stay in your lane. Be alert and prepared.



**Turns** - As mentioned above Type B and Type D school buses have a completely different turning space than that of what would be considered the conventional school bus. When the front wheels are located behind the windshield the turning radius is significantly changed. As always, it is very important for you to be able to see where your rear duals are touching the ground to ensure that you are clearing curbs, poles and other permanent structures along the roadside and at intersections. Large vehicles often take wide turns and off-track because of their size. Some basic rules are;

Turn slow - give yourself time to avoid hazards and respond appropriately

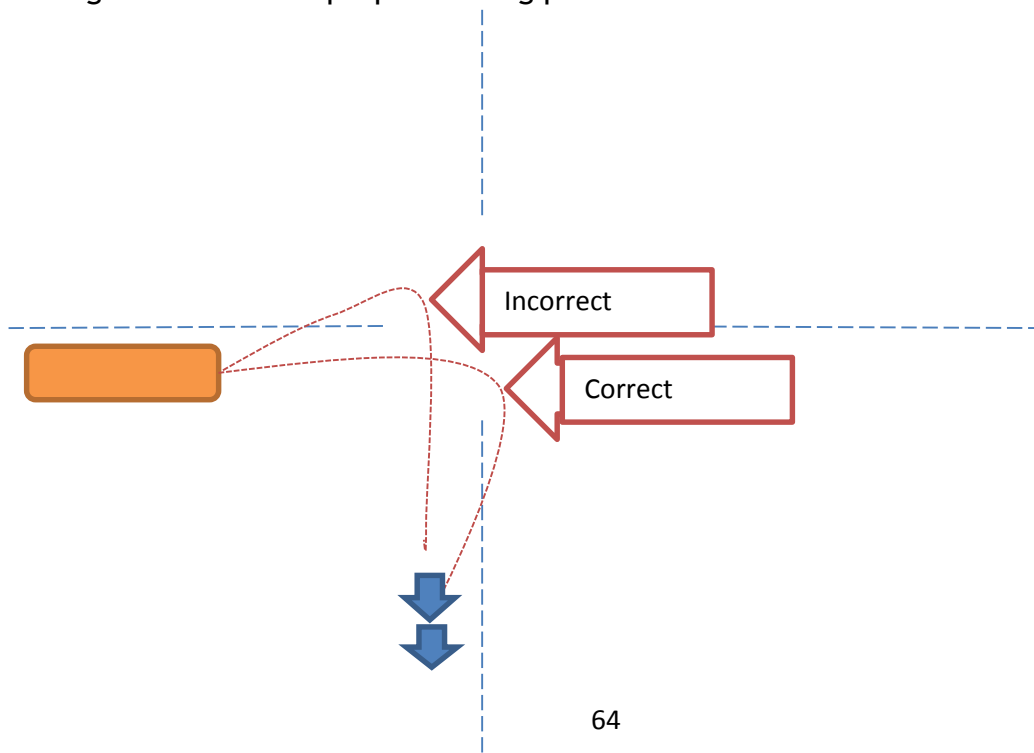
Keep the rear of your vehicle close to the curb - this will prevent other vehicles from trying to pass on the right.

Signal Early - the more notice the better

Don't turn wide to the left as you start a turn, other drivers may think you are turning left. If you must cross into the oncoming lane to make a turn, watch out for vehicles coming toward you. Give them room to go by or to stop. However, do not back up for them, there may be vehicles behind you.

When there are two lanes turning, make sure you stay in your lane, and turn into the correct lane.

See diagrams below for proper turning procedures.







**42-4-1211(1) (a) (b), (2) C.R.S. Limitations on backing**

*The driver of a vehicle, whether on public property or private property which is used by the general public for parking purposes, shall not back the same unless such movement can be made with safety and without interfering with other traffic.*

*The driver of a vehicle shall not back the same upon any shoulder or roadway of any controlled-access highway.*

*Any person who violates any provision of this section commits a Class A traffic infraction.*

**4204-R-12.00 Operation of a School Transportation Vehicle**

*12.09 The school transportation vehicle operator shall use extreme caution when backing. Before backing on a roadway, highway or private property, the horn or audible warning device shall be sounded and four-way hazard lamps actuated or there shall be a person outside the vehicle giving direction.*

*12.09(a) Backing a school transportation vehicle when students are outside of the vehicle at a student stop is prohibited.*

**Starting and Stopping on a Hill**

**Standard Transmission**

**Stopping on a hill (upgrade)**

- Check traffic in all directions using mirrors
- Use retarder, if equipped, to slow the vehicle
- Apply the service brake lightly for a smooth stop and hold (See Unit 7, Maintaining Vehicle Control with the Retarder.)
- Allow extra distance between the bus and the vehicle ahead
- Depress clutch with left foot. Apply the parking brake before shifting into neutral

**Starting on a hill (upgrade)**

- Check traffic in all directions using ALL mirrors
- With park brake set and left foot on the clutch, place transmission in gear; let the clutch out slowly to the friction point
- Hold clutch at the friction point
- Release park brake with enough acceleration to hold the weight of the bus without drifting backward

- Release clutch until completely engaged to pull the bus smoothly up the hill
- Check traffic using all outside mirrors

### **Stopping on a hill (downgrade)**

- Check traffic in all directions using mirrors
- Downshift and use the engine compression to reduce speed
- Use retarder or engine brake, if equipped, to slow vehicle
- Apply steady pressure to service brake pedal as needed to bring the vehicle to a smooth stop

*Reminder: When stopped, always give the vehicle in front of you plenty of room. You should be able to see the rear wheels where they meet the pavement. This will give advanced warning when it begins to move. This applies whenever stopped in traffic. There should be a minimum of 15 feet of distance between the vehicles.*

### **Automatic Transmission**

#### **Stopping on a hill (upgrade)**

- Check traffic in all directions using ALL outside mirrors
- Take foot off accelerator
- Use retarder, if equipped to slow vehicle
- Apply the service brake lightly for a smooth stop; hold
- Allow extra distance between the bus and the vehicle ahead
- Apply the park brake

#### **Starting on a hill (upgrade)**

- Check traffic in all directions. Make eye contact with other drivers and pedestrians. Use all outside mirror
- Place transmission in gear
- Accelerate slightly, release park brake, keeping vehicle from rolling back

### **Stopping on a hill (downgrade)**

- Check traffic in all directions using ALL outside mirrors
- Take foot off accelerator
- Downshift and use the engine compression to reduce speed
- Use retarder, if equipped to slow vehicle
- Brake smoothly and evenly
- Apply the park brake if needed

### **Overtaking and Passing**

When overtaking or passing other vehicles, follow these steps:

- Check traffic signs and markings to determine if passing is allowed
- Check traffic using mirrors, making sure there is no oncoming traffic or traffic from behind preparing to pass
- Make sure any vehicles ahead of you that are passing have completed their pass, your view of the road ahead is clear, and an acceptable gap is present
- Activate left turn signal at least 100 feet (200 feet if going over 40 mph) before executing passing maneuver (allow the signal to flash at least three times)
- When clear, pull smoothly into passing lane
- Cancel left turn signal
- Move smoothly past the vehicle at a safe speed within the speed limit
- Activate right turn signal
- Move back into right lane when at least one and one-half bus lengths ahead of the passed vehicle. After returning to the lane, perform another traffic check
- Cancel right turn signal
- Use extra caution when:
  - The vehicle to be passed is towing a trailer, has an open trunk lid, ice or snow on the rear window, or objects in the rear window that may restrict the view
  - If the vehicle in front of you is about to pull out and pass
  - While being passed, the vehicle moves laterally toward the bus
  - The driver of the other vehicle appears inattentive
  - There is reduced visibility due to weather condition
  - Passing a large vehicle - Remember, they have blind spots.



- When there is an intersection or a driveway
- Do not pass when the driver of the lead vehicle is:
  - Signaling or otherwise indicating a left or right turn, or changing lanes preparing to pass
  - Decelerating suddenly
  - Passing pedestrians, cyclists, or animals
  - Being passed by another vehicle
  - Weaving or wandering

### Roundabouts

- Observe the lane use recommendations on signs as you approach the roundabout.
- Yield to traffic in the roundabout
- Slow the vehicle
- Maneuver the vehicle at the posted speed limit
- If the loop is too small for the vehicle to be able to stay in one lane, once the circle is clear, use the center of the two lanes combined
- If the loop is too small for the vehicle to go through, a different route must be found
- It is illegal for a vehicle to go through a roundabout in the wrong direction
- Check mirrors often
- Signal to exit

***Slowing down allows motorists in adjoining lanes to clear the roundabout and make entry and exit maneuvers easier and safer.***

### Stopping and Parking the Vehicle

Stopping a school bus smoothly and safely is one sign of a professional driver. A professional driver keeps the vehicle under control at all times. A professional driver knows that braking distances increase greatly as the speed and weight of the vehicle increases. By using correct stopping procedures, the maintenance costs on the braking system will be reduced.

Vehicle weight and road conditions affect stopping distances. A fully loaded bus may need eight times the stopping distance on snow or ice, as compared to an empty bus on a dry road.

Stopping in low gear or at 10 mph and less:

- Depress clutch pedal and release accelerator (standard transmission)
- Apply service brake gradually by increasing pressure
- Reduce brake pressure slightly, (not completely) just before coming to a stop to prevent jerking
- Shift gear lever into neutral position, release clutch, and remove foot from clutch pedal (standard transmission)

Stopping when in cruising gear:

- Release accelerator and depress service brake pedal
- When proper rpm is obtained, downshift to next lower gear
- This reduces heat buildup in the brake systems and extends the life of the brakes (standard transmission)

Retarders:

- Some vehicles have “retarders” that provide another way of slowing a vehicle.
- They reduce brake usage and excessive wear on the brakes.
- There are different types of retarders.
- The retarder should be used to slow the bus.
- Apply the service brake if greater slowing or stopping is needed.

Parking the vehicle:

- Shift into low gear on level terrain or upgrade and reverse gear on downgrade (standard transmission)
- Use normal stopping/parking procedures for vehicles with an automatic transmission
- Turn wheels into curb
- If there is no curb, turn the wheels to the right

***The direction you turn the wheels depends on whether you are facing uphill or downhill and if there is a curb.***

- Set park brake
- Turn off ignition and remove ignition key

- Release clutch and take foot off service brake (standard transmission)

***Reminder: Scan the whole area as you approach the crossing.***

### **Railroad Crossing Procedures**

- The 4-way hazard lamps are activated not less than 200 feet from the railroad crossing to alert other motorists of the pending stop for the crossing.
- Use a prearranged signal to alert students of the need for quiet aboard the bus when approaching railroad tracks. Turn off all heaters, fans, and accessories.
- Stop the bus as far to the right of the roadway as possible without forming two lanes of traffic unless the highway is marked for four or more lanes of traffic.
- Stop the bus within 50 feet but not less than 15 feet from the nearest rail.
- When it is quiet aboard the stopped bus, open the service door and operator window, listen and look in both directions along the track(s) for any approaching train(s) and for signal indicating the approach of a train.
- When the tracks are clear, close the service door prior to placing the bus in motion. Proceed in a gear low enough to permit crossing the tracks without having to manually shift gears. Cancel the hazard lamps after the bus has cleared the tracks.
- When two or more tracks are to be crossed, do not stop a second time unless the bus is completely clear of the first crossing with at least 15 feet clearance in front and at least 15 feet clearance to the rear, commonly referred to as “storage area.”
- When an intersection is located beyond the tracks, before proceeding, verify that the storage area is sufficient in case you are required to stop at the intersection (entire length plus 15 feet).
- Do not pass or change lanes when crossing the tracks.

***Be especially alert at multi-track crossings. Be aware that mechanical failure of traffic control devices can occur.***

## Light Rail Track Crossing Procedures

### General Information

The Regional Transportation District (RTD) light rails tracks, in and around the Denver Metro area, are points of extreme danger. School transportation vehicle operator's must exercise the utmost care when approaching, traveling alongside, and crossing light rail tracks.

The RTD light rail tracks are not a distance away from the road like most railroad tracks. They are in most cases, a part of the same street motorists drive on. The light rail tracks run parallel to traffic, traveling in the same direction as traffic, or against the traffic flow. There are several locations where the RTD light rail tracks cross major streets.

Light rail vehicles (LRV) may approach from either direction. Pay attention to all sets of tracks. Even though a train may have left the crossing on one track, another train may be approaching on another track. They are very quiet and appear to be traveling slower than they actually are. Each car weighs 40 tons and is equipped with a bell, an emergency siren, and three bright lights that can be seen two to three blocks away. Two of the lights are in the "normal" headlight positions, and the third is in the middle, at the top of the LRV. LRV have turn signals to indicate which direction they are turning.

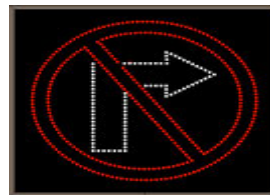
In most cases, there are no physical barriers such as curbs or medians separating the vehicle traffic from the LRV rails. The rails are set in concrete and are a lighter color than the asphalt on the street. Certain weather and light conditions will reduce the visibility of this subtle difference.

In some areas the tracks are close to parking areas. Motorists can become confused as to where to park.

### Warning Signs

A yellow, diamond shaped warning sign with a black symbol of a streetcar indicates the location of the LRV tracks. At the intersections or by the tracks, these signs have a black bi-directional arrow below the streetcar symbol. Before intersections, these signs have the term "AHEAD" below the streetcar symbol.

The illuminated no left turn or no right turn signal flashes when a train is about to cross the intersection of a track that runs adjacent to the roadway.



## Procedures for Light Rail Crossings

Treat light rail crossings as a railroad crossing except for the use of the hazard lights. Use the hazard lights only when necessary, as they are not recommended or required. Most light rail intersections are controlled by a traffic light.

- Instruct passengers to be quiet when stopping at a LRV crossing. Turn down the radio.
- Stopping on the tracks is unsafe and against the law.
- Always observe the “Stop Here on Red” sign and the white safety strip (stop line) location.
- Traffic light controlled intersections govern both the motorist and the LRV. Treat these locations like any other traffic light controlled intersection. Look and listen in the appropriate directions for LRV, motorists, and pedestrians before crossing the tracks.
- At un-controlled intersections, a school bus operator, when stopped shall open the driver’s side window and the service door. Look and listen in both directions for LRV, motorists, and pedestrians. Close the service door before proceeding across the tracks.
- Never cross the light rail tracks until the entire vehicle’s length can safely clear the tracks.
- Never back across the light rail tracks.

*School transportation operators should not park their vehicles near a light rail track or crossing. When parking near light rail make sure you have a safe loading and unloading area, you won’t get hit by the train, and you are not blocking the view of the tracks.*

It only takes a split second of carelessness or one distracted moment, and a child can be killed or injured for life. Accidents can be prevented by driving defensively.

**There are six major causes of car collisions and accidents:**

- **Driver Incompetence** - A great number of drivers lack the proper training on road safety. Many of them even defy the traffic regulations such as tailgating, speeding, and many more road rules that tend to protect the motorist, including them, from harm.
- **DUI Driver or Intoxication** - Driving a car after drinking liquor excessively is very dangerous, for it impairs driving capabilities. It is illegal to operate a Commercial Motor Vehicle (CMV) if your blood alcohol concentration (BAC) is .04% or more.





- **Distractions** - Motorists are expected to exercise extreme concentration in driving. However, so many distractions tend to divert their attentions and make their driving too risky. Examples are active discussions with the passengers, improper use of cell phones, texting, loud car stereos, etc.
- **Adverse Weather** - Weather is a large factor in safe road travel. Studies show that many car accidents occur during bad weather conditions, making the road surfaces slippery and affecting clear visibility.
- **Poor Road Design** - The state has the obligation to make sure that our roadways are properly designed and safe for public use. The government sets up road safety signs and equipment. The temporary road safety signs take priority over the permanent signage. Failure to obey these may cause an incident or accident that risks the lives of workers, passengers, and drivers.
- **Vehicle Defects** - Motorists and car owners should inspect and service the vehicle prior to a trip. Taking these precautions lessens the chances of road catastrophes.

### The Three A's of Defensive Driving

- Attitude
- Awareness
- Actions

### Defensive Drivers

- Stay positive
- Stay aware
- Expect the unexpected
- Stay in control
- Act, don't react

### **Attitude - Your First Defense**

Most traffic accidents are caused when a driver performs poorly. In most cases poor driving performance is caused by a poor attitude. Keep a positive attitude.

### **Your attitude affects**

- How an individual may drive

- Reaction time
- How passengers behave
- Level of alertness
- In short, how a driver performs behind the wheel

### **Make your first defense a positive attitude**

- Before you start your day, adjust your attitude
- Leave your personal baggage at home
- If you're running late, relax and get positive
- Know you're a good driver

### **Steer clear of road rage**

What happens when driving down the road and some careless driver cuts you off, or tailgates, or drives erratically in your direction - even waves a fist or a gun? Road rage! What do you do?

- Steer clear of it
- You can't control another person's attitude, only your own
- Never take a driver's behavior personally
- Avoid eye contact
- Stay within the posted speed limit
- Keep at a safe distance from other vehicles
- Use your horn sparingly
- If you have to, count to ten
- Get your students to school or home safely
- If necessary, and safe, pull off (if the aggressive driver follows, do not stop)

### **Awareness - Expect the Unexpected**

Stay alert; be aware and prepared for anything. After you have been driving a route for a while, you get used to the road conditions and traffic flow. Never get too comfortable. Stay alert; expect the unexpected. Be ready for situations that may change without notice; there usually is not much time to think it out.

- Driving conditions can change
- Traffic patterns can change
- The route can change
- Student's behavior can be unpredictable
- The vehicle can have an unexpected problem
- The time it takes to get from Point A to point B can vary

***Stay alert, be aware, and prepared for anything - even before pulling out of the lot.***

- Find out about road conditions before departure
- Listen to morning and afternoon weather and traffic reports
- Talk to the supervisor and other drivers about road hazards
- If a substitute or new driver, ask about safety hazards before the first run
- If new to the area, study local maps
- Before the start of a route, do a proper pre-trip inspection of the vehicle.

***Awareness reminds you that children are apt to do the craziest things at the worst possible times.***

### **Actions - Take Control of Safety**

Defensive drivers act; they don't react. Take actions to make sure you and your passengers stay safe. Keep in mind you are responsible for the most precious cargo there is.

- When you act, you are in control of what you do
- When you react, you respond impulsively to others' behavior
- When you think of action, think control
- That is the goal

### **Basic Rules of Defensive Driving**

- Always wear your seatbelt



- See it, predict it, act upon it
- Evaluate the “big picture” 15 seconds ahead
- Scan mirrors every 5-8 seconds
- Use the “4 second rule” when following other vehicles
- Know your peripheral vision = 180 degrees of visibility
- Goal is to see 360° - use mirrors to see what cannot be seen when turning your head
- Keep your eyes moving
- Always allow yourself an out
- Stay within the posted speed limits
- Signal all turns and lane changes
- Never tailgate
- Keep a safe distance between your vehicle and the vehicle in front of you
- Avoid other drivers’ blind spots - the rear and sides of a car and directly behind a truck
- Make sure other drivers see you
- Turn your head when making lanes changes to check blind spots
- When passing, signal lane changes
- Check both rear and oncoming traffic
- If you can see an oncoming vehicle, do not risk passing
- Be especially cautious when visibility is reduced
- On hills, dips, and curves, decrease your speed
- Stay to the right in case an approaching driver is in the center of the road
- Be aware of stale green lights

### On the Road

**Lane Lines** - Yellow and white broken and solid lines are to aid you in lane driving and passing. Following is a description of the differences in lines and their purposes.

- A broken yellow line marks the center of a two-way, two-lane road. Drive on your half of the road and pass with care.



- A broken white line separates traffic lanes on a one-way street or roadway of a divided highway. Observe lane-use rules and change lanes only when it is safe to do so.
- A solid yellow line on your side of the road or a double solid yellow line in the center of the road marks a no-passing zone. Do not pass when the solid yellow line is on your side.
- A double-solid yellow line may also mark the center of a two-way, two-lane or four-lane street. Do not drive to the left of this center line.
- Two separate sets of double-solid yellow lines represent a dividing strip on a very wide street or highway where there is not a physical separation of two-way traffic. Do not drive to the left of the solid yellow lines.
- A solid white line (fog line) marks the outside edges of far left and right traffic lanes.
- Crossing a painted center line or painted center island is allowed for a left turn into an alley, private road, or driveway when such movement can be made safely.

### Highway Signs - There are three sign classifications

- Warning - Diamond shape is used to warn of existing or possible hazards on roadway or adjacent areas.
- Regulatory - Vertical rectangles are generally used for regulatory signs, which tell you what you must do.
- Guide - Horizontal rectangles are generally used for guide signs, which show location, direction or other special information.



**Regulatory Signs:** These signs tell you of laws and regulations that apply at a specific location. They are black or red on a white background. Failure to obey these signs is a traffic violation.

**Lane Control Signs:** These signs give direction and where you can turn and often use an arrow symbol. The signs are along the road or hanging over the road. Sometimes arrows may be painted on the road.

**Prohibited Signs:** These signs indicate you cannot do something, for example, no left turn, or no U-turn.

**Passing Signs:** These signs tell you where it is safe to pass another vehicle and where you cannot. Passing areas are based on how far you can see ahead. Where it is permitted to pass, you may do so only if it is safe.

**Warning Signs:** These signs are yellow or fluorescent green with black symbols and most are diamond shaped. They warn you to slow down and be prepared to stop if they may warn of intersections, different types of highways, traffic entering your area, curves, etc.

**Advisory Speed Signs:** These cautionary signs show the safe speed around curves, corners, and off-ramps.

**Railroad Crossings:** Many railroad crossings have signs or signals to warn drivers

**Work Zone Signs:** These signs have an orange background with black letters or symbols. They are used with other traffic control devices or flag persons to help direct traffic safely through work areas and to protect highway workers

**Guide Signs:** These signs have a green background and provide directional and mileage information to specific destinations.

- **Service Signs:** These signs have blue backgrounds and provide directions to service facilities. Signs with brown backgrounds indicate recreational, historic or cultural areas.
- **Route Signs and Markers:** The shape of the sign indicates the type of roadway: Interstate, U.S., State or County highway
- **Disabled Parking Signs -** These signs mark special parking areas for only those vehicles displaying a disabled parking permit.

### **Right-of-Way**

At an uncontrolled intersection, the vehicle on the right has the right-of-way. Left-turn traffic must yield to all other traffic except when a left turn arrow is present.

### ***42-4-108 C.R.S. Public officers to obey provisions - exceptions for emergency vehicles.***

*(1) The provisions of this article applicable to the drivers of vehicles upon the highways shall apply to the drivers of all vehicles owned or operated by the United States, this state, or any county, city, town, district, or other political subdivision of the state, subject to such specific exceptions as are set forth in this article with reference to authorized emergency vehicles.*

*(2) The driver of an authorized emergency vehicle, when responding to an emergency call, or when in pursuit of an actual or suspected violator of the law, or when responding to but not upon returning from a fire alarm, may exercise the privileges set forth in this section, but subject to the conditions stated in this article. The driver of a Colorado Revised Statutes 2013 284 Title 42 authorized emergency vehicle may:*

- (a) Park or stand, irrespective of the provisions of this title;*



- (b) Proceed past a red or stop signal or stop sign, but only after slowing down as may be necessary for safe operation;*
- (c) Exceed the lawful speeds set forth in section 42-4-1101 (2) or exceed the maximum lawful speed limits set forth in section 42-4-1101 (8) so long as said driver does not endanger life or property;*
- (d) Disregard regulations governing directions of movement or turning in specified directions.*

*(3) The exemptions and conditions provided in paragraphs (b) to (d), in their entirety, of subsection (2) of this section for an authorized emergency vehicle shall continue to apply to section 24-10-106 (1) (a), C.R.S., only when such vehicle is making use of audible or visual signals meeting the requirements of section 42-4-213, and the exemption granted in paragraph (a) of subsection (2) of this section shall apply only when such vehicle is making use of visual signals meeting the requirements of section 42-4-213 unless using such visual signals would cause an obstruction to the normal flow of traffic; except that an authorized emergency vehicle being operated as a police vehicle while in actual pursuit of a suspected violator of any provision of this title need not display or make use of audible or visual signals so long as such pursuit is being made to obtain verification of or evidence of the guilt of the suspected violator. Nothing in this section shall be construed to require an emergency vehicle to make use of audible signals when such vehicle is not moving, whether or not the vehicle is occupied.*

*(4) The provisions of this section shall not relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons, nor shall such provisions protect the driver from the consequences of such driver's reckless disregard for the safety of others.*

*(5) The state motor vehicle licensing agency shall designate any particular vehicle as an authorized emergency vehicle upon a finding that the designation of that vehicle is necessary to the preservation of life or property or to the execution of emergency governmental functions. Such designation shall be in writing, and the written designation shall be carried in the vehicle at all times, but failure to carry the written designation shall not affect the status of the vehicle as an authorized emergency vehicle.*

**42-4-224, 5 (b) C.R.S. Horns or warning devices (excerpt)**

*(b) The driver of a snowplow, while engaged in the removal or control of snow and ice on any highway open to traffic and while displaying the required flashing yellow warning lights as provided by section 42-4-214, shall not be charged with any violation of the provisions of this article relating to parking or standing, turning, backing, or yielding the right-of-way. These exemptions shall not relieve the driver of a snowplow*



*from the duty to drive with due regard for the safety of all persons, nor shall these exemptions protect the driver of a snowplow from the consequences of a reckless or careless Colorado Revised Statutes 2013 322 Title 42 disregard for the safety of others.*

*(6) Any person who violates any provision of this section commits a class B traffic infraction. 42-4-108, C.R.S.*

If you are stopped at a student stop to unload, and an emergency vehicle is approaching:

- Keep the students on the bus if possible.
- If the students are still on the bus, cancel your 8-ways and activate your hazards.
- If students are already off the bus, signal them about the emergency vehicle and try to keep them clear.
- Leave the 8-ways on if the students have exited the bus. If you turn them off, traffic will begin to flow and could cause an even more dangerous situation.
- Let the operator of the emergency vehicle make the decision when it is safe for him to proceed.

***Remember, keeping the students safe is your number one priority.***

Pedestrians must obey the same traffic controls as vehicles, e.g. signal lights and stop signs. At uncontrolled pedestrian crossings, the pedestrian has the right-of-way.

**Headlights** - A vehicle must have headlights with high and low beams. State statute requires that headlights must be on between the hours of sunset and sunrise. Also, CDE rules specify:

**1 CCR 301-26, 4204-R-12.00 Operation of a School Transportation Vehicle (Excerpt)**

*12.03 A school transportation vehicle's headlights or daytime running headlights shall be activated while the vehicle is in operation.*

### Vision

To be a safe driver, the driver must know what is taking place around the vehicle. In a large vehicle like a school bus, this is accomplished by proper mirror use. You should check the side mirrors, both left and right, regularly and often, approximately every 5 to 8 seconds. Inadequate surveillance is a major cause of accidents.



### **Look Far Enough Ahead**

- Scan far enough ahead to be able to react safely to situations
- Look ahead along your intended path of travel about 12 to 15 seconds
- At lower speeds, this is about one city block
- At highway speeds, this is about one quarter of a mile
- When following a large vehicle, allow additional space so you may have a greater range of sight

### **Get the Big Picture**

- Eyes should be constantly on the move to obtain the “big picture” by using all mirrors
- Look ahead; use left side, right side, and student management mirrors every 5-8 seconds to check traffic
- Shift your attention back and forth, near and far

### **Traffic**

- Look for vehicles coming onto the highway, into your lane, or turning
- Watch for brake lights from slowing vehicles
- See far enough ahead to enable you to adjust your speed or change lanes if necessary, to avoid a problem

It is important to know what is going on behind and to the sides of your vehicle. There are “blind spots” that your mirrors cannot show you. Doing mirror checks regularly and often, (approximately every 5 to 8 seconds) will let you know where other vehicles are around you, and when they move into your blind spots. Following these rules will eliminate surprises.

### **Hills and Curves**

- Look for hills, curves, or anything that may make slowing or changing lanes necessary
- When driving uphill in a school bus, watch for traffic in all directions, paying particular attention to the sides and rear of the vehicle
- Do mirror checks often and use 4-way hazard lights if traveling under 25 mph
- Activate your hazard lights if the speed of your vehicle impedes the normal flow of traffic

- When going around a curve, check your mirrors to be sure the rear of the vehicle is tracking correctly in your lane and not encroaching into the other lane

### Traffic Signals and Signs

- Pay attention to traffic signals and signs
- If a light has been green for a long time (stale green), it will probably change before you get there; start slowing down and be ready to stop
- Crosswalk signal with a flashing hand is an indication the light is about to change
- Traffic signs may alert you to road conditions indicating the need to change speed or lanes

### Lane Changes, Turns, Merging, and Tight Maneuvers

- Scan mirrors thoroughly before changing speed or direction
- A minimum of 6 mirror checks should be performed during lane changes, turns, merges and tight maneuvers
- Check both left and right outside mirrors prior to, during, and at the completion of the maneuver

### Hazards of the Road

A hazard is any road condition or road user (driver, bicyclist, pedestrian, animal) that may create a danger. Recognizing a hazard allows you time to be prepared and ready to react if an emergency develops.

**Always Have a Plan** - A professional driver is constantly looking for hazards. Many hazards turn into emergencies. Being watchful and prepared to act will give you time to plan a way out of an emergency. Always have an escape route.

### Following are examples of hazards to be aware of

- **Animals** - Wild animals or domestic livestock may be on or next to the roadway and are very unpredictable. Swerving to avoid them can cause loss of control of your vehicle. Ninety percent of deer/vehicle collisions occur between dusk and dawn.
- **Bicycles** - Bicycles, especially when ridden by children can be unpredictable. Give them plenty of room when passing.
  - 42-4-1008.5, C.R.S. - Crowding or threatening bicyclist. The driver of a motor vehicle shall not, in a careless and imprudent manner, drive the vehicle unnecessarily close to, toward, or near a bicyclist.



- Any person who violates subsection (1) of this section commits careless driving as described in 42-4-1402.
- **Children** - Children may not be looking for traffic and may create a hazard. They see traffic from a very different perspective. Always expect the unexpected.
- **Conflicts** - Conflicts are a hazardous condition. When a change in speed and/or direction to avoid hitting other vehicles occurs, a conflict with other vehicles may be created. Conflicts occur at intersections where vehicles meet, at merge areas (such as on and off ramps), and where there are forced lane changes (such as the end of a lane, forcing a move to another lane of traffic). Other situations include slow moving or stalled traffic in the roadway and crash scenes. Watch for drivers who are in conflict with others. Depending on the way they react to the situation, it may put them in conflict with you.
- **Confused drivers** - A slow, confused driver often changes direction suddenly or may stop without warning. Tourists may be unfamiliar with the area near freeways or major intersections. Hesitation, driving very slowly, frequent use of brakes, or stopping quickly may indicate the driver is looking for a street or house number.
- **Crash scenes** - People involved in a crash are distracted and may not be observant of oncoming traffic. Often at the scene of a crash, people run across the roadway without looking, while passing motorists tend to slow down or stop suddenly. You must also be alert for emergency vehicles and equipment arriving at the scene.
- **Disabled vehicle** - Be especially alert when approaching a disabled vehicle stopped along the roadway. Drivers changing a tire or checking the engine may not pay attention to roadway traffic.
- **Distracted people** - People who are distracted in some way present a hazard for drivers. Pedestrians and bicyclists may be distracted by wearing portable stereos with headsets, having their back to the traffic, looking elsewhere, or hurrying to get out of the inclement weather. Drivers or pedestrians talking on cell phones or texting may not be paying attention.
- **Drivers in a hurry** - Drivers in a hurry may feel your school bus is preventing them from getting to their destination on time. They may pass you without leaving a safe gap in the oncoming traffic, or they may cut too close in front of you, causing you to brake suddenly. Drivers of postal vehicles and local delivery vehicles are often in a hurry stepping out of their vehicle or re-entering the flow of traffic.
- **Drivers Under the Influence** - Motorists under the influence of drugs or alcohol are a hazard to themselves and to motorists. Be especially alert around closing times for sporting events or nightclubs. Watch for drivers who have trouble



- staying in their lane, do not maintain a constant speed, stop without reason, or show other signs of being under the influence of alcohol or drugs.
- **Drop-offs** - Uneven pavement and the shoulder of the road present a road hazard. If the tires of the vehicle drop off the edge of the pavement, it could cause the vehicle to tilt, hitting roadside objects. It may also be difficult to steer the vehicle back on to the roadway.
- **Fallen objects** - Avoid objects that have fallen onto the roadway. Hitting an object may cause damage to, or loss of control of, the vehicle.
- **Impaired drivers** - An impaired driver may be sleepy, ill, or under the influence of drugs, alcohol, or medications. Some of the signs to look for are weaving, erratic speed, and inappropriate stops.
- **Obstructed views** - Be alert for drivers of vehicles with the rear window blocked. Their view may be limited or obstructed.
- **On/off ramps** - Many freeway and turnpike on and off ramps have posted speed limit signs. These should be considered maximum speeds for large vehicles. Use special caution on downhill and curved parts of the ramp. Entrance and exit ramps may be very short and can exit to the left instead of to the right.
- **Parked vehicles** - Parked vehicles can be a hazard. Watch brake lights, backup lights, exhaust fumes, front wheels turned to the traffic side of the road, and other clues that might indicate the driver is about to move the vehicle.
- **Pot Holes** - These can develop quickly, especially in the spring. Hitting potholes may cause loss of steering control and damage to the bus.
- **Shopping areas** - People in and around shopping areas are often not watching closely because they are looking for a certain store or looking into store windows. They may be carrying packages, talking to a companion, or supervising one or more children.
- **Trucks** - Be cautious when driving around large trucks, especially in hazardous road and weather conditions.
  - Avoid tailgating a truck. Trucks need twice as much stopping distance.
  - Never pull out in front of a truck or cut a truck off.
  - Do not drive in a truck's blind spot. Drive where you can be seen. Trucks have a deep blind spot directly in front of the cab, off to the right and left sides, and to the immediate back. These blind spots make up what is called the NO-ZONE.
  - Never drive in a truck's NO-ZONE.
  - Remember: If you cannot see the driver's face in the truck side-view mirrors or cannot see the whole cab in your rear-view mirror when you are in front

of the truck, then you are in a truck's NO-ZONE and must adjust the vehicle position as soon as possible.

- **Work zones** - Work zones with construction vehicles and workers require caution and courtesy on the driver's part. Lanes may be narrow and uneven. Keep your eyes focused ahead and use your 4-way hazard lamps to warn drivers behind you of the need for caution.

## Communicating

**Signaling** - Other drivers do not know what you are going to do until you tell them. Therefore, signaling is important for safety. Situations that require signaling include turning, lane changing, slowing, stopping, passing, and parking.

**Directional Signals** - Directional signals are used to communicate with surrounding traffic when you are going to perform a maneuver that requires a change in your path of travel. Three good rules for using turn signals are:

- **Signal early** - Signal well before the maneuver you are about to execute. It is the best way to keep others from trying to pass you.

The signal should be activated:

- at least 100 feet before the maneuver when the speed limit is 40 mph or less
- at least 200 feet when the speed limit is over 40 mph
- **Signal continuously** - You need both hands on the wheel to complete the maneuver safely.
- **Cancel signal** - When you have finished the maneuver and established your desired path of travel, cancel the signal.

**Lane Changes** - Activate the turn signal before changing lanes. Change lanes slowly and smoothly. Perform traffic checks prior to, during, and after executing lane changes. If changing several lanes, "take possession" of each lane prior to proceeding to the next lane.

**Passing** - Whenever you are about to pass a vehicle, pedestrian, or bicyclist, assume they do not see or hear you. They could suddenly move in front of you. At night, flash your headlights from low to high beam and back. Drive carefully to avoid a crash.

**When It's Hard to See** - At dawn or dusk, or in rain or snow, you need to make your vehicle more visible. If you are having trouble seeing other vehicles, other driver's may



have trouble seeing you. Leave the headlights on low beam; high beams can bother people in the daytime as well as at night.

**Slowing Down** - Warn drivers behind you when you need to slow down. A few light taps on the brake pedal to flash the brake lights will warn drivers behind you. Use the 4-way hazard lamps when you are driving less than 25 mph when in an area with a higher posted speed limit or are stopped. Warn other drivers in the following situations:

- **Trouble ahead** - The size of your vehicle may make it hard for drivers behind you to see hazards ahead. If you see a hazard that will require slowing down, warn the drivers behind by flashing your brake lights.
- **Tight turns** - Most car drivers do not know how slow you have to go to make a tight turn in a large vehicle. Give drivers behind you warning by braking early and slowing gradually.
- **Stopping on the road** - When stopping on the road for any reason other than student stops, warn drivers behind you by activating your brake lights, turn signals, or hazard lights. Do not stop suddenly.
- **When parked at the side of the road** - After pulling off the traveled portion of the road and stopping, activate the 4-way hazard lamps. This is very important at night. Do not trust the tail lights to give warning. Drivers have crashed into the rear of a parked vehicle because they thought it was moving normally. If you must stop on a road or the shoulder of a road, place the reflective triangles appropriately as soon as possible. See Unit Eleven, Emergencies.

**Driving Slowly** - Drivers often do not realize how fast they are catching up to a slow moving vehicle until they are very close. In Colorado, if you are a traffic hazard; such as stopping at a railroad crossing, traveling under 25 mph on a highway or interstate, or parked, you must use the 4-way hazard lamps to alert other drivers. Do not use the hazard lamps otherwise. (Laws regarding the use of hazard lamps differ from one state to another. Check the laws of other states where you might drive.)

**Horn** - Using the horn can let others know you're there and may help to avoid a crash. Use your horn when needed. However, it can startle others and could be dangerous when used unnecessarily.

**Eye Contact** - By establishing eye contact, you have a better indication that the other driver or pedestrian sees you. Do not rely on eye contact alone.

**Do Not Direct Traffic** - Some drivers try to help others by signaling when it is safe to pass or to pull out into the traffic lane. Do not do this. Directing traffic may cause an accident, and you could be held liable.



## **Emergencies**

**Emergencies** - Traffic emergencies occur when a collision is imminent. Vehicle emergencies may occur when tires, brakes, or other critical parts fail. Following the safety practices in this manual can help prevent emergencies. If an emergency develops, your chances of avoiding a crash depend upon taking appropriate action.

**Steering to Avoid a Crash** - Stopping is not always the safest action to take in an emergency. When you do not have enough room to stop, you may have to steer to avoid a crash. You can almost always steer to miss an obstacle more quickly than you can stop. An evasive maneuver may be needed to avoid a collision. However, be aware of the consequences of swerving, one of which is rolling over. (See Unit Seven, Mountain Driving, for exceptions.) Doing frequent mirror checks will allow you to be aware of your options.

- **Grip the Wheel Firmly with Both Hands** - Do not apply the brake while you are turning. Locking your wheels while turning may cause the vehicle to skid out of control. Turn just enough to clear what is in your way. The sharper you turn, the greater the chance of a skid or rollover. Be prepared to “counter-steer” (i.e., to turn the wheel back in the opposite direction once you have cleared whatever was in your path.) Think of emergency steering and counter steering as a two-part action.
- **Where to Steer** - If an oncoming vehicle has drifted into your lane, it is safest to move to the right. The driver may realize what has happened and respond by returning to his/her own lane. Using mirrors allows you to know which lane is empty and can be safely used. Moving right onto the shoulder may be the only available escape route. Care should be taken to determine that the shoulder is strong enough to support the weight of a large vehicle.  
Try to avoid using the brakes until your speed has dropped to 20 mph; then brake gently. Always check traffic in the mirrors and signal what you intend to do. If possible, keep one set of wheels on the pavement, which helps maintain control.
- **Leaving the Road** - In some emergencies, you may have to drive off the road. This option could be less risky than facing a collision with a larger vehicle. However, a head-on collision with a small vehicle may be preferable to facing a drop-off next to the road.
- **Returning to the Road** - If you are forced to return to the road before you stop, use the following procedure. Hold the wheel firmly and turn sharply enough to get right back onto the road safely. Do not try to edge gradually back onto the road as the tires might grab unexpectedly, causing you to lose control. When both of the front tires are on the paved surface, counter-steer. The two turns should be made as a single “steer-counter-steer” movement.

**Stopping Quickly and Safely** - When someone suddenly pulls out in front of you, the natural response is to apply the brakes. This may work if there is enough distance to stop. The correct use of brakes is necessary. You should brake in such a way as to keep your vehicle in a straight line to allow you to turn if necessary. The best method for





maximizing braking is “Threshold Braking” for stopping in the shortest distance. This is true whether the bus is equipped with anti-lock braking systems (ABS) or not.

When using the threshold braking method, apply the brakes up to the point of locking the wheels. Keep the steering wheel movements small. If you need additional steering, or if the wheel’s lock, back off the brakes lightly until the wheels begin rolling again. In vehicles with ABS, apply the brakes the same way. If the wheels do lock, the ABS system will release and reapply the brakes very quickly. Do not release pressure on the service brake. Releasing and reapplying (pumping) the brakes will cause the ABS system to fail. Never pump or “stab” the brakes.

**Hydraulic Pressure** - When the system does not build up pressure, the brake pedal will feel spongy or go to the floor. If possible, downshift to the next lowest gear. Pumping the brakes may generate enough hydraulic pressure to stop the vehicle. If needed the park brake may be used.

**Loss of Air Pressure** - If the low air pressure warning comes on, stop and safely park the vehicle as soon as possible. Enough air may be in the system to make a smooth stop. Controlled braking is possible only while air remains in the system. The spring brakes will activate when air pressure drops into the range of 45 to 10 psi. Depending on the roadway surface, large vehicles may skid even at speeds under 20 mph if spring brakes activate. It is safer to stop normally while there is enough air in the system to operate the service brake.

**Find an Escape Route** - While slowing the bus, look for an escape route, such as an open field, side street, or escape ramp. Take care that the bus does not roll backward after stopping. Find an obstacle to stop the bus if possible.

**Brake Failure** - Brake failure occurs if there is loss of pressure or over-heating. Brakes kept in good condition rarely fail.

**Brake Failure on a Downgrade** - Escape ramps may be used, should it become necessary. Also, soft gravel resists the motion of the vehicle and turning uphill may stop the vehicle. See additional information in Unit 7 Mountain Driving.

## Tire Failure

### **Prevent Tire Blowout**

- Prevent with a proper pre-trip inspection.
- Proper inflation of the tires is important because:
  - Low inflation or lack of tread increases the effect of hydroplaning, reduces cornering ability, and increases the chance of a blowout.
  - Stopping distance is increased from poor contact with road surface.
  - Over-inflation increases the chance of tread separation and tire failure.



- Avoid curbs.
- Report defects or damage.

**Recognize Tire Failure** - Quickly knowing there is a tire failure allows more time to react. Having just a few seconds to remember what to do helps control the situation. Major signs of tire failure are:

- **Sound** - The loud “bang” of a blowout is easy to recognize. Because it can take a few seconds for your vehicle to react, you might think it was some other vehicle. Any time you hear a tire blow, assume it was yours.
- **Vibration** - If the vehicle thumps or vibrates heavily, it may be a sign that one of the tires has gone flat. With a rear tire, that may be the only sign you get.
- **Feel** - If the steering feels “heavy,” it is probably a sign that one of the front tires has failed. Sometimes failure of a rear tire will cause the vehicle to slide back and forth or “fishtail.” However, dual rear tires usually prevent this.

### How to Handle a Tire Blow Out

- Use proper hand placement.
- Hold the steering wheel firmly - If a front tire fails, it can twist the steering wheel out of your hand. The way to prevent this is to keep a firm grip on the steering wheel with both hands at all times. Weight of the bus will shift.
- Do not apply the service brake.
- Stay off of the brake - It’s natural to want to brake in an emergency. However, braking when a tire has failed could cause loss of control.
- Slowly accelerate the vehicle to even out.
- Accelerating slightly may help with control. Unless you’re about to run into something, stay off the brake until the vehicle has slowed down. Then brake very gently, pull off the road and stop.
- Move your vehicle to a safe location.
- Pull the park brake to stop the bus.
- After coming to a stop, get out and check all the tires, even if the vehicle seems to be handling properly. If one of the dual tires goes out, the only way to know it is to get out and thump it.
- Look for signs of fire.



## Managing Space

To drive safely, you need space all around your vehicle. When things go wrong, space gives you time to think and to take action.

Having space available when something goes wrong, requires managing space. While this is true for all drivers, it is very important for drivers of large vehicles. Large vehicles take up more space and require more space for stopping and turning.

**Space Ahead** - Of all the space around your vehicle, it is the area ahead of the vehicle (the space you are driving into) that is most important. At least a 15-second lead time can help with planning for an upcoming problem. You need space ahead in case you must stop suddenly. According to accident reports, the vehicle that buses most often run into is the one in front of them. The most frequent cause for this type of crash is following too closely. Remember, if the vehicle ahead of you is smaller than yours, it can probably stop faster than you can.

When stopped at an intersection behind another vehicle, allow extra space between vehicles by waiting four seconds before you start out.

How much space should you keep in front? You need at least one second for each 10 feet of vehicle length at speeds below 40 mph. At greater speeds, you must add one second for safety. For example, if you are driving a 40-foot bus, you should leave four seconds between you and the vehicle ahead (five seconds if traveling over 40 mph).

To know how much space you have, wait until the vehicle ahead passes a shadow on the road, a pavement marking, or some other clear landmark. Count off the seconds like this, “one thousand-and-one, one thousand-and-two” and so on, until your front bumper reaches the same spot. Compare your count with the rule of one second for every 10 feet of length. If you are driving a 40-foot bus and counted up to two seconds, you are following too close. Drop back a little and count again until you have four seconds of following distance (five seconds, if you’re traveling over 40 mph). After practicing, you will know how far back you should be. Remember, adverse road conditions increase stopping distance.

When stopped behind another vehicle at a traffic light or stop sign, remain far enough behind that vehicle to see where its tires meet the pavement.

**Space Behind** - You can’t stop others from following too closely. In school buses, it is often hard to see a vehicle that is close behind you. You may be tailgated when you are traveling slowly. Drivers trapped behind slow vehicles often follow too closely. Look for shadows on the road or reflections to determine if someone is following closely behind you. Many drivers in cars follow too closely during adverse weather. If you are being tailgated, here is how to reduce the chances of a crash:

- Avoid quick changes. If you have to slow down or turn, signal early and reduce speed very gradually.



- Increase your following distance. Opening up room in front of you will help you avoid having to make sudden speed or direction changes. It also makes it easier for the tailgater to get around you.
- Do not speed up. It is safer to be tailgated at a low speed than at a high speed.
- Avoid tricks. Do not flash your brake lights.
- If a heavy load is slowing you down, stay in the right lane if possible. Activate hazard lights if under 25 mph or become a hazard.
- When traveling uphill, do not pass another vehicle unless you can get around quickly and safely.

**Space to the Sides** - School buses are wide and take up most of a lane. Safe drivers will manage what little space they have. You can do this by keeping the vehicle centered in the lane, and avoid driving alongside others.

Some dangers when traveling alongside other vehicles are drivers changing lanes suddenly and being trapped when you need to change lanes.

Find an open spot where you aren't near other traffic. When traffic is heavy, this may be difficult or even impossible. If you must travel near other vehicles, keep as much space as possible between you and them. Drop back or pull forward so you are sure the other driver can see you.

On multi-lane roadways, vehicles tend to travel in herds. Try to drop back or move ahead of the cluster so you do not become a part of someone else's mistake.

Strong winds make it difficult to stay in the lane. Lighter vehicles may have more difficulty than heavier ones. Strong winds can be especially bad coming out of tunnels or after crossing bridges. It is best to avoid driving alongside others whenever possible.

**Space Overhead** - Hitting overhead objects is a danger. Always make sure to have overhead clearance. Do not assume that the heights posted at bridges and overpasses are correct. Repaving, ice, or packed snow may have reduced the clearances since the heights were posted.

**Know the height of your bus. (This changes when vents and roof hatches are added and opened).**

- If you are uncertain whether there is adequate space to pass under an object, take another route.
- Warnings are often posted on low bridges or underpasses, but not always. Some roads can cause a vehicle to tilt. If there is a problem clearing objects such as signs or trees along the edge of the road, drive a little closer to the center of the road.

- Before backing into an area, get out of the vehicle and check for overhanging objects, such as trees, branches or electric wires. You may not see them while you are backing. (Also check for other hazards at the same time.)

**Space Below** - Many drivers forget about the clearance space under their vehicles. Under-storage compartments may lower the clearance of the vehicle. Drainage channels and other depressions across roads can cause the long rear overhang of school buses to drag. Cross such depressions carefully.

### Controlling Speed

Driving too fast to control the vehicle is a major cause of fatal crashes. You must adjust your speed to driving conditions. These include traction, curves, visibility, traffic, and hills.

**Stopping Distance** - There are three things that add up to total stopping distance:

$$\text{Perception Distance} + \text{Reaction Distance} + \text{Braking Distance} = \text{Total Stopping Distance}$$

**Perception Distance** - This is the distance your vehicle travels from the time your eyes see a hazard until your brain recognizes it. The perception time for an alert driver is about 3/4 second. At 55 mph, you travel 60 feet in 3/4 second.

**Reaction Distance** - This is the distance traveled from the time your brain tells your foot to move from the accelerator until your foot is actually pushing the brake pedal. The average driver has a reaction time of 3/4 second. This accounts for an additional 60 feet traveled at 55 mph.

**Braking Distance** - The distance it takes to stop once the brakes are applied. At 55 mph, on dry pavement with good brakes, it can take a heavy vehicle about 170 feet to stop, about 4 1/2 seconds. For vehicles equipped with air brakes, allow an additional half-second for the air to flow through the lines to the brakes. At 55 mph, this equals 32 feet. This is known as “air brake lag distance.”

**Total Stopping Distance** - At 55 mph it will take about five seconds to stop and your vehicle will travel about the distance of a football field.

$$\text{Hydraulic Brakes} - (\text{PD} + \text{RD} + \text{BD}) 60 + 60 + 170 = 290 \text{ feet.}$$

$$\text{Air Brakes} - (\text{PD} + \text{RD} + \text{BD} + \text{LD}) 60 + 60 + 170 + 32 = 322 \text{ feet.}$$

**Effect of Speed on Stopping Distance** - Whenever you double speed, it takes about four times as much distance to stop, and the vehicle will have four times the destructive power if it crashes. High speeds increase stopping distances greatly.

*By slowing down a little, it will greatly reduce your braking distance.*



**Speed and Curves** - Drivers must adjust their speed for curves in the road. If you take a curve too fast, two things can happen. The wheels can lose traction and continue straight ahead, causing the vehicle to skid off the road, or the wheels may keep their traction causing the vehicle to roll over. Tests have shown that vehicles with a high center of gravity can roll over at the posted speed limit for a curve.

- Slow to a safe speed before you enter a curve. Braking in a curve is dangerous.
- Slow down as needed. Don't ever exceed the posted speed limit for the curve. To help maintain control, be in a gear that will allow a slight acceleration through the curve.

***Reminder - The posted advisory speed is normally set for cars, not buses.***

**Speed and Distance Ahead** - You should always be able to stop within the distance you can see ahead. Fog, rain, or other conditions may require a slower speed to enable you to stop within that distance. At night, you can't see as far ahead with low beams as you can with high beams. When using low beams; slow down.

***Caution - Never outride the range of what your headlights illuminate.***

**Speed and Traffic Flow** - Drive at the speed of the traffic if possible, without traveling at an illegal or unsafe speed. Maintain a safe following distance.

A common reason drivers exceed the speed limit is to save time. Anyone trying to drive faster than the speed of traffic will not be able to save much time. The risks involved are not worth it. Going faster than the speed of other traffic results in:

- Frequently passing other vehicles, thus increasing the chance of a crash.
- Fatigue, which also increases the chance of a crash.

***When driving on a highway with a posted speed limit of 75 mph, the bus should be 5 - 10 mph below speed limit.***

**Speed on Downgrades** - Traveling at an appropriate speed is the most important thing when descending long, steep hills safely. If you do not go slowly enough, overuse of the brakes can cause them to become so hot (brake fade) they will not slow the vehicle down. Shift the transmission to a lower gear and check the brakes before starting down the grade. Pay attention to warning signs for long downhill grades ahead. Descending steep hills safely is discussed more in Unit Seven, Mountain Driving.

## Proper Braking Techniques

Remember: The use of brakes/retarder on a long and/or steep downgrade is only a supplement to the braking effect of the engine. Once the vehicle is in the proper low gear, apply the retarder, if equipped. The following is the proper braking technique:

- Downshift the transmission prior to the crest of the hill.
- Be in the proper gear.
- Apply the brakes/retarder just hard enough to feel a definite slowdown.
- When speed has been reduced to approximately 5 mph below your “safe” speed, release the brakes. (This brake application should last for about 3-5 seconds).
- When your speed has increased to the “safe” speed, repeat steps 2 and 3. For example, if the “safe” speed is 40 mph, you would not apply the brakes until the speed reaches 40 mph. You now apply the brakes hard enough to gradually reduce the speed to 35 mph and then release the brakes. Repeat this as often as necessary until you have reached the end of the downgrade.
- If braking is occurring often, the bus is not in a low enough gear.

## Driving at Night

Driving at night creates a greater risk for drivers. Hazards are not as visible as during daylight hours, so there is less time to respond. Drivers caught by surprise are less able to avoid a crash. Three factors that affect night driving are: the driver, the roadway, and the vehicle.

**Driver Conditions** - People cannot see as sharply at night or in dim light. Also, the eyes need time to adjust to seeing in dim light. Most people have noticed this when walking into a dark movie theater. Drivers can be blinded for a short time by bright light. Some drivers are especially bothered by glare. People have been temporarily blinded by the high beams of an oncoming vehicle. It can take several seconds to recover from glare. Even two seconds of glare blindness can be dangerous. A vehicle going 55 mph will travel more than half the distance of a football field during that time. Avoid experiencing glare blindness by looking to the right side of the road when someone coming toward you has very bright lights.

Fatigue and lack of alertness may increase at night. The body’s need for sleep is beyond a person’s control. Most people are less alert at night, especially after midnight. This is particularly true if you have been driving for a long time. Drivers may not react as quickly to hazards, increasing the chance of a crash. When you are sleepy, the only safe cure is to get off the road and get some sleep. If you do not, you are risking your life and the lives of others.



**Roadway Conditions** - In the daytime there is usually enough light to see well. This is not true at night. Some areas may have bright streetlights; others will have poor lighting. On most roads, you will probably have to depend entirely on your headlights.

Less light means you will not be able to see hazards as well. Road users who do not have lights are hard to see. There are many crashes at night involving pedestrians, joggers, bicyclists, and animals.

Even when there are lights, the road scene can be confusing. Traffic signals and hazards can be hard to see against a background of signs, shop windows, and other lights. Use a slower speed when lighting is poor or confusing so you are able to stop within the distance you can see ahead.

**Vehicle Conditions** - At night, your headlights will usually be the main source of light enabling you to see and others to see you. Visibility is not nearly as good at night with your headlights as in the daylight. Low beams allow you visibility of about 250 feet while high beams allow about 350-500 feet. Adjust your speed to keep stopping distance within sight distance (The ability to stop within the range of your headlights.)

Night driving can be more dangerous if you have problems with your headlights. Dirty headlights may give only half the light they should. This cuts down your ability to see, and it makes it harder for others to see you. Make sure all lights are clean and working properly. Headlights can be out of adjustment. If they don't point in the right direction, they don't give you a good view and can blind other drivers. Have a qualified person make sure they are adjusted properly.

**In order for you to be seen easily, the following must be clean and working properly:**

- Reflectors
- Turn signals
- Clearance lights
- Taillights
- Headlights
- Brake lights
- Reflective tape

At night, your turn signals and brake lights are even more important for communicating to other drivers what you intend to do. Make sure they are clean and working properly.

It is essential at night to have a clean windshield and mirrors. Bright lights at night can cause dirt on the windshield or mirrors to create a glare of its own, blocking your view.

Most people have experienced driving toward the sun just as it has risen or is about to set and found that they can barely see through a windshield that appears alright in the



middle of the day. Clean the windshield on the inside and outside for safe driving at night.

Deaths from vehicle collisions occur three times more often in the evening, so pay special attention while driving in the late afternoon, early evening, and early morning hours.

### **Dangers**

- Visibility may be reduced.
- Peripheral vision is not as sharp.
- Darkness impairs your ability to judge distances, movements and colors.
- More likely to become sleepy.
- Night blindness makes objects appear further away.
- Depth perception in mirrors is distorted.
- Slow down and drive with greater caution.

### **Precautionary Measures**

- Before starting to drive at night, give your eyes an extra five minutes to adjust to the dark.
- Properly pre-trip your vehicle and know the location of your switches.
- Never wear sunglasses when driving in low light conditions.
- CDE requires headlights to be on when the vehicle is in operation.
- Slow down and leave at least 300 feet between you and the vehicle ahead of you.
- Dim the lights before they cause glare for other drivers; within 500 feet of an oncoming vehicle and within 500 feet of a vehicle in front of you.
- Use high beams when you can. Some drivers make the mistake of always using low beams. This seriously cuts down on their ability to see ahead. Use high beams when it is safe and legal to do so.
- Do not look directly at the high beams of an approaching vehicle - look forward and slightly to the right.
- Flip your rearview mirror to the night position in order to reduce glare when driving a smaller vehicle.





- Light inside the vehicle makes it harder to see outside. Keep the interior light off and adjust the instrument lights as low as possible and still be able to read the gauges.
- Stop driving if you are sleepy. People often do not realize how close they are to falling asleep. You are in a very dangerous condition. The only safe cure is to sleep.



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## UNIT 6 - Adverse Weather and Mountain Driving

In this unit, there is information on adverse weather conditions, driving techniques, and information pertinent to School Bus Driving in all weather conditions experienced in Colorado.

Becoming aware of the effects on the performance of the vehicle and the proper procedures to counter the effects of the conditions will provide the understanding required to respond correctly. Slow down, pull over, or make the decision to reschedule. Safety must be the driver's primary concern.

### Wind

Strong winds affect the handling of a school bus. It may be harder to steer and stay within the lane of travel during high winds. Wind gusts can push on the side of the bus, causing it to thrust sideways. In extreme situations, roof hatches have popped open and ripped off. Extreme wind may also cause difficulty keeping the bus in the proper lane of traffic. Overcompensated steering can cause the bus to tip over or leave the lane of travel. Wind may blow around debris that can hit the bus causing damage or injuries.

Strong winds increase just prior to, and in the beginning of a change in weather. During thunderstorms, dust storms, and blizzards, visibility can be severely impaired. Operators should be cautious when crossing bridges and overpasses, driving between hills, exiting tunnels, on open straight-aways, and when passing high-profile vehicles.

### Tips for driving in strong winds:

- **Grip** - Keep a strong grip on the steering wheel. Anticipate wind gusts.
- **Speed Reduction** - Reduce speed to lessen the effect of the wind, or pull off the road and wait.
- **Pull Over** - Pull onto a solid shoulder, side road, or parking lot.
- **Call** - Contact Dispatch to convey the situation and ask for instructions.
- **Observe Surroundings** - Watch for blowing debris, falling trees or power lines. Reduced visibility may occur from blowing dust, sand, or snow.
- **Prepare** - Always be prepared for the unexpected.

### Tornados

A tornado is a violently rotating column of air. In the northern hemisphere, tornados rotate counterclockwise. They develop in warm, moist air, in advance of an eastward

moving cold front. Most tornados move southwest to northeast. The average forward speed of a tornado is 30 mph, but can be up to 70 mph. When the temperature is between 65 and 84 degrees and the dew point is above 50, the dangers of a tornado are at the highest. They often accompany severe thunderstorms. Tornados are common in eastern Colorado. Though they are rare, tornados are possible in the mountains, foothills, and western valleys.

### **Tornado Signs:**

- Green-colored Sky
- Hail
- Wall Cloud
- Funnel Cloud

Many say a tornado sounds like a freight train approaching. If a tornado does not appear to be moving, it may be coming toward you. If you are in the bus and see a tornado, evacuate to a safe location, preferably a building. When in a building, go to an interior room or basement, away from windows, and have all passengers sit and cover their heads with their hands. When in the direct path of a sighted tornado and shelter in a building is not available and an evacuation is ordered, escort passengers to a nearby ditch, culvert, or depression. Direct all passengers to lie face down on the ground with their hands covering their head. They should be far enough away so the bus cannot topple on them. Avoid areas that are subject to flash floods. Never go under a bridge or overpass. This area can become the equivalent of a wind tunnel.

### **Microbursts and Macro Bursts**

Microburst's and Macro bursts are intense, localized downdrafts of air that spread on the ground causing rapid changes in wind direction and speed. They are capable of producing winds of more than 100 mph that can cause significant damage. A macro burst can cause more damage to a widespread area than a microburst. They are hard to detect, so be careful when thunderstorms and high winds are in the area. Keep a tight grip on the steering wheel and pay attention to weather watches and warnings.

### **Lightning**

Sudden storms can produce lightning. If a severe storm produces lightning, the safest place is in the bus. Avoid touching metal objects or pulling over in high-risk areas (canyons, near power lines, or tall trees).

## Water on Roadways

Water on brake drums will reduce braking efficiency. A light application of the brakes can prevent excessive water between the drum and brake pads. During excessively wet conditions or after passing through standing water, it may be necessary to apply the brakes slightly for a short distance to dry them out and restore normal braking.

Never attempt to drive in flowing water, as the depth and force of the current is unknown. Dangers may not be visible. There may be debris, downed power lines, or washed out portions of the road.

## Slippery Surfaces

Bus braking or steering cannot occur unless there is traction. Road conditions may reduce traction and require slower speeds. When slick road conditions exist, it will take longer to stop and be harder to steer the bus without skidding. Slippery surfaces can more than double stopping distances.

### **Common Slippery Surfaces:**

- **Shaded Areas** - Shady parts of the road may remain icy and slippery long after open areas have melted and dried.
- **Bridges** - When the temperature drops, bridges will freeze before roads. Be especially careful when the temperature is near freezing (32° F).
- **Snow** - There are different types of snow that provide different levels of traction. The most traction comes either from dry granular or very cold snow. Packed snow may provide better traction than freshly fallen snow. As variations in temperature occur, at or near the freezing/melting point (32°F), vehicles will have the least amount of traction. This presents the most dangerous road conditions of ice on snow, or snow on ice.

Roads are most hazardous when snow or ice begins to melt. Take extra caution on packed snow or icy roads when the outside temperature is near the melting/freezing point (32° F).

### **Black Ice**

When the temperature is below freezing and the road appears wet, it could be black ice. This is a thin layer of transparent ice that can be present anywhere, especially in high-traffic intersections and windswept areas.



**Hail** - While similar to ice, hail provides a unique set of hazardous circumstances. Hail on roadways can produce an extremely slippery and uneven road surface. Large hail can break the windshield and windows. Children should protect themselves from flying glass should a window break.

**Rain** - When it starts to rain, the water mixes with oil and other road grime making the road very slippery. Standing water on the roadway may lead to additional challenges such as hydroplaning.

**Hydroplaning** - Hydroplaning can occur on any wet road surface. The first 10 minutes of a light rain can be the most dangerous. When a tire encounters more water than it can scatter, water pressure in the front of the wheel pushes water under the tire, thus separating the tire from the road surface with a thin film of water. The result is loss of traction, steering, braking, and power control.

#### **How to avoid hydroplaning:**

- Slow down when roads are wet. The faster the speed, the harder it is for tires to scatter water properly.
- Stay away from puddles and standing water.
- Do not use cruise control, if equipped.
- Drive in a lower gear.
- Avoid hard braking.
- Try to avoid making sharp or quick turns.

**Mud/Mudslides** - Wet, non-paved or paved roads where excessive mud is present can be slippery and may be virtually impassable.

**Heat** - Excessive heat may cause the tar in the road pavement to rise to the surface. These areas can become soft or slippery.

**Other** - Anti-icing and de-icing materials used on roadways (i.e. gravel, magnesium chloride, and salt) to improve traction. In some instances, these materials can decrease traction.

If the bus is equipped with a retarder, see Unit 7 for detail concerning retarder use on slippery surfaces.

#### **Skids**

A skid happens when a vehicle's tires lose traction on the road. Some common ways this can happen are:



- **Over-braking** - Either braking too hard and locking up the wheels or using the retarder when the road is slippery.
- **Over-steering** - When the operator turns the wheels sharper than the bus can turn at a given moment.
- **Over-acceleration** - When the drive wheels' spin due to too much power sent from the operator.
- **Driving too fast** - Serious skids result from driving too fast for road conditions. Operators who adjust their driving to the conditions do not over-accelerate and do not have to over-brake or over-steer from gaining too much speed.

### **Drive-Wheel Skids**

The most common skid is one where the rear wheels lose traction through excessive braking or acceleration. Rear wheel braking skids occur when the rear drive wheels lock. This usually happens on slippery surfaces. Because locked wheels have less traction than rolling wheels, the rear wheels usually slide sideways in an attempt to "catch up" with the front wheels. In a bus, the vehicle will slide sideways into a "spin out".

#### **To correct a drive-wheel skid:**

- Stop accelerating.
- Stop braking to allow the rear wheels to roll again.
- Turn into the direction of the skid by looking where you want the bus to go.
- Counter-steer after control of the bus resumes by turning the steering wheel in the direction desired.

### **Front-Wheel Skids**

Driving too fast and having inadequate tread depth on the front tires causes most front-wheel skids. In this type of skid, the front of the bus tends to go in a straight line regardless of how much the steering wheel is turned. This causes extreme difficulty (if not impossibility) when steering around a curve or turn.

To correct a front-wheel skid, release the accelerator and do not brake. This will allow the front wheels to turn again and regain traction.

Learning to stay off the brake and react quickly during a skid takes a lot of practice. The best place to practice this is on a large driving range or "skid pad".



## **Winter Driving**

Weather conditions can be unpredictable, placing extra demands on the bus and operator. Always be prepared for winter roads and adjust speed to the existing conditions. Three key elements to safe winter driving are to stay alert, slow down, and stay in control. Drive according to highway and weather conditions. Some bridges and overpasses in Colorado are heated or have de-icing sprayers. This creates an abrupt change in road conditions. Scan ahead and be aware of these locations.

In winter and especially during poor weather conditions, it takes longer to stop on a slippery road. It is important to leave plenty of space between the bus and the vehicle ahead to avoid sudden braking situations. A guide to safe spacing in these conditions is to double the “four - five second rule”.

Using a lower gear than you normally would for the type of road helps the driver maintain control of the vehicle in winter driving conditions.

Be aware that snow on the road may be slippery, drifted, or hard-packed. It can also be smooth, soft, rutted, or slick-tracked. Slick track happens when traffic has packed the snow enough to cause icy conditions. Because the bus usually tracks wider than the preceding vehicles that formed the hard pack, ruts or slick tracks, maintaining control may be difficult. Rather than allowing the bus to sway back and forth between the two narrow tracks or ruts, adjust lane positioning to ride in the untracked snow within the lane. Riding outside of the tracks or ruts will help to maintain speed and steering control.

Wet snow can cause slushy roads. Heavy slush can build up in the wheel wells of the bus and can affect steering. Remember to look ahead to recognize hazards in plenty of time to respond.

## **Reduced Visibility**

School Bus Operators can expect to experience any and all of the following driving hazards that may result in reduced visibility. The most important response is to slow down. Maintain a speed that allows safe continuation in these conditions:

Fog	Smoke
Sun	Terrain
Dust	Hail/Graupel
Rain	Darkness
Snow	Light variations
Debris	Vegetation



### Additional Hints and Reminders

- Check road conditions prior to departure.
- Speed should be conservative when conditions are less than perfect. Maintain a speed that allows you to stop quickly in the event of the unexpected.
- Know your limits and the bus's limits. Pull off to a safe location rather than continuing in adverse or unsafe conditions.
- Test traction and braking ability in a safe location free from traffic or other hazards.
- False shoulders exist in all seasons (i.e. snow, tall grasses and heavy rains). Be aware of your surroundings at all times.
- Increase following distance.

This section provides information on safe travel in the mountains. Mountain driving presents unique situations that require greater attention to the same driving skills and expertise expected of all school bus drivers. Steep grades, winding roads, blind curves, falling rocks, wildlife, sightseeing motorists, bicyclists and unpredictable weather can present additional risks and consequences. There is a reduced margin for error and minor mistakes can develop into major problems. Mountain driving requires a high level of concentration and a respect for the terrain.

*42-4-1901 (1) (a), C.R.S. Except as provided in paragraph (a) of subsection (2) of this section, passengers of any school bus being used on mountainous terrain by any school district of the state shall not occupy the front row of seats and any seats located next to the emergency doors of such school bus during the period of such use.*

*(b) For purposes of this section, mountainous terrain shall include, but shall not be limited to, any road or street which the department of transportation has designated as being located on mountainous terrain.*

*42-4-1901 (2) (a) The provisions of paragraph (a) of subsection (1) of this section shall apply to:*

*42-4-1901 (2) (a) (I), C.R.S. Passengers of any school bus which is equipped with retarders of appropriate capacity for purposes of supplementing any service brake systems of such school bus; or*

*42-4-1901 (2) (a) (II), C.R.S. Any passenger who is adequately restrained in a fixed position pursuant to federal and state standards.*



## **Mountain Driving**

This unit focuses on maintaining control, transmission and retarder usage, braking, pitch and grade, chains, and other skills for safe school bus operation in the mountains. CDE recommends frequent skill refresher training for mountain drivers.

### **Target Speed**

Target speed is the speed a driver determines is safe for a driving condition. When the bus speed increases above the target speed, the driver slows to 5 mph below the target speed and allows the bus speed to increase naturally back to the target speed. Repeat this process as needed. If this process is happening often, the driver has not shifted down to a gear that will provide the engine compression to hold the vehicle at or below the target speed.

### **Maintaining Control**

To maintain control of a school bus on steep mountainous terrain, follow the steps below for safe control:

- 1) Engine Compression/Transmission
- 2) Retarder Use (if equipped)
- 3) Service Brake Use

A driver is in control when the school bus is kept at a safe road and engine speed. A safe school bus speed is either at or below the posted limit. The bus manufacturer determines safe engine speed (revolutions per minute/rpms).

### **Engine Compression/Transmission**

Engine compression is the first source of braking power, even if the bus is equipped with a retarder. When coming down a long steep grade, descend in a gear that is low enough to climb that same grade. On steeper grades and/or with a loaded bus, use at least one gear lower. Be aware that if the engine reaches maximum rpms, automatic transmissions can up-shift, even when manually locked in gear.

Select the proper gear for the grade before starting to descend and keep the bus in that gear to the bottom of the grade. Avoid the possibility of not being able to shift into the next lower gear, if needed. This is especially important with a standard transmission. Maintain the manufacturer's recommended rpm range for the gear selected in order to avoid over-revving or lugging, which may damage the engine.

***Discuss recommended rpm ranges for all types of buses in the fleet.***



## Retarder

The retarder is designed to slow the bus to maintain a safe speed. The retarder will not completely stop the bus. Use the retarder for all slowing needs. Proper use of the retarder will improve safety and save money by avoiding wear on the bus's braking system.

Retarders control only the rear wheels. This gives the driver complete control of the steering system. Some retarders work in reverse as well as forward gears. This helps to prevent the service brake from overheating. The retarder can overheat when used for long periods. Cool the retarder by discontinuing use for 10 minutes at a minimum of 15 mph before stopping the bus. Use only the service brakes in this cool down period.

*1 CCR 301-25, 2251-R-33.00 Retarder (optional, see Section 42-4-1901, C.R.S.)*

*33.01 Retarder manufacturers shall certify that their product system shall maintain the speed of the bus loaded to maximum GVW at 19.0 miles per hour on a 7 percent grade for 3.6 miles.*

*33.02 School buses equipped with electro-magnetic retarder(s) shall have increased electrical system capacity commensurate with the needs of the retarder system.*

*33.03 Indicator light(s) shall indicate when retarder is in operation.*

## Types of Retarders

### Electromagnetic

The most common type of retarder is electromagnetic. Mounted on the driveshaft of the bus, this retarder slows the driveline to the rear tires using electromagnetic forces. These retarders have four positions of braking. Positions 1 and 2 are the most commonly used. Use positions 3 and 4 only for short amounts of time due to the drain it places on the battery system. When an emergency stop is required, activate the hand control from the "off" position to the fourth position in one single action. Activation of electromagnetic retarders can also occur with the engine off as long as there is a source of electrical power on older models.

***NEVER DRIVE AGAINST A RETARDER!***  
***It will overheat and can cause a fire.***

### Stop and Go Traffic Use

Use positions 1 and 2 for normal slowing and 3 and 4 for firmer or emergency slowing. When it becomes necessary to slow down, release the accelerator and apply the

retarder hand control to the desired position. To come to a complete stop, apply the service brake. Switch the retarder hand control to the “off” position when no longer needed.

### **Downhill Descent Use**

Use the retarder to reduce speed and allow engine compression to keep the bus at a safe speed. Listen to the engine and watch the gauges for speed to increase; apply the retarder until 5 mph below target speed. The bus is in too high of a gear if the need for fourth position occurs. Slow the bus using the service brakes and shift the transmission to a lower gear.

### **Slippery Road Conditions**

Use the retarder cautiously in the first position in order to slow the bus on slippery roads. Before shifting into position one, make sure the engine rpms are low to minimize the torque from suddenly going to the rear wheels. Over-retarding on slippery roads can break the traction of the rear wheels. If this happens, disengage the hand control. As soon as the bus regains traction, you can lightly accelerate to pull out of a skid. If use of the retarder is still needed, use cautiously. The operator has little control when the retarder system is electronically hooked into the service brake system. It is best to turn the retarder switch off when slippery conditions exist.

### **Hydraulic**

Hydraulic retarders are fluid braking systems, which decrease the speed of the bus by slowing the automatic transmission. Brake application or accelerator release activates this type of retarder. There is generally no other type of control. The hydraulic retarder does not have the four positions of braking, as the electromagnetic retarder does. These retarders have a variety of styles and positions. Please refer to your bus operation manual for detailed instructions. With all hydraulic retarders, avoid continuous use as the transmission can overheat. The transmission retarder will not function if the engine is off.

### **Engine/Exhaust Brakes**

These systems are an optional auxiliary braking system that assists but does not replace the service brake system. Both brakes perform in the same manner. The engine brake is inside the engine, and the exhaust brake is in the exhaust system. The engine or exhaust brake switch, located on the control panel (in combination with the accelerator or brake pedals), allows the driver maximum use of the engine or exhaust brake. The



exhaust brake is a butterfly valve mounted in the exhaust manifold pipe. An air cylinder shuts the butterfly valve when there is a release of the accelerator and the brake switch is in the “on” position. This restricts the flow of the exhaust gases and retards the engine. This retarding action carries throughout the engine and drivetrain, slowing the bus and reducing the need for frequent service brake applications.

When using on a steep grade, make sure that the brake switch is in the “on” position. Once there is a release of the accelerator pedal, the retarder will come on. While going down the grade, use a gear low enough to descend safely with minimum application of the service brakes. As a general guideline, use the same gear as you would to ascend that same hill. Do not allow the engine to exceed its governed speed or serious engine damage could result. Apply the service brakes to reduce the engine rpms. Shift into a lower gear to make a slower descent.

### **Engine or Exhaust Brake Operating Characteristics**

Operators will experience the following when engine or exhaust brakes are in operation:

- Exhaust smoke will appear normal.
- Engine temperature will remain in the normal operating range.
- Road speed during descents will decrease.

Vehicle weight and grade of the decline will affect the amount of braking force required to slow the bus. If the bus is equipped with these types of brakes, the operator may not always be able to feel the retarding force; however, it is preventing the bus from gaining speed.

It is important to engage the different stages of the secondary braking system prior to the requirement or the need for additional braking in order to have the feel of the braking action.

### **Service Brakes**

In mountain driving, the force of gravity plays a major role. Gravity will make the bus speed up when going down steep grades. The heavier the load, the faster the bus will gain speed. Go slowly enough to avoid the use the service brakes to maintain a safe speed. Prolonged use of the service brake causes brake “fade” (less stopping power). Brake fade occurs when heat build-up causes the brake lining to glaze or deteriorate at high temperatures. This decreases or eliminates the effectiveness of the brakes, and in extreme cases, can cause a fire. Never exceed a safe controlled speed. For long downhill grades, maintain safe speed by properly using engine compression and the retarder (if so equipped). This helps ensure minimal use of the service brakes. Use the service brakes intermittently, with enough time between applications to keep the linings, drums, and/or rotors cool.



## **Pass Checks**

Pull over at a safe location prior to beginning a decent. As you enter the parking area, apply firm pressure on the brakes checking for proper stopping and that the bus does not pull. Do a walk around to ensure all lights are working. Stop at each wheel and feel the hub for signs of heat. Look at the slack adjusters to ensure they are all indicating proper adjustment. Look at all tires for damage and proper inflation. Place the bus in the proper gear to descend the downgrade.

When approaching a downgrade where a full check of the vehicle is not possible, prior to reaching the apex of the hill, firmly apply the brakes to feel for proper brake response and no pulling in either direction. Shift down to the proper gear prior to the apex of the hill.

## **Pullouts**

Use pullouts to allow traffic backed up behind the bus to pass safely. If a pull out is large enough, maneuver the front of the bus so that you can look over your shoulder for oncoming traffic before reentering the roadway. Do not rely solely on the mirror if the opportunity to square off and look exists.

## **Pitch and Grade**

One of the hardest techniques to learn may be reading terrain. Maintain a safe scanning distance and scan the entire area for changes in grade, upcoming curves, wildlife, and traffic. When possible, look through the trees beyond the curve before entering.

### Tips for Reading Terrain

- Whitewater - indicates a steep grade
- Objects that seem to change size rapidly - indicate a steep grade
- Canyon walls that appear to close in ahead of the bus - indicate a possible narrow road ahead
- Do not blindly follow the traffic ahead of you - other drivers may misinterpret terrain.

One of the hardest techniques to learn may be reading terrain. Maintain a safe scanning distance and scan the entire area for changes in grade, upcoming curves, wildlife, and traffic. When possible, look through the trees beyond the curve before entering.

## **Curves**

### **Pitch and Grade**

Pitch and grade affect how mountain drivers maneuver through curves. Long, wide curves in the mountains may remain slippery for continuous periods, due to the pitch of the road or position of the sun. During a downhill curve, the bus may accelerate on



its own. Do not brake in a turn, especially during adverse conditions. Apply the retarder or service brake (depending on conditions) well in advance of the curve and allow the speed of the bus to decrease gradually. Once the bus has reached the apex of the turn, gradually accelerate. This helps the bus track correctly through the lane. Braking through a turn may cause the bus to skid and make control difficult.

When approaching curves, notice how the road pitches from side to side in relation to the curve and the grade. Often, the operator can drive at a higher speed if the curve maintains a pitch that follows the direction of the turn (on-camber) than if the curve is flat or off-camber. The amount of acceleration out of the curve will depend on the degree of pitch. A skid can occur by accelerating too early when negotiating curves with a relatively flat pitch.

## **Speed**

Slow to a safe speed before entering any curve. Braking in a curve is dangerous because it is easier to lock the wheels and cause a skid. Do not exceed the posted speed limit for the curve. Since the posted speed limit is for small vehicles, the bus speed should be 5-10 mph below the posted limit. To help maintain control, be in a gear that will allow slight acceleration through the curve. When entering a curve while going downhill, allow gravity to provide the slight acceleration.

## **Lane Position**

Watching the lane position will help avoid head-on collisions. On tight curves, especially switchbacks, watch the tail swing. Stay centered in the lane to keep a safe clearance on all sides of the bus. Hugging the outside of a curve increases the chance of dropping a tire off the paved portion of the road onto a soft shoulder. Hugging the inside of a curve places your mirrors into the space of other motorists. If possible, adjust the speed and space to avoid driving alongside another vehicle in a curve on a multilane highway. On a right hand curve, move as far to the outside of the lane as possible. It is essential to pay attention to where the right rear tires are in relation to the pavement. On-coming traffic tends to take their half out of the middle when negotiating a left hand curve.

## **Overhead**

Be aware of rocks that overhang the road. Off-tracking brings the center of the bus closer to the overhanging objects. When entering a tunnel, be aware of the curve of the edges and top. The vehicle height may fit through the middle, but not on the outer edges.



## Chains

Chaining is crucial to mountain driving in adverse weather. The Department of Transportation requires the use of chains on commercial motor vehicles on many mountain passes. The two most common types of chains are automatic and conventional. There are several methods for installation. Below are some commonly used methods and tips for safely chaining a bus.

### **Automatic Chains**

These chains permanently fasten to the rear suspension of the bus. They activate from a dashboard switch that opens an electric over air solenoid mounted on the frame rail. Air pressure from the buses on board air brake system or an auxiliary air source flows to two air cylinders that lower two chain wheels down until they contact the tire sidewall. The friction between the tire and the chain wheel causes the chain wheel to rotate. Each chain wheel has lengths of chain attached to it. The centrifugal force created causes the chains to flail out and pass between the tire and road surface to enhance traction in snow and ice. The additional traction also reduces stopping distance in these same slippery conditions. When in the “off” position, the solenoid exhausts the air in the cylinder, and the spring in the cylinder returns the chains to the retracted position.

#### Advantages:

- Increased safety as the bus is always equipped and has quick access on short notice. Typical engagement time is two seconds.
- Automatic chains dramatically reduce the time spent installing conventional chains, increasing productivity of the operator. More importantly, routes can remain on schedule.
- Automatic chains can eliminate body damage caused by broken conventional chains, which at times can be a mission disabling failure.
- Advantages in hauling force, acceleration and stopping distance are dramatic.

#### Disadvantages:

- The operator must realize that this system is not a “fix all” (avoid a false sense of security).
- Operator activation is required.
- The system, per design, is limited to ice and a maximum of up to four inches of snow. The operator may have to install conventional chains in deep snow conditions.



The operator may lower or raise automatic chains at any time during speeds less than 30 mph. To avoid damage, do not raise the chains if the bus is not in motion. If the chains are raised when not in motion, damage can occur to the chains, arm mechanism, and air system.

### **Conventional Chains**

The operator must install and remove conventional chains. Always plan ahead when chaining is a possibility. If there is any doubt about traction, it is best to chain up to avoid safety issues.

When determining locations to install and remove conventional chains, always find a safe location that is out of the way of traffic. If passengers are on-board, they should remain inside of the bus. Make sure the engine is off and the brake is set so the bus will not move.

#### **Chaining Steps:**

- Operator Preparation - Stretch muscles before lifting chains.
- Lay chains out on the ground to confirm that the chains are lying correctly with each side parallel. If not, straighten them to assure that all reinforcement bars will face the road surface instead of gouging into tire.
- Choose the proper chaining method to use.
  - Drape over the tire (Recommended in most circumstances).
    - Hooks on inside, clasps on outside, cross-links be perpendicular to tire and all reinforcement bars on cross-links facing away from the tire.
    - Roll the bus over chains. Determine the optimal direction to roll (forward or backward) by assessing which direction has the most room. Avoid rolling over the hook and clasp end of the chain, if possible. If on a slope, always make sure the operator is on the upward side of the tire when fastening chains.
    - Place a mark at one side of the front passenger door and drive the bus with the front wheels straight until the opposite side of the entry door is lined up with the mark.
    - Fasten the chains. The inside hooks should be fastened first. Do not hook on the end link. The identical number of links on the inner hook and outside clasp is ideal to fasten the chains. Attach the stretchers/tighteners on the outside of the tire. Drive forward 50-100 yards, remove the stretchers, tighten the chains and reattach the tighteners.



- In-place chaining (usually done if bus is unable to move).
  - Drape the chains over tire so that the cross-links at the bottom do not hinder the effort to fasten the inside hook to the chain link.
  - Use a chain tightener or coat hanger to guide the link between the dual tires to fasten the chain link with the inside hook.
  - Pull the chains as tight as possible. A good tip is to use your knee against the tire to spare using only your back. Fasten the chains with the outside clasp and attach the tighteners. When the bus is moving and out of danger, remove the tighteners, readjust the chains, fasten both the inside hook and outside clasp, and reattach the tighteners.

***Remember that when the bus is empty, chain traction is limited.  
Never drive over 30 mph when chains are installed on the tires.***

#### **Removal Steps:**

Remove conventional chains only when the road surface provides safe traction without the use of chains.

- Find a safe area away from traffic and keep the students on the bus.
- Remove the tightener.
- Loosen the outer clasp.
- Unhook the inner hook first to prevent the chains from dropping between freezing wheels.
- Drive over the chains in a manner that prevents the tires from running over clasps or hooks.
- Stretch the chains out to check for broken or badly worn links.
- Bundle chains for storage.
- Place the tightener perpendicular to the cross-links and pull each individual link over the tightener while inspecting the condition of each link.
- Fasten the tightener at the ends and place in the desired storage area.

If there are any doubts about the condition of any part of the chains, take them to a mechanic or other repairperson for inspections and/or replacement.

### **Additional Tips:**

- Carry additional tighteners in case of breakage.
- Inspect and install all chains in the fall to ensure proper condition and fit. Every element of a chain is a moving part. Check for broken chain links and verify the hooks and clasps are in good operating condition.
- Label all chains with paint to confirm they are the proper ones for that particular bus and add this check to the daily pre-trip inspection.
- If installation of new tires occurs on the bus, always check the chains for proper size.

<https://www.codot.gov/travel/winter-driving/TractionLaw>

<https://www.codot.gov/travel/library/Brochures/ChainTips.pdf>

### **CDOT Fact Sheet –Traction Law and Passenger Vehicle Chain Law**

#### **Traction Law (Code 15) – Use George’s Head to Check Your Tread**

- If weather conditions require, CDOT will implement a Traction Law.
- Under a Traction Law, motorists will need to have either snow tires, tires with the mud/snow (M+S) designation, or a four-wheel/all-wheel drive vehicle – all tires must have a minimum one-eighth inch tread.

#### **Passenger Vehicle Chain Law (Code 16) – Chain Up or Stay Off**

- During severe winter storms, CDOT will implement a Passenger Vehicle Chain Law – this is the final safety measure before the highway is closed.
- Under a Passenger Vehicle Chain Law, every vehicle on the roadway is required to have chains or an alternative traction device (like AutoSock).

#### **Fines**

- Motorists driving with inadequate equipment during a Traction Law or Passenger Vehicle Chain Law could be fined more than \$130.
- If a motorist blocks the roadway because they have inadequate equipment during a Traction Law or Passenger Vehicle Chain Law, they could be fined more than \$650.

#### **Test Your Tread**

- Find out if your tires are safe for winter driving by doing the Quarter Test:

- o Insert a quarter upside down into your tire tread, with Washington’s head going in first.
- o If the top of the head is covered by tread, you’re good to go.
- o If the top of his head is visible at any point around the tire (test multiple points), you can’t drive when a Traction Law is called – you also likely need new tires.

### Traffic Facts

- In 2014, one of the worst traffic delays on the I-70 Mountain Corridor was caused by unprepared motorists. Severe delays were caused by 22 vehicles spinning out and causing crashes – 19 of those vehicles had worn tires.
- Traffic accidents – not volume – account for as much as 60 percent of all traffic delays.
- A crash that only takes 10 minutes to clear can delay traffic for an hour.

### Statewide Tire Deals

- To help motorists prepare for winter driving, CDOT has partnered with tire companies across the state to offer discounts on new tires.
- To find a tire company with deals near you, visit [winter.codot.gov/tires](http://winter.codot.gov/tires).

## DELINEATORS

Delineator posts are green posts with colored reflectors. They are in high risk and informational areas of roadways to convey a variety of messages to motorists. Below are some specifics on delineators.

**Delineator—a retro-reflective device mounted above the roadway surface and along the side of the roadway in a series to indicate the alignment of the roadway, especially at night or in adverse weather.**

### Type III

- 1) Three Amber Front Reflectors - These are designed to warn the motorist of existing objects. These objects may not always be in the roadway, but are close enough to the edge of the road, to be a potential hazard. Typically, they are near underpass piers, bridge abutments, guardrails, and culvert heads. If a guardrail approach end is not flared, there will be a Type III delineator immediately in advance of the approach end.



- 2) Two White Front and One Red Back Reflector - These are designed to warn motorists of acceleration and deceleration lanes ahead. The red reflector is for warning motorists of the wrong way.
- 3) Two Amber Front and One Red Back Reflector - These are normally installed in medians for left-turn deceleration lanes.
- 4) One Blue and Two Yellow Front Reflectors - These are installed at crossover locations of divided highways.
- 5) Three Blue Front Reflectors - These are for Department of Transportation maintenance crew workers. These are installed at the bridge joints.
- 6) Three Green Front Reflectors - These are for Department of Transportation maintenance workers. These are installed in front of approaching guardrails with flare ends, not on bridges. They can be found in front of curb heads.
- 7) Red Reflectors - Runaway truck ramps are bordered on each side by red reflectors spaced not more than 50 feet apart.

**Delineation Posts** - The white and amber reflectors on the green posts along the roadway are called cat eyes. The color and number of cat eyes on a post indicate a particular hazard or condition at the edge of the roadway.

- |                                    |              |
|------------------------------------|--------------|
| • Edge of the road                 | single white |
| • Right side of roadway            | single white |
| • Left side of roadway             | single amber |
| • On and off ramps                 | two white    |
| • Minor problem area               | single amber |
| • Moderate to serious problem area | two amber    |
| • Life-threatening problems        | three amber  |

(Culverts, bridges, guardrails, heavy crossroad traffic)

Delineator panels are a striped marker consisting of a vertical rectangle with alternating black and retro-reflective yellow stripes sloping downward at an angle of 45 degrees toward the side of the obstruction on which traffic is to pass. These types of delineators can be seen on the end of guard rails, on bridges, etc.

### Emergency Stops

The braking systems on the bus are mechanical systems and can fail. The following emergency stopping procedures are to be demonstrated and practiced during on-the-road (hands-on) training. These simulations will prepare the operator for cases in which

any or all braking systems fail. Except where noted, use a road or highway with little or no traffic and with good visibility for the simulations.

### **Every Which Way Simulation**

This simulation is to practice when there is a need to stop the bus when the service brakes fail to operate. The operator will experience the use of all available means to stop a bus. Shift down to the first gear of the automatic transmission, set the retarder to the fourth position, and pull the park brake. As the bus slows, the transmission will automatically downshift. In a standard transmission, the operator will downshift through the sequence as the engine speed slows.

### **Full Four Wheel Lock Simulation**

This simulation is to practice when the service brakes are functioning and the engine is running. The operator will experience the forces involved in severe use of the brakes. The operator will get the feel of a bus skidding. At 25 mph, the driver will release their grip on the steering wheel and press hard on the brake pedal. Note any tendency of the bus to pull right or left. Make sure there is room on both sides of the lane for the bus to pull in either direction.

### **Retarder Stop Simulation**

This simulation is to practice when the engine stalls, the parking brake is broken, and there are hot fading brakes (engine failure in which the automatic transmission is inoperable). Use the electric retarder to slow the bus. Let up on accelerator and place the retarder in position four. When slowed to an idle, shift the transmission into neutral and use a soft shoulder to stop.

### **Park Brake Simulation**

This simulation is to practice when the service brakes and retarder are inoperable with the speed too fast for downshifting to slow the bus. Depending on the service brake defect, the park brake may be inoperable or already set due to a loss of air pressure. Select a flat, straight portion of the road with a full-width shoulder lane where the bus can pull completely out of the travel lane. At highway speed, turn on the hazard lamps, let up on the accelerator, pull the park brake, and carefully pull the bus into the shoulder lane as it slows to a stop.

### **Ride-It-Out Simulation**

This simulation is to practice when the retarder is inoperable or not present, the parking brake is broken and hot, the brakes are fading, and the engine is running. Simulate stopping a bus without the use of the brakes or retarder. Select a downgrade that will allow the bus transmission, when placed in the highest gear, to maintain the approximate posted speed limit. The downgrade should decrease for safe simulation of the procedure. At the top of the descent, let up on the accelerator, put the gear selector in first (if automatic), and ride out the descent. As the bus slows, the transmission will automatically downshift. In a standard transmission, the operator will downshift through the sequence as the engine and road speed slow. Turn on the hazard

lamps at 25 mph and pull into the shoulder lane. At an idle in first gear, pull the right side wheels into the soft shoulder dirt, shift the transmission into neutral, and allow the bus to stop.

### **Escape Ramps**

To stop runaway vehicles safely without injuring operators or passengers, escape ramps are on many steep mountain grades. These ramps use a long bed of loose soft material (pea gravel) to slow a runaway vehicle, sometimes in combination with an upgrade. The operator should know all escape ramp locations on any assigned route. Signs show operators where ramps are located. Escape ramps save lives and equipment. Use them if the bus has lost all forms of braking.

### **Destination Pre-Trip**

Conduct a modified post-trip once at the destination. This will help discover any mechanical defects before leaving. Some very important items to check when in the mountains are:

- Retarder Operation - Check this while driving. When in first position, check that brake lights activate. This will only occur when moving at 6 mph or higher in some newer models.
- Left and right turn signals.
- Headlights, brake lights, tail lights, and clearance lights are all operational.
- Emergency door buzzer.
- Tires, lug nuts, tire chains, and exhaust system.
- Leaks under the bus.
- Perform a standard brake test.

Your district may require other items. Follow district procedures for checking any additional items.

### **Crashes**

If faced with a head-on collision, it MAY be a better option because of the size and weight of the bus and the fact that the operator and passengers sit above the impact zone. Swerving may cause the bus to slide out of control and leave the roadway and/or cause the bus to rollover. However, if facing a head-on collision with a large truck, avoidance by steering out of the way into the oncoming lane MAY be the best option, even if you must take the right-of-way from a car.



Plan ahead as you drive. Look for spots to use as escape routes. Sideswiping hillsides, rocks, trees, or guardrails may be the best alternative to slow the bus in an emergency. Deer, elk, or other wildlife may suddenly appear in the roadway. The operator's choices are to swerve or hit the animal. The safer choice is to hit the animal rather than swerving and possibly losing control of the bus. Swerving will place your passengers in greater danger. It is natural to react by swerving, but knowledge of the possible consequences should override that decision.

### **Other Motorists/Bicycles**

Sightseeing motorists and/or tourists may drift to either side of the roadway. Many motorists are also uncomfortable driving on mountain roads. They may fear driving towards the outside of the lane and crowd the center of the road. Pay attention to other vehicles' tire to ground contact, which indicates their exact position in their lane. Be aware that motorists may park on mountain shoulders, around curves, and walk on the roadway.

More and more people are riding bicycles in the mountains. In most cases, they ride in the traffic lane. Bicycles, especially when ridden by children can be unpredictable. Give them plenty of room when passing.

- 42-4-1008.5, C.R.S. - Crowding or threatening bicyclist. The driver of a motor vehicle shall not, in a careless and imprudent manner, drive the vehicle unnecessarily close to, toward, or near a bicyclist.
- Any person who violates subsection (1) of this section commits careless driving as described in 42-4-1402, C.R.S.

**Never outdrive your ability to stop in the distance you can see.**

### **Passenger Well-Being**

When planning a mountain trip and driving in the mountains, think about your passengers. When was the last break for them to stretch their legs? Take stretch breaks, as needed, in safe pullout areas.

Remember that many passengers suffer from motion or carsickness. Have these passengers sit up front with one or more windows open for fresh air. If known ahead of time, discuss other remedies with parents/guardians. Slowing down more in curves may help these individuals. The driver may feel comfortable with the speed on winding roads; however, they should watch the passengers in the rear of the bus to determine if they are comfortable as well.

Anyone can suffer from altitude sickness. Make sure they drink fluids and remain quiet (sitting or lying down), and get them to a lower altitude as soon as possible.





## **Driver Care**

When driving long distances, note that operators may experience fatigue or minor aches and pains. Be sure before leaving to position the bus seat so the back is completely against the seat back with feet flat on the floor. Consider using a lumbar roll or rolled-up towel between the lower back and seat back. Adjust the seat up or down, so the hips are slightly higher than the knees. The back of the knees should not rest on the edge of the seat. Adjust the seat forward or back, so the knees are at a slight bend when fully pushing the pedals. Arms should comfortably reach the steering wheel and controls with minimal leaning or twisting.

Remember to adjust the mirrors to avoid twisting or placing the body in an uncomfortable or awkward position. To combat fatigue, perform stretches before and after driving.



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## Unit 7 - Safety Equipment

Every school bus driver, bus paraprofessional and student must acknowledge that someday a disaster might strike. Whether it is a motor vehicle crash, fire, or some other catastrophe, planning for an emergency and knowing what to do if and when it happens will prevent panic and confusion. This plan could help you save a life, or many lives someday.

### Accidents

When you come upon an accident, use caution and continue moving. Staring too long at an accident can lead to another accident, and puts the drivers behind you at risk.

### Precautionary Measures

- Remain alert and briefly size up the accident scene.
- Resist the urge to rubber neck.
- Begin braking early to warn other drivers to slow down, but do not stop completely.

Be prepared in case you are involved in an accident or are stopped by law enforcement. Always carry your Driver's License, DOT Medical Card, and the Vehicle Insurance and Registration.

### Emergency Vehicles

When an emergency vehicle is approaching you from behind or is approaching you from the opposing lane, get out of the way. Carefully move to the right side of the road and slow or stop your vehicle. Pull back into traffic only when it is safe to do so.

### Require Safety Equipment (42-4-230, C.R.S.)

#### ***2251-R-20.00 Emergency Equipment.***

*20.03 Emergency Reflectors: All buses shall carry three (3) emergency triangle reflectors in compliance with Section 42-4-230, C.R.S. and with FMVSS 125, contained in a securely mounted case easily accessible to the driver or in a location plainly indicated by appropriate markings.*

*20.07 Emergency equipment shall be securely mounted. Emergency equipment shall be clearly visible or in a location plainly indicated by appropriate markings.*

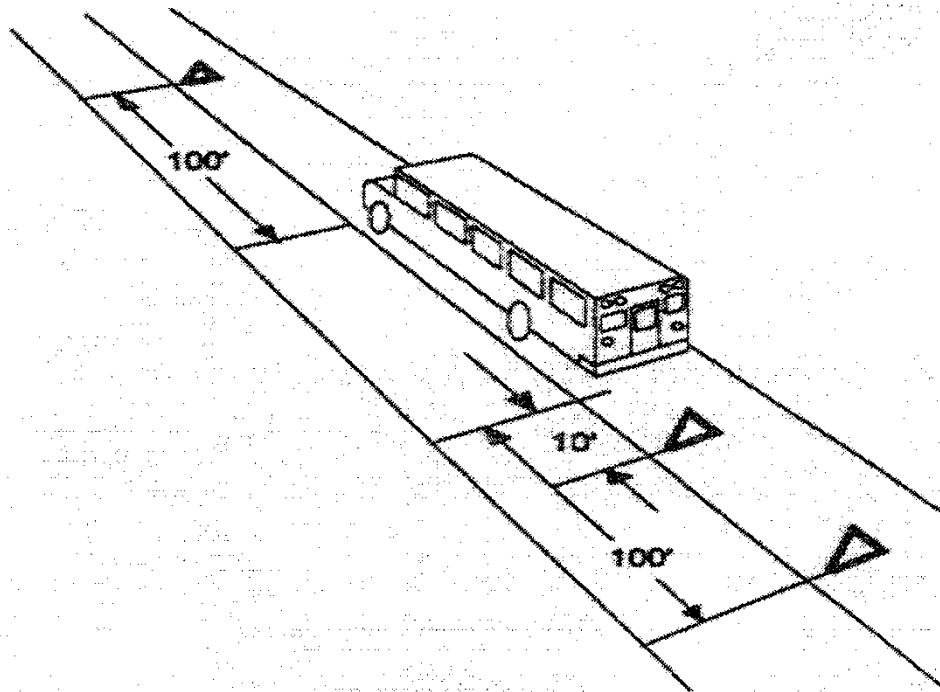


**Emergency Triangles** - Each school bus is equipped with three emergency reflective triangles. In case of a breakdown, accident or other emergency, the driver, paraprofessional, or qualified individual will place the triangles as the law requires. SEE FOLLOWING EXAMPLES.

When you pull off the road and stop, activate the 4-way hazard lamps. Taillights may not provide adequate warning to motorists. Drivers have crashed into the rear of a parked vehicle because they thought it was moving normally.

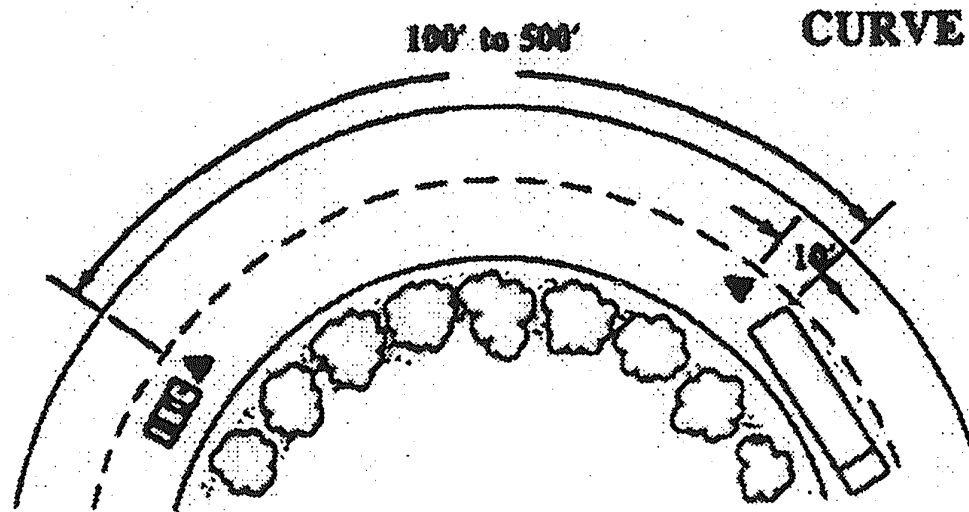
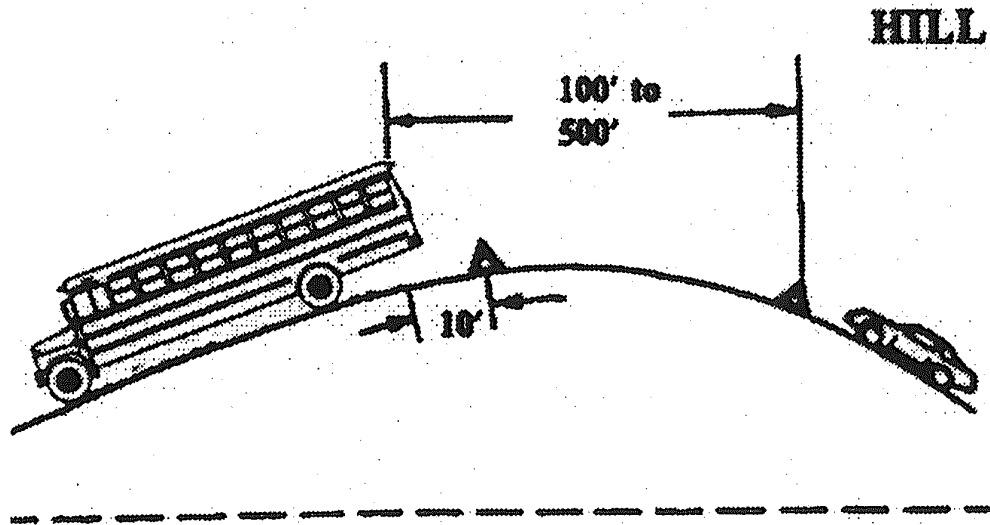
If you must stop on a road or shoulder of a road, set your emergency reflective triangles within 10 minutes. Placement should be at the following locations:

- On the traffic side of the vehicle, within 10 feet from the front or rear corners to mark the location of the vehicle.
- About 100 feet behind and ahead of the vehicle, on the shoulder or in the lane you are stopped in. (See figure below).





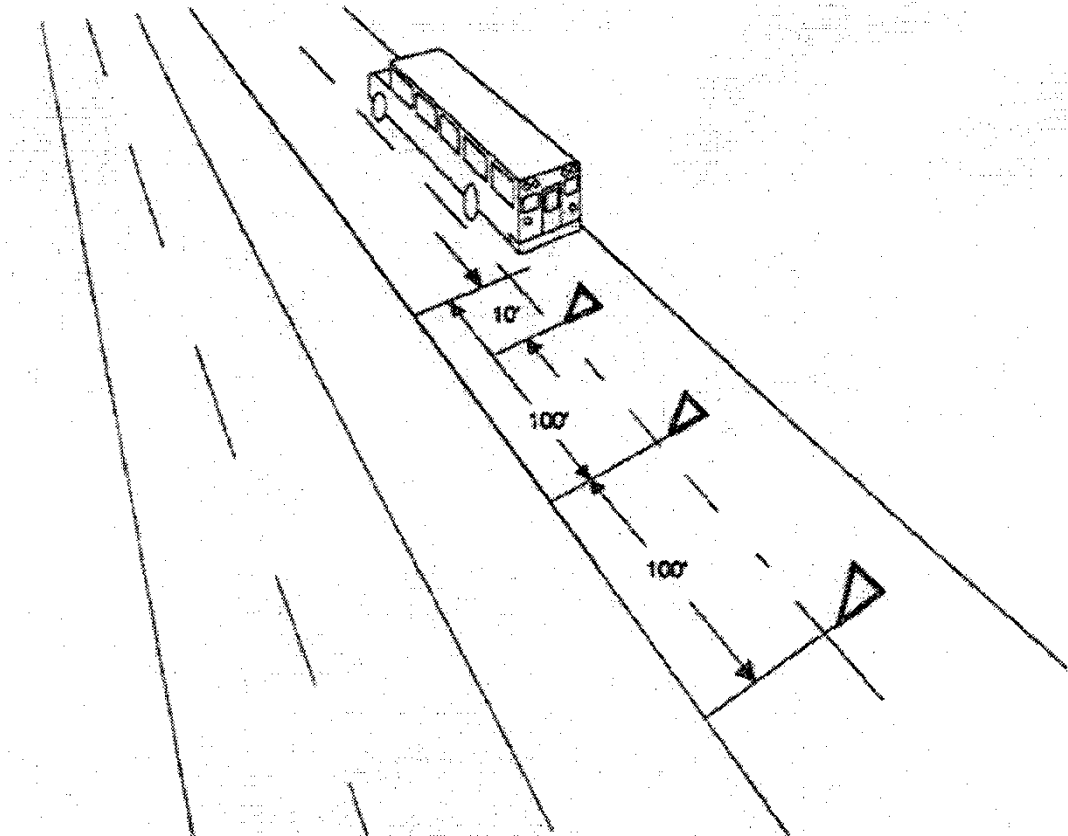
Back beyond any hill, curve, or other obstruction that prevents other drivers from seeing the vehicle within 500 feet. (See figure below).



*Reminder: If the line of sight is obstructed due to a hill or curve, move the rearmost triangle to a point giving adequate warning.*



If you must stop on or by a one-way or divided highway, place warning devices 10 feet, 100 feet, and 200 feet toward the approaching traffic. (See figure below)



When placing the triangles, hold an assembled triangle toward the oncoming traffic. This enhances safety by increasing visibility to other drivers (especially at night).

When the triangles are unfolded for use, the weighted base must be turned so it makes a cross with the bottom of the triangle to keep the triangle from tipping over.



***Fire Extinguisher - 1 CCR 301-25, 2251-R-20.00 Emergency Equipment.***

*20.01 The bus shall be equipped with at least one pressurized, 5-pound, dry-chemical fire extinguisher, with a total rating of not less than 2A10BC. The operating mechanism shall be sealed with a type of seal that will not interfere with use of the fire extinguisher.*

*20.01(a) Fire extinguisher shall be securely mounted in an extinguisher bracket (automotive type) and located in full view of and readily accessible to the driver. A pressure gauge shall be so mounted on the extinguisher as to be easily read without removing the extinguisher from its mounted position.*

**Fire Extinguisher Operation**

- Hold the extinguisher upright. It should not be held on its side when operating.
- Twist and pull safety pin, breaking seal.
- Squeeze the handle to discharge powder. Aim at the base of the fire closest to you and progress forward, moving the discharge cone from side to side in a sweeping motion.
- Turn extinguisher on and off as desired to control the fire.
- After use, report extinguisher for replacement or recharge.

With engine fires, never open the hood, it could cause a flashback. Do your best to direct the fire extinguisher stream through grill or under fenders?

If possible, stand upwind from burning material to prevent standing in smoke and heat. Avoid standing near areas of flammable, unburned materials that could catch fire in a flashback.

The fire extinguisher is to help you safely evacuate students from a burning vehicle. It does not have sufficient capacity to extinguish a major vehicle fire.

***Safety of the students is your first priority, not the fire!***

***2251-R-20.00 Emergency Equipment.***

*20.02 First Aid Kit: The bus shall carry one first aid kit which shall be securely mounted in full view of the driver or with the location plainly indicated by appropriate markings. Additional kits may be installed. The kit(s) shall be mounted for easy removal.*

*20.02(a) The kit shall be sealed. The seal verifies the integrity of the contents without opening the kit. The seal shall be designed to allow easy access to the kit's contents.*



**Contents of the 24 unit First Aid Kit:**

<b><u>Item</u></b>	<b><u>Unit(s)</u></b>
Adhesive Tape	1
1-inch adhesive bandage	2
2-inch bandage compress	1
3-inch bandage compress	1
4-inch bandage compress	1
3-inch x 3-inch plain gauze pads	1
Gauze roller bandage 2 inch wide	2
Plain absorbent gauze - ½ square yard	4
Plain absorbent gauze - 24-inch x 72 inch	3
Triangular bandages	4
Scissors, tweezers	1
Space rescue blanket	1
Non-latex disposable gloves, pair	1
CPR mask or mouth to mouth airway	1
Moisture and dustproof kit of sufficient capacity to store the required items	

***Caution: Replace gloves on a yearly basis. Be aware that people can be allergic to latex. Never administer medicines, ointments, sprays, or other chemicals.***

**Body Fluid Cleanup Kits** - Body fluids of all persons should be treated as if they contain infectious agents (germs). The term “body fluids” includes blood, semen, drainage from scrapes and cuts, feces, urine, vomit, respiratory secretions (e.g. nasal discharge) and saliva. Contact with body fluids presents a risk of infection with a variety of germs. However, in general, the risk is very low and dependent on a variety of factors including the type of fluid with which contact is made. Put on disposable gloves prior to the cleanup process. Body fluids must be contained or removed immediately, using established district procedures. Wash contacted area with warm, soapy water as soon as possible. [1 CCR 301-25, 2251-R-59.04]





### Contents of Body Fluid Cleanup Kit:

<u>Item</u>	<u>Unit(s)</u>
Antiseptic towelette	1
Disinfectant towelette	1
Absorbing powder (capable of ½ gallon absorption)	1
Non-latex disposable gloves, pair	1
Disposable wiper towels	2
Disposable scoop bag with closure mechanism and scraper	1
Moisture and dustproof kit of sufficient capacity to store the required items.	

*20.05 Each bus shall be equipped with one durable webbing cutter having a full width handgrip and a protected blade. The cutter shall be mounted in a location accessible to the seated driver.*

Items to be disposed of must be placed in the scoop bag and secured in a hazardous materials (hazmat) container. A second bag is required if items must be placed in a container other than an approved hazmat receptacle. Replenish supplies as soon as possible after they are used.

### Small Vehicle Required Emergency Equipment

*1 CCR 301-25, 2251-R-20.06*

*20.06(a) - Three (3) emergency triangle reflectors in a securely mounted case.*

*20.06(b) - One 24 unit first aid kit as found in 20.02.*

*20.06(c) - One securely mounted 2½ pound, dry chemical fire extinguisher with a minimum rating of 1A10BC.*

*20.06(d) - One durable webbing cutter having a full width handgrip and a protected blade. The cutter shall be mounted in a location accessible to the seated driver.*

*20.06(e) - One basic body fluid clean-up kit as found in 20.04.*

### Optional Emergency Equipment may include:

- Blankets
- 2-way radio, cellular phone



- Emergency information forms
  - Accident check list
  - Student list
  - Flashlight
  - Disposable mask
  - Bag of salt, kitty litter, or sand
1. **Documents** - If involved in an accident, the investigating officer may ask the driver to provide:
    - The appropriate driver's license
    - DOT medical card
    - Proof of insurance
    - Vehicle registration
    - Pre-trip documentation
    - Current CDE Affidavit of Annual Inspection
  2. **Emergency Packet** - Your District may require additional information.
    - Seating Charts (2)
    - CDE Accident Form, Stu-5
    - Exchange of Information Form
    - Witness Information Form

### **Emergency Procedures**

Despite good design, engineering, and preventative maintenance programs, there may be mechanical failures. The driver should do the following in case of a bus breakdown:

#### **Mechanical Failure/Breakdown Procedure**

1. Stop the bus as far to the right of the road as possible or on the shoulder of the road, as conditions permit.
2. Activate 4-way hazard lamps, if operable.
3. Keep passengers in the bus unless conditions are unsafe.



4. If location of the bus is unsafe, evacuate the children to a safe place away from traffic. Conditions such as possibility of fire, bus stalled on railroad tracks or other dangers may warrant evacuating the students.

***Reminder: If emergency conditions exist, evacuate the students first and then worry about securing the external area around the bus.***

5. Notify your school authorities, giving bus number, location of the bus, description of the breakdown and if you have to evacuate the vehicle.
6. Place emergency triangles as specified previously in this unit.

**Accident Procedures** - In the case of an accident the driver should:

- Stop and secure the vehicle immediately.
- Activate 4-way hazard lights, if operable.
- Remain at the scene of the accident (there is a severe penalty for any person convicted of leaving the scene of the accident).
- Make certain all passengers are safe. If it is determined that it is unsafe to keep passengers inside the school transportation vehicle, evacuate the passengers to a safe place, away from traffic.
- Notify the proper law enforcement authority and school administrator immediately. If necessary, request emergency medical assistance. On accident alert days, follow the reporting procedures as set out by the local law enforcement agency.
- Check for injuries; render any person injured in the accident reasonable assistance. *Remember: Never do more than you are trained to do.*
- Remain alert regarding fire or the possibility of fire in any of the vehicles involved in the crash.
  - Check for ruptured fuel tank and fuel lines.
  - Check for electrical fire.
  - Check for hot tires that may catch fire. This is caused by metal rubbing against a tire from impact to the final resting place.
- Mark the scene with emergency reflective triangles as specified earlier in this unit if possible.
- Information such as names, license numbers, registration numbers, location, time, road and weather conditions, insurance information, and witnesses, should be obtained and accurately written down.



- If possible, a transportation staff member should be at the scene to render assistance and take pictures.

***Do not move the bus unless instructed by a law enforcement officer/fire department or as posted.***

*Exceptions: C.R.S. 42-4-1602 (2). When an accident occurs on the traveled portion, median, or ramp of a divided highway and each vehicle involved can be safely driven, each driver shall move such vehicle as soon as practicable off the traveled portion, median, or ramp to a frontage road, the nearest suitable cross street, or other suitable location.*

*If vehicles have to be moved, mark the pavement around each tire, if possible.*

*Never admit fault, but be cooperative with the investigating officer. Provisions will need to be made for transporting children to their homes or to school.*

*1 CCR 301-26, 4204-R-210.02 - When a bus approaches the scene of an accident in which the school transportation vehicle is not involved, the operator should determine the necessity of being of assistance and provide reasonable assistance. Thereafter, immediately continue on the routine schedule.*

***Never do more than you are trained to do.***



## Unit 8 - Evacuations

### School Bus Emergency Evacuations

Planning for emergencies and knowing what to do at the time of an emergency will prevent panic and confusion. When a large number of passengers are moving rapidly to evacuate a bus, there is always the possibility of panic and injury. The safety of the students is to be given first priority. In the majority of emergency situations, the bus is the safest place for the passengers unless extenuating circumstances warrant evacuation from the bus.

**The following are examples of serious types of emergencies that may require emergency evacuation. In most cases, the front door evacuation is the safest.**

- **Front-end accidents** - Determine which of the exits may be used. Check for any serious injuries. Look for fire.
- **Rear-end accidents** - Follow the same procedures for a front-end accident. Do not use the rear exit. Look for fire.
- **Broadside accidents** - Determine which exit may be used. Follow the same procedures as for front/rear-end accidents.
- **Rollover accidents** - Remain as calm as possible; use rear exit, roof hatches, if available, and windows along top if they are free of broken glass. If fire does not exist and the bus is not lying on the front door side, this exit may also be used. Follow steps outlined for front/rear-end evacuation.
- **Fire** - Follow the evacuation procedures outlined for rear-end and front-end accidents. Use the exit furthest from the fire. **DO NOT PANIC.** Many injuries are caused by panic rather than by fire itself. This can be avoided if everyone stays calm.
- **Railroad crossing** - Use front-end or rear-end accident evacuation procedures. Stay clear of all traffic, and keep students in a group. **DO NOT** re-enter the bus. Have students move away from tracks, in the direction of the oncoming train at a 45° angle from the tracks.
- **Blizzard** - (visibility zero). Remember, it is warmer inside than out.
- **Flood waters** - Remain calm. Do not drive through water rushing across the roadway unless instructed to do so by a law enforcement officer. If the vehicle stalls during a water crossing, notify dispatch. Evacuate passengers if situation warrants. What is the safest option for the students?



***Reminder: Under no circumstances should any student move another student who is injured without the permission of the bus driver or emergency responder attending the accident. The driver needs to be aware of language barriers and prepare ahead of time to address the situation.***

### General Procedures for Evacuations

Follow these general procedures in any evacuation. Above all—remain calm.

#### Evaluate the situation.

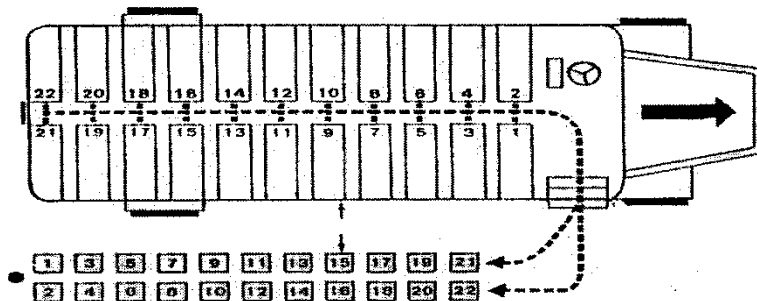
- Is evacuation necessary?
- Injuries?
- Which exit is best to use?
- Determine a safe waiting area.
- Notify proper authorities.

There may be different procedures and practices between practice drills and real evacuations.

#### Secure Vehicle (all drills)

- Set park brake.
- Put transmission in neutral (automatic) reverse (manual) or Park if so equipped.
- Turn off engine.
- Turn on 4-way hazard lamps (if operable).
- Determine which door is best to use for the evacuation.
- Know the number of students on the bus.

#### Front Door Evacuation

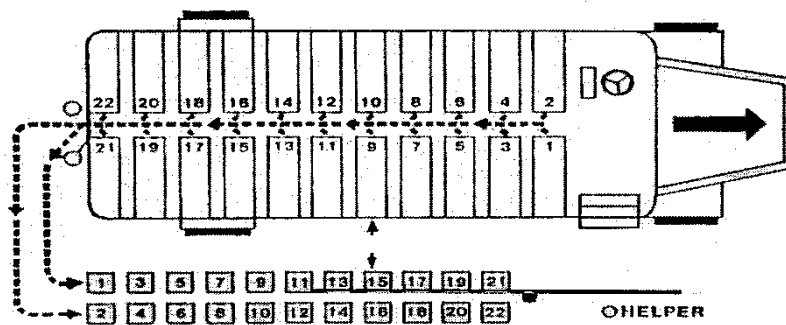




### Emergency Evacuation Using Front Door

- Notify the proper authorities and school administrators as soon as possible.
- Driver should stand and face students.
- Get students' attention - speak clearly and concisely.
- Announce - "Remain seated, emergency evacuation, front door." Tell students the location of the safe waiting area, at least 100 feet or more from the bus and roadway. All belongings are to be left on the bus. Students should be supervised, if possible.
- Evacuate the bus by dismissing students. Driver should move backwards down the aisle, dismissing the students row by row.
  - If possible, give the first aid kit(s) to the first two responsible students exiting the bus. Do not impede the flow of the students exiting.
  - Begin at the front of the bus, starting at the right side; alternate side-to-side, row by row, until students have exited the bus.
- Check each seat as you move back to the front of the bus to make sure all students have evacuated the bus.
- Account for all students.
- Render first aid if necessary.

### Rear Door Evacuation



### Emergency Evacuation Using Rear Door

Use the rear door when front door evacuation is impossible or unsafe to use, or when it is imperative to evacuate as quickly as possible by using rear exits.

- Notify proper authorities and school administrators as soon as possible.



- Announce, “Remain seated, emergency evacuation, rear door.” Tell students the location of the safe waiting area. All belongings are to be left on the bus.
- Assign two (2) “helpers” to assist students. Have them “sit” on the floor at the emergency door and “scoot” out of the door onto the ground. One helper is positioned with their back to the emergency door, so door will not swing against the students. The other helper is positioned on the other side of door area.
- Helpers need to hold a hand open, palm upward and extended for the student to place his/her hand on it. The other hand will support the upper part of the arm of the student to minimize the possibility of the student falling forward.

***Helpers are very important in preventing injuries when exiting the bus from the rear door.***

- Evacuate the bus by dismissing students. **Driver will move backwards from rear row of seats**, dismissing students row by row.
- Begin at the back row and continue to the front; alternate side-to-side, row-by-row, until students have exited the bus. If possible, give the first aid kit(s) to the last two responsible students when they are out of the bus.
- Students should sit at the rear door, and then scoot through the door onto the ground with the helper assistance.
- Students should walk to the safe waiting area.
- Check all seats for students as you move towards the back of the bus.
- Have the helpers “assist” you out of the rear of the bus.
- Account for all students.
- Render first aid as necessary.

**Emergency Evacuation - Front & Rear Doors (Combined)**

Follow procedures outlined for both front door and rear door evacuations. (Driver will not be able to dismiss the rows.)

***The fastest method for bus evacuation is the combined evacuation, using front and rear doors.***





## **Side Door Evacuation**

Follow the above procedures for a rear door evacuation with the following exception to dismissing the students:

Begin at the seat nearest the exit, approximately 6<sup>th</sup> from the rear. Work to the rear alternating side-to-side, (a closed space), then return to seat immediately in front of the rear side exit and work to the front alternating side to side.

Using a side door exit is a more difficult evacuation procedure because of the height of the door from the ground. With small children you might have to assist them from the door to the ground.

## **Emergency Evacuation Using Side & Front Door Exits**

Begin at the seat nearest the side exit, work to the rear alternating side to side (a closed space). Use a helper to evacuate front door students. Driver should return to the front of the bus, check for students while exiting through the front door.

## **Emergency Evacuation - Students with Special Needs**

Care should be taken to plan for students with special needs who are riding on the bus. Know procedures to be followed to safely evacuate each student. It is advisable to talk to parents or guardians of the students with disabilities to properly plan for an emergency evacuation. Teachers and school staff who work with these students can also help communicate the individual needs of each child. The Colorado Department of Education has guidelines for preparing an evacuation plan. Responsible students may be assigned to help a student with special needs get to a safe area away from the bus, traffic and other dangers. The plan should address each student's characteristics and abilities. A written plan should be developed, maintained with the route sheet, and out of sight of everyone who may get on the bus. All drivers should be familiar with where the plan is located and review it prior to departing on a route.

## **Emergency Evacuation Drills Required**

### *4204-R-18.00 Emergency Evacuation Drills*

*18.01 Emergency evacuation drills shall be conducted with students by all school transportation vehicle operators and school transportation paraprofessionals at least twice during each school year, following the procedures in the Colorado Department of Education School Bus/Multifunction Bus/Motor Coach Bus Operator Manual.*



*18.01(a) One drill shall be conducted in the fall and the second drill conducted in the spring.*

*18.01(b) Substitute and Multifunction operators of 16 or greater capacity (counting the driver) vehicles shall be trained how to conduct the emergency evacuation drills.*

*18.02 Students on school related events shall receive emergency evacuation instruction prior to departure.*

*18.03 School district and service providers shall maintain records documenting that the required evacuation drills were conducted and/or evacuation instruction was given.*

Students should know the location of the first aid kits, how to shut off the engine, and set the park brake; unless disabilities of students preclude this. The emergency evacuation drill should be as close to the real thing as possible. The drill should be discussed with the students prior to the day of the drill. The drill should follow the evacuation procedures for the appropriate exit(s) used.

When possible, make sure to include students with special needs in the discussion, as well as having them participate in the actual drill. If you wish to include students with special needs in the drill, get permission from parents/guardians.

Stand, facing students and tell them they are having an emergency evacuation drill. Remind students to leave books, lunches, etc., on the bus. The drill should be timed. Most important is how the students exit the bus; calmly, orderly, and following directions. When the drill is over, have the students get back on the bus. Spend a few moments discussing the drill. Point out the positive things that occurred and discuss ways to improve the drill.

## UNIT 9 - Transporting Students

*Awareness reminds you that children are apt to do the craziest things at the worst possible times.*

### Loading/Unloading Procedures

The loading and unloading of passengers presents the driver with tremendous responsibilities and requires the use of sound judgment. The driver must execute the proper procedures for interacting with other vehicular traffic, in directing pupils crossing the roadway and in managing pupils who are loading and unloading from the bus.

This unit deals with the proper use of alternately flashing and hazard warning lights as well as the procedures for safe loading and unloading of passengers. Learning and using these procedures will assist the driver in safely transporting their passengers to and from school. This is the point where students and drivers are exposed to many hazards. Ignoring these procedures could result in serious injury or death to one or more of their passengers or other highway users.

### **Proper uses of the alternately flashing lights include:**

- Activated only by the driver
- Required if school pupils must cross the roadway
- Used only when stopped or stopping on a highway, street, or private road
- Used only for the purpose of receiving or discharging school pupils
- Must be activated not less than 200 feet before the stop
- Alternately flashing red lights must be deactivated before resuming motion.

### **Improper uses of the alternately flashing lights include:**

- Not used for reasons other than loading or unloading school pupils
- Not used on private property, including driveways
- Not used while backing, or used in making turns or turnarounds
- Not used when stopping at railroad crossings
- Not used for inclement weather driving



### **When loading and unloading:**

- Never take your eyes off what is happening outside the bus.
- Count children as they enter/exit.
- Make sure you know the location of each student and make sure they are a safe distance from the bus before pulling away once you unloaded at the bus stop.
- If you can't locate a child, check your mirrors. **DO NOT MOVE!!**
- If you still can't find the child, secure the bus.
- Check around and under your vehicle.
- **DO NOT Move** until you have located the child.

### **1 CCR 301-26, 4204-R-17.00 Route Planning - Student Loading and Discharge**

*17.01 School transportation small vehicles, Type A Multifunction Buses with 15 or fewer passenger capacity (counting the driver) and School Buses (Types A, B, C, and D) may be used to transport students to and from school. Multifunction Buses Type B, C and D and Motor Coach Buses shall not be used to transport students to and from school.*

*17.02 The location of student stops shall consider factors including:*

*17.02(a) Ages of the students.*

*17.02(b) Visibility.*

*17.02(c) Lateral clearance.*

*17.02(d) Student access.*

*17.02(e) Control of other motorists.*

*17.02(e) (1) Student stops for Type A Multifunction Buses with 15 or fewer passenger capacity (counting the driver) and school transportation small vehicles should be located off of the roadway whenever possible.*

*17.03 School transportation vehicle operators shall stop at least 10 feet away from students at each designated stop. The school transportation vehicle operator shall apply the parking brake and shift the vehicle into neutral or park prior to opening the service door of a bus or passenger door(s) of a small vehicle.*



- 17.04 *The school transportation vehicle operator shall stop as far to the right of the roadway, highway or private road as possible before discharging or loading passengers, allowing sufficient area to the right and front of the vehicle but close enough to the right to prevent traffic from passing on the right so students may clear the vehicle safely while in sight of the operator.*
- 17.05 *Student stops shall not be located on the side of any major thoroughfare whenever access to the destination of the passenger is possible by the use of a road or street which is adjacent to the major thoroughfare.*
- 17.06 *If students are required to cross a roadway, highway or private road on which a student stop is being performed, they are prohibited from crossing a roadway, highway or private road constructed or designed to permit three or more separate lanes of vehicular traffic in either direction or with a median separating multiple lanes of traffic. This does not include crossing the roadway, highway or private road with the assistance of a traffic controls signal or with the assistance of a crossing guard.*
- 17.07 *Four-way hazard lamps shall be used on private property such as parking lots.*
- 17.08 *Alternating flashing red warning signal lamps shall not be activated within 50 feet of an intersection if the intersection is controlled by a traffic control signal.*
- 17.09 *Routes shall be planned as to:*
- 17.09(a) *Eliminate, when practical, railroad crossings.*
  - 17.09(b) *Have stops be a minimum of 200 feet apart since alternating flashing amber warning signal lamps must be activated a minimum of 200 feet in advance of the stop.*
    - 17.09(b)(1) *Exception: Student stops located in areas where wildlife may create a high risk of threat to students' safety while they are waiting and/or walking to a student stop, may designate student stops less than 200 feet apart upon detailed written approval by the school district board of education and/or their designee. A copy of the written approval shall be kept in the school transportation office and route operators shall be given written notice of the exception and have it indicated on route sheets.*
- 17.10 *Pursuant to Section 42-4-1903(2), C.R.S., school transportation vehicle operators are not required to actuate the alternating flashing red warning*



*signal lamps on a school bus when the student stop is at a location where the local traffic regulatory authority has by prior written designation declared such actuation unnecessary and when discharging or loading passengers who require the assistance of a lift device and no passenger is required to cross the roadway. Further, Type A Multifunction Buses with 15 or fewer passenger capacity (counting the driver) and school transportation small vehicles do not have the functionality to control traffic. In these instances, the school transportation vehicle operator shall stop as far to the right off the roadway as possible to reduce obstruction to traffic, activate the four-way hazard warning lamps a minimum of 200 feet prior to the student stop, continue to display the four-way hazard warning lamps until the process of discharging or loading passengers has been completed, and deactivate the four-way hazard lamps before resuming motion. Students are prohibited from crossing any lanes of traffic to access the student stop or after disembarking.*

- 17.11 School transportation vehicle operators shall not relocate a student stop without approval of the school district or service provider.*
- 17.12 School transportation vehicle operators of School Buses, Multifunction Buses and Motor Coach Buses, whether transporting students or not, shall apply the following procedures during the process of approaching, stopping and crossing railroad tracks:*
- 17.12(a) Activate the four-way hazard lamps not less than 200 feet from the railroad crossing to alert other motorists of the pending stop for the crossing.*
  - 17.12(b) Stop the bus within 50 feet but not less than 15 feet from the nearest rail.*
  - 17.12(c) When stopped, the bus should be as far to the right of the roadway as possible and should not form two lanes of traffic unless the highway is marked for four or more lanes of traffic.*
  - 17.12(d) Use a prearranged signal to alert students to the need for quiet aboard the bus when approaching railroad tracks. Turn off all noise making equipment (fans, heater, radio, etc.)*
- 17.13 After quietness aboard the stopped bus has been achieved, bus operators shall open the service door and operator window. The bus operator shall listen and look in both directions along the track(s) for any approaching train(s) and for signals indicating the approach of a train.*



- 17.13(a) *If the tracks are clear, the bus operator shall close the service door and may then proceed in a gear low enough to permit crossing the tracks without having to manually shift gears. The bus operator shall cancel the four-way hazard lamps after the bus has cleared the tracks.*
- 17.13(b) *When two or more tracks are to be crossed, the bus operator shall not stop a second time unless the bus is completely clear of the first crossing and has at least 15 feet clearance in front and at least 15 feet clearance to the rear.*
- 17.13(c) *Before crossing the tracks, the bus operator shall verify that there is enough space after the tracks for the bus plus 15 feet if it is necessary to stop after crossing the tracks.*

17.14 *School transportation vehicle operators of School Buses, Multifunction Buses and Motor Coach Buses are not required to stop at crossings controlled by a red, amber, green traffic control signal when it is in the green position or when the crossing is controlled by a police officer or human flag person.*

### **Section 42-4-1903**

#### ***School buses - stops-signs-passing***

(1) (a) *The driver of a motor vehicle upon any highway, road, or street, upon meeting or overtaking from either direction any school bus that has stopped, shall stop the vehicle at least twenty feet before reaching the school bus if visual signal lights as specified in subsection (2) of this section have been actuated on the school bus. The driver shall not proceed until the visual signal lights are no longer being actuated. The driver of a motor vehicle shall stop when a school bus that is not required to be equipped with visual signal lights by subsection (2) of this section stops to receive or discharge schoolchildren.*

(b) (I) *A driver of any school bus who observes a violation of paragraph (a) of this subsection (1) shall notify the driver's school district transportation dispatcher. The school bus driver shall provide the school district transportation dispatcher with the color, basic description, and license plate number of the vehicle involved in the violation, information pertaining to the identity of the alleged violator, and the time and the approximate location at which the violation occurred. Any school district transportation dispatcher who has received information by a school bus driver concerning a violation of paragraph (a) of this subsection (1) shall provide such information to the appropriate law enforcement agency or agencies.*

(II) *A law enforcement agency may issue a citation on the basis of the information supplied to it pursuant to subparagraph (I) of this paragraph (b) to the driver of the vehicle involved in the violation.*





*(2) (a) Every school bus as defined in section 42-1-102 (88), other than a small passenger-type vehicle having a seating capacity of not more than fifteen, used for the transportation of schoolchildren shall:*

*(I) Bear upon the front and rear of such school bus plainly visible and legible signs containing the words "SCHOOL BUS" in letters not less than eight inches in height; and*

*(II) Display eight visual signal lights meeting the requirements of 49 CFR 571.108 or its successor regulation.*

*(b) (I) The red visual signal lights shall be actuated by the driver of the school bus whenever the school bus is stopped for the purpose of receiving or discharging schoolchildren, is stopped because it is behind another school bus that is receiving or discharging passengers, or, except as provided in subsection (4) of this section, is stopped because it has met a school bus traveling in a different direction that is receiving or discharging passengers and at no other time; but such lights need not be actuated when a school bus is stopped at locations where the local traffic regulatory authority has by prior written designation declared such actuation unnecessary.*

*(II) A school bus shall be exempt from the provisions of subparagraph (I) of this paragraph (b) when stopped for the purpose of discharging or loading passengers who require the assistance of a lift device only when no passenger is required to cross the roadway. Such buses shall stop as far to the right off the roadway as possible to reduce obstruction to traffic.*

*(c) The alternating flashing yellow lights shall be actuated at least two hundred feet prior to the point where the bus is to be stopped for the purpose of receiving or discharging schoolchildren and the red lights shall be actuated only at the time the bus is actually stopped.*

*(3) Every school bus used for the transportation of schoolchildren, except those small passenger-type vehicles described in subsection (1) of this section, shall be equipped with school bus pedestrian safety devices that comply with 49 CFR 571.131 or its successor regulation.*

*(4) The driver of a vehicle upon a highway with separate roadways need not stop upon meeting or passing a school bus which is on a different roadway. For the purposes of this section, "highway with separate roadways" means a highway that is divided into two or more roadways by a depressed, raised, or painted median or other intervening space serving as a clearly indicated dividing section or island.*





*(5) Every school bus shall stop as far to the right of the roadway as possible before discharging or loading passengers; except that the school bus may block the lane of traffic when a passenger being received or discharged is required to cross the roadway. When possible, a school bus shall not stop where the visibility is obscured for a distance of two hundred feet either way from the bus. The driver of a school bus that has stopped shall allow time for any vehicles that have stopped behind the school bus to pass the school bus, if such passing is legally permissible where the school bus is stopped, after the visual signal lights, if any, are no longer being displayed or actuated and after all children who have embarked or disembarked from the bus are safe from traffic.*

*(6) (a) Except as provided in paragraph (b) of this subsection (6), any person who violates any provision of paragraph (a) of subsection (1) of this section commits a class 2 misdemeanor traffic offense.*

*(b) Any person who violates the provisions of paragraph (a) of subsection (1) of this section commits a class 1 misdemeanor traffic offense if such person has been convicted within the previous five years of a violation of paragraph (a) of subsection (1) of this section.*

*(7) The provisions of this section shall not apply in the case of public transportation programs for pupil transportation under section 22-51-104 (1) (c), C.R.S.*

#### **Section 42-4-1904**

#### ***Regulations for school buses - regulations on discharge of passengers - penalty - exception***

*(1) The state board of education, by and with the advice of the executive director of the department, shall adopt and enforce regulations not inconsistent with this article to govern the operation of all school buses used for the transportation of schoolchildren and to govern the discharge of passengers from such school buses. Such regulations shall prohibit the driver of any school bus used for the transportation of schoolchildren from discharging any passenger from the school bus which will result in the passenger's immediately crossing a major thoroughfare, except for two-lane highways when such crossing can be done in a safe manner, as determined by the local school board in consultation with the local traffic regulatory authority, and shall prohibit the discharging or loading of passengers from the school bus onto the side of any major thoroughfare whenever access to the destination of the passenger is possible by the use of a road or street which is adjacent to the major thoroughfare. For the purposes of this section, a "major thoroughfare" means a freeway, any U.S. highway outside any incorporated limit, interstate highway, or highway with four or more lanes, or a highway or road with a median separating*

*multiple lanes of traffic. Every person operating a school bus or responsible for or in control of the operation of school buses shall be subject to said regulations.*

*(2) Any person operating a school bus under contract with a school district who fails to comply with any of said regulations is guilty of breach of contract, and such contract shall be cancelled after notice and hearing by the responsible officers of such district.*

*(3) Any person who violates any provision of this section is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than five dollars nor more than one hundred dollars, or by imprisonment in the county jail for not more than one year, or by both such fine and imprisonment.*

*(4) The provisions of this section shall not apply in the case of public transportation programs for pupil transportation under section 22-51-104 (1) (c), C.R.S.*

### **Loading Procedure Steps**

There is a safe technique in making stops that protect all involved. These steps should be practiced in the same sequence so they become habit.

#### **1. Check mirrors and traffic.**

Students will be loading soon and we must scan the traffic scene to locate students and traffic hazards. A mistake here could be tragic!

#### **2. Apply brakes lightly and slow down.**

As you approach the bus stop, you must have your bus under control. Slowing down gradually will give you the control you need in case someone runs out in front of your bus.

#### **3. Activate alternately flashing amber lights at least 200 feet in advance of the stop in the city and at least 500 feet in rural areas.**

Driving an eight light system bus means that the amber lights come on when you activate the switch and the red lights come on when you open the service door. Remember that 200 feet is the minimum distance. You may activate your lights earlier. Always watch for other large vehicles that take additional distance to stop. Give them enough distance to stop or let them pass before you activate your lights.

#### **4. Do not pull closer than 10 feet to waiting pupils.**

Stop short of the line of waiting students for their safety. You must teach your students to stay back 10 feet from the bus and wait for your signal to board the bus. In winter weather your bus could also slide during the stopping procedure. Train your students well for their survival.

**5. If pupils do not cross the road to get to their home or to the bus,** Stop the bus as far to the right of the roadway or private road as practicable. It is important to consider a safe bus stop where pupils will wait for the school bus.

**6. If pupils cross the road to get to their home or to the bus, stop the bus on the roadway or private road.**

Per Section 42-4-1903 “the school bus may block the lane of traffic when a passenger being received or discharged is required to cross the roadway “for the safety of your pupils who are being boarded or discharged from the bus.

**7. Apply the parking brake, shift the bus to neutral.**

It is possible that your foot could slip off the brake and the bus could move. Place your bus in neutral or park and set the parking brake at every student stop.

**8. Check mirrors and traffic.**

Check to see what the traffic around your bus is doing before you open your door. Hopefully, all traffic has stopped or is stopping for your bus.

**9. Open the door** (8 light system will change amber lights to red) as a signal for students to enter the bus. Pupils crossing the road may require an additional signal.

**10. Have students enter or leave the bus in an orderly manner.** Be sure all students are accounted for. **COUNT THEM AND TRACK THEM!!** This is the most dangerous step in our loading and unloading procedure. You must account for every student. More than half of all school bus rider fatalities are pupils struck by the bus which they were entering or leaving. Drivers are responsible for the safety of all their pupils, including those that must cross the roadway or street. Instruct pupils in safe use of the handrail. Count the students as they get off the bus and count them again as they move away from the bus. It is especially important to count and track students who must cross the road at the bus stop.

**Procedure for students:**

- Use handrails when boarding vehicle.
- Students should go directly to their seats as prescribed by the district.
- Remain seated when the bus is moving.

**11. Check to see that students are seated and close the door** (this will deactivate the red lights on the 8 light system buses). Students may fall if you start up before they are seated. Do not rush the seating procedure. Remember that small children may take considerable time to enter the bus and climbing the steps is a major event. Help them if you can!



## 12. Allow traffic to clear, where practicable.

If it is possible, you must allow stopped traffic to clear. Failure to allow traffic to clear may result in a motorist trying to pass unsafely because they do not want to get trapped behind your bus.

*Section 42-4-1903 (5) . . . The driver of a school bus that has stopped shall allow time for any vehicles that have stopped behind the school bus to pass the school bus, if such passing is legally permissible where the school bus is stopped, after the visual signal lights, if any, are no longer being displayed or actuated and after all children who have embarked or disembarked from the bus are safe from traffic.*

## 13. Check mirrors and traffic.

Your stop procedure is almost complete and you must move back into traffic.

## 14. Enter the traffic lane.

Everything looks good and it is time to get back on the road. A second look in the mirrors may help to avoid a collision.

### ***This order must be followed at all student stops:***

- ***The brake is set***
- ***Transmission shifted to neutral***
- ***Door is open with stop arm out***
- ***Reverse procedure for leaving stop***

***“Brake is the first thing on and the last thing off!!!”***

### **At the Bus Stop**

If a backing turnaround is required on the route, load students onto the bus *before* backing into turnaround. Unload students *after* making the turnaround. When making a backing turnaround, students should remain seated at all times. Use extra caution.

Don't impede the regular flow of traffic. If a build-up occurs behind you, display professional courtesy.

- If possible, pull to side of road only if entire vehicle can get off the road and stop.
- Allow vehicles to pass.
- Check traffic using all outside mirrors.
- Resume position on road.



## Unloading Procedure Steps

1. Unloading students poses additional problems. Follow loading procedures with these additions:
  - You are responsible for the safety of all students crossing the roadway regardless of grade level.
  - When stopped, not rolling, give the vehicles behind you a chance to react by activating the flashing red warning lights before you open the door.
  - Students should stay seated until the door opens fully.

**Do not allow students to get off the school bus until all traffic has stopped.**

- A backing turnaround must be completed before students are unloaded.
- **Do not allow enough room on the right for a motorist to squeeze between the bus and the curb or edge of the pavement for students that are not crossing**
- Students shall be instructed to walk a distance of approximately ten (10) feet in front of the school bus and wait for operator's signal before crossing the roadway.
- When it is safe to cross, establish eye contact with the student/s, and give the pre-arranged signal for crossing. The signal should be clear enough that motorists will not mistake it as a signal to proceed.

***Use outside P.A. system, if available. Follow district procedures.***

- Instruct students to pause and look both ways before continuing beyond the bus.
- Check traffic in both directions before allowing students to cross a roadway.
- While performing this operation, remember you are not a traffic officer and have no rights other than those of a regular motorist. Do not signal any motorist to do anything.



- When students have safely crossed the road, and/or cleared the unloading zone, count students; cancel the flashing red warning lights by closing the door.

**Count your students; know the location of each of them prior to resuming operation. DO NOT move until you know where every student is.**

- If a driver of a motor vehicle violates the stop arm law, follow district procedure for reporting.
- Use safe procedures to allow stopped traffic to move on.
- Place transmission in gear.
- Release park brake.
- If the students are crossing, the bus should be toward the center of the lane - no need for turn signal.
- Check traffic using all outside mirrors.
- When safe, gradually resume correct position on roadway and continue.

***When unloading students on school grounds, bus stops should be planned so that students get off on the curbside, without having to cross in front of traffic. School bus loading zones should be located in a separate area from parent drop off areas when possible.***

### **Stop Arm Violators**

***42-4-1903 - Requires drivers to report stop arm violators to the district. In addition, it addresses the specific requirements a driver must observe when approaching a school bus in the active process of loading/unloading students.***

School bus drivers are professional drivers and should never “trap” a motorist. If stopping at an intersection, allow traffic to clear the intersection prior to activating the stop arm and red lights. A school bus operator should always perform the requirements of the position in a professional manner.

Some important observations to attempt to make if someone disregards your stop arm:

Location - closest intersection, landmark

Time of day

Direction Bus is headed

Direction of car headed

What type of car? (sedan, SUV, large truck, small truck)

Color of Vehicle

Description of Driver - do the best you can

License Plate (State, number, color)

Other contributing factors - damage to the vehicle

### **Report Route Hazards**

If, during the process of performing your route, you notice something that has become a hazard follow district procedures for reporting such incidents. This could be a snow bank that is too high to see over, a tree in the road, construction, etc.

These hazards and the corrective action may need to be listed on the route description for the substitute driver.

Review the district procedure on reporting route hazards and how to determine when a change is warranted. The driver shall never change a stop without following district procedures.

**NEVER, NEVER change a bus stop location without following district procedures.**

### **Field/Activity Trips**

Making a trip into a congested city or area that a driver is unfamiliar with can be a frightening experience for the small city or rural school bus driver. It does not have to be. Rural districts can help their employees overcome this apprehension with three easy procedures.

- The first helpful activity is to have a driver lesson plan in place that addresses the topic of a trip to an unfamiliar, busy city.
- The second is to have resources available for the actual trip.
- Have a process set up to gather feedback from drivers who make these trips, building resources and helpful hints for future reference

### **New Trip Driver Training**

Build a training session that compares the hazards in the local area to what a driver might expect in an urban area. Driving on a trip is different from driving a regular route.



The hazards may be different, yet the driver's awareness, needs, and defensive driving techniques will be quite similar.

- Establish a skills course of maneuvers the driver might encounter in the city. For example, parallel parking and tight right turns.
- Implement basic map reading skills, stress relieving techniques, and a good mastery of emergency procedures.
- Include information regarding procedures for on-ramps with traffic lights, multi-lane highway usage, Denver Light Rail, and turning on a red light after stopping.
- Review the hours of service rules.
- Have a good procedure in place to develop itineraries to be utilized by the department and the school's transportation serves.
- Develop a short pre-trip program, including minor maintenance, specialized training, and basic vehicle troubleshooting techniques to be used before leaving from the destination.

There are important differences to be aware of.

**An unfamiliar route.**

- Trip sponsors and their responsibilities.
- Sponsors are generally responsible for maintaining order on the bus and accounting for students. The driver will find students who are not familiar with ridership rules and there may be excited behavior due to the nature of the trip. Review district procedures regarding student management during special trips. A student roster is highly suggested. Sponsors should keep the bus clean.
- When the destination has been reached, make certain all passengers know which school bus, and at what time they are to board for the return trip.
- Check that no passenger(s) board the bus at any time unless authorized by you or by a sponsor. Only authorized passengers are allowed to ride the bus.

**Storage of large and oversized equipment.**

- The equipment must be stored or secured to reduce the danger to a minimum, in case of an emergency stop or an accident. The driver must make a reasonable and prudent determination that all carry-on items are properly handled in order to minimize the danger to all others.
- Store band instruments and other large items in the storage compartment under the bus, if so equipped.





- If there is no under storage area, make sure the items are stored and secured away from the front and rear doors, are not stacked above seat back height and are out of the aisle.
- Other options may include: equipment truck, cargo van, or a second bus as an equipment bus.
- Emergency evacuation instruction shall be given prior to departure. Instruction should include use of roof hatches, emergency doors, and emergency windows.

***DO NOT EVER BLOCK THE EMERGENCY DOOR(S) OR WINDOWS.***

The school district documentation should provide the following information:

- Destination and date.
- Nature and purpose of trip.
- Departure and expected return times.
- Number of passengers to be transported.
- Equipment to be transported.
- Rest stops and overnight arrangements (if applicable).
- Authorized signature and school contact.

When the trip is completed, fill out a district activity/field trip report or the documentation required by district procedure. Items may include: mileage, student list, actual number of passengers, time departed/returned, and problems that were encountered, if any can be on the form.

**4204-R-8.00 Pre-trip/Post-trip Vehicle Inspections**

*8.01 Each school transportation vehicle shall have a daily pre-trip and post-trip inspection performed and documented by the school transportation vehicle operator or a district or service provider authorized transportation employee. A daily pre-trip inspection shall be completed prior to a vehicle being placed in service. A daily post-trip inspection shall be completed at the end of daily operation of each vehicle.*

**4204-R-16.00 Maximum Driving Time for School Transportation Vehicle Operators**

*16.04 All school transportation vehicle operators shall document that they are in compliance with this section, hours of service.*



- 16.04(a) *An operator's daily log, or equivalent, shall be completed for the trip in the operator's own handwriting, when the trip requires a scheduled or unscheduled overnight stay away from the work reporting location.*

**4204-R-18.00      Emergency Evacuation Drills**

- 18.02 *Students on school related events shall receive emergency evacuation instruction prior to departure.*

- 18.03 *School district and service provides shall maintain records documenting that the required evacuation drills were conducted and/or evacuation instruction was given*

All regulations governing the operation of school transportation vehicles (1 CCR 301-26) are applicable on trips and drivers are held responsible to know and comply with all rules. Some of the most common, but not exhausted, lists of the rules that apply are;

**4204-R-11.00      Maintenance and Repair**

- 11.01 *School districts and service providers must ensure all school transportation vehicles are systematically inspected, maintained and repaired to ensure that school transportation vehicles are in safe and proper operating condition.*

- 11.02 *School districts and service providers shall have a system to document preventative maintenance, reported defects and repairs made to school transportation vehicles.*

- 11.03 *School districts and service providers shall maintain separate files for each school transportation vehicle with documentation of all annual inspections, all preventative maintenance and all reported damage, defects or deficiencies and the corresponding repair and maintenance performed.*

- 11.04 *Any identified damage, defect or deficiency of a school transportation vehicle must be reported to the school district or service provider which:*

- 11.04(a) *Could affect the safety of operation of the school transportation vehicle, or*

- 11.04(b) *Could result in a mechanical breakdown of the school transportation vehicle, or*

- 11.04(c) *Results in noncompliance with Colorado Minimum Standards Governing School Transportation Vehicles (1 CCR 301-25) and/or manufacturer's specifications.*



**11.05** *Documentation for reported defects must include all of the following:*

- 11.05(a)** *The name of the school district or service provider.*
- 11.05(b)** *Date and time the report was submitted.*
- 11.05(c)** *All damage, defects or deficiencies of the school transportation vehicle.*
- 11.05(d)** *The name of the individual who prepared the report.*

**11.06** *Following a reported damage, defect or deficiency of a school transportation vehicle, school districts and service providers or a representative agent must repair the reported damage, defects or deficiencies, or document that no repair is necessary, ensuring that the vehicle is in safe and proper operating condition prior to transporting students.*

**11.07** *School districts and service providers shall not transport students in a school transportation vehicle which is not in safe and proper operating condition. A school transportation vehicle shall be designated as “out-of-service” by a school district or service provider, a school transportation annual inspector or the CDE School Transportation Unit.*

- 11.07(a)** *Exemption - Any school transportation vehicle discovered to be in an unsafe condition while being operated on the highway, roadway or private road may be continued in operation only to the nearest place where repairs can safely be affected. Such operation shall be conducted only if it is less hazardous to the public than to permit the vehicle to remain on the highway, roadway or private road.*

#### **4204-R-12.00** *Operation of a School Transportation Vehicle*

**12.01** *A school transportation vehicle shall not be operated in a manner which is unsafe or likely to cause an accident or damage of the vehicle.*

**12.02** *A school transportation vehicle shall not be placed in motion on a roadway, highway or private road with the passenger entry door/service door open.*

**12.03** *A school transportation vehicle's headlights or daytime running headlights shall be activated while the vehicle is in operation.*

**12.04** *A school transportation vehicle shall not be fueled while students are on board, except in instances when unloading the students would present a greater hazard or peril to their safety.*



- 12.05 *Use of tobacco products as defined in Section 18-13-121(5), C.R.S., use or possession of illegal controlled substances, use or possession of alcohol and use or possession of marijuana or cannabinoid product, except as otherwise allowed by law, aboard any school transportation vehicle shall be prohibited at all times.*
- 12.06 *A school transportation vehicle operator shall not consume food unless the vehicle is stopped at a safe location with the park/emergency brake set.*
- 12.07 *When a school transportation vehicle is equipped with a roof mounted strobe lamp, the use of the strobe lamp is permitted only when the vehicle presents a hazard to other motorists, such as loading or unloading students in inclement weather or to enhance visibility of the vehicle when barriers inhibit such visibility.*
- 12.08 *A school transportation vehicle operator may use the strobe, in addition to the four-way hazard lamps, to warn other motorists that the vehicle is not in motion or is being operated at a speed of twenty-five miles per hour or less.*
- 12.09 *The school transportation vehicle operator shall use extreme caution when backing. Before backing on a roadway, highway or private property, the horn or audible warning device shall be sounded and four-way hazard lamps actuated or there shall be a person outside the vehicle giving direction.*
- 12.09(a) *Backing a school transportation vehicle when students are outside of the vehicle at a student stop is prohibited.*
- 12.10 *School transportation vehicles including Type A, B, C and D School Bus, Multifunction Bus and Motor Coach Bus shall not be operated with a trailer or other vehicle attached while students are being transported.*
- 12.11 *School transportation small vehicles, with the capacity of 15 or fewer passengers (counting the driver), may tow trailers while students are being transported to the extent that trailering is a necessary component of a district sponsored program.*

#### **4204-R-13.00 Authorized Passengers**

- 13.01 *Only district personnel, students enrolled in a district, law enforcement officials or individuals that have received prior authorization from the school district or service provider may be passengers on any school transportation vehicle.*
- 13.02 *The number of passengers transported on any school transportation vehicle shall not exceed the maximum seating capacity of the vehicle. Small vehicle capacity shall not exceed the number of safety belts as designed by the vehicle manufacturer.*



*13.03 Passengers shall not be permitted to stand in any school transportation vehicle while the vehicle is in motion. This does not preclude authorized persons (such as school transportation paraprofessionals) from completing their duties as required.*

*13.04 School districts and service providers shall consider the size of the passengers when determining the number of passengers that can safely occupy a school transportation vehicle seat.*

**4204-R-14.00      Safety Restraints**

*14.01 A school transportation vehicle operator shall have the safety belt fastened, worn correctly and properly adjusted prior to the school transportation vehicle being placed in motion.*

*14.02 All passengers in a school transportation vehicle under 10,000 lbs. GVWR shall have their safety belts fastened, worn correctly and properly adjusted prior to the school transportation vehicle being placed in motion.*

**4204-R-15.00 Transportation of Miscellaneous Items**

*15.01 A school transportation vehicle operator shall make a reasonable and prudent determination that all carry-on items are properly handled in order to minimize the danger to all others.*

*15.02 All baggage, articles, equipment or medical supplies not held by individual passengers shall be secured in a manner which assures unrestricted access to all exits by occupants, does not restrict the driver's ability to operate the bus and protects all occupants against injury resulting from falling or displacement of any baggage, article or equipment. Oxygen cylinders secured to a wheelchair shall be considered to be in compliance with this subsection, provided they do not impede access to any exit.*

*15.03 All chemicals and cleaning supplies carried on a school transportation vehicle must meet the following precautions:*

*15.03(a)      Container is non-breakable.*

*15.03(b)      Container is labeled with contents.*

*15.03(c)      Pressurized aerosols are prohibited.*

*15.03(d)      Container is secured in a bracket, or in a closed compartment in the driver's area or a compartment on the exterior of the bus.*

*15.03(e)      Containers and quantities of products are kept to a reasonable*

size.

*15.04 Interior-decorations shall not be located within the driver's area (which includes the space in front of the front barriers including the step-well, dash, walls and ceiling, the windshield, the entry door, the driver's side window, and all windows in front of the front barrier), the first two passenger windows on both sides of the vehicle and all windows on the rear of the vehicle. Other decorations within the passenger compartment shall not:*

*15.04(a) Cover any required lettering.*

*15.04(b) Impede the aisle or any emergency exit.*

*15.04(c) Hang from the walls and/or ceiling.*

## **RESOURCES FOR THE TRIP**

- Call ahead to the destination. Prepare a small notebook with phone numbers and the name of the person to contact upon arrival. Don't stop with just one phone number. Obtain the department's dispatcher number, the mechanic's number, and the number of the school that will be your destination.
- Request area maps and a suggested route to the destination from the sponsoring district. Plan more than one route in case of unexpected detours.
- Most major urban districts have computerized scheduling systems in place which might help generate a detailed map of the destination area.
- Obtain information regarding road closures.
- Create an "Over-the-Road" packet. Include the Emergency Service List from CDE.
- During winter months, carry a bag of salt, sand, or kitty litter to help provide traction in an emergency situation.
- Per school district procedures, consider having extra tools, hoses, belts, bolts, flashlights, etc. which could be used in case of a minor breakdown.
- Review school district procedures regarding securing the school transportation vehicle when unattended.
- Use stress-relieving techniques and take unscheduled rest breaks if needed. For instance, stop and secure the bus, get out and walk around outside. The back is particularly vulnerable to injury when driving or working around school buses. A number of factors include sitting for long periods of time, vibration of the vehicle, having to lean over seats to put up windows, and lifting and pushing heavy objects such as wheelchairs. All of these contribute to the driver's susceptibility to back injuries. A little care can go a long way towards keeping drivers on the job and out of pain.

- While driving, sit up straight in the seat with back and legs making a 90-degree angle. There should be a slight gap between the top, front portion of the seat bottom and the back of the leg. Change position or shift weight every 15 to 20 minutes. Lean forward to operate the door mechanism. Practicing these posture habits will help keep the back healthy and happy.

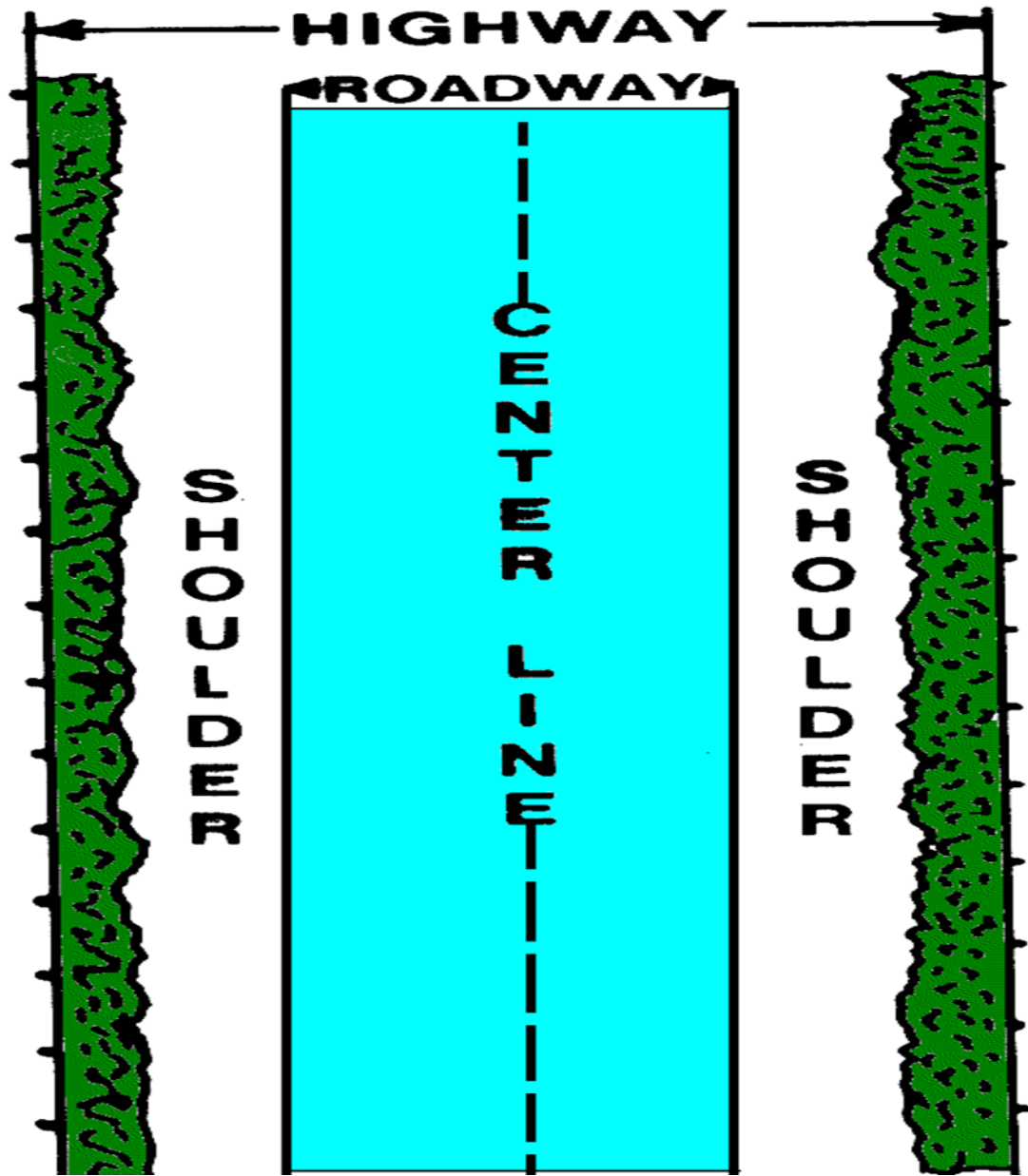
### **Build a Library of Resources**

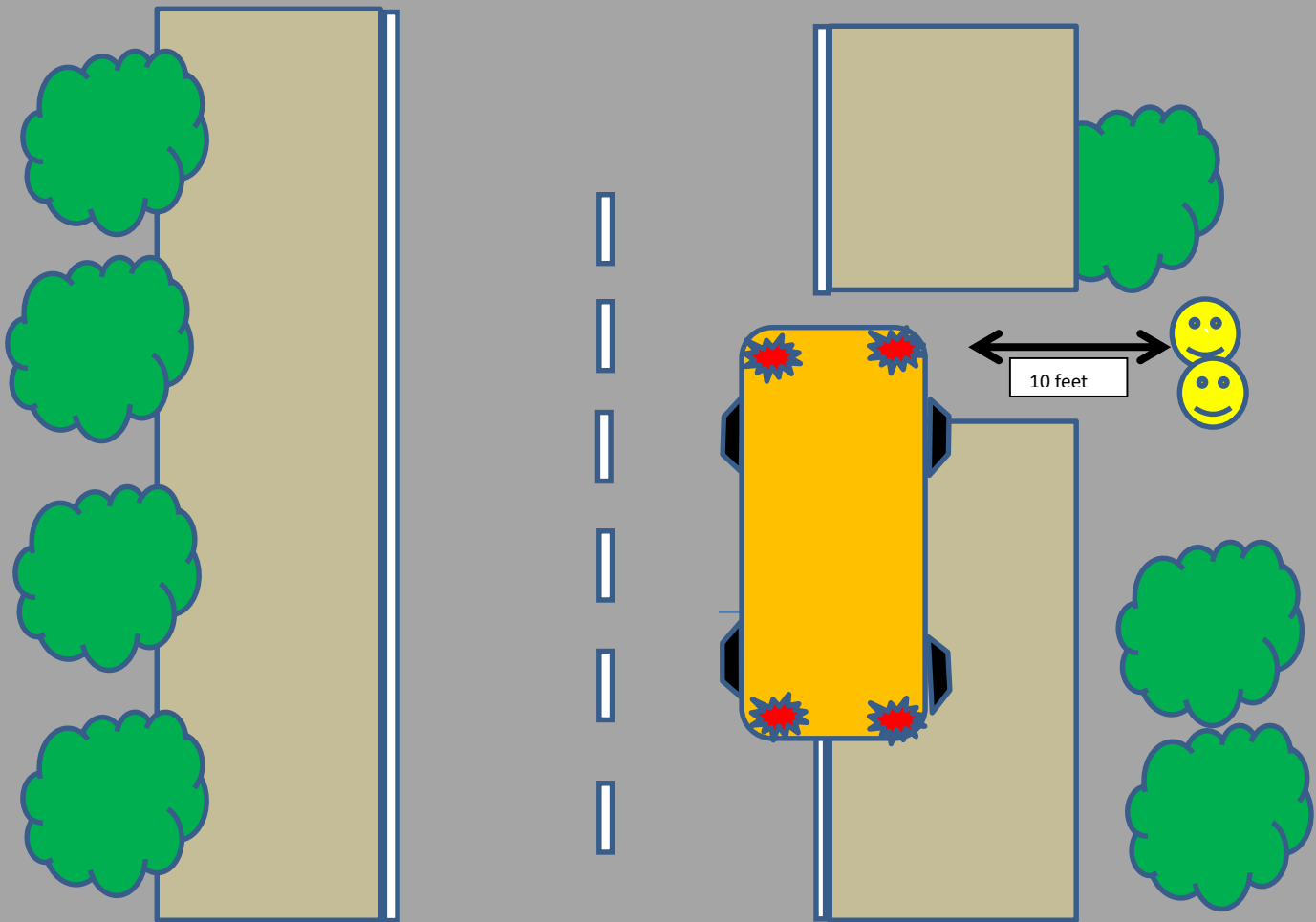
- Document knowledge and experience gained from each trip.
- Assemble maps, resources and a list of contacts.
- Create a checklist of helpful techniques used and things that were overlooked that should be included on the next trip.
- Document feedback regarding the vehicle driven, itinerary used, and passengers serviced.



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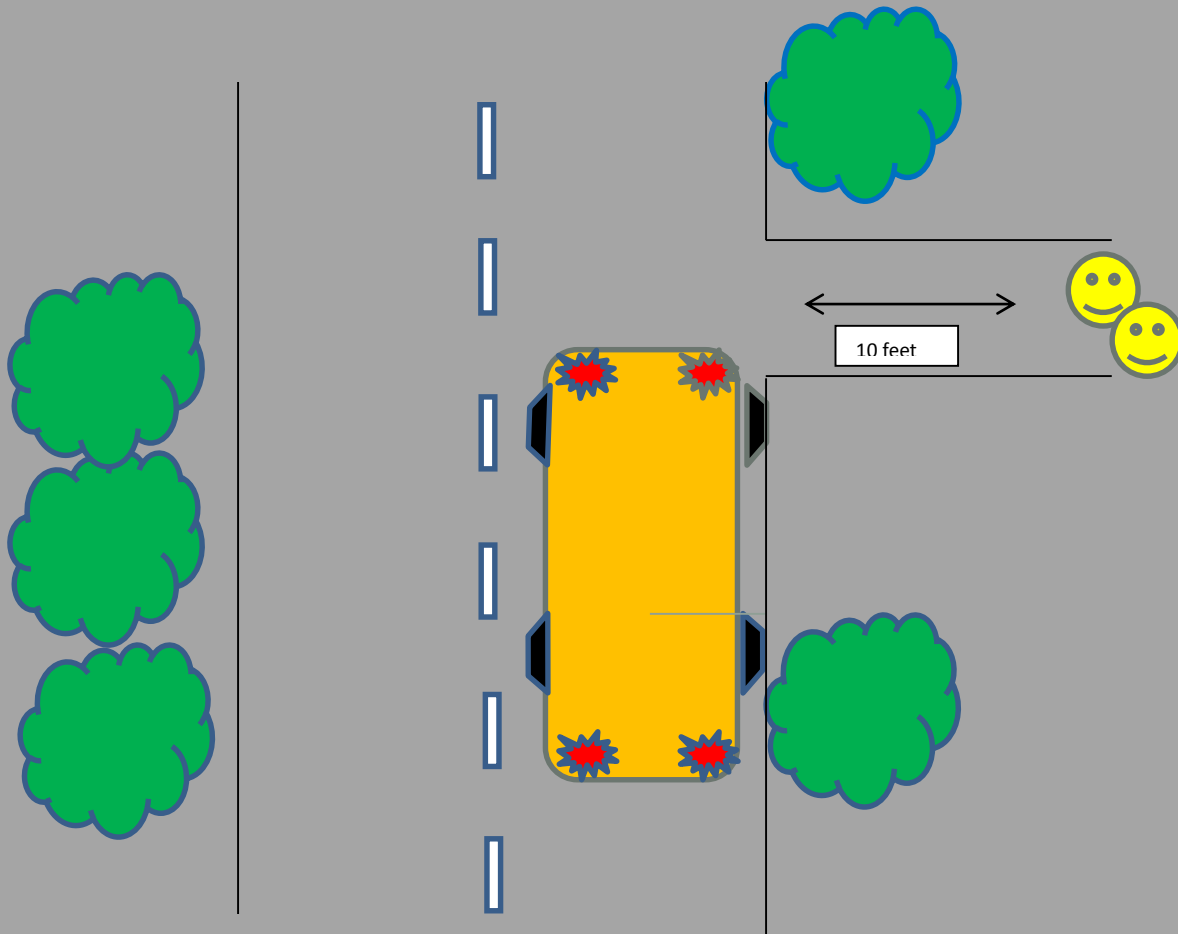




## School Bus Loading Stop - Student **NOT** Crossing

(Paved Shoulder)

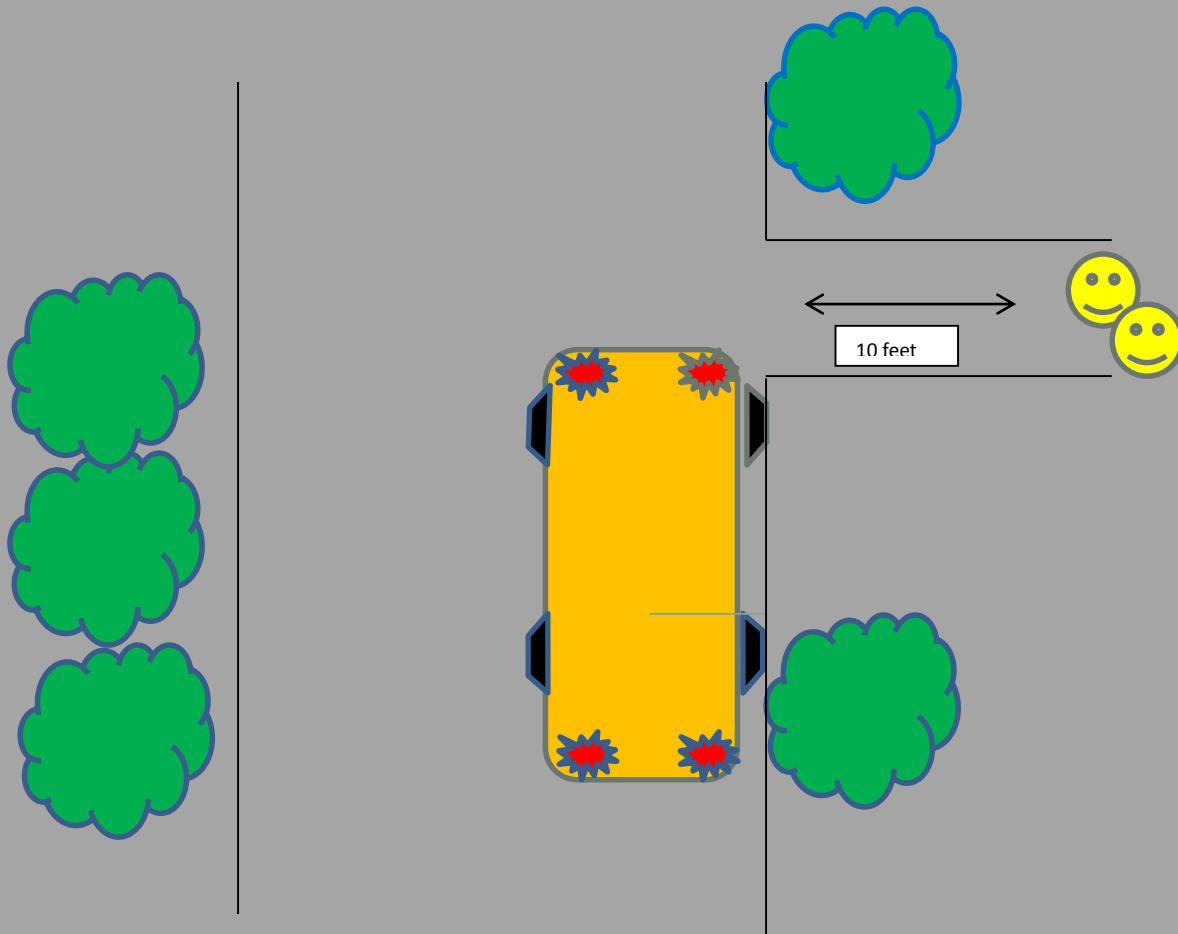
17.04 The school transportation vehicle operator shall stop as far to the right of the roadway, highway or private road as possible before discharging or loading passengers, allowing sufficient area to the right and front of the vehicle but close enough to the right to prevent traffic from passing on the right so students may clear the vehicle safely while in sight of the operator.



## School Bus Stop - Student **NOT** Crossing

### No Shoulder - Paved Road

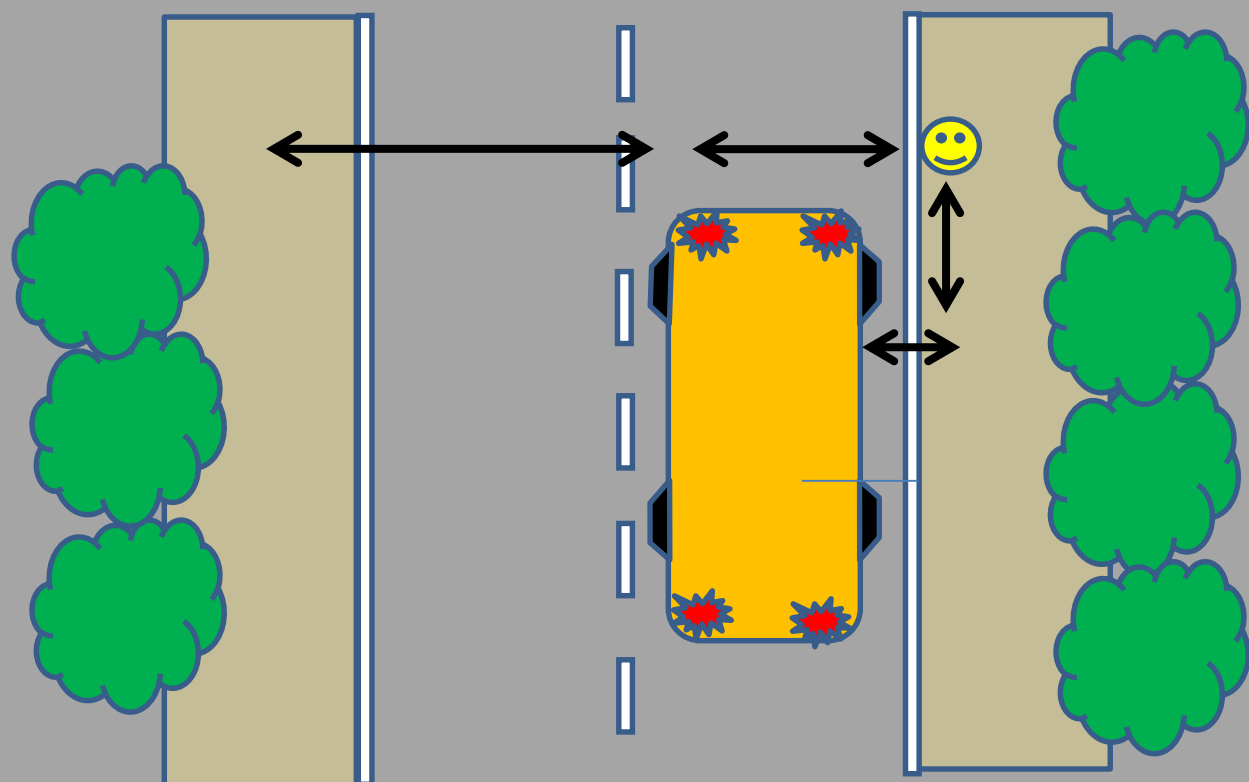
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## School Bus Stop - Student **NOT** Crossing

### No Shoulder - Dirt Road

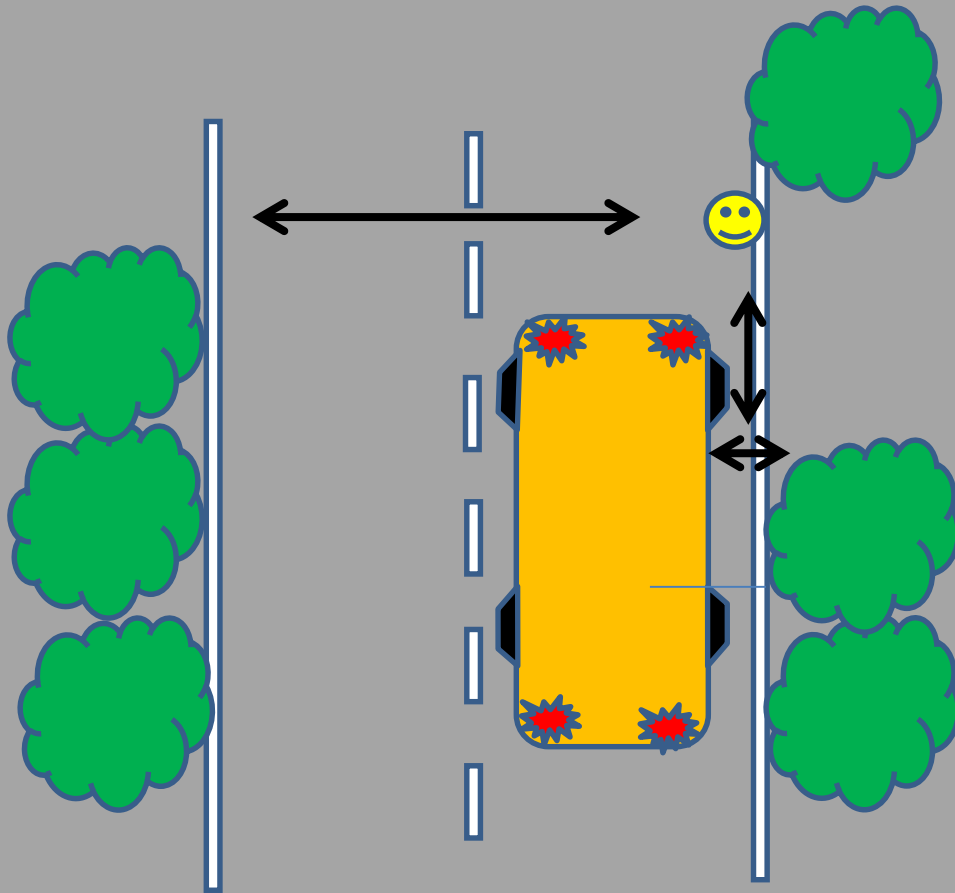
17.04 The school transportation vehicle operator shall stop as far to the right of the roadway, highway or private road as possible before discharging or loading passengers, allowing sufficient area to the right and front of the vehicle but close enough to the right to prevent traffic from passing on the right so students may clear the vehicle safely while in sight of the operator.



## School Bus Stop - Student Crossing

### Shoulder - Paved Road

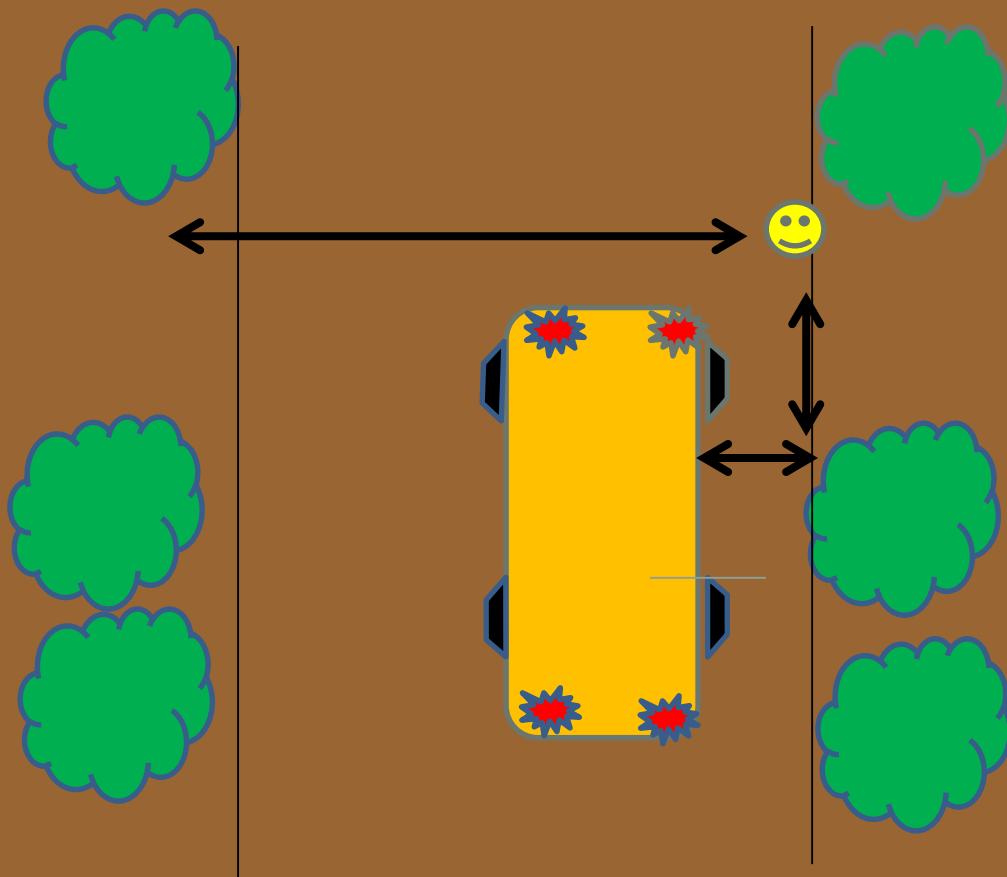
(5) Every school bus shall stop as far to the right of the roadway as possible before discharging or loading passengers; **except that the school bus may block the lane of traffic when a passenger being received or discharged is required to cross the roadway.**



## School Bus Stop - Student Crossing

### No Shoulder - Paved Road

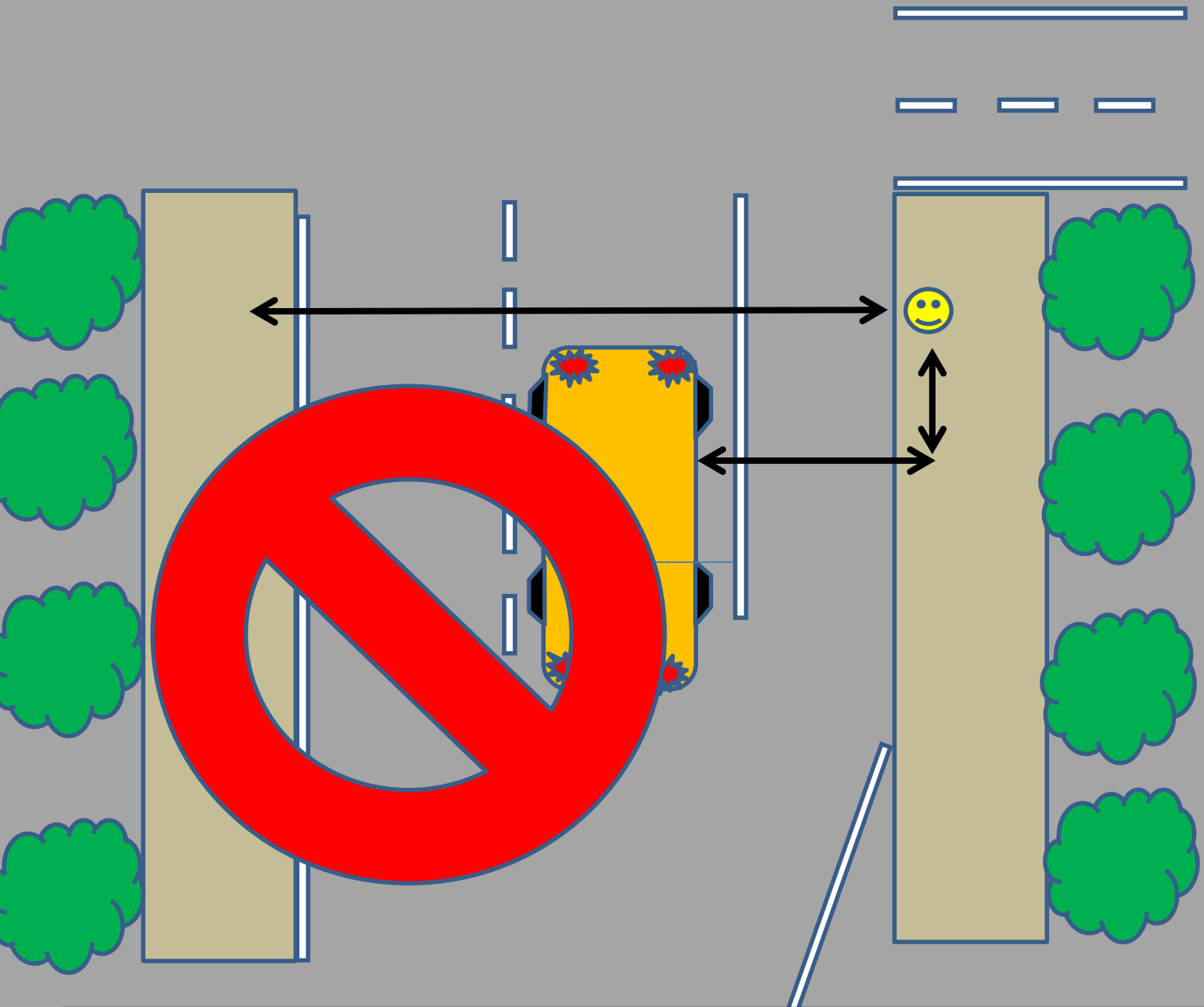
(5) Every school bus shall stop as far to the right of the roadway as possible before discharging or loading passengers; **except that the school bus may block the lane of traffic when a passenger being received or discharged is required to cross the roadway.**



## School Bus Stop - Student Crossing

### No Shoulder - Dirt Road

(5) Every school bus shall stop as far to the right of the roadway as possible before discharging or loading passengers; **except that the school bus may block the lane of traffic when a passenger being received or discharged is required to cross the roadway.**

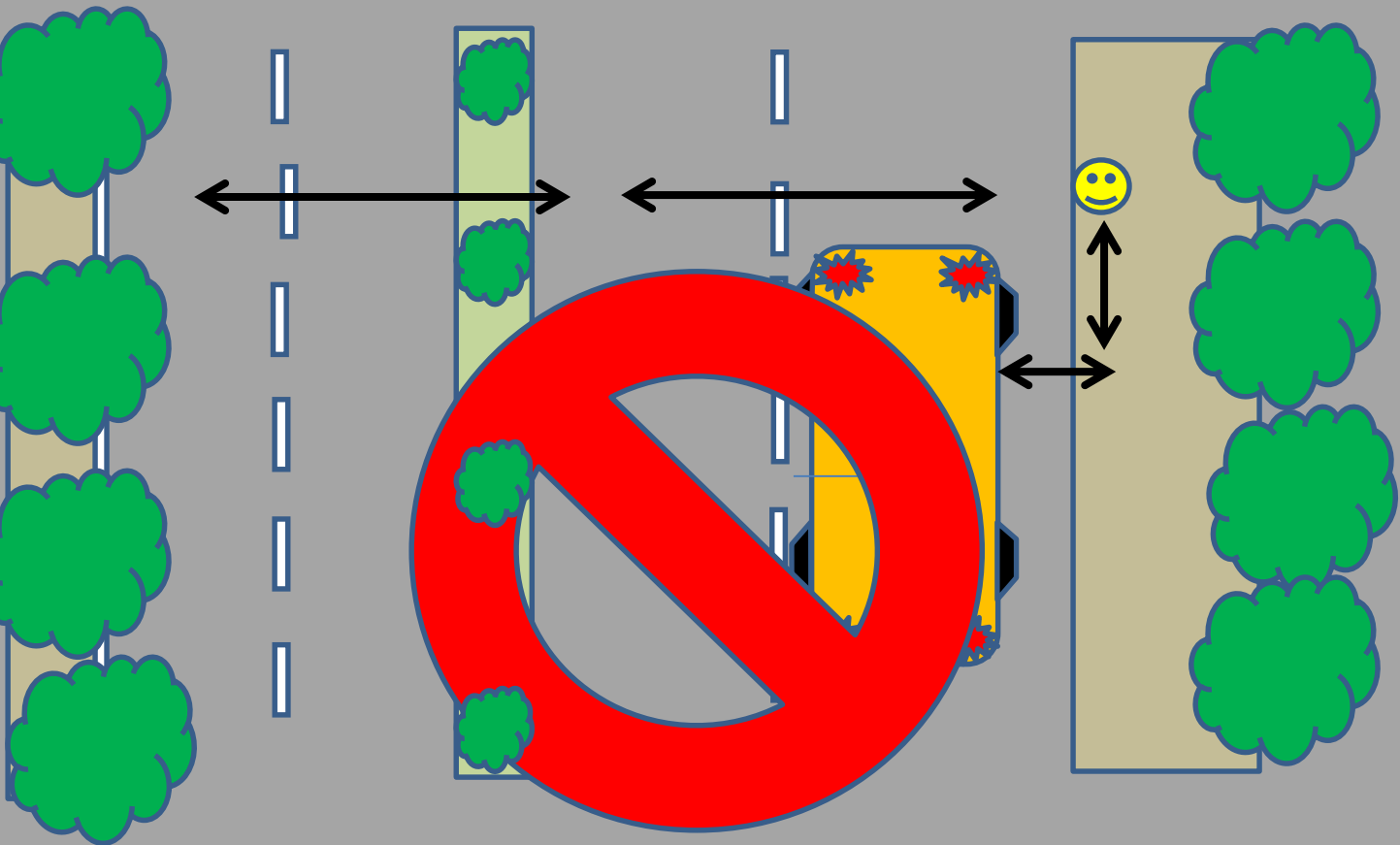


## School Bus Stop - Student Crossing

### Prohibited - More than 2 lanes

17.06 If students are required to cross a roadway, highway or private road on which a student stop is being performed, they are prohibited from crossing a roadway, highway or private road constructed or designed to permit three or more separate lanes of vehicular traffic in either direction or with a median separating multiple lanes of traffic. This does not include crossing the roadway, highway or private road with the assistance of a traffic controls signal or with the assistance of a crossing guard.





## School Bus Stop - Student Crossing

### Prohibited - Median

17.06 If students are required to cross a roadway, highway or private road on which a student stop is being performed, they are prohibited from crossing a roadway, highway or private road constructed or designed to permit three or more separate lanes of vehicular traffic in either direction or with a median separating multiple lanes of traffic. This does not include crossing the roadway, highway or private road with the assistance of a traffic controls signal or with the assistance of a crossing guard.



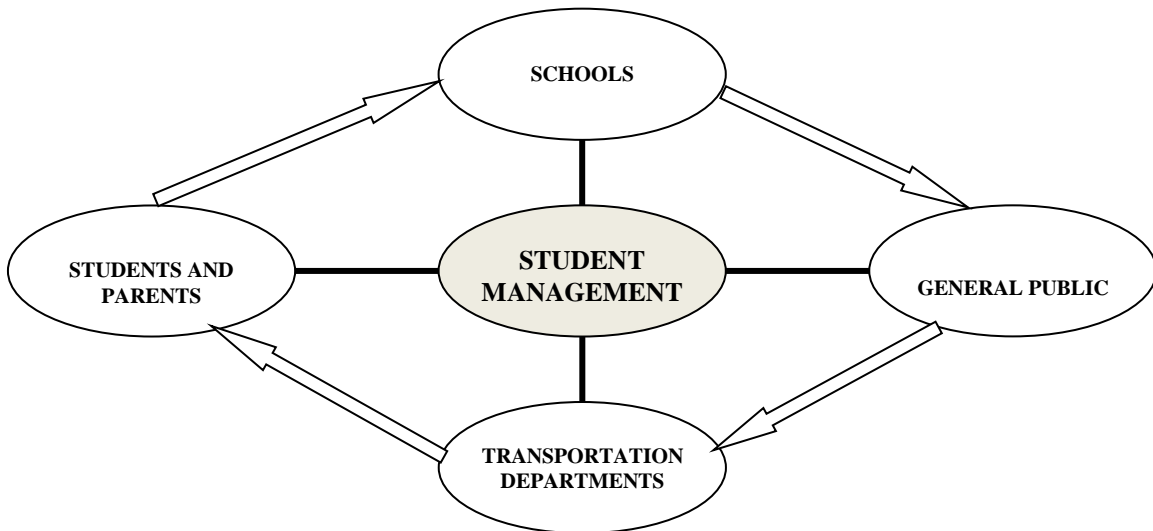
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## UNIT 10 - STUDENT MANAGEMENT

The objective of student management is to ensure a safe bus ride by allowing the driver's attention to be on operating the vehicle.

In order for the school bus driver to safely operate the bus, it is essential that the student passengers behave in a controlled manner. The school bus must be looked upon as an extension of the classroom. Student management for the driver will encompass a wide variety of child psychology, adolescent behavior patterns and student management techniques. Unlike the teacher, whose classroom environment is more defined and with only one specific age group, the school bus driver will be in close contact with a variety of elementary, junior high and senior high age groups. Student management will encompass the following interdependent segments of the community.



*Each of these segments should communicate both needs and problems in order to find solutions.*



### **The Role of the Schools**

Schools should include programs of instruction to improve the student's safety at school bus stops and on the bus.

All school staff should be familiar with school district policies on student discipline, rules and regulations for student behavior, misconduct procedures, and special trip sponsor procedures.

1 CCR 301-26, 4204-R-4.00 - 4.06 School district and service providers shall ensure that documentation outlining transportation related services and requirements, including required use of Child Safety Restraint Systems and medical and behavioral information as it relates to student transportation, is available to applicable school transportation vehicle operators and paraprofessionals prior to providing transportation services.

### **The Role of the Transportation Department Personnel**

**Supervisor of Transportation** - The supervisor should provide avenues for cooperative problem solving which includes all levels of school district personnel, parents, and students. Rules for students and school bus drivers should be established and administered uniformly. An awareness of new techniques, equipment, child psychology, and behavioral patterns of children is important. A training program, including pre and in-service, should be developed, implemented, and constantly reviewed.

**School Bus Driver** - The school day for the transported student begins and ends with the bus. The driver needs to exhibit self-control, professionalism, and have a plan to establish appropriate behavior. Consistency is absolutely necessary for success. The school bus driver is responsible for the health, safety, and welfare of all passengers. In supervising the students, inappropriate student conduct will require the combined efforts of the driver, the transportation department, and school administrators. Drivers should have the attitude that driving a safe bus is most important. A student should not prevent the operator from driving a safe bus. The other passengers must be assured of a safe and pleasant bus ride.

Discipline on school buses is probably the biggest problem confronting school bus drivers today. The attitude of the driver should be consistent using the following:

- **Firm** - Be prepared to follow through. Avoid giving a directive that you cannot enforce.
- **Fair** - Be consistent in disciplining students.



- **Friendly** - Be approachable to the students, while keeping in mind that you, the driver, are in charge.

Understanding the principles of child psychology will help avoid trouble before it begins. Overlooking the violations of conduct of one student will cause you to lose the respect of the other students.

Be careful to strike a happy medium by not being too lenient or too harsh. Both extremes are equally poor for the morale of the school bus riders. Loud talking on the bus is a problem that requires much patience, but absolute silence is not a healthy atmosphere. Issuing a directive does not complete the teaching process. A directive must be patiently and constantly repeated.

*It seems the minority (undisciplined) riders set the pace for the majority.*

Be aware of the fact that each driver is working for an educational system whose job is training the minds of students. Too frequently students are expected to be finished products with adult attitudes and this simply is not the case. Strive to build morale and cooperation with the students on the bus. In the course of time, the student morale will be a great help in controlling the worst offenders. When students discover that improper conduct is not acceptable, offenders will hesitate to do these things which cause them to lose prestige among their fellow students.

When speaking to an offender, speak in a friendly manner but with a firm voice. There should be no anger involved. Do not let personal problems reflect themselves in your mood or judgment while dealing with the students. If discipline is necessary, move the student to a seat near the front. **Never put a student off the bus to walk home.** Emphasize the disciplinary action that will be taken and that if it is not corrected to an acceptable level, the student may have his privilege of riding the bus taken away.

## **Think before you act!!**

### Tips on maintaining discipline:

1. Be friendly. Have a sense of humor.
2. Be sincere in your work.
3. Set firm, clear rules.
4. Never give a directive you do not intend to enforce.



5. Do not give a directive you cannot enforce.
6. Do not pick on every little thing. Commend good behavior.
7. Set a good example. Look for good qualities.
8. Be firm, fair, and friendly.
9. Be consistent.
10. Say “do this,” rather than “don’t do that.” Be positive.
11. Offer choices with the possible consequence.
12. Keep your “cool.”
13. Have a positive attitude.
14. Know district policies for reporting problems.
15. Be assertive: the driver is in charge.
16. Never strike or touch a student.

***Do not become a constant mirror watcher. Safe driving requires your attention to be on the road.***

### **The Role of Students and Parents**

Students of all age groups are obligated by the expressed privilege granted by the Board of Education to ride the public school bus, to obey, and conform to the safety and behavioral rules of the school district.

The parents of the students are obligated to instruct their children to cooperate with the school bus driver in accordance with the safety and behavioral rules of the school district.

***Parents often do not accept the fact that their child has misbehaved at school or on the bus.***

### **The Role of the General Public**

The public must obey the Colorado State Statutes. Also, they are to promote the safety of school-age children as pedestrians and transportation users of the roads of Colorado.

The schools and the transportation department should provide a program of public information. The objective of communicating to the parents and general public is to state district policies and procedures for safe student transportation.



### **Student Safety and Behavior Rules**

The key to a safe, well-regulated bus is for the students to provide the school bus driver with an atmosphere that will allow the driver to direct special attention to safe driving. The school bus driver provides the students a standard of uniformity when applying the rules of the district. District rules may vary, but should be consistent with state regulations. The set of rules should be brief and limited to no more than 10 rules.

Students should follow directions the first time they are given. The rules should be posted in the front of the bus.

A copy of the rules could be sent to each student, parent/guardian with a form to be returned with both signatures indicating the rules were read and understood.

#### **Sample Bus Rules:**

1. Students are required to follow the bus driver's instructions.
2. Students should arrive at the bus stop 5 minutes prior to the scheduled stop time.
3. Before crossing, establish eye contact with the driver. When safe signal is given, it is safe to cross.
4. Cross 10 feet in front of the bus.
5. Stay seated, facing the front while the bus is moving.
6. Students shall not open or close windows without permission.
7. Heads, arms and objects must be kept inside the bus at all times.
8. Keep hands, feet and belongings to yourself.
9. Any behavior which jeopardizes the safety of the passengers or driver is prohibited.
10. Use of drugs, alcohol, exiting rear door, inflicting bodily harm, vandalism, and littering are prohibited.
11. Use your quiet, classroom voice
12. Obscene or foul language or gestures will not be tolerated.
13. Students must be quiet at railroad crossings.
14. Respect others.



## **Reporting Unacceptable Behavior**

Each district should have a policy and procedure for reporting unacceptable behavior. Student behavior that is inconsistent with desired safe behavior is reported as either major or minor incidents. Student misconduct forms are filled out by the driver and returned to the transportation supervisor or designee for initial screening. The driver should report behavior only after attempting to solve the problem within his/her own capabilities. The transportation supervisor or designee determines the decision whether the reported misbehavior will be identified as minor or major.

### **Student due process:**

- Have a set process or procedure.
- Make sure it is written.
- Make sure the driver, student riders, and parents are familiar with the policy.

### **Bullying**

Bullying is an act of repeated aggressive behavior in order to intentionally hurt another person; physically, or mentally. It comprises repeated acts over time that involves a real or perceived imbalance of power with the more powerful individual or group abusing those who are less powerful. The power imbalance may be social power and/or physical power. The victim of bullying is sometimes referred to as a target. Bullying is characterized by an individual behaving in a certain way to gain power over another person. Bullying may be emotional, physical, or verbal.

Refer to your district's Safe School Plan for information on bullying.

### **Consequences**

Any course of action, or consequences, in student management must be uniform but flexible enough to fit the conditions and circumstances of the violation and the individual(s) involved. Consequences may include, but are not limited to:

- Student warned by driver. (driver to student conference)
- Assigned seat.
- Parents notified. (per district policy)
- Assignment of student to "remedial tasks" at school, or on the bus. Follow district policy or procedure.





- Principal, parent, student, driver conference.
- Withdrawal of transportation services.

Good behavior should be rewarded. Do something the students like, and which is appropriate for the age level. Rewards may include, but are limited not to:

- Praise.
- Note to parents.
- First in line, first off the bus.
- Special seat. (window, next to a friend)
- Awards, e.g., smiley face stickers, etc.

Do not provide edible treats to students as a reward. There may be allergies the driver is not aware of. The parents may not approve of a certain type of treat.

Always follow district procedures when disciplining or rewarding students.

## Harassment

**Harassment Definition:** A course of conduct directed at a specific person that causes substantial emotional distress in such a person and serves no legitimate purpose under the United States Code Title 18 Subsection 1514(c) 1.

The same procedures for dealing with any type of harassment apply as are described below for dealing with sexual harassment.

## Sexual Harassment

**Sexual Harassment Definition** - “Unwelcome sexual advances, requests for sexual favors, or other sex-based verbal or physical conduct where (1) submission to such conduct is explicitly or implicitly made a term or condition of the individual’s education; or (2) such conduct has the purpose or effect of unreasonably interfering with the individual’s education by creating an intimidating, hostile or offensive environment.” (Letter of finding by Dr. Battles, West Hartford Board of Education, June 8, 1993).

The school bus is a unique environment in which verbal abuse and harassment can easily take place. A student being harassed has no place to escape the unwelcome behavior. It is important for the bus driver and paraprofessional to be aware of such behavior and take appropriate action. Any form of harassment described below is impermissible, and by law, the school district must take action to stop it.



No student should be subjected to behaviors that are intimidating, offensive, or threatening. Such behaviors may be identified as harassment based on:

- Gender
- Ethnic background
- Religion
- National origin
- Race
- Disability

### **Review District Policy Regarding Sexual Harassment**

The school district has a responsibility to provide a safe environment for students, including the bus ride. Sexual harassment is a type of illegal discrimination and must be dealt with in such a way as to stop the behavior. Keep in mind that both boys and girls can be the victims of sexual harassment. When students are exposed to inappropriate sexual behavior, assume it is unwelcome, even if the student doesn't act like it is. Keep in mind also, that even if the student being harassed isn't affected or pretends not to be affected, other students on the bus may be suffering the effects of the inappropriate behavior. Students can become uncomfortable and actually dread getting on the bus.

Three steps the driver and paraprofessional should take:

#### **1. Identify Sexual Harassment**

Some examples of verbal and physical sexual harassment are:

- Conveying rumors or making suggestive comments about a student's sexual activity.
- Calling students names of a sexual nature.
- Obscene gestures, including male students grabbing their own genitals and/or rubbing themselves in a sexually suggestive manner.
- Sexual molestation.
- Use of sexually explicit language, like slang terms for parts of the anatomy.
- "Mooing" a student with express intent to refer to bust size.
- Creating graffiti that uses explicit sexual language to describe and degrade members of the opposite sex.



- Unwelcome touching, pinching, or restraining of students by students of the opposite sex regardless of the ages of the students.
- Exposing private parts.
- Flipping up skirts or snapping bras.
- Threatening unwanted sexual activity.
- Students' subjecting other students to continual teasing or to lewd remarks about their anatomy.
- Offering student money to perform sex acts, and other propositions of a sexual nature.
- Off-color jokes.
- Sexually harassing drawings and other "art" work.
- Simulating sex acts.

**"Sexting"** or taking and sending pictures of an indecent nature are also forms of sexual harassment and are punishable as child pornography. Sexting is the act of sending sexually explicit messages or photographs, primarily between mobile phones. The term was first popularized around 2005, and is a combination of the words sex and texting.

## 2. Take Action

When sexual harassment has been identified, it is necessary to accurately document what has happened and to immediately report the incident(s) to the appropriate district administrator. An investigation by the district administrator should follow a report of sexual harassment. Following is a list of what should be reported:

- Age of victim(s).
- Details of conduct they observed or were told.
- How long the conduct had been going on according to the information they have.
- How long a particular incident lasted.
- Whether the victim is subjected to the same activity repeatedly or if the offender varies his/her approach.
- Whether or not others joined in the harassing conduct.
- Whether conduct is directed at one student, or more than one
- Names, addresses, and phone numbers of everyone who has spoken with you about the conduct.



- Names of anyone whose names have come up in discussions about the conduct.
- Any information you have which will facilitate a thorough investigation and fair assessment of what happened, and any actions necessary to be undertaken.

### 3. Follow Up

- Continue monitoring the situation. Report to the appropriate administrators if efforts to end the harassment are not working. Remember, the bottom line is, the harassment must be stopped.
- Getting students to listen and obey the bus rules is not easy. What works for one school and age group may not work for another. They are all different. Your attitude will let the students know that you mean business and that you are in control. If you let them think they've got the best of you, you've lost control. When students can push your buttons, you have a major safety problem.

### Take Control of Passengers

Clearly convey the rules at the beginning of the year or the first opportunity. Let the students know what the expectations are for behavior on the bus. Always follow through with the consequences that have been presented. Always approach the students with the behavior that is expected. Do not approach with the behavior that is not wanted. Using a positive approach is far more successful than a negative approach.

Smile☺

Smile☺

Smile☺

Smile☺

Gain their respect by staying positive.

- Tell them the rules and why they need to obey.
- When they obey, praise them.
- When they disobey, make sure you take appropriate action according to your district's policy.
- Never lose your cool.
- If they do not listen, stop the bus.
- Speak to the trouble makers alone.
- If they still do not listen, follow your school district policy.



## Unit 11 - Activity Trips

An activity trip is an exciting and special experience for our students. Most activity trips involve bus transportation, and it is important that transportation providers are aware of possible challenges. Challenges, such as selecting the wrong route, running out of fuel, or arriving late to your destination, can occur. In addition, pupil problems can develop because of inadequate food or rest stops. The best way to ensure a safe and happy trip is through pre-planning. Most activity trips will take the driver out of the local district. If problems occur, the driver will probably have a more difficult time getting assistance. Problems, therefore, take on a more critical nature. Without proper planning, minor problems can become major problems.

Most school transportation operators drive the same streets and roads every day. One of the potential challenges arises when the rural driver is asked to drive a vehicle in a different environment, such as in a metro area like Denver or Colorado Springs. The same challenge holds true for the driver who may be very familiar with metro driving and is asked to drive on mountainous terrain. Therefore, route planning is critical.

### Route Planning

The State of Colorado has many diverse geographical challenges, from the plains to the mountains, rapidly changing weather conditions, wildlife, etc. Therefore, it is absolutely critical that the school transportation vehicle operator be prepared for anything that could potentially take place. Make sure you consult with your supervisor to ensure that you have all the details of the trip and to ask questions.

### **Departure Times and Locations**

When the school transportation department schedules a trip they do their very best to estimate the punch-in, departure, arrival and return times. As a driver, it is very important that you try to maintain the estimated time schedule.

Know the exact location and time that you will be picking up the students that will be transported on the trip.

Plan your route. Technology today can give you excellent directions and maps. Determine the route you plan to take, considering road conditions, tolls (who is expected to pay for the toll), traffic congestion, weather, hazards, tunnels, etc. Have an alternate route in mind just in case you need to use it.

Depart on time. Now we know that there are occasions when you may leave the pick-up location late by no fault of the driver. If you are running late, there should be

enough time “built-in” the transport time to give you a few minutes’ flexibility. **DO NOT SPEED!!!** If the sponsor is late and tells you to “get us there on time”, do your best but do not violate the law and risk your license because the sponsor ran late.

Additional stops? Determine with the trip advisor if there will be any additional stops for food and restroom use on your way to the event or on your return trip. Follow your district policy when it comes to permitting students to eat in school transportation vehicles. Some suggestions are not to permit canned beverages or soda fountain beverages that do not have sealable lids. Make sure your passengers know where the trash container is and request that they use it. For your comfort and the comfort of your passengers, it is suggested that there should be no more than 90 minutes between stops.

Know the exact location of your destination. If this is your first time to the location, you may consider looking on-line to view where the entrances and exits are to the facility.

Drop off and pick-up locations at the event. Before you arrive ask the trip advisor where they would like to unload students and the exact location and approximate time you need to be there to load students. These times are often times not set in stone, as an athletic event may take longer than expected because it went into overtime. Make sure you are there on time and waiting for your students with a vehicle that has already had a pre-trip inspection and the heat/air conditioning is already on. Do not make them wait for you!

Where will you park? Depending on the size of the vehicle you are driving, finding adequate parking can be a nightmare. Will there be a charge for parking? Will the location support your vehicle weight? Is there easy access in and out of the parking spot? Could you get pinned in? Can you adequately secure the vehicle? At some events, there will be a designated area for school transportation parking.

What is expected of the driver? Is the driver expected to stay at the destination? Be available if threatening weather is a possibility? Is the driver welcome to accompany the group? Make sure you give the trip advisor your phone number or a means to contact you in the event of an emergency prior to leaving the destination site. Make an agreement as to the exact time the driver should return to depart. Refer to your district policy regarding the expectations of the driver and vehicle once you arrive at your activity destination.

Don’t leave until all passengers are on board. Make sure that all passengers are accounted for prior to departing. The trip advisor is responsible for the student count and assuring that all the students are on board before departing.

Returning to District. Once you arrive back to the district and students are unloading, be polite and ask them to clean up as much trash as possible. Make sure that all

students are out of the vehicle and that they have not left any personal belongings in the vehicle. Follow your district policies regarding fueling, paperwork and of course the cleanliness of the vehicle.

One of the most common complaints of operators is that when they were preparing to take an activity trip they arrived to find that the previous driver had left the vehicle in an unsatisfactory condition. Trash on the floor, empty drink bottles/cans, food spilled on the seats and floor and they have to depart in a few minutes. Put yourself in their position; is that how you would want to find a vehicle that you were planning to use? Even if your district does not require you to clean the vehicle, be polite and pick up as much as you can.

*Leave your vehicle in the condition that you would want to find it if you were the next person using the same vehicle.*

## The Chaperone/Sponsor Responsibilities

Make sure your chaperone/sponsor knows what their responsibilities are. Double check your district policy, but they may include the following;

- Communicating
  - Trip plans
  - Special student needs
- Providing passenger information
- Assisting in maintaining passenger control
- Supervising
  - Rest stops
  - Food stops
- Field trip activity
- Assembly of students and head counts
- Passenger instruction

## **Behavior Problems and Concerns**

Concerns may arise while on a field trip due to the nature and length of the trip. Unless adequate plans are made and precautions taken, passenger behavior problems will arise. The following conditions should be identified:

### **Fatigue**

Trip organizers and drivers should plan a sufficient number of rest and comfort stops to avoid problems arising from fatigue. It is recommended that there be approximately 90 minutes between stops.

### **Excitability**

Trip organizers and drivers should recognize that passengers may get excited due to the nature of the trip. An opportunity should be provided for pupils to vent some of this excitement before an effort is made to restrain them. The group leaders or chaperones should handle problems arising from this situation.

### **Discomfort**

The driver should be alert for conditions that may lead to a pupil's discomfort. The temperature of the bus should be closely monitored and sufficient fresh air be provided to the passengers.

### **Guidelines**

Trip organizers and drivers should discuss guidelines that are to be followed during the trip. Some school districts provide written guidelines to trip organizers for review before trips are booked. The group leader or chaperone should discuss these guidelines with passengers before the trip begins.



## Unit 12 - Addendum

1. Acknowledgement of Receipt and Understanding of Colorado Department of Education School Bus, Multifunction Bus and Motor Coach Bus Guide
2. Colorado Rules for the Operation, Maintenance and Inspection of School Transportation Vehicles 1 CCR 301-26
3. STU -9  
School Transportation Vehicle (School Bus) Pre-Trip and Post Trip Requirements
4. License and Training Matrix

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## Certification of Receipt and Understanding

I, \_\_\_\_\_ (Please Print) certify that I have been given and/or have access to the Colorado Department of Education School Bus, Multifunction Bus and Motor Coach Driver Guide.

I hereby certify that I have read and understand the Colorado Rules for the Operation, Maintenance and Inspection of School Transportation Vehicles 1 CCR 301-26.

I understand that I am responsible, pursuant to these rules, to operate a school transportation vehicle within the Rules set forth in 1 CCR 301-26 and the laws of the State of Colorado as applicable to my job responsibilities.

I understand that I am required to receive training and provide all of the documentation required per the School Transportation Vehicle Operator Requirements indicated in 1 CCR 301-26, 4204-R-5.00 that are applicable to my job responsibilities.

Driver Signature \_\_\_\_\_ Date \_\_\_\_\_

School District \_\_\_\_\_

Trainer(s) Name \_\_\_\_\_ (Please Print)

Trainer(s) Signature \_\_\_\_\_





**DEPARTMENT OF EDUCATION**  
**Colorado State Board of Education**

**COLORADO RULES FOR THE OPERATION, MAINTENANCE AND INSPECTION OF SCHOOL  
TRANSPORTATION VEHICLES**

**1 CCR 301-26**

**4204-R-1.00 Statement of Basis and Purpose**

- 1.01 Colorado law provides for the State Board of Education to adopt and enforce regulations governing the safe operation of school buses used for the transportation of students pursuant to Sections 22-51-108 and 42-4-1904, C.R.S.
- 1.02 The purpose of these rules is to adopt and enforce regulations governing the reasonable and adequate standards of safety for the operation, maintenance and inspection of school transportation vehicles that promote the welfare of the students and afford reasonable protection to the public. These rules are designed to align with federal standards, reflect current industry practices, and incorporate recommendations from school district and service provider transportation professionals.
- 1.03 The Commissioner, or designee, may provide an exemption to the Rules for the Operation, Maintenance and Inspection of School Transportation Vehicles to the extent the Commissioner finds an exemption to be appropriate.
- 1.04 These rules shall become effective July 30, 2016 for all student transportation.

**4204-R-2.00 Applicability of Rules**

- 2.01 These rules and regulations apply to the operation, maintenance and inspection of all public school transportation vehicles (School Bus, Multifunction Bus, Motor Coach Bus and Small Vehicle as defined in 1 CCR 301-25-R-5.00) transporting students to and from school, from school to school, and/or to and from school related events in vehicles owned, leased or rented by the district or under agreement with the district.
- 2.02 These rules are not intended to include:
  - 2.02(a) Private motor vehicles used exclusively to carry members of the owner's household; or
  - 2.02(b) Transportation arrangements not authorized by the district including but not limited to; sharing of actual gasoline expense or participation in a car pool; or
  - 2.02(c) The operations of vehicles in bona fide emergency situations consistent with policies of the local board of education; or

2.02(d) Student transportation under public transportation programs subject to the Code of Federal Regulations 49 CFR 390 to 399.

2.03 These rules shall not preclude a school district or service provider from establishing a more rigid standard or policy when deemed necessary by the local board of education or service provider.

**4204-R-3.00 Non-Compliance**

3.01 CDE will perform periodic School Transportation Advisory Reviews (STAR) of school districts and service providers to evaluate and assist with compliance of these rules.

3.01(a) CDE will provide school districts and service providers written notification of the STAR findings.

3.01(b) Upon receipt of the written notification of STAR findings, school districts or service providers shall respond in writing to outline corrective actions if necessary.

3.02 CDE shall revoke or suspend the certificate for a school transportation annual inspector, school transportation annual inspector hands-on tester or inspection site under the following circumstances:

3.02(a) A school transportation annual inspector, school transportation annual inspector hands-on tester or inspection site does not meet the requirements outlined in these rules.

3.02(b) School transportation annual inspections or hands-on tests have not been properly conducted.

**4204-R-4.00 School District and Service Provider Employment Responsibilities**

4.01 School districts and service providers shall outline job responsibilities and develop job qualification standards for each school transportation vehicle operator and school transportation paraprofessionals, consistent with federal and state regulations. A copy of these requirements shall be provided to each school transportation vehicle operator and paraprofessional upon employment.

4.02 School districts and service providers shall maintain separate files for each school transportation vehicle operator, school transportation paraprofessional, and school transportation annual inspector with written documentation evidencing all listed requirements indicated in Rule 5.00, Rule 6.00 and Rule 7.00, as applicable. Training documentation shall include the trainer name, date of the training, description of the training, duration of each topic covered and the signature of all attendees.

4.02(a) If a school transportation vehicle operator, school transportation paraprofessional, or school transportation annual inspector works for more than one school district, each district shall maintain a file with documentation in accordance with this rule.

4.03 School districts and service providers shall ensure all employees required to possess a commercial driver's license (CDL) shall be in a US DOT approved substance abuse testing

program.

- 4.04 School districts and service providers shall not permit a school transportation vehicle operator to transport students, while the operator's ability or alertness is so impaired, through fatigue, illness or any other cause, as to make it unsafe for the operator to transport students.
- 4.05 School districts and service providers shall have written emergency procedures and/or contingency plans to be followed in the event of a traffic accident, vehicle breakdown, unexpected school closing, unforeseen route change or relocation of a student stop in an emergency.
- 4.06 School district and service providers shall ensure that documentation outlining transportation related services and requirements, including required use of Child Safety Restraint Systems and medical and behavioral information as it relates to student transportation, is available to applicable school transportation vehicle operators and paraprofessionals prior to providing transportation services.

**4204-R-5.00 School Transportation Vehicle Operator Requirements**

- 5.01 School transportation vehicle route operators (transporting students to and from school or from school to school) driving a School Bus with the capacity of 16 or greater passengers (counting the driver) and school transportation vehicle operators, other than route operators, driving vehicles with the capacity of 16 or greater passengers (counting the driver), including a School Bus, Multifunction Bus and Motor Coach Bus, shall meet or exceed the following requirements:
  - 5.01(a) The operator shall possess a valid commercial driver's license (CDL) with the proper class and endorsements for size and type of vehicle(s) to be driven and the associated Medical Examination Report pursuant to 49 CFR 391.43.
  - 5.01(b) The operator shall be a minimum of 18 years of age.
  - 5.01(c) The district or service provider shall obtain a motor vehicle record of each operator prior to transporting students and annually thereafter.
  - 5.01(d) The operator shall be given and/or have access to the CDE School Bus/Multifunction Bus/Motor Coach Bus Operator Guide prior to transporting students.
  - 5.01(e) The operator shall receive a minimum of six hours of in-service training annually which may include required training in 1 CCR 301-26-R-5.00. A portion of this annual in-service requirement may occur during the school year.
  - 5.01(f) The operator shall successfully pass a CDE School Bus/Multifunction Bus/Motor Coach Bus Operator written test for the current school year prior to transporting students and annually thereafter.
  - 5.01(g) The operator shall successfully pass a driving performance test including a pre-trip inspection prior to transporting students and annually thereafter. This test shall be conducted in a vehicle, which is similar in type and size to the vehicle the applicant is

assigned to operate. Districts have the option to re-test at their discretion.

- 5.01(h) The operator shall receive pre-service training on the type of vehicle(s) to be driven, the type of duties they may be required to perform and in student confidentiality requirements prior to transporting students.
  - 5.01(i) The operator shall have written documentation evidencing that they have received first aid training, including cardiopulmonary resuscitation and universal precautions within 90 calendar days after initial employment. If the operator holds a current first aid, cardiopulmonary resuscitation certificate it will meet the requirements of this section. Operators shall receive first aid training and/or re-certification every two (2) years thereafter.
  - 5.01(j) The operator shall receive training regarding the proper use and maintenance of Child Safety Restraint Systems (CSRS) and proper wheelchair securement, when the operator is engaged in transportation involving these systems and devices prior to transporting students.
- 5.02 School transportation vehicle route operators (transporting students to and from school or from school to school) driving vehicles with the capacity of 15 or fewer passengers (counting the driver), including Type A Multifunction Bus and Small Vehicle, shall meet or exceed the following requirements:
- 5.02(a) The operator shall possess a valid driver's license.
  - 5.02(b) The operator shall be a minimum of 18 years of age.
  - 5.02(c) The operator shall have a current physical examination (not to exceed two years) consistent with the requirements of 49 CFR 391.43.
  - 5.02(d) The district or service provider shall obtain a motor vehicle record of each operator prior to transporting students and annually thereafter.
  - 5.02(e) The operator shall be given and/or have access to the CDE Type A Multifunction Bus /Small Vehicle Route Driver Guide prior to transporting students.
  - 5.02(f) The operator shall receive a minimum of six hours of in-service training annually which may include required training in 1 CCR 301-26-R-5.00. A portion of this annual in-service requirement may occur during the school year.
  - 5.02(g) The operator shall successfully pass a CDE Type A Multifunction Bus/Small Vehicle Route Operator written test for the current school year prior to transporting students and annually thereafter.
  - 5.02(h) The operator shall successfully pass a driving performance test including a pre-trip inspection prior to transporting students and annually thereafter. This test shall be conducted in a vehicle, which is similar in type and size to the vehicle the applicant is assigned to operate. Districts have the option to re-test at their discretion.



- 5.02(i) The operator shall receive pre-service training on the type of vehicle(s) to be driven, the type of duties they may be required to perform and in student confidentiality requirements prior to transporting students.
- 5.02(j) The operator shall have written documentation evidencing that they have received first aid training, including cardiopulmonary resuscitation and universal precautions within 90 calendar days after initial employment. If the operator holds a current first aid, cardiopulmonary resuscitation certificate it will meet the requirements of this section. Operators shall receive first aid training and/or re-certification every two (2) years thereafter.
- 5.02(k) The operator shall receive training regarding the proper use and maintenance of Child Safety Restraint Systems (CSRS) and proper wheelchair securement, when the operator is engaged in transportation involving these systems and devices prior to transporting students.
- 5.03 School transportation vehicle operators, other than route operators, driving vehicles with the capacity of 15 or fewer passengers (counting the driver), including Type A Multifunction Bus and Small Vehicle, shall meet or exceed the following requirements:
- 5.03(a) The operator shall possess a valid driver's license.
- 5.03(b) The operator shall be a minimum of 18 years of age.
- 5.03(c) The district or service provider shall obtain a motor vehicle record of each operator prior to transporting students and annually thereafter.
- 5.03(d) The operator shall be given and/or have access to the CDE Type A Multifunction Bus /Small Vehicle Operator Guide prior to transporting students.
- 5.03(e) The operator shall successfully pass a Type A CDE Multifunction Bus/Small Vehicle Operator written test for the current school year prior to transporting students and annually thereafter.
- 5.03(f) The operator shall annually complete the CDE Multifunction/Small Vehicle Operators Medical Information Form (STU-17). Any yes annotations shall require a doctor's release.
- 5.03(g) The operator shall receive pre-service training on the type of vehicle(s) to be driven, the type of duties they may be required to perform and in student confidentiality requirements prior to transporting students.
- 5.03(h) The operator shall be given and/or have access to first aid information, including cardiopulmonary resuscitation and universal precautions.
- 5.03(i) The operator shall successfully pass a driving performance test including a pre-trip inspection prior to transporting students. This test shall be conducted in a vehicle,

which is similar in type and size to the vehicle the applicant is assigned to operate. Districts have the option to re-test in subsequent years at their discretion.

- 5.03(j) Prior to driving a school transportation vehicle pursuant to 1 CCR 301-26-R-12.11, operators shall receive training on towing a trailer.
- 5.04 School transportation paraprofessional is a person assigned to assist a school transportation vehicle operator control behavior of students in the bus and/or ensure the safety of students getting on and off the school transportation vehicle.
  - 5.04(a) The school transportation paraprofessional shall receive pre-service training for the type of duties they may be required to perform prior to assisting with transporting students.
- 5.05 School transportation vehicle operators and school transportation paraprofessionals are required to be able to perform all essential functions including emergency evacuations when transporting students as determined by the school district or service provider job qualification standards.
  - 5.05(a) The employing school district or service provider has the authority to require at any time a medical evaluation of a school transportation vehicle operator or school transportation paraprofessional for any condition that could impair the employee's ability to operate a vehicle safely, assist student(s) as required by their position, and/or perform other required job duties, and may take appropriate action on the outcome of such evaluation.
  - 5.05(b) School transportation vehicle operators and school transportation paraprofessionals that have medical conditions which result in temporary loss of performance abilities shall provide return to work documentation from their physician, and any other requirements per district policy to the employing school district/service provide prior to returning to their assigned duties.

**4204-R-6.00 School Transportation Annual Inspector Requirements**

- 6.01 School transportation annual inspector is a person qualified to perform annual inspections on a school transportation vehicle to confirm the vehicle complies with CDE regulations.
- 6.02 School transportation annual inspectors shall meet or exceed the following requirements:
  - 6.02(a) The school transportation annual inspector shall be in possession of a valid driver's license with the proper class and endorsements for the size and type of vehicle(s) to be inspected.
  - 6.02(b) The school transportation annual inspector shall provide a Brake Inspector Qualification Certificate meeting the requirements of 49 CFR 396.25 to the school district or service provider.
  - 6.02(c) The school transportation annual inspector shall have at least two years verifiable experience in the maintenance of light, medium or heavy duty vehicles.

6.02(d) The school transportation annual inspector shall successfully pass the CDE initial hands-on performance test.

6.02(d)(1) A certified school transportation annual inspector hands-on tester must proctor the hands-on performance test.

6.02(e) The school transportation annual inspector shall successfully pass the CDE annual inspector qualification written test initially, and every three years thereafter pass the CDE annual inspector recertification written test.

6.02(e)(1) A representative of the district or service provider, other than a school transportation annual inspector candidate, shall grade the written test.

6.03 A school district or service provider with an Inspection Site Certificate shall submit a CDE Application for CDE Annual Inspector Qualification or Recertification Form (STU-20) to CDE verifying that the above requirements have been satisfied. CDE will issue an Annual Inspector Certificate.

6.04 If any of the above requirements become invalid, the annual inspector certificate is invalid until the requirement(s) is made valid.

6.05 If a school transportation annual inspector has an expired certificate, the certificate can be recertified as follows:

6.05(a) If the certificate has been expired less than six months, then the CDE Annual Inspector Recertification Written Test is required.

6.05(b) If the certificate has been expired between six and 12 months, then the CDE Annual Inspector Qualification Written Test is required.

6.05(c) If the certificate has been expired for more than one year, then both the CDE Annual Inspector Qualification Written Test and the CDE hands-on performance test are required.

#### **4204-R-7.00 Annual Inspector Hands-On Tester**

7.01 School transportation annual inspector hands-on tester is a person qualified to proctor hands-on tests to annual inspector candidates.

7.02 School transportation annual inspector hands-on testers shall meet or exceed the following requirements:

7.02(a) The school transportation annual inspector hands-on tester shall have maintained a CDE Annual Inspector certificate for a minimum of two years.

- 7.02(b) The school transportation annual inspector hands-on tester shall have satisfactorily completed a four hour CDE school transportation annual inspector hands-on tester training.
- 7.02 (c) The school transportation annual inspector hands-on testers shall have completed a four hour brake training in the last three years or have maintained an ASE School Bus or Medium/Heavy Duty Truck or Transit Bus Brake Certification.
- 7.02(d) The school transportation annual inspector hands-on tester candidate shall submit a CDE Application for Certification or Recertification of CDE Annual Inspector Hands-On Tester Form (STU-30) verifying that the above criteria have been satisfied. CDE will issue an Annual Inspector Hands-On Tester Certificate.
- 7.02(e) The school transportation annual inspector hands-on tester shall conduct at least two hands-on tests every three years or attend a CDE school transportation annual inspector hands-on recertification training to recertify as a school transportation annual inspector hands-on tester.
- 7.03 If any of the above requirements become invalid, the hands-on tester certificate is invalid until the requirement(s) is made valid.

#### **4204-R-8.00 Pre-trip/Post-trip Vehicle Inspections**

- 8.01 Each school transportation vehicle shall have a daily pre-trip and post-trip inspection performed and documented by the school transportation vehicle operator or a district or service provider authorized transportation employee. A daily pre-trip inspection shall be completed prior to a vehicle being placed in service. A daily post-trip inspection shall be completed at the end of daily operation of each vehicle.
- 8.02 The pre-trip and post-trip inspection requirements for school transportation vehicles, other than small vehicles, shall include at a minimum all items listed on the CDE School Transportation Vehicle (School Bus/Multifunction Bus/Motor Coach Bus) – Pre-Trip and Post Trip Requirements Form (STU-9).
- 8.03 The pre-trip and post-trip inspection requirements for school transportation small vehicles shall include at a minimum all items listed on the CDE School Transportation Vehicle (Small Vehicle) – Pre-Trip and Post Trip Requirements Form (STU-8).
- 8.04 School districts and service providers shall have a procedure in place to verify that students are not left on an unattended school transportation vehicle.

#### **4204-R-9.00 Inspection Site Certification**

- 9.01 A CDE Inspection Site Certificate is required at each facility/location where annual inspections for school transportation vehicles are performed.
- 9.02 The inspection site shall meet or exceed the following criteria to acquire and maintain an inspection site certificate.

- 9.02(a) The inspection site shall be large enough to accommodate the vehicle, equipment and tools necessary to perform the inspection.
  - 9.02(b) The inspection site shall have a floor surface or pad adequate to safely support the maximum weight of the largest vehicle to be inspected.
  - 9.02(c) The inspection site shall have adequate lighting and ventilation.
  - 9.02(d) The inspection site or inspector shall, at the time of inspection, have the equipment and tools necessary to properly complete the annual inspection.
  - 9.02(e) The inspection site or inspector shall have tools designed and calibrated to take accurate readings of appropriate measurements, such as brakes and tires.
- 9.03 The district or service provider shall submit a request for an inspection site certificate on the CDE Application for Inspecting Site Certification Form (STU-22) that the above criteria have been satisfied.
- 9.04 The district or service provider shall post the CDE Inspection Site Certificate at the inspection site.

**4204-R-10.00 Annual Inspection**

- 10.01 School districts and service providers shall ensure all school transportation vehicles and trailers pursuant to 1 CCR 301-26-R-12.11 have a CDE annual inspection conducted by a CDE certified annual inspector.
- 10.01(a) Recently purchased school transportation vehicles shall successfully pass a CDE annual inspection prior to transporting students.
- 10.02 Annual inspection results shall be documented on the CDE Affidavit of Annual Inspection for School Transportation Vehicles Form (STU-25).
- 10.02(a) A copy of the current Affidavit is maintained inside the vehicle and a copy is placed in the vehicle file.
- 10.03 All annual inspection criteria of school transportation vehicles must meet or exceed manufacturer's specifications. The annual inspection shall be documented and shall include at a minimum all fields listed on the CDE Annual Inspection and Preventive Maintenance Requirements Form (STU-26).
- 10.04 All annual inspection criteria of trailers must meet or exceed manufacturer's specifications and shall include at a minimum all fields listed on the CDE Trailer Annual Inspection and Preventive Maintenance Requirements Form (STU-27).
- 10.05 During the annual inspection, all four wheels shall be pulled for full inspection of the foundation brake system. The three exceptions are:

- 10.05(a) School transportation vehicles with less than 4,000 miles since the previous annual inspection shall have two wheels (one front and one rear) pulled different than those pulled for the previous inspection.
- 10.05(b) School transportation vehicles equipped with a retarder meeting the specifications outlined in 1 CCR 301-25-R-33.00, shall have two wheels (one front and one rear) pulled which are different than those pulled for the previous inspection.
- 10.05(c) Trailers pursuant to 1 CCR 301-26-R-12.11 shall have 50 percent of the wheels pulled different than those pulled for the previous inspection.

**4204-R-11.00 Maintenance and Repair**

- 11.01 School districts and service providers must ensure all school transportation vehicles are systematically inspected, maintained and repaired to ensure that school transportation vehicles are in safe and proper operating condition.
- 11.02 School districts and service providers shall have a system to document preventative maintenance, reported defects and repairs made to school transportation vehicles.
- 11.03 School districts and service providers shall maintain separate files for each school transportation vehicle with documentation of all annual inspections, all preventative maintenance and all reported damage, defects or deficiencies and the corresponding repair and maintenance performed.
- 11.04 Any identified damage, defect or deficiency of a school transportation vehicle must be reported to the school district or service provider which:
  - 11.04(a) Could affect the safety of operation of the school transportation vehicle, or
  - 11.04(b) Could result in a mechanical breakdown of the school transportation vehicle, or
  - 11.04(c) Results in noncompliance with Colorado Minimum Standards Governing School Transportation Vehicles (1 CCR 301-25) and/or manufacturer's specifications.
- 11.05 Documentation for reported defects must include all of the following:
  - 11.05(a) The name of the school district or service provider.
  - 11.05(b) Date and time the report was submitted.
  - 11.05(c) All damage, defects or deficiencies of the school transportation vehicle.
  - 11.05(d) The name of the individual who prepared the report.

- 11.06 Following a reported damage, defect or deficiency of a school transportation vehicle, school districts and service providers or a representative agent must repair the reported damage, defects or deficiencies, or document that no repair is necessary, ensuring that the vehicle is in safe and proper operating condition prior to transporting students.
- 11.07 School districts and service providers shall not transport students in a school transportation vehicle which is not in safe and proper operating condition. A school transportation vehicle shall be designated as “out-of-service” by a school district or service provider, a school transportation annual inspector or the CDE School Transportation Unit.
- 11.07(a) Exemption - Any school transportation vehicle discovered to be in an unsafe condition while being operated on the highway, roadway or private road may be continued in operation only to the nearest place where repairs can safely be affected. Such operation shall be conducted only if it is less hazardous to the public than to permit the vehicle to remain on the highway, roadway or private road.
- 11.08 Following a school transportation vehicle being placed “out-of-service”, a school district, service provider or a representative agent must make required repairs, ensuring that the vehicle is in safe and proper operating condition prior to transporting students. In the event of being placed “out-of-service” during an annual inspection, the school transportation vehicle must successfully pass a CDE annual inspection prior to transporting students.
- 11.09 The preventative maintenance inspection on air drum brake systems shall include, at a minimum, that the brake rod travel has been measured and documented. The applied pressure method shall be used.
- 11.09(a) The inspection-interval shall not exceed 4,000 miles for buses equipped with a manual slack adjuster air brake system.
- 11.09(b) The inspection-interval shall not exceed 6,000 miles for buses equipped with an automatic slack adjuster air brake system.
- 11.10 The preventive maintenance inspection interval on air disc brake systems shall not exceed 6,000 miles and shall include, at a minimum; inspection and documentation of:
- 11.10(a) Inspect the pad thickness by checking the mechanical wear indicators.
- 11.10(b) Inspect the visible part of the rotors for cracks, excessive wear, damage, etc.
- 11.10(c) Inspect running clearance. If the caliper has no movement or appears to move greater than the distances indicated by the manufacturer, then a full wheel removal inspection will be necessary.
- 11.11 The preventive maintenance inspection interval for hydraulic brake systems shall not exceed 6,000 miles and shall include, at a minimum, inspection and documentation of:
- 11.11(a) Proper parking brake operation.

- 11.11(b) Proper brake fluid level and clarity.
  - 11.11(c) Adequate pedal reserve.
  - 11.11(d) Proper hydraulic/vacuum assist operation.
  - 11.11(e) Visual inspection for brake fluid leakage.
- 11.12 If brake adjustment or repair is needed, the work shall be completed by or supervised by a DOT or equivalent qualified brake inspector meeting the requirements of 49 CFR 396.25.

**4204-R-12.00 Operation of a School Transportation Vehicle**

- 12.01 A school transportation vehicle shall not be operated in a manner which is unsafe or likely to cause an accident or damage of the vehicle.
- 12.02 A school transportation vehicle shall not be placed in motion on a roadway, highway or private road with the passenger entry door/service door open.
- 12.03 A school transportation vehicle's headlights or daytime running headlights shall be activated while the vehicle is in operation.
- 12.04 A school transportation vehicle shall not be fueled while students are on board, except in instances when unloading the students would present a greater hazard or peril to their safety.
- 12.05 Use of tobacco products as defined in Section 18-13-121(5), C.R.S., use or possession of illegal controlled substances, use or possession of alcohol and use or possession of marijuana or cannabinoid product, except as otherwise allowed by law, aboard any school transportation vehicle shall be prohibited at all times.
- 12.06 A school transportation vehicle operator shall not consume food unless the vehicle is stopped at a safe location with the park/emergency brake set.
- 12.07 When a school transportation vehicle is equipped with a roof mounted strobe lamp, the use of the strobe lamp is permitted only when the vehicle presents a hazard to other motorists, such as loading or unloading students in inclement weather or to enhance visibility of the vehicle when barriers inhibit such visibility.
- 12.08 A school transportation vehicle operator may use the strobe, in addition to the four-way hazard lamps, to warn other motorists that the vehicle is not in motion or is being operated at a speed of twenty-five miles per hour or less.
- 12.09 The school transportation vehicle operator shall use extreme caution when backing. Before backing on a roadway, highway or private property, the horn or audible warning device shall be sounded and four-way hazard lamps actuated or there shall be a person outside the vehicle giving direction.



12.09(a) Backing a school transportation vehicle when students are outside of the vehicle at a student stop is prohibited.

12.10 School transportation vehicles including Type A, B, C and D School Bus, Multifunction Bus and Motor Coach Bus shall not be operated with a trailer or other vehicle attached while students are being transported.

12.11 School transportation small vehicles, with the capacity of 15 or fewer passengers (counting the driver), may tow trailers while students are being transported to the extent that trailering is a necessary component of a district sponsored program.

#### **4204-R-13.00 Authorized Passengers**

13.01 Only district personnel, students enrolled in a district, law enforcement officials or individuals that have received prior authorization from the school district or service provider may be passengers on any school transportation vehicle.

13.02 The number of passengers transported on any school transportation vehicle shall not exceed the maximum seating capacity of the vehicle. Small vehicle capacity shall not exceed the number of safety belts as designed by the vehicle manufacturer.

13.03 Passengers shall not be permitted to stand in any school transportation vehicle while the vehicle is in motion. This does not preclude authorized persons (such as school transportation paraprofessionals) from completing their duties as required.

13.04 School districts and service providers shall consider the size of the passengers when determining the number of passengers that can safely occupy a school transportation vehicle seat.

#### **4204-R-14.00 Safety Restraints**

14.01 A school transportation vehicle operator shall have the safety belt fastened, worn correctly and properly adjusted prior to the school transportation vehicle being placed in motion.

14.02 All passengers in a school transportation vehicle under 10,000 lbs. GVWR shall have their safety belts fastened, worn correctly and properly adjusted prior to the school transportation vehicle being placed in motion.

#### **4204-R-15.00 Transportation of Miscellaneous Items**

15.01 A school transportation vehicle operator shall make a reasonable and prudent determination that all carry-on items are properly handled in order to minimize the danger to all others.

15.02 All baggage, articles, equipment or medical supplies not held by individual passengers shall be secured in a manner which assures unrestricted access to all exits by occupants, does not restrict the driver's ability to operate the bus and protects all occupants against injury resulting from falling or displacement of any baggage, article or equipment. Oxygen cylinders secured to a wheelchair shall be considered to be in compliance with this subsection, provided they do not impede access to any exit.

- 15.03 All chemicals and cleaning supplies carried on a school transportation vehicle must meet the following precautions:
- 15.03(a) Container is non-breakable.
  - 15.03(b) Container is labeled with contents.
  - 15.03(c) Pressurized aerosols are prohibited.
  - 15.03(d) Container is secured in a bracket, or in a closed compartment in the driver's area or a compartment on the exterior of the bus.
  - 15.03(e) Containers and quantities of products are kept to a reasonable size.
- 15.04 Interior-decorations shall not be located within the driver's area (which includes the space in front of the front barriers including the step-well, dash, walls and ceiling, the windshield, the entry door, the driver's side window, and all windows in front of the front barrier), the first two passenger windows on both sides of the vehicle and all windows on the rear of the vehicle. Other decorations within the passenger compartment shall not:
- 15.04(a) Cover any required lettering.
  - 15.04(b) Impede the aisle or any emergency exit.
  - 15.04(c) Hang from the walls and/or ceiling.

**4204-R-16.00 Maximum Driving Time for School Transportation Vehicle Operators**

- 16.01 The school transportation vehicle operator, including small vehicle operators, shall not drive nor shall the school district or service provider permit or require an operator to drive:
- 16.01(a) In excess of 10 hours or after being on-duty 14 hours until completing 10 hours off-duty. This would include on-duty time for all employers. Ten hours off-duty may be consecutive or accumulated in two or more periods of off-duty time with one period having a minimum of 6 consecutive hours off-duty.
  - 16.01(b) After being on-duty for more than 70 hours in any seven consecutive days.
- 16.02 The school district or service provider may comply with part 395 of the Federal Motor Carrier Safety Regulations (FMCSR) in place of this section.
- 16.03 Definitions:
- 16.03(a) Adverse driving conditions - In case of emergency, an operator may complete the trip without being in violation if such trip reasonably could have been completed absent the emergency.
  - 16.03(b) Day - Means any 24-consecutive hour period beginning at the time designated by the

school district or service provider.

16.03(c) On-duty time - Includes all time worked for any and all employers, including all driving and non-driving duties.

16.03(d) Off-duty time - School transportation vehicle operators may consider waiting time at special events, meal stops and school related events as off-duty if the following criteria are met: (Compensated waiting time does not necessitate on-duty time.)

16.03(d)(1) The operator shall be relieved of all duty and responsibility for the care and custody of the vehicle, its accessories and students, and

16.03(d)(2) The operator shall be at liberty to pursue activities of his/her choice including leaving the premises on which the bus is located.

16.04 All school transportation vehicle operators shall document that they are in compliance with this section, hours of service.

16.04(a) An operator's daily log, or equivalent, shall be completed for the trip in the operator's own handwriting, when the trip requires a scheduled or unscheduled overnight stay away from the work reporting location.

#### **4204-R-17.00 Route Planning – Student Loading and Discharge**

17.01 School transportation small vehicles, Type A Multifunction Buses with 15 or fewer passenger capacity (counting the driver) and School Buses (Types A, B, C, and D) may be used to transport students to and from school. Multifunction Buses Type B, C and D and Motor Coach Buses shall not be used to transport students to and from school.

17.02 The location of student stops shall consider factors including:

17.02(a) Ages of the students.

17.02(b) Visibility.

17.02(c) Lateral clearance.

17.02(d) Student access.

17.02(e) Control of other motorists.

17.02(e)(1) Student stops for Type A Multifunction Buses with 15 or fewer passenger capacity (counting the driver) and school transportation small vehicles should be located off of the roadway whenever possible.

17.03 School transportation vehicle operators shall stop at least 10 feet away from students at each designated stop. The school transportation vehicle operator shall apply the parking brake and

shift the vehicle into neutral or park prior to opening the service door of a bus or passenger door(s) of a small vehicle.

- 17.04 The school transportation vehicle operator shall stop as far to the right of the roadway, highway or private road as possible before discharging or loading passengers, allowing sufficient area to the right and front of the vehicle but close enough to the right to prevent traffic from passing on the right so students may clear the vehicle safely while in sight of the operator.

17.04(a) Exception: The school transportation vehicle operator may block the lane of traffic when passengers being received or discharged are required to cross the roadway.

- 17.05 Student stops shall not be located on the side of any major thoroughfare whenever access to the destination of the passenger is possible by the use of a road or street which is adjacent to the major thoroughfare.

- 17.06 If students are required to cross a roadway, highway or private road on which a student stop is being performed, they are prohibited from crossing a roadway, highway or private road constructed or designed to permit three or more separate lanes of vehicular traffic in either direction or with a median separating multiple lanes of traffic. This does not include crossing the roadway, highway or private road with the assistance of a traffic controls signal or with the assistance of a crossing guard.

- 17.07 Four-way hazard lamps shall be used on private property such as parking lots.

- 17.08 Alternating flashing red warning signal lamps shall not be activated within 50 feet of an intersection if the intersection is controlled by a traffic control signal.

- 17.09 Routes shall be planned as to:

17.09(a) Eliminate, when practical, railroad crossings.

17.09(b) Have stops be a minimum of 200 feet apart since alternating flashing amber warning signal lamps must be activated a minimum of 200 feet in advance of the stop.

17.09(b)(1) Exception: Student stops located in areas where wildlife may create a high risk of threat to students' safety while they are waiting and/or walking to a student stop, may designate student stops less than 200 feet apart upon detailed written approval by the school district board of education and/or their designee. A copy of the written approval shall be kept in the school transportation office and route operators shall be given written notice of the exception and have it indicated on route sheets.

- 17.10 Pursuant to Section 42-4-1903(2), C.R.S., school transportation vehicle operators are not required to actuate the alternating flashing red warning signal lamps on a school bus when the student stop is at a location where the local traffic regulatory authority has by prior written designation declared such actuation unnecessary and when discharging or loading passengers who require the assistance of a lift device and no passenger is required to cross the roadway. Further, Type A Multifunction Buses with 15 or fewer passenger capacity (counting the driver)

and school transportation small vehicles do not have the functionality to control traffic. In these instances, the school transportation vehicle operator shall stop as far to the right off the roadway as possible to reduce obstruction to traffic, activate the four-way hazard warning lamps a minimum of 200 feet prior to the student stop, continue to display the four-way hazard warning lamps until the process of discharging or loading passengers has been completed, and deactivate the four-way hazard lamps before resuming motion. Students are prohibited from crossing any lanes of traffic to access the student stop or after disembarking.

17.11 School transportation vehicle operators shall not relocate a student stop without approval of the school district or service provider.

17.12 School transportation vehicle operators of School Buses, Multifunction Buses and Motor Coach Buses, whether transporting students or not, shall apply the following procedures during the process of approaching, stopping and crossing railroad tracks:

17.12(a) Activate the four-way hazard lamps not less than 200 feet from the railroad crossing to alert other motorists of the pending stop for the crossing.

17.12(b) Stop the bus within 50 feet but not less than 15 feet from the nearest rail.

17.12(c) When stopped, the bus should be as far to the right of the roadway as possible and should not form two lanes of traffic unless the highway is marked for four or more lanes of traffic.

17.12(d) Use a prearranged signal to alert students to the need for quiet aboard the bus when approaching railroad tracks. Turn off all noise making equipment (fans, heater, radio, etc.)

17.13 After quietness aboard the stopped bus has been achieved, bus operators shall open the service door and operator window. The bus operator shall listen and look in both directions along the track(s) for any approaching train(s) and for signals indicating the approach of a train.

17.13(a) If the tracks are clear, the bus operator shall close the service door and may then proceed in a gear low enough to permit crossing the tracks without having to manually shift gears. The bus operator shall cancel the four-way hazard lamps after the bus has cleared the tracks.

17.13(b) When two or more tracks are to be crossed, the bus operator shall not stop a second time unless the bus is completely clear of the first crossing and has at least 15 feet clearance in front and at least 15 feet clearance to the rear.

17.13(c) Before crossing the tracks, the bus operator shall verify that there is enough space after the tracks for the bus plus 15 feet if it is necessary to stop after crossing the tracks.

17.14 School transportation vehicle operators of School Buses, Multifunction Buses and Motor Coach Buses are not required to stop at crossings controlled by a red, amber, green traffic control signal when it is in the green position or when the crossing is controlled by a police officer or human flag person.

**4204-R-18.00 Emergency Evacuation Drills**

18.01 Emergency evacuation drills shall be conducted with students by all school transportation vehicle operators and school transportation paraprofessionals at least twice during each school year, following the procedures in the Colorado Department of Education School Bus/Multifunction Bus/Motor Coach Bus Operator Guide.

18.01(a) One drill shall be conducted in the fall and the second drill conducted in the spring.

18.01(b) Substitute and Multifunction operators of 16 or greater capacity (counting the driver) vehicles shall be trained how to conduct the emergency evacuation drills.

18.02 Students on school related events shall receive emergency evacuation instruction prior to departure.

18.03 School district and service providers shall maintain records documenting that the required evacuation drills were conducted and/or evacuation instruction was given.



## School Transportation Vehicle (School Bus) Pre-Trip and Post Trip Requirements (STU 9)

**ALL ITEMS ON THIS CHECKLIST ARE MANDATORY.**

**USE OF THIS SPECIFIC CHECKLIST IS NOT MANDATORY.**

"Per 1 CCR 301-26, 4204-R-8.02 The pre-trip and post-trip inspection requirements for school

Front of Vehicle	Side of Vehicle	In Cab	Passenger Items
Light Lens Condition	Light Lens Condition	Safety Belt	Steps
<b>Engine Compartment</b>	Reflectors	Fire Extinguisher	Handrail
Oil Level	<b>Driver/Fuel Area</b>	Electrical Fuses	Step Light
Coolant Level	Door	Triangles	Lift
Power Steering Fluid	Mirror	Safe Start	Seating Secured
Water Pump	Fuel Tank	ABS	
Belt or Gear	Fuel Leaks	Temperature Gauge	<b>Post-Trip</b>
Alternator	Fuel Cap	Oil Pressure Gauge	Student Check
Belt or Gear	<b>Under Vehicle</b>	Voltmeter Gauge	Walk Around
Air Compressor	Drive Shaft	Air Gauge	Articles left on the Bus
Belt or Gear	Exhaust System	Left Turn Signal	Open windows/doors
Leaks	Frame	Right Turn Signal	Damage Vandalism
Hoses	<b>Rear Suspension</b>	Hazard Lights	Mechanical Problems
<b>Steering</b>	Springs	Headlights	Operational Problems
Box	Spring Mount(s)	High Beams	
Hoses	Shock(s)	Horn	
Pitman Arm	U-Bolts	Heater(s)	
Drag Link	Air Bag	Defroster	
<b>Front/Rear Brakes</b>	Air Bag Mount	Mirrors	
Slack Adjustor	<b>Wheels</b>	Windshield	
Brake Chamber	Rim	Wipers	
Brake Hose or Line	Lug Nuts	Washers	
Drum or Disk	Axle Hub Oil Seal	Parking Brake	
Linings or Pads	Spacers	Service Brake	
<b>Tires</b>	<b>Rear of Vehicle</b>	Dome Lights	
Inflation	Light Lens Condition	Emergency Door Alarm	
Condition	Reflectors	Emergency Window Alarm	
Depth	Splash Guard	Emergency Kit	
<b>Exterior Lights</b>	Emergency Door	Body Fluid Kit	
Clearance	<b>Air Brake Check</b>	Seat Belt Cutter	
Hazard	*1 Compressor	Student Mirror	
Turn Signals	*2 System Leaks	Communications	
Overhead Amber	*3 Low Air Warning		
Overhead Red	*4 Valve Set or Hydraulic Brake Check		
Stop Arm (including operation)			* If No Air Brakes Line Out Components
Brake			
Tail			
Reverse			

transportation vehicles, other than small vehicles, shall include at a minimum all items listed on the CDE School Transportation Vehicle (School Bus) Pre-Trip and Post Trip Requirements (STU-9) Form."



Classification	Route	Route	Route	Multifunction	Multifunction	Multifunction Type A	Motor Coach	Small Vehicle (includes suburban, van, etc.)	Technicians/ Annual Inspectors	Technicians/ Annual Inspectors
Type of Vehicle including driver	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	16 or more passenger GVWR <u>less</u> than 26,001 pounds	15 or less Passenger GVWR <u>less</u> than 26,001 pounds	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	16 or more passenger GVWR <u>less</u> than 26,001 pounds	15 or less Passenger GVWR <u>less</u> than 26,001 pounds	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	15 or less Passenger GVWR less than 10,001 pounds	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	15 or less Passenger GVWR <u>less</u> than 26,001 pounds
Pre-Employment/ Random Drug Testing	Yes	Yes	Yes	Yes	Yes	District Policy	Yes	District Policy	Yes	District Policy
Required License	CDL	CDL	Valid Operator	CDL	CDL	Valid Operator	CDL	Valid Operator	CDL	Valid Operator
Required CDL Vehicle Class	B	C	N/A	B	C	N/A	B	N/A	B	N/A
Required License Endorsements	"P2" Passenger "S" School Bus	"P1" Passenger "S" School Bus	N/A	"P2" Passenger "S" School Bus	"P1" Passenger "S" School Bus	N/A	"P2" Passenger "S" School Bus	N/A	"P2" Passenger	N/A
Required Age	18	18	18	18	18	18	18	18	District Policy	District Policy
Required Medical Exam	USDOT DOT Physical)	USDOT DOT Physical)	USDOT DOT Physical)	USDOT DOT Physical)	USDOT DOT Physical)	CDE STU-17	USDOT DOT Physical)	CDE STU-17	USDOT DOT Physical)	District Policy
MVR Pre-employment and Annually	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	District Policy	District Policy
Required First Aid/CPR Training	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Information	District Policy	District Policy
Required Written Test	Multifunction/ Motor Coach/ Route School Bus	Multifunction/ Motor Coach/ Route School Bus	Multifunction Type A/ Route Small Vehicle	Multifunction/ Motor Coach/ Route School Bus	Multifunction/ Motor Coach/ Route School Bus	Multifunction Type A/ Route Small Vehicle	Multifunction/ Motor Coach/ Route School Bus	Multifunction Type A/ Route Small Vehicle	District Policy	District Policy



Classification	Route	Route	Route	Multifunction	Multifunction	Multifunction Type A	Motor Coach	Small Vehicle (includes suburban, van, etc.)	Technicians/ Annual Inspectors	Technicians/ Annual Inspectors
Type of Vehicle including driver	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	16 or more passenger GVWR <u>less</u> than 26,001 pounds	15 or less Passenger GVWR <u>less</u> than 26,001 pounds	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	16 or more passenger GVWR <u>less</u> than 26,001 pounds	15 or less Passenger GVWR <u>less</u> than 26,001 pounds	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	15 or less Passenger GVWR less than 10,001 pounds	16 or more Passenger GVWR <u>greater</u> than 26,001 pounds	15 or less Passenger GVWR <u>less</u> than 26,001 pounds
Required Mountain and Adverse Training	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	District Policy	District Policy
Required Confidentiality Training	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	District Policy	District Policy
Required Pre-Service Training	Yes School Bus Route Driver	Yes School Bus Route Driver	Yes Small Vehicle Route	Yes School Bus Driver	Yes School Bus Driver	Yes Small Vehicle	Yes School Bus Driver	Yes Small Vehicle	District Policy	District Policy
Annual In-Service Training	Yes Minimum 6 Hours	Yes Minimum 6 Hours	Yes Minimum 6 Hours	Yes Minimum 6 Hours	Yes Minimum 6 Hours	N/A	Yes Minimum 6 Hours	N/A	District Policy	District Policy
Required Driving Performance Evaluation	Yes Annually	Yes Annually	Yes Annually	Yes Annually	Yes Annually	Yes Initially	Yes Annually	Yes Initially	District Policy	District Policy
Required Random Drug Testing	Yes	Yes	District Policy	Yes	Yes	District Policy	Yes	District Policy	District Policy	District Policy
Required Substance Abuse Training	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	District Policy	District Policy
Trailer Training if applicable	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted	Yes	District Policy	District Policy