

SCHOOL BUS DRIVER CURRICULUM



NOVEMBER 2016

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CHAPTER 1

KENTUCKY LAWS AND REGULATIONS GOVERNING SCHOOL BUS DRIVERS

OBJECTIVES

- Understand state laws and regulations to legally operate a school bus
- Gain knowledge and understanding of the daily demands and responsibilities required of a school bus driver
- Be alert of the responsibilities involving local transportation policies and regulations
- Know where to locate the laws and regulations

It is not the purpose of this unit to cover all Kentucky laws, motor vehicle laws or administrative regulations. We will only discuss those that most directly pertain to a school bus driver.

Before we begin our discussion of specific laws and regulations, let's take a few minutes to talk about the difference between a law and a regulation.

A law is a rule of conduct that has been enacted, in this case, by our state legislature. A law that has been enacted by a legislative body is called a statute; thus, the Kentucky Revised Statutes (KRS).

Once a law is passed, a government agency is given the responsibility of administering or enforcing the law and, if necessary, to aid in carrying out the intent of the law. In many cases, the law itself will direct an agency to write regulations governing specific areas of responsibility.

Before any state regulation becomes effective, it must be approved by the Legislative Research Commission (LRC) and the Legislative Oversight Review Committee (LORC). The LRC makes certain that the regulation is not in conflict with any law, and the LORC – consisting of legislators – makes sure the regulation carries out the intent of the law the legislature enacted. LORC meetings are open to the public, and individuals or organizations are given the opportunity to express their views about any regulation being reviewed. Once approved, the regulation becomes a part of the Kentucky Administrative Regulations (KAR) and has the effect of law unless it is in conflict with another law.

All statutes pertaining to Kentucky school laws can be located at <http://education.ky.gov/districts/legal/Pages/Kentucky-School-Laws.aspx>.

All pupil transportation regulations can be located in Title 702, Chapter 5 at <http://www.lrc.ky.gov/kar/TITLE702.HTM>.

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CHAPTER 2

CARE AND MAINTENANCE

OBJECTIVES

- Describe basic bus components
- Detect symptoms of possible trouble
- Identify driving actions that prevent undue wear on the bus
- Identify interior and exterior maintenance tasks
- Perform a pre-trip inspection of a bus

SECTION I

OVERVIEW

Preventive maintenance is the care of a vehicle to ensure safety, dependability and maximum life of the vehicle. It involves organized inspections at regular mileage or time intervals and immediate attention to all reported defects. These inspections involve checking, cleaning, tightening, lubricating and adjusting parts and units. Inspections are the simplest and most economical means of protecting the bus fleet and are the key to a good preventive maintenance program.

A trained mechanic will carry out the inspection program, but the school bus driver is in a position to observe the performance of a bus under all conditions. Defects should be recognized and immediately reported to the maintenance department. Trouble should not be diagnosed.

Brief explanations of the following basic bus components will be provided:

- Braking system
- Engine
- Transmission and drive shaft
- Steering
- Electrical system
- Suspension
- Tires

SCHOOL BUS COMPONENTS

A driver should have a basic knowledge of school bus components to understand their effect on the operation of the school bus. There will be times when this knowledge will be useful in adjusting their driving performance and in detecting trouble while on the route. Proper driving habits will increase bus efficiency and economy of operation as well as prolong the life of the bus.

BRAKING SYSTEM

- Hydraulic
- Air

Pressing on the brake pedal forces fluid or air into the brake cylinder or air chamber. The s-cam or the cylinder moves the brake drum shoes outward against the brake drum (inner surface of metal wheel). This creates friction, causing the wheel to slow and stop.

DIESEL ENGINE

- Fuel injector
- Combustion chambers
- Pistons
- Crankshaft

The fuel injector sends fuel from the fuel tank into the cylinder, where it mixes with air, then into the combustion chamber, where it is ignited by compression. The exploding

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mixture causes pistons to move, which turns the crankshaft. The rotating crankshaft connects the final power from the engine to the transmission, carrying the power to the drive shaft, the differential, the rear end and the rear wheels.

TRANSMISSION AND DRIVE SHAFT

Gears allow you to change the ratio of number of engine revolutions to the number of wheel revolutions. For example, in low gear, the engine might turn 100 times for one wheel turn. In a higher gear, the engine might turn 10 times for one wheel turn. The drive shaft connects the transmission to the rear wheels, making them turn.

CLUTCH

When depressed, it disconnects the engine from the transmission, allowing changing of transmission gears.

STEERING

The steering wheel and column connect to gears and the linkage mechanism, which change the direction of the front wheels.

ELECTRICAL SYSTEM

Supplies power for primary engine functions and auxiliary functions:

- Primary engine function
- Power generation and storage (battery, generator/alternator and voltage regulator), power distributions (engine wiring).
- Auxiliary functions
- Inside/outside lighting (headlights, amber/red flashing warning lights, turn signals, instrument panel lights, et cetera), air/heat circulation (heater, defroster, blowers), horn.

SUSPENSION

Leaf springs and mounted shock absorbers enable the driver to handle the bus properly on rough terrain and sharp curves, et cetera.

TIRE CONSERVATION AND SAFETY

Check tires for cuts, bruises, uneven wear and air pressure. The following will improve tire life and vehicle safety:

- Reduce mileage. Use the bus only on scheduled trips and avoid unnecessary driving.
- Drive at low speeds.
 - Tires will last twice as long at 30 mph compared to 50 mph.
 - High speed harms tires more in hot weather than in cold. Tires wear six times faster at 100 degrees than at 40 degrees.
 - Drive slowly, especially on roads with sharp, projecting stones.
 - Drive slowly on curves and turn slowly. Speeding around curves multiplies tire wear.
- Maintain tire pressure at the level recommended by the tire manufacturer.

Slight under-inflation increases tire wear. Under-inflation by 6 pounds on a tire that should carry 30 pounds of pressure will cut the life of the tire at least 20 percent.

Learn what the pressure should be and check all tires, including spare, once a week. Keep the valve cap screwed on tightly.

- Avoid rocks, holes, curbs, glass and other objects.

Anything which produces a sudden sharp bend in the casing is likely to break cords within the tire; other cords break around the weak spot, and the tire will fail as a result. Cuts or bruises in the side wall will shorten tire life.

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- Make a DAILY inspection.
 - Inspect tires daily for cuts, snags, bruises, nails, glass and gravel. Water and grit get in at flaws and destroy interior cord structure.
- Avoid jumping starts and screeching stops. They scuff off tire tread. One 10-foot skid takes many miles off tire life.
- Keep brakes adjusted so tires evenly brake.
- Keep oil and grease off tires since they cause rubber to deteriorate.

Answer these questions:

- Which bus components are made up of a system of gears?
- Which component is responsible for the way the bus handles and rides on rough terrain and in sharp curves?
- Which bus component works on fluid or air pressure?
- Which component disconnects the engine from the transmission so you can change gears?

DETECTING SYMPTOMS OF POSSIBLE TROUBLE

Be alert for symptoms of problems. Use your senses to detect signs of possible trouble.

LISTENING FOR TROUBLE

1. Sharp knock when picking up speed or light knock when engine is idling
2. Dull regular knock, clicking or tapping noises
3. Continuous or intermittent squeal or squeak
4. Loud exhaust noise
5. Engine backfiring, missing, popping, spitting or overheating
6. Steaming or hissing

FEELING FOR TROUBLE

1. Excessive vibration in the:
 - a. engine compartment
 - b. steering wheel
 - c. drive line
2. Low-speed or high-speed shimmy
3. Hard steering and/or steering wander

LOOKING FOR TROUBLE

1. Sudden drop in oil pressure
2. Low oil pressure
3. No oil pressure

NOTE: If any of the above exist, the vehicle shall not be driven until the problem is corrected.

4. Excessive oil consumption
5. Smoke coming from under the dash
6. Smoke coming from under the hood
7. Scuffed tires or spotty wear
8. High temperature reading
9. Drop in air pressure

SMELLING FOR TROUBLE

1. Odor of diesel fuel
2. Odor of burning rubber
3. Odor of burning oil
4. Hot/burning electrical smell
5. Exhaust fumes

NOTE: Any other unusual conditions should be reported immediately to the proper au-

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thority.

Now that you are familiar with the basic components of a school bus and we have discussed being alert for signs of possible problems, let's look at each component and discuss specific signs of trouble.

PREVENTING PROBLEMS BY DETECTING TROUBLE EARLY

BRAKING SYSTEM – EARLY SIGNS OF TROUBLE

1. Drop in air pressure (air brakes only)
2. More than 1-inch play in slack adjusters
3. Low brake pedal (hydraulic or vacuum-hydraulic brakes)
4. Spongy or soft brake (hydraulic or vacuum-hydraulic brakes)
5. Smell or see brake fluid (hydraulic or vacuum-hydraulic brakes)
6. Brake drum very hot (all types)

ENGINE – EARLY SIGNS OF TROUBLE

1. Engine misses at low speed
2. Engine miss at high speed
3. Ping when accelerated
4. Dull “clunk” at idle
5. Sharp, loud knocking – **SHUT OFF ENGINE IMMEDIATELY**
6. Heat gauge indicates temperature rising higher than normal
7. Oil pressure dropping below normal
8. Engine stalls or runs sluggishly

TRANSMISSION AND DRIVE SHAFT – EARLY SIGNS OF TROUBLE

1. Hard shifting
2. Slipping out of gear
3. Clunk or jerk when power is applied or released
4. Unusual sounds when power is applied

CLUTCH – EARLY SIGNS OF TROUBLE

1. Revving with clutch engaged and vehicle in gear and moving
2. Odor of burning clutch lining
3. Motor gear clash
4. Squealing sound when clutch pedal depressed with engine running
5. Clutch “chattering”

AUTOMATIC TRANSMISSION AND DRIVE SHAFT – EARLY SIGNS OF TROUBLE

1. Leaks
2. Slipping or loss of power
3. Jerk or clunk when shifting up or down
4. Fails to shift

STEERING – EARLY SIGNS OF TROUBLE

1. Steering very difficult
2. Wheels shimmy
3. Bus veers one way or the other
4. Bus wanders on roadway
5. More than 2 inches of free play in steering wheel with engine running.

ELECTRICAL SYSTEM – EARLY SIGNS OF TROUBLE

1. Voltmeter indicates an under or over charge – **WATCH OUT FOR FIRE**

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2. Smoke appearing around wires, switches, et cetera
3. Voltmeter indicates heavy charging
4. Lights dim

SUSPENSION – EARLY SIGNS OF TROUBLE

1. Bus bounces or rolls from side to side easily
2. Bus out of alignment
3. Bus “bottoms” on bumps

DRIVING ACTION PREVENTING WEAR ON THE BUS

You can develop good driving habits that will avoid undue wear on each specific bus component.

BRAKES

- Do not jam brakes on hard. Apply them smoothly and steadily.
- Do not depress clutch until engine stall speed is reached so engine can assist in stopping the bus.
- Do not drive with your foot resting on the brake pedal.
- On buses equipped with air brakes, drain water out of air reservoir (if board policy permits).
- Pump the brakes (once or twice) on long hard stops. Before starting downhill, shift to lower gear to aid heat dissipation and reduce brake fade. If air brake equipped, check gauges; should be capped off at 120 to 125 PSI. Before starting downhill, place bus in proper gear. If low air pressure alarm comes on, pull over to side of road, secure vehicle and do not move until air pressure is up to safe level.

REMEMBER: The use of brakes 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 gear, the following is a proper braking technique:

1. Apply the brakes just hard enough to feel a definite slowdown.
2. When your speed has been reduced to approximately 5 mph below your safe speed, release the brakes. This brake application should last for about 3 seconds.
3. When your speed has increased to your safe speed, repeat steps 1 and 2.

Example

If your safe speed is 40 mph, you would not apply the brakes until your speed reaches 40 mph. You now apply the brakes hard enough to gradually reduce your speed to 35 mph and then release the brakes. Repeat this as often as necessary until you have reached the end of the downgrade. Escape ramps have been built on many steep mountain downgrades. Escape ramps are made to stop runaway vehicles safely without injuring drivers and students. Escape ramps use a long bed of loose soft material to slow a runaway vehicle, sometimes in combination with an upgrade.

Know escape ramp locations on your route. Signs show drivers where ramps are located. Escape ramps save lives, equipment and cargo. Use them if you lose your brakes.

ENGINE

- Do not race engine during warmup.
- Do not speed at any time.
- Do not lug engine; this causes engine and driveline damage.
- Do not allow engine to operate beyond established oil changes and maintenance intervals.
- Do not accelerate too quickly; this causes extreme stress during periods when oil pressure is low and results in excessive wear.

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- Do not attempt to operate engine when oil pressure is low, temperature is high or voltmeter indicates a continuous discharge.
- Do not add water to overheated engine.
- Never remove a radiator cap on a hot engine.
- Allow diesel engine to idle according to manufacturer's recommendations before shutting off engine.

TRANSMISSION AND DRIVE SHAFT

- Avoid fast acceleration on rough surfaces.
- Do not release the clutch quickly.
- Transmit power and shift smoothly (coordination).
- Avoid jerky movements of any kind.

CLUTCH

- Don't "ride" the clutch. It partially disengages the clutch, causing excess heat or wear.
- Don't upshift at low engine speed.
- Permit engine to speed up enough in one gear so that when the shift is made to the next gear, the engine won't lug.
- Do not skip gears when upshifting or downshifting. This causes undue engine lugging and shock-loading of clutch and driveline.
- Do not coast with the clutch disengaged. The clutch disc will spin at a very high speed and may disintegrate.
- Do not hold the bus on a hill by slipping the clutch. This wears out a clutch. Use the parking brake to hold the bus on a hill. Adjust shifting speeds to accommodate load and terrain.

STEERING

- Avoid potholes; drive around them if possible. Slow down if you must drive through.
- Have mechanic inspect steering if you hit a large bump or pothole.

ELECTRICAL SYSTEM

- Do not drive when voltmeter indicates discharge.
- Do not start engine with lights or heaters on.
- Check belt tension and battery water level.
- Do not operate heaters and lights for an extended period when the bus or engine is stopped.
- Do not run lights and/or heaters for a prolonged period of time with the engine at idle.

SUSPENSION

- Do not travel fast on rough roads.
- Do not cross rough areas at high speeds.
- Check wheel alignment if the bus is on a rough road frequently.

BUS CLEANLINESS

Bus cleanliness is part of proper maintenance. A clean bus will:

- safeguard student health.
- prevent incidents caused by students falling, tripping or slipping on the floor.
- serve as a role model for students. (Enlist student cooperation in keeping the bus neat and clean; do not allow eating or drinking on the bus.)

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- give the public a favorable impression.
- help prolong the life of the bus.

Regardless of the engineering involved, a school bus cannot continue to deliver maximum safety, economy and dependability unless it is properly maintained. Although skilled mechanics repair the school buses, a driver can do much to aid the mechanic and prolong the life of the vehicle by following the guidelines in this manual.

SECTION II

OVERVIEW

Daily and weekly inspections will help the driver identify problems for repair and maintain a clean and safe bus. Regular inspections will help decrease maintenance costs. The pre-trip inspection shall be part of a driver's daily routine. The few minutes invested in the pre-trip inspection could result in the saving of lives or avoid an on-the-road breakdown or collision.

DAILY GENERAL INSPECTION

1. Check bus for forgotten books, clothing **and students**. Return items to owners on the next trip or turn them into the office.
2. Sweep floor, including the bus steps. In winter, sweep water out of the bus to prevent freezing.
3. Check bus seats for pencil/pen marks or other damage.
4. Check adjustment of mirrors, driver's seat and vents.
5. Check fuel tank gauge.
6. Follow procedure for frequency of filling fuel tank.
7. Clean windshield and side windows.
8. Wash exterior of bus at regular intervals. Keep all exterior lights, mirrors and the license plate clean.
9. Check outside of the bus for dents and scratches.

DAILY WALK-AROUND INSPECTION

All bus drivers are to perform a complete pre-trip inspection that meets federal and state regulations before the first trip on each and every bus they drive that day. After the initial pre-trip inspection, all subsequent bus runs that day (on the same bus) are to be preceded by a walk-around inspection that will consist of checking:

1. steering
2. tires
3. console
4. dash panel
5. mirrors
6. service brake
7. parking brake
8. emergency equipment

SECTION 1

1. As you approach the vehicle, check the posture of the bus. Make sure it is not leaning to either side and there are no obstacles, such as wires or tree limbs, in the path of the bus. Look under the front of the bus to check for oil, transmission fluid, water or anti-freeze leaks. Check the crossing gate (if equipped).
2. Check front lights, lens covers and reflectors. Make sure they are mounted and secure. Check West Coast, fender and crossover mirrors.
3. Check windshield for anything that may obstruct your view. Check wipers to make

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- sure the rubber is mounted and secure. Check spring tension on wipers.
 4. Open hood latches; each latch must be mounted and secure. Visually inspect hood for damage.
 5. Check engine oil, automatic transmission fluid (if so equipped) and windshield washer fluid.
 6. Inspect engine, one side at a time. Check power steering fluid, hoses and belts. Make sure everything is mounted and secure, with no leaks and no more than 3/4-inch of play in the belts. Check steering shaft, steering box and steering linkage for securement.
 7. Check radiator reservoirs for leaks and sufficient fluid level. Check radiator and heater hoses. Check water pump (which is located on the front of the engine, behind the fan) for leaks. Check that belts have no more than 3/4-inch of play.
 8. Check air compressor for leaks and securement. Check belts (if equipped) to the compressor for frays or cracks and to ensure that there is no more than 3/4-inch of play.
 9. Check alternator and wires. Make sure it is securely mounted with no more than 3/4-inch of play in belts.

SECTION 2

1. Check leaf springs for broken or missing parts. Check hanger brackets and mounts for securement. Check shocks for leaks.

SECTION 3

1. Check front air line and front air chambers for damage, leaks and securement. Pull on the slack adjuster; there should be no more than 1 inch of play. Check that cotter pin is mounted and secure. Check front drums for oil soaking, cracks, welds or rust. You may not be able to check brake linings if drums have dust covers.

SECTION 4

1. Inspect front tires for cuts and bruises. Make sure tread depth in major grooves is at least 4/32-inch. Check for mismatched, recapped or regrooved tires on front. Look down the front of the tire, checking for cuts and bruises. Check rims for cracks, rust or welds. Check air pressure. Make sure lug nuts are tight and there is no heavy rust, missing lug nuts or leaks in hub oil seals. Check air valves and valve stems for leaks.

SECTION 5

1. Move to the front door. As you enter the bus, open and close the door. Check the glass and rubber seal on the door. Check for broken steps or torn coverings. Make sure hand rails are securely mounted and that pinch points have been eliminated.

SECTION 6

1. Check fire extinguisher. Make sure it is charged. Check the first-aid kit. Check for spare fuses. Check for three reflective triangles. Check for body fluid cleanup kit.

SECTION 7

1. Make sure parking brake is on and gearshift is in neutral. Start engine. Allow air pressure to build to 120 PSI. Check all gauges: oil pressure, air, voltage, water temperature and fuel gauge. Test window washer and wipers (high and low). Check mirrors for proper adjustment. Test all heaters (high and low), defrosters and fans. Check dome lights, stop arm and override switch. Check front big yellow lights, amber indicator light, headlights, flashing red stop lights and red indicator light, stop arm, crossing gate, turn signals and four-way hazards. Check for no more than 2 inches of play in a 20-inch steering wheel. Check parking brake. With parking brake on, place vehicle in low gear. Raise engine 1,500 RPM. (If bus moves, brakes are out of adjustment.) Check

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service brake for air usage per application. On a straight shift air brake equipped bus, place in low gear, release clutch and lightly accelerate with parking brake applied. (If bus moves, brakes are out of adjustment.) Allow hydraulic brake-equipped parking brake vehicle to slowly roll forward, apply parking brake; vehicle should stop. Check horn, driver's seat and seat belt.

SECTION 8

1. Check rear wheels. Turn engine OFF. Turn key on. Push in parking brake. Start your brake "LAB" check.

SECTION 9

1. Start engine and build air to 120 psi; shut engine off, but leave key on. Walk through bus, checking floor and seat backs. Open and check ALL alarms on emergency windows, roof hatches, left side emergency door (if equipped). Check big yellow lights as you check emergency rear door. Go outside and check all of your lights. Turn signals, markers, hazards, headlights, parking lights, clearance lights, brake lights and big reds should all be tested. You cannot check backup lights because gear needs to be in reverse and the engine on. Have someone check backup lights for you, as you must be in the driver's seat for this test. Look for any damage to the bus.

SECTION 10

1. Check down right side to ensure there are no leaks in fuel lines or tank. Check fuel cap, fuel tank and cage for securement. Visually inspect exhaust system, drive shaft and shaft guards, frame, slack adjusters, air chambers, air lines, drums, shocks, leaf springs, mounts and air ride (if equipped). Check windows, reflectors and clearance lights. Visually check rims for cracks, rust or welds. Check axle seals, inside and outside and spacers. Inspect lug nuts and valve stems. You may not be able to check the drums or brake linings if there is a dust cover. Visually look for leaks, metal shavings or damage. Check rear shocks and air ride, if equipped. Check rear tires (tread depth in rear should be at least 2/32-inch) and check tires for proper inflation.

SECTION 11

1. Go to rear of bus. Check lights, reflectors and rear glass. Open and check rubber seal around door. Check that license plate is securely mounted. Check all lens covers. Make sure everything is mounted and secure.

SECTION 12

1. On lift bus, check wheelchair lift, door, tie downs and floor tracks. Check for "knife for life" and fire blanket.

SECTION 13

1. Check service brakes.

DAILY PRE-TRIP INSPECTION

All bus drivers shall perform a complete pre-trip inspection that meets federal and state regulations before the first trip each day and every bus they drive that day. After the initial pre-trip inspection, all subsequent bus runs on that day shall be preceded by a walk-around inspection that will consist of: (1) tires; (2) brakes; (3) console panel; (4) dashboard gauges and controls.

Following are the steps of the pre-trip inspection:

1. As you approach the vehicle, check the posture of the bus. It is not leaning to either side and there are no wires or tree limbs in the path of the bus. Look under the front of the bus; check for oil, transmission fluid, water and/or anti-freeze leaks.

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2. Check front lights, lens covers and reflectors. Make sure they are mounted and secure. Check crossing gate, if equipped. Check West Coast (double nickel), fender and cross-over mirrors.
3. Check the windshield for anything that may obstruct your view. Check wipers and make sure the rubber is mounted and secure. Also check spring tension on wipers.
4. Check hood latch; each latch must be mounted and secure. Visually inspect the hood for damage.
5. Check engine oil, (automatic) transmission fluid, if so equipped, and windshield washer fluid.
6. Inspect the engine one side at a time. Check power steering fluid, hoses and belts. Make sure everything is mounted and secure. Make sure there are no leaks. Make sure there is no more than 3/4-inch of play in the belts. Check steering shaft, steering box and steering linkage for securement.
7. Check radiator reservoir for leaks and sufficient fluid level. Also check radiator and heater hoses. Check water pump, which is located on the front of the engine behind the fan for leaks. Belts should have no more than 3/4-inch of play.
8. Check air compressor for leaks and securement. Check belts to compressor for frays or cracks and that there is no more than 3/4-inch of play.
9. Check alternator and wires. Make sure it is mounted and secure and there is no more than 3/4-inch of play in belts.
10. Check leaf springs for broken or missing parts. Check hanger, brackets and mounts for securement. Check shocks for oil leaks and to see that they are fully extended.
11. Check front brake air hoses and front brake air chambers for damage, leak and securement. Pull on slack adjuster; there should be no more than 1-inch of play. Check that cotter pin is mounted and secure. Check front brake drums for leaks, cracks, welds or rust. You may not be able to check brake linings if brake drums have dust covers.
12. Inspect back of front tire for cuts and bruises. Make sure tread depth in major grooves is a least 4/32-inch. Also check for mismatched, recapped or regrooved tires on front. Come down front of tire, checking for cuts or bruises. Check rims for cracks, rust or welds. Check air pressure. Make sure lug nuts are tight and there is no heavy rust, missing lug nuts or leaks in hub oil seals. Check air valves and stems for leaks.
13. Move to the front door. As you enter the bus, open and close the door. Check the glass and rubber seal on the door. Check for broken steps or torn covering. Make sure hand rails are mounted and secure.
14. Check the fire extinguisher. Make sure it is charged. Check the first-aid kit. Also check for fuses. Check for three reflective triangles. Check for body fluid cleanup kit.
15. Make sure parking brake is on and gear shift is in neutral. Start engine. Allow air pressure to build to 120 psi. Check all gauges: oil pressure, air, voltage, water temperature, fuel gauge. Test window washer and wipers (high and low). Check mirrors for proper adjustment. Test all heaters (high and low), defrosters and fans. Check indicator lights, dash lights. Check dome lights, stop arm and override switch. Check parking brake; with parking brake on, place vehicle in low gear. Raise engine RPM to 1,500 (on automatic transmission only). For a straight-shift transmission with air brakes, with parking brake on, start engine, place bus in first gear, depress clutch, lightly accelerate. If bus moves, brakes are out of adjustment. To check hydraulic brakes, start engine, release parking brake, let bus roll forward at about 3 mph, apply parking brake; bus should stop. If the vehicle moves, brakes are out of adjustment. Check for no more than 2-inches of play in 20-inch steering wheel. Check horn. Check seat for securement and seat belt for operational condition.
16. Check rear wheels. Turn off engine. Turn key on. Push in parking brake. Start your LAB check.



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17. Leaks: With no brakes applied, should not leak more than 2 psi per minute. Press on brake pedal for one minute. It should not leak more than 3 psi per minute.
18. Alarm: Pump brakes. Alarm should come on at 65 to 60 psi.
19. Button: Continue pumping brake. Button should pop out between 40 and 10 psi.
20. Start engine and build air to 120 psi; shut engine off, but leave key on. Walk through bus, checking floor and seat backs. Open and check ALL alarms on emergency windows, roof hatches, left side emergency door (if equipped). Check big yellow lights as you check emergency rear door. Go outside and check all of your lights. Turn signals, markers, hazards, headlights, parking lights, clearance lights, brake lights and big reds should all be tested. You cannot check backup lights because gear needs to be in reverse and the engine on. Have someone check backup lights for you, as you must be in the driver's seat for this test. Look for any damage to the bus.
21. Start checking down right side. No leaks in fuel lines or tank. Check fuel cap and fuel tank and cage for securement. Visually inspect exhaust system, drive shaft and shaft guards, as well as frame, slack adjusters, air chambers, air lines, drums, shocks, leaf springs, mounts and air ride, if equipped. Check windows, reflectors and clearance lights. Visually check rims for cracks, rust or welds; axle seals, inside and outside and spacers. Inspect lug nuts and valve stems. You may not be able to check the drums of brake linings because of dust cover. Visually look for leaks, metal shavings or damage. Check rear shocks and air ride, if equipped. Check rear tires (tread depth in rear should be 2/32-inch) and check tires for proper inflation.
22. Go around to rear. Check lights, reflectors and rear glass. Open rear emergency door. Check rubber seal around door. Check to make sure you have a license plate. Check all lens covers. Make sure everything is mounted and secure.
23. Check left side the same as the right. Also check the left emergency door, stop arm and battery box.
24. Check service brakes. Move bus slowly forward. Apply brakes. Check for proper brake operation.

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**BEFORE PERFORMING PRE-TRIP INSPECTION CHECK WHEELS AND SET PARKING BRAKE
TURN IN DAILY IF DEFICIENCY IS NOTED, WEEKLY IF NO DEFICIENCIES ARE FOUND**

| | | | | | | |
|-------------------|-----------|------------|-------------|---|------------------|--|
| DRIVERS SIGNATURE | Sun _____ | Date _____ | Miles _____ | Bus Safe to Drive Today Yes No Yes No Yes No Yes No Yes No Yes No | Su M T W Th F Sa | County: _____ Location: _____ Bus #: _____ Mechanic Signature: _____ Date: _____ Su M T W Th F Sa Check Here for No Deficiencies |
| | M _____ | Date _____ | Miles _____ | | | |
| | T _____ | Date _____ | Miles _____ | | | |
| | W _____ | Date _____ | Miles _____ | | | |
| | Th _____ | Date _____ | Miles _____ | | | |
| | F _____ | Date _____ | Miles _____ | | | |

| COLUMN 1 | | COLUMN 2 | | COLUMN 3 | | | | | | | COLUMN 4 | | | | | | | | |
|--------------------|--------------------------------|-----------------|--|----------------|--|---|-------------------------------|--|--|--|--------------------------|--|--|--|--|--|--|--|--|
| ENGINE COMPARTMENT | | PASSENGER ENTRY | | AIR BRAKE TEST | | | | | | | REAR SUSPENSION (VISUAL) | | | | | | | | |
| C | Leaks Under Bus | C | Service Door and Handrails | C | Check Wheels, Engine Off, Key On, Button In | C | Leaf Springs | | | | | | | | | | | | |
| H | Front Lights, Lenses, Mirrors | H | Steps | H | Leaks (Max. 2 P.S.I. Per Minute, No Brake Applied) | H | Spring Mounts | | | | | | | | | | | | |
| E | Windshield Condition | E | EMERGENCY EQUIPMENT | E | Leaks (Max. 3 P.S.I. Per Minute, With Service Brake Applied) | E | Torsion Shocks | | | | | | | | | | | | |
| C | | C | Fire | C | | C | | | | | | | | | | | | | |
| K | | K | Extinguisher | K | | K | | | | | | | | | | | | | |
| O | Washer Fluid & Wiper Condition | O | Triangles (3) | O | Alarm Activates (Approx. 60 P.S.I.) | O | Air Ride (If Equipped) | | | | | | | | | | | | |
| N | Hood Latch or Hold Downs | N | First Aid Kit | N | Button (Self Activates 40 – 10 P.S.I.) | N | REAR WHEELS | | | | | | | | | | | | |
| L | Transmission Fluid | L | Clean Up Kit | L | START ENGINE | L | Tires | | | | | | | | | | | | |
| Y | Power Steering Fluid | Y | | Y | Gear Shift & Clutch | Y | Rims | | | | | | | | | | | | |
| I | Belts, Hoses, Wiring | I | Oil Pressure | I | Seats & Bus Floor Damage | I | Lug Nuts, Drum Bolts | | | | | | | | | | | | |
| F | Steering Box & Linkage | F | Air Gauges | F | Emergency Windows | F | Axle Seals – Inside & Outside | | | | | | | | | | | | |
| D | Radiator Reservoir | D | Voltage & Amps | D | Roof Hatches | D | Spacers | | | | | | | | | | | | |
| E | Water Pump | E | Coolant Temperature | E | Emergency Doors | E | REAR OF BUS | | | | | | | | | | | | |
| F | Air Compressor | F | Fuel Gauge | F | Big Yellow Loading Lights (Rear) | F | Emergency Door -Outside Seals | | | | | | | | | | | | |
| I | Battery & Hold Downs | I | Washers & Wipers | I | Left Side | I | Clearance Lights | | | | | | | | | | | | |
| I | Leaf Springs | I | Mirrors | I | Stop Arm | I | 4-Way Hazard Lights | | | | | | | | | | | | |
| E | Spring Mounts | E | Heater Blowers | E | Battery Box (Don't Open) | E | Big Red Lights | | | | | | | | | | | | |
| N | Shocks | N | Defrosters & Defroster Fans | N | Windows | N | Turn Signals | | | | | | | | | | | | |
| T | Brake Hoses | T | Dash Lights, Light Indicators | T | Running Lights | T | Reflectors | | | | | | | | | | | | |
| | Brake Chambers | | Dome Lights & Rear View Mirrors | | Big Red Lights & Stop Arm (Override) | | License Plate & Lights | | | | | | | | | | | | |
| | Slack Adjusters | | Big Yellow Loading Lights (Front) | | Head Lights – Hi-Low Beam | | SPECIAL EQUIPMENT | | | | | | | | | | | | |
| | Drums | | Head Lights – Hi-Low Beam | | Clearance Lights | | Wheel Chair Lift & door | | | | | | | | | | | | |
| | FRONT WHEELS | | Clearance Lights | | Big Red Lights & Stop Arm | | Wheel Chair Tie – Downs | | | | | | | | | | | | |
| | Rims | | Strobe Light | | Crossing Gate if Equipped (override) | | Wheel Chair Floor Tracks | | | | | | | | | | | | |
| | Lug Nuts, Drum Bolts | | 4-Way Hazard Lights (Front) | | 4-Way Hazard Lights (Front) | | Knife for Life | | | | | | | | | | | | |
| | Hub Oil Seals | | Steering Play (Max 2" on 20" Wheel) | | Steering Play (Max 2" on 20" Wheel) | | Fire Blanket | | | | | | | | | | | | |
| | Tires | | Driver's Seat & Seat Belt | | Park Brake | | OTHER | | | | | | | | | | | | |
| | | | Horn | | Horn | | Check Service Brake | | | | | | | | | | | | |
| | | | Service Brake, Air Use Per Application | | Service Brake, Air Use Per Application | | | | | | | | | | | | | | |
| | | | Hydraulic Service Brakes (if Applicable) | | Hydraulic Service Brakes (if Applicable) | | | | | | | | | | | | | | |

| | | | | | | | | |
|------------------------|-----------------|----|---|---|---|----|---|----|
| WALK AROUND INSPECTION | | Su | M | T | W | Th | F | Sa |
| Steering | Mirrors | | | | | | | |
| Tires | Service Brakes | | | | | | | |
| Console | Park Brake | | | | | | | |
| Dash Panel | Emergency Panel | | | | | | | |

Notes/Comments _____

A pre-trip inspection of a forward control bus should be performed in the same manner as above. However, the driver should be advised that many components have to be inspected visually since it is impossible to manually check various engine parts. WHITE-MAINTENANCE COPY YELLOW-DRIVER COPY PINK-TRANSPORTATION COPY



CHAPTER 3

PUPIL BEHAVIOR MANAGEMENT

OBJECTIVES

- Establish a personable and acceptable student-driver relationship
- Establish and maintain a safe atmosphere on a school bus
- Provide leadership through driver performance
- Successfully apply behavior control techniques
- Analyze proper procedures and methods for dealing with individual and group behavior problems

INTRODUCTION

Two-way communication between driver and student is essential for reducing incidents and improving the atmosphere on school buses. This means leadership from the driver and pupil participation in the development of rules governing acceptable behavior. Existing state laws and regulations should be used as a foundation for the development of these rules.

Behavior problems on school buses vary from district to district and bus to bus. Some districts have very few behavior problems, while other districts have tremendous behavior problems. Rules concerning behavior are essential on all bus routes. **Students must know what is expected of them and the consequences for noncompliance.**

What can be done to reduce or eliminate disruptive behavior on school buses? The best general answer to this question is to develop and maintain an atmosphere conducive to transportation safety.

DEVELOPING RULES

Input from the driver and the students should be the rule instead of the exception. This policy is suggested because people tend to obey and respect rules for which they have had input in the development. Make the students participants instead of spectators. Each driver should be allowed to have a five-minute rules meeting with all students within the first two or three days he or she drives.

A good starting point for development of the rules might be your local district transportation discipline rules. Some examples are:

- Students shall wait until signaled by the driver before boarding or leaving the school bus.
- Students shall remain seated at all times when the bus is in motion.
- School bus driver may assign seats.
- Students shall not eat or drink while on the school bus.

As important as it is that the driver be knowledgeable about the history and origin of state laws and local safety policies, it is just as important that each student know what is expected of him or her each day he or she rides a school bus. This should be discussed during the rules meeting with the students. Let the students participate in developing the rules and the consequences for not following them. Many of their recommendations will be similar to those of the drivers and at times will be tougher.

When they suggest a rule that is close to a state or local safety guideline, let them know that they have come up with a very important rule. At some point, when you feel your students have exhausted their reserve of suggested rules, provide them with the remaining rules that will govern the bus on a daily basis.

After the driver has finalized the riding rules for his or her school bus, he or she should introduce any additional district procedures for handling behavior problems and send them to the students' parents.

The rules will be as effective as the driver is consistent. The driver must set and main-

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tain the tone of the relationship with his or her students. This is not an easy task. A driver's attitude about this responsibility will determine how successful he or she is at this daily task. Some of the ways to establish and maintain the tone are:

Remember names.

- Provide a warm greeting.
- Use a receptive voice tone.
- Understand positive and negative reinforcers.
- Provide good examples.

REMEMBERING NAMES

If a driver expects his or her name to be pronounced correctly and used politely, then he or she must first learn and use the student's names properly. Learn their names quickly and show an interest in them. This is one of the best ways to break down barriers that may exist between driver and students.

GREETINGS

How a driver greets his or her students every morning will often be a factor in determining the degree of cooperation received from the students. Here are examples of ways to greet the students:

- A cheerful "hello"
- "Good morning"
- "Goodbye"
- "Walk carefully" or "watch your step"

These examples also reflect the driver's concern for his or her students's health and safety.

VOICE TONE

The driver's voice tone and what he or she says is very important. Think back to your primary and secondary school years.

A driver should avoid a threatening, angry tone, but should let students know that he or she is concerned by changing from his or her usual conversation style to an appropriate, serious tone when the situation warrants it.

POSITIVE REINFORCEMENT

A bus driver can avoid causing a separation between him or her and the students if requests for certain behavior from them is in a positive manner. A driver should also promote positive reinforcers.

A positive reinforcer is a reward that follows a behavior and increases the possibility of that behavior occurring again. Examples of positive reinforcers are:

- Verbal approval
- Praise
- Smiles
- Attention

We all like attention. Children are known to need and demand attention. Sometimes they don't get as much as they need. If a bus driver can give them some attention, he or she can provide a positive model for social changes.

NEGATIVE REINFORCEMENT

Students who cannot get positive attention may misbehave for the reward of negative attention from their peers and from adults.

A bus driver must control his or her temper and not put the disruptive individual in a position where he or she must back down in front of the group or win their respect by "mouthing off."

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LEADERSHIP

The best way to lead is by example:

- Actions – Good leaders should not ask other people to do anything they would not do themselves. Good leaders should:
- Adhere to rules.
- Be punctual.
- Be courteous.
- Appearance – A driver’s good personal hygiene and proper dress show that he or she respects himself or herself and the position. School bus drivers who are well groomed and dressed provide good personal appearance examples for their students.

EVALUATING THE SITUATION

Is the problem ourselves? When you are in a good mood, you may be able to overlook minor infractions.

Certain personal circumstances can have an effect on how a school bus driver handles behavior problems on his or her bus. School bus drivers should strive not to let any personal problems or circumstances interfere with the safe operation of his or her bus.

A driver should honestly assess his or her mood and how it will be reflected in his or her attitude toward students.

DEALING WITH STUDENTS AND THEIR PROBLEMS

IS IT THE ACTION?

A school bus driver must make sure that it is students’ actions that he or she is dealing with instead of using his or her actions as an opportunity to vent his or her own frustrations. Personal frustrations should not be taken out on students.

IS IT THE PERSON?

Children will risk punishment if there is an occasional chance of getting away with something.

In dealing with students who should respect a bus driver, being fair, firm and consistent is very important. Fairness and consistency will promote respect and cooperation, and a safe bus driver must have these.

Inconsistent enforcement of rules will encourage students to challenge the driver. Always use good judgement in dealing with behavior problems.

CONFIDENTIAL INFORMATION

Generally speaking, confidential information is personal and most often pertains to students’ home situations. This information should not be shared with others unless it is of a nature that warrants it. Knowing the extent of some of these problems should motivate you to try harder to develop good relationships with the students who cause the most problems.

CONTROL TECHNIQUES

There will be some problems that even the best school bus driver cannot handle alone. A bus driver should be able to:

- establish a personable and acceptable student-driver relationship.
- establish and maintain a safe atmosphere on a school bus.
- provide leadership through driver performance.
- successfully apply behavior control techniques.
- analyze proper procedures and methods for dealing with individual and group behavior problems.

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INDIVIDUAL BEHAVIOR PROBLEM

The first or second offense might be a warning. The third or fourth offense may mean changing seats or asking the child to stay on the bus after arrival. Every district must have its own discipline policy.

Individual disruptive behavior on a school bus can be handled much better when the parents are informed about the behavior before it becomes necessary to ask the child to come in with his or her parent(s) for a conference.

GROUP BEHAVIOR PROBLEM

Disruptive behavior from a group is normally much more hazardous than an individual behavior problem.

When a group ignores your request for order and the disturbance is distracting or hazardous, it is best to pull off the road, stop the bus and talk to the disruptive students. A driver should summon help if the situation calls for it.

STUDENT CONFERENCE

Sometimes, behavior problems on a school bus reach a point where it is necessary to have a conference with a student and his or her parent(s). The primary objective of the conference is to involve the parent(s) in the specifics of the child's disruptive behavior, petition support from the parent(s) and inform the parent(s) about the critical behavior actions the district will have to take if the disruptive behavior continues. During the conference, the parent(s) should be presented with all the facts about the child's behavior.

The conference should be conducted by an administrative official of the school district – most often the principal. Both the student and his or her parent(s) should understand the critical nature of the conference. Suspension of riding privileges is normally the next step after a conference, although a positive parent and student attitude might merit giving the student another chance in some situations. The length of the first suspension is usually from one to five days. This should be spelled out in the district policy. When a student is suspended, his or her parents are responsible for getting him or her to and from school for the duration of the suspension.

NOTE: Remember, it is vital that each driver be fair, firm and consistent in all dealings with the pupils who ride their bus. By following this concept, you will become a dedicated professional bus driver with the admiration and respect of your students.

STEP-BY-STEP APPROACH

A critical aspect of pupil transportation is pupil management. Most school bus drivers have no difficulty driving the school bus. Their downfall comes when they have to deal with the students who ride their bus. Every board of education, superintendent and local pupil transportation director must ensure that a viable and effective program of pupil management is in place to assist the school bus driver with the task of safely transporting students to and from school and on school-related trips.

A good program of pupil management must involve the following:

- Local board of education
- Local school superintendent
- Local transportation director
- Principals
- Teachers
- School bus drivers
- Students
- Parents

Each of these groups has a vital role in developing and maintaining a viable and effective program of pupil management in their school system.

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LOCAL BOARD OF EDUCATION'S ROLE

The role of the local board of education is a very important one. The board is charged with the responsibility for the welfare of all students. The policies that the board adopts have the effect of law and are the basis upon which the pupil management program will rest. Each driver should have a complete knowledge of the board's pupil management program and the steps involved in the discipline process.

The board is not required to provide transportation to and from school. The Kentucky Revised Statute (KRS 158.110) that covers pupil transportation methods is a "permissive" statute. It permits the transportation of students. It does not require the board to provide transportation service, except for special needs students, students in individualized education programs, et cetera. Therefore, the keystone of the pupil management program is "IT IS A PRIVILEGE TO RIDE THE SCHOOL BUS – NOT A RIGHT." Once the expected standards of conduct for pupils have been developed, it is the board's responsibility to adopt them as policy.

These policies and rules must be an integral part of the required student code of conduct that each board must adopt. The board also plays a role in training school bus drivers by insisting that all drivers receive training in managing the pupils who ride their bus. The board should treat misconduct on the bus on the same level as in the classroom.

LOCAL SUPERINTENDENT'S ROLE

The role of the local superintendent is critical to implementing a viable pupil management program. The superintendent must support the program by providing the needed funds for a well-trained driver on each of the school systems' school buses. The superintendent must make it clear that each person in the school system is to support the school bus driver and the pupil management program.

Budgets developed by the superintendent must provide the resources needed to implement the pupil management program. At a minimum, funds to conduct driver in-service training and pupil ridership training programs must be included in the annual budget. In addition, the superintendent must ensure that all principals and teachers understand their role in the pupil management program and that they fully support the program by seeing that all the provisions of the pupil management program are effectively enforced.

LOCAL TRANSPORTATION DIRECTOR'S ROLE

The local transportation director has a pivotal role in the development and implementation of the pupil management program. He or she must be the catalyst to ensure that a well-designed and functioning program of pupil management is in place.

Utilizing the resources available, the local transportation director must analyze the situation that exists and involve all the groups in determining the components of the pupil management program. Each group has a role to play in an effective pupil management program. The local transportation director must determine the roles of each group and ensure that each group understands its role and takes the necessary actions to effectively implement it.

PRINCIPAL'S ROLE

The role of the principal is also a vital key to any pupil management program. The principal is the person who is responsible for discipline on the school bus. The principal is the one who must ensure that the consequences listed in the pupil management program are carried out. The principal must ensure that the children at their school fully understand their responsibilities when riding a school bus, as well as the actions that will result in losing their privilege of riding the bus. The principal must support the school bus drivers just as he or she would support the teachers in his or her school.

TEACHER'S ROLE

The role the teacher plays will have a vital impact upon the effectiveness of the pupil

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management program. The teacher is responsible for providing the required instruction in the proper way to ride a school bus. A full explanation of the rules, regulations and requirements must be taught to the students by the teacher (or a driver training instructor). This instructional aspect of the pupil management program is critical to ensuring that each student fully understands what is expected each time he or she rides a school bus. It is also vital that each pupil understand the consequences if he or she fails to abide by the rules and regulations.

SCHOOL BUS DRIVER'S ROLE

The role of the school bus driver is the most pivotal role within any pupil management program. The school bus driver has the responsibility for ensuring that the program is effective. The school bus driver must be aware of all facets of the pupil management program and operate within the framework of the program in a fair, firm and consistent manner.

The school bus driver must work with the students on his or her bus to ensure that they fully understand what acceptable conduct on the bus is and what is unacceptable. The driver must establish ground rules for his or her bus. These ground rules must be within the framework of the pupil management program. The driver must develop the skills necessary to deal with all situations and children that ride his or her bus. An understanding of how students act at various ages is critical when dealing with children.

STUDENT'S ROLE

The role of the student is another critical role. How the students act will dictate the effectiveness of the pupil management program. Students must have a clear understanding of the expected conduct while on the school bus. Compliance with all the rules and regulations is a must if the student is to properly fulfill his or her role in the pupil management program.

PARENT'S ROLE

The role of the parent is vital. The parent must know what is expected from his or her child in order to continue the privilege of riding the school bus. The parent must ensure that his or her child understands the rules and abides by them. The parent must support the bus driver in seeing that his or her child abides by the rules. By supporting the total pupil management program, the parent can ensure that his or her child retains the privilege of riding the school bus and is a safe rider.

PUTTING THE PROGRAM IN PLACE

The steps that the local transportation director must take to put a pupil management program in place are:

1. Make a thorough analysis of the current rules in the pupil management program.
2. Identify and retain the good aspects of the current program and build on them.
3. Develop written policies for the board to adopt.
4. Develop training programs for drivers with an emphasis on pupil management skills based on the needs of the district's school bus drivers.
5. Develop a system of informing parents of the requirements for riding a school bus.
6. Develop procedures for orientating all principals, teachers and school bus drivers on their specific responsibilities and duties as outlined in the pupil management program.
7. Members of the committee should add any additional steps that they feel should be included.

SAMPLE REGULATIONS FOR STUDENTS RIDING THE SCHOOL BUSES

School bus transportation is authorized only for students regularly enrolled in a public school in preschool through grade 12.

The transportation department provides you with the best equipment and drivers and with the safest program possible. The following regulations are furnished for your information and compliance. We ask your cooperation. Following are standard rules for students to

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follow:

At Bus Stops

1. Be on time. The bus cannot wait beyond its regular schedule for those who are tardy. Be at the bus stop five minutes before your bus is scheduled to arrive.
2. Always cross in front of the bus at a safe distance (minimum 10 to 15 feet) in order to be seen by the bus driver. Cross only on the driver's signal.
3. Do not run toward or run across the street in front or behind a school bus while it is in motion.
4. Never stand in the road while waiting for the bus. Wait in an orderly line off the highway or street.
5. Wait until the bus stops and the driver signals, and then walk to the door and board the bus in an orderly manner. Do not push and shove.
6. Board the bus and immediately take a seat without disturbing other students. Do not exchange seats unless given permission by the driver.
7. Do not get on or off the bus or move about within the bus while it is in motion.
8. Do not wear clothing or backpacks with long strings that could become entangled in the bus handrail.
9. Avoid making excessive noise.
10. Remember that fighting at bus stops and on the way to and from school bus stops is subject to disciplinary action (to be reported to the school principal).

Riding the Bus

1. The driver is in charge of the bus and its students. Follow directions the first time they are given.
2. Students shall ride their assigned bus and no other bus unless approved in writing by the principal or designee.
3. No persons other than those assigned to the bus shall be allowed to ride a school bus.
4. Report promptly to the driver any damage done to the bus. Students causing damage may be expected to pay the full cost of repairs before riding privileges are restored.
5. Students shall not engage in any activity which might divert the driver's attention away from driving the bus and cause an accident, such as:
 - a. improper behavior (including disobedience, foul language, fighting, pushing, shoving and similar offensive acts).
 - b. smoking on the bus.
 - c. eating or drinking on the bus.
 - d. possessing guns, knives or other sharp objects.
 - e. bringing animals on the bus (either live or preserved specimens).
 - f. throwing articles or objects in or from the bus.
 - g. tampering with mechanical equipment, accessories or controls of the bus.
 - h. placing noncompliant musical instruments or other articles on the bus or at the door by the driver.
 - i. obstructing the aisle in any manner.
 - j. occupying more space in a seat than required (all items students bring on a bus must be held by the student and will not be placed on seats or in aisle).
 - k. tracking mud or dirt onto the bus.
 - littering the bus.
 - m. opening or closing windows without the driver's permission.
6. Violations of the rules and regulations for riding a school bus shall result in the following actions:
 - a. First offense – bus driver will have a talk with the student.
 - b. Second offense – bus driver will move the student to a front seat for two weeks and written notification will be sent to principal and parent or guardian. Student will not be allowed back on the bus until a notification form is returned to the driver.
 - c. Third offense – a misconduct report will be filed with the principal of the school the student attends. Student will not be allowed back on the bus until parent has signed and student returns a copy of the report to the driver.

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- d. Fourth offense – a second misconduct report is filed and the principal suspends bus riding privileges for a minimum of five days.
 - e. Fifth offense – a third misconduct report is filed and the principal suspends bus riding privileges for the remainder of the school year.
7. Some offenses are of such a serious nature that they can be deemed to warrant suspension of bus riding privileges without following the procedure outlined above. Included in these offenses are:
- a. Disruptive behavior
 - b. Use of tobacco in any form while on the bus
 - c. Use or possession of alcohol, drugs or narcotics
 - d. Failure to remain in seat when bus is in route and being a disruptive force
 - e. Use of profane, abusive or excessively loud language
 - f. Littering or throwing objects (no food, candy or beverages allowed on bus)
 - g. Vandalism (at a minimum, a student may be made to pay for damages before privileges are restored)
 - h. Violation of any school or bus rule while waiting at any school to board the bus
 - i. Failure to follow the proper procedure when crossing the road
 - j. Using, operating or tampering with the operation or controls of the school bus
 - k. Failure to properly identify yourself the first time you are asked by the driver or any school authority
 - l. Failure to ride only the assigned bus
 - m. Failure to comply with the authority of the bus driver on the regulations for students riding the school bus
 - n. Fighting or scuffling
 - o. Bringing guns, knives or any weapons on the bus

On the Trip Home

1. Students are permitted to leave the bus only at the regular, designated stop. Any change must be made with the parent's request in writing and approved by the signature of the school principal or designee.
2. If a student lives on the opposite side of a road from the bus stop, the pupil should go to the front of the bus and wait until the bus driver gives the signal to cross the road. **Never** cross the road in the rear of a stopped school bus unless the bus has left and it is a marked pedestrian crossing.

PARENT/GUARDIAN RESPONSIBILITIES

Any complaints of drivers, pupils or parent/guardians shall be reported promptly to the principal or transportation director.

Parents/guardians should:

1. report any misconduct on school buses to the principal.
2. report all traffic hazards and the bus numbers of all buses observed being operated carelessly to the transportation director.
3. encourage students to observe all safety and conduct regulations established for the safe and efficient operation of the school buses.
4. help by exerting extreme caution when approaching bus stops, moving buses or stopped buses.
5. help supervise large numbers of children at bus stops.
6. see that their children are at the bus stop five minutes before the bus is scheduled to arrive.

WAYS FOR DRIVERS TO MAINTAIN STUDENT DISCIPLINE

1. Never give an order you do not intend to or cannot enforce.
2. The response of the child is in action. Give your command to stimulate action, not to check it. Say, "Do this" rather than "Don't do that." Suggest an action that can be

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-
- successfully obeyed.
3. Give a child time for reaction.
 4. Have a reason for what you ask a child to do, and when possible, take time to give the reason so that he or she can see the point.
 5. Be honest in what you say and do. A child's faith in you is a great help.
 6. Be fair – it isn't punishment, but injustice that makes a child rebel against you.
 7. Be friendly. Always show an interest in what children are doing.
 8. Commend good qualities and action.
 9. Try to be constructive, not repressive, in all dealings with children.
 10. Remember that a sense of humor is extremely valuable.
 11. Never strike a child. It may seem to be the easiest way, but it only aggravates the problem.
 12. Do not judge misconduct by how it annoys you.
 13. Do not take your personal feelings and prejudices out on the children.
 14. Maintain poise at all times. Do not lose your temper.
 15. Remember, "The tongue is the only keen-edged tool which grows sharper with constant use." Do not nag, bluff or be offensive.
 16. Look for good qualities – all children have them.
 17. Do not pick on every little thing a child does. Sometimes it is wiser to overlook some things.
 18. Bear in mind that misbehavior is seldom willful. There is usually a cause, and it may be you or some other influence which causes the child to misbehave.
 19. Listen for suggestions and complaints from the children.
 20. Follow up cases that have been disciplined. Be certain that you still have the respect and confidence of the child.
 21. Be sincere in your work.
 22. Intelligence in handling youth consists of thinking faster than they do. If they can outthink you, you are not using your maturity and the advantage of your education or experience. You should see the possibilities before they become results. This is the secret of leadership.
 23. Never hold a student up to public ridicule. It is the surest way of creating a discipline problem.

SUMMARY

Pupil management involves the combined effort of four distinct groups of individuals. An effective program must have the support of 1) school district administration, 2) school bus drivers, 3) pupils and 4) parents/guardians. Each school district should institute a comprehensive plan for the student's safety and well-being, as well as protecting the interests of all others involved in the program.

SCHOOL DISTRICT RESPONSIBILITIES

1. Establish the policies and procedures by which the program functions.
2. Establish student regulations governing the behavior and safety of students while on the bus and at the bus stop.
3. Institute and administer an instructional program that teaches students proper conduct and safety procedures.
4. Conduct a training program for school bus drivers to ensure that all policies, procedures and regulations, and why they must be enforced, are understood.
5. Ensure that parents/guardians receive written copies of the bus rules and regulations. Clearly establish their roles and obligations with respect to student promptness, attitude and behavior.
6. Initiate procedures to ensure open lines of communication and cooperation be-

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- tween school administrators, bus company officials, state agencies and bus drivers.
7. Provide training in pupil management skills that extends beyond the scope of enforcing rules and regulations.
 8. Ensure that administrators provide backup for discipline and stand behind drivers' reasonable enforcement actions.

DRIVER RESPONSIBILITIES

Drivers shall:

1. be familiar with and abide by all rules, policies and procedures effecting pupil transportation.
2. establish rapport with each building administrator and work to ensure proper conduct and communications.
3. establish rapport with students.
4. instruct pupils in proper behavior, general procedures and evacuation drills.
5. maintain order as a safety practice and stress the following points and procedures:
 - a. minimize interior noise
 - b. control student movement
 - c. require an orderly entrance and exit
 - d. eliminate movement or potential movement of objects
 - e. require silence at railroad crossings
 - f. prohibit transportation of unauthorized materials
6. handle minor infractions through seat assignments or discussions with student students.
7. follow school district policy pertaining to misconduct and submit written reports on the appropriate forms to administrators or other persons designated to deal with discipline problems in instances of serious or recurring misconduct.
8. be aware that they represent the school system and should present a positive image in dress, language and manner while on duty.
9. be familiar with the assigned routes and designated school bus stops.



STUDENT RESPONSIBILITIES

Proper student behavior is important. The distraction of the driver can contribute to incidents. Students and parents/guardians should be made aware of and abide by responsible regulations to enhance safety. The consequences of unacceptable behavior should be clearly understood. The following procedures will protect the students' rights and maintain order on the bus.

Students must:

1. be aware that they are responsible for their actions and behavior.
2. know what the rules and procedures are and abide by them.
3. display proper respect for the rights and comforts of others.
4. realize that school bus transportation can be denied if they do not conduct themselves properly.
5. be aware that any driver distraction is potentially hazardous to their safety.
6. not wear clothing or backpacks with long hanging drawstrings or straps that can get caught in the handrail or door of the bus.

PARENT/GUARDIAN RESPONSIBILITIES

Parent should:

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-
1. become familiar with the district rules and policies, regulations and principles of school bus safety.
 2. assist children in understanding the safety rules and encourage them to abide by them.
 3. recognize responsibilities for the actions of their children.
 4. support safe riding practices and reasonable discipline efforts.
 5. teach children the procedures for safely crossing the highway before boarding and after leaving the bus.
 6. support procedures for emergency evacuation and procedures in an emergency as adopted by the school district.
 7. support respect for the rights and privileges of others.
 8. communicate safety concerns to school administrators.
 9. support all efforts to improve school bus safety.
 10. not allow students to wear clothing or backpacks with long hanging drawstrings or straps on them to avoid the hazard of them getting caught on the handrails or door of the bus.

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CHAPTER 4

VEHICLE OPERATION

OBJECTIVES

- Enter the traffic stream without interfering with other vehicles
- Select the appropriate lane for driving
- Adjust to existing traffic conditions, traffic flow and legal speed limits
- Maintain an adequate separation between the school bus and the vehicle ahead
- Negotiate curves safely and comfortably
- Negotiate hills safely and effectively
- Leave a line of traffic with minimal interference to vehicles behind and to the side
- Accommodate a passing vehicle by adjusting speed and/or position as necessary for the other vehicles to complete the pass
- Maintain an adequate separation between the school bus and the vehicle behind
- Put a school bus in motion on either an upgrade or downgrade from a standing position
- Identify various signs, signals and pavement markings and comprehend their meaning
- Drive safely by parked vehicles
- Adjust course as necessary when meeting oncoming vehicles on a two-lane roadway
- Make correct decisions when encountering yielding (right-of-way) situations
- Respond with safe and cautious actions when encountering pedestrians, cyclists and animals
- Approach intersections and react appropriately to other traffic and traffic controls
- Proceed through intersections and react to changing traffic conditions
- Approach and enter off-street areas in a safe and efficient manner
- Safely make right turns at intersections
- Safely make left turns at intersections
- Enter, drive through or cross and leave a bridge or tunnel safely and expeditiously
- Safely enter a main roadway from an entrance ramp
- Merge with traffic on another roadway
- Safely exit a main roadway or an exit ramp
- Negotiate traffic circles safely
- Change lanes safely and without obstructing the flow of traffic
- Make sound passing decisions and complete passes without interference to other vehicles
- Handle the school bus during practice driving

RURAL DRIVING SKILLS

The first actual on-street driving is in a rural area, and the emphasis is placed upon interacting with other vehicles. In addition to knowing how to operate and maneuver the bus, a bus driver will be expected to demonstrate and explain the “thinking processes” that are involved in rural driving.

Merging Steps

1. Observe traffic to front and rear.
2. Look for gap in rear approaching traffic.
3. Yield the right-of-way to all vehicles and pedestrians.
4. Activate turn signal.

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5. Accelerate smoothly into gap in traffic lane.
6. Straighten steering wheel.
7. Check to see that directional signal has been cancelled.
8. Accelerate quickly to speed of traffic.

Regulations

1. Drive in right lane of roadway except:
 - 1 when overtaking and passing another vehicle moving in the same direction, or
 - 1 when right lane or roadway is closed to traffic due to construction or repair.
 - 1 when following posted traffic signs for appropriate lane usage.
 - 1 when it is safer to travel in the left lane (for short distances).
 - 1 when a roadway has three or more lanes in one directions. You may drive in any lane; however, school buses should travel in the right lane whenever feasible.
2. Basic speed law:
 - a. The driver should drive at a careful and prudent speed that takes into account all driving conditions. Drive at no greater speed than what will permit stopping the vehicle within the assured clear distance ahead.
 - b. Absolute speed laws: (unless posted otherwise)
 - 70 mph – maximum for Kentucky interstate travel
 - 45 mph – minimum on freeways
 - 45 mph – highway construction zones, road work or surveying areas
 - 25 mph – business, residential and park areas, unless posted otherwise
 - 25 mph – school zones
 - c. Techniques:
 - Periodically observe speedometer to check speed. (You should check speed every 5 seconds. Keep your eyes moving.)
 - Adjust speed to that of the other traffic by accelerating, decelerating, braking and/or downshifting.
 - d. Rules:
 - Under ideal conditions, maintain at least a 4-second following distance in a school bus.
 - Look ahead 12 to 15 seconds. By scanning the road that far ahead, you can see trouble well in advance and can often avoid it.
 - e. Definite times to adjust following distance:
 - When increasing speed
 - When driving on wet or icy roads
 - When driving at night or during weather conditions that adversely affect the driver's ability to see the roadway and traffic conditions ahead
 - When fatigued
 - When following emergency vehicles
 - When following dual-wheeled vehicles, which may cause damage to the bus by debris thrown from between the wheels
 - When following two-wheeled vehicles that can stop within shorter distances

If at least 4 seconds have passed before the front of the bus has reached the same object that the vehicle in front of you just passed, a proper following distance is being maintained if driving 40 mph or slower. A 5-second following distance should be used if driving over 40 mph. The distance between your bus and the vehicle in front of you is called the space gap.

Curves

1. Approach curves at speeds that will enable the curve to be negotiated safely.
2. Observe roadway ahead for signs indicating maximum safe entering speed.
3. Reduce speed if necessary to attain posted limit.

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When Entering and Driving Through a Curve

1. Look well ahead to anticipate the need for steering conditions.
2. Maintain a position within your lane. Do not change or “cut across” lanes.
3. Maintain speed throughout curve by keeping slight pressure on accelerator. Don't increase speed in a curve.
4. Reduce speed by releasing accelerator and applying the brakes lightly.
5. Always brake before a curve:
 - when initial speed proves too great for rate of curvature.
 - when visibility is restricted by darkness, fog, vegetation or other obstructions.

When Leaving a Curve

1. Resume original or other safe speed.
 - A driver may accelerate coming out of a curve; this is called “blowing out” of a curve. However, this should be done on a conservative basis; just gradually accelerate out of the curve.

PROCEDURES

Uphill

1. Select the far right lane or auxiliary climbing lane, if available.
2. Maintain constant speed on upgrades by:
 - 1 applying accelerator pressure.
 - 1 shifting to lower gear if necessary.
3. When approaching crest on a narrow roadway, keep as far to the right as safely possible.
 - 1 Slow down slightly when approaching crest to compensate for limited sight distance and for an anticipated increase in speed upon reaching crest.

Downhill

1. Look for signs indicating length and/or gradient of downgrade.
2. Shift into lower gear before beginning a long and/or steep downgrade.
3. Maintain constant speed on downgrades by reducing accelerator pressure.
4. Apply brakes, using the target speed or the on-again-off-again method.
5. When vehicle reaches the bottom of downgrade, resume normal driving speed.

Exiting traffic

1. Scan roadside for suitable place to stop.
2. Observe shoulder for obstructions (trees, poles, sign posts).
3. Look for spot with no obstructions where vehicles can be seen by traffic in all directions.
4. Check mirrors.
5. Signal intention to leave traffic stream.
6. Reduce speed.
7. Guide school bus gradually off the roadway.
8. Try not to make quick, abrupt movements.
9. Brake gently to a complete stop, if called for.

Being Passed

1. Maintain position in center of lane, or move slightly to right if possible.
2. Maintain or reduce speed – do not accelerate.
3. Watch for signals that the passing vehicle plans to cut back in front of the bus:
4. Turn signal flashing
5. Driver looks back over shoulder.
6. Front wheels begin to angle back to right.
7. Prepare to slow down to provide larger space for passing vehicle to re-enter lane or to

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obtain additional following distance if vehicle cuts in after passing.

Being Followed

1. Signal intended maneuvers.
2. Check mirrors frequently.
3. Watch for indications that following vehicles intend to pass.
4. Observe roadway ahead to anticipate the need to stop.
5. Use the minimum 4- to 5-second following distance method for school buses.

Starting on an Upgrade

- Manual Shift
 1. Press brake.
 2. Set parking brake.
 3. Press clutch.
 4. Place gearshift lever in first gear for four-speed transmission or second gear (or first gear if on a steep upgrade) for five-speed transmission.
 5. Release brake.
 6. Press accelerator.
 7. Release clutch to friction point, simultaneously releasing parking brake so that bus does not roll backward.
 8. Release clutch completely and press accelerator until bus gains adequate speed to shift into next higher gear.
- Automatic shift:
 1. Press brake.
 2. Set parking brake.
 3. Place gearshift level in drive (or low if on a steep upgrade).
 4. Gradually press accelerator.
 5. Release emergency brake.

Starting on a Downgrade

- Manual shift:
 1. Press brake.
 2. Set parking brake.
 3. Press clutch.
 4. Place gearshift lever in first gear for four-speed-transmission or second gear for five- speed transmission.
 5. Release parking brake.
 6. Gradually release brake.
 7. Release clutch to friction point.
 8. Accelerate if necessary and gradually release clutch all the way.
- Automatic shift:
 1. Press brake.
 2. Place gearshift lever in drive (or low if on a steep downgrade).
 3. Release brake and accelerate if necessary.

RESIDENTIAL DRIVING SKILLS

This lesson is devoted to the skills necessary to drive in a residential area. You will encounter problems with space, vehicle and pedestrian traffic, visual obstruction and traffic conflicts.

Signs and their Shapes

A. OCTAGON – STOP

1. Come to a complete stop.
2. Yield right-of-way to pedestrians.

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3. Stop behind marked or unmarked crosswalk or stop line. Without stop line or crosswalk, stop even with the stop sign. If sign is placed such that a driver should not stop at the stop sign, stop at the point nearest the intersecting roadway where the driver has a view of approaching traffic on the intersection roadway. A driver's choices for stopping are, in order, 1) stop line, 2) stop sign, and 3) common sense.

NOTE: At a cross street, the driver may have to make two or more complete stops. The driver must stop at the designated stop and if unable to see, he must move forward until he is able to see clearly in all directions and stop again before proceeding.

B. INVERTED TRIANGLE – YIELD

1. Slow down and be ready to stop if needed. Give the right-of-way to traffic and pedestrians.

C. CROSSBUCK – RAILROAD CROSSING

1. In Kentucky, school bus drivers must stop at all railroad crossings 15 to 50 feet behind the tracks.

D. RECTANGLE – REGULATORY

1. Inform drivers about traffic laws and regulations and also serve as directional guides.

E. ROUND – RAILROAD CROSSING (warns of a railroad crossing ahead)

1. Slow down and be prepared to stop. Kentucky school buses must stop 15 to 50 feet behind the tracks.

F. PENNANT – NO PASSING (usually found on left side of road)

G. PENTAGON – SCHOOL

1. Slow down and watch for children.

H. TRIANGLE – SLOW MOVING VEHICLE (vehicle carrying this sign cannot travel faster than 25 mph)

I. SHIELDS – GUIDE (identifies highway by number and symbol as part of national, state or local system)

Sign Colors

1. RED – stop, yield or a prohibition
2. YELLOW – warning
3. ORANGE – construction and maintenance warning
4. GREEN – indicates movements permitted and direction guidance
5. WHITE – regulation
6. BLACK – regulation
7. BLUE – motorist services guidance
8. BROWN – public recreation and scenic guidance

Traffic Control Signals

A. TRAFFIC LIGHTS

1. RED – Stop at stoplight or behind crosswalk. **A right turn on red is not allowed in a Kentucky school bus.**
2. YELLOW – Warning. Light is about to change from green to red. Do not enter intersection. A vehicle should clear the intersection by the time the light changes or if unable to, the vehicle should stop.
3. GREEN – Go, but first check to see that intersection is clear. Yield to vehicles and pedestrians in intersection.

B. ARROW

C. STEADY GREEN – Turn in the direction shown by arrow. Yield to pedestrians and other traffic in intersection.

D. FLASHING SIGNALS

1RED – Come to full stop. Proceed when road is clear.

1YELLOW – Caution. Slow down, look carefully and proceed with caution.

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E. LANE SIGNALS

1. GREEN – A steady green arrow pointed downward indicates drivers are permitted to drive in that lane.
2. YELLOW – A steady yellow “X” indicates that drivers should clear that lane, as signal is preparing to change to red.
3. RED – A steady red “X” indicates that drivers should not drive in that lane.

F. PAVEMENT MARKINGS

1. YELLOW LINES – Separate lanes moving in opposite directions.
2. BROKEN YELLOW LINES – Indicates that passing is permitted when line is on your side of the road.
3. SOLID YELLOW LINES – Indicates that passing is prohibited if the line is on your side of the road.
4. DOUBLE SOLID YELLOW LINES – Indicates that passing is prohibited in either direction on two-lane roads. Double solid yellow lines also indicate the center of the road on roads of four or more lanes.
5. CENTER LANE, LEFT TURN ONLY (marked on both sides by solid yellow and broken yellow lines) – Use only when turning left. Do not use for passing.
6. BROKEN WHITE LINES – Separate traffic lanes moving in the same direction.
7. SOLID WHITE LINES – Used to channel traffic and prevent lane changes near intersections.
8. CROSSWALK LINES – Indicate where pedestrians are to cross. Do not block crosswalks. Yield to pedestrians.
9. STOP LINES – Indicate where a vehicle must stop at intersections.

Symbols

1. WHITE ARROWS – Lanes marked with white arrows indicate the direction in which the driver must proceed.

HAZARDS

1. Spaces between parked vehicles through which pedestrians and animals may dart into street.
2. Parked vehicle that may suddenly move into path of the bus.
3. Occupants of parked vehicles who may suddenly open doors.
4. Any other situation that may cause a collision.

Cues

1. Exhaust fumes coming from vehicle.
2. Backup lights on.
3. Brake lights on.
4. Front wheels turned toward traffic lane.
5. Driver looking back over shoulder.
6. Turn signal flashing.
7. Any movement.

Techniques

1. Maintain reasonable speed.
2. Maintain lane position, leaving reasonable clearance between bus and parked vehicles.
3. Be ready to stop.
4. Change lanes if necessary.
5. Look for a place to steer away from the obstacle.

Oncoming Traffic

1. Maintain position to right of center line.



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2. Observe roadway for slow-moving traffic, which might force oncoming vehicles across the center line.
3. Take in the whole picture.
4. Be prepared to stop.
5. Look for a place to steer away from the obstacle.

YIELDING

1. Yield to any vehicle that is already in an intersection.
2. When reaching an intersection at the same time as another vehicle, yield to the vehicle on the right.
3. When approaching a yield sign, slow down to a reasonable speed and yield the right-of-way to any vehicle in the intersection and to approaching traffic.
4. When merging at a stop intersection, stop and yield the right-of-way to any vehicle in intersection and to approaching traffic.
5. When merging onto a main highway with or without signs, yield to any vehicle close enough to be an immediate danger.
6. When making a left turn, yield right-of-way to oncoming traffic.
7. Stop, then yield the right-of-way.
8. When entering a highway from an alley, private road or driveway.

Emergency Vehicles

Yield to emergency vehicles that are sounding a siren and/or flashing warning lights by turning as far as possible to the right and stopping. Generally, a driver should never turn left.

Pedestrians

1. AT STOP SIGNS – After coming to a complete stop, give the right-of-way to pedestrians crossing the street.
2. AT TRAFFIC STOPS – After a light turns green, yield to pedestrians still crossing the street. Also yield to pedestrians walking with a green light or a walk signal.
3. AT STEADY GREEN ARROW – Yield to conflicting cars and pedestrians.
4. AT CROSSWALKS – When pedestrians are crossing the street at crosswalks, slow down or stop before reaching the crosswalk.
5. WHEN TURNING – Yield to pedestrians when turning at intersections or when entering alley or driveway.
6. WHEN ENTERING A STREET – Yield to pedestrians in your path when driving onto street or highway from driveway or alley.
7. YIELD at all times when collisions with pedestrians are possible.
8. WHEN MEETING BLIND PEDESTRIANS – Bring vehicle to a complete stop at least 15 feet from a blind pedestrian that is crossing in front of you.
9. YIELD TO FUNERAL PROCESSIONS.
10. YIELD when directed to do so by a police officer.

Regulations

Yield right-of-way to pedestrians:

1. at stop signs
2. at traffic signals
3. at crosswalks
4. when turning
5. when entering a street from a driveway or alley
6. when meeting blind pedestrians

Techniques

1. LEAVE PLENTY OF ROOM FOR CYCLISTS
 - a. When approaching cyclists, give short beep on horn at least 200 feet or five bus

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- lengths prior to passing to warn them that you are there.
- b. Watch for cyclists at night, as they may not have proper lighting.
- c. Provide an adequate clearance space when passing.
- 2. WATCH FOR ANIMALS ON OR ALONG ROADWAY.
 - a. Slow down when entering animal crossing zones or when noting animals on or along roadway.
 - b. If an animal enters a roadway, prepare to stop or maneuver if traffic permits. Hit the animal if stopping or maneuvering would jeopardize your own safety or that of students, other motorists or pedestrians. This is a last, desperate option.

INTERSECTIONS

Procedure Approach

When approaching an intersection:

1. Slow down in sufficient time to avoid stopping in the intersection or on crosswalk.
2. Observe signs providing lane information and enter the correct lane as early as possible, but no later than 100 feet before reaching intersection.

When intending to turn:

1. Enter far right lane for a right turn or far left authorized lane for a left turn, unless otherwise directed.
2. Check mirrors.
3. Signal intention to turn as soon as possible without causing confusion, but no later than 100 feet before reaching intersection unless it would confuse other motorists.

If unable to enter correct lane for a turn:

1. proceed to the next intersection.

Regulations

1. If an officer and traffic control devices are in conflict, follow officer's directions.
2. Prepare to stop if the light is red, flashing red or yellow.
3. Proceed with caution although ready to stop if light is flashing yellow.
4. Slow down and prepare to stop if traffic light is changing from green to yellow.
5. Proceed through intersection when light changes from green to yellow if stopping would cause conflict with following vehicles. However, your bus should clear the intersection before the light turns red. If in doubt, do not proceed.
6. Slow down in preparation for stopping at an intersection controlled by a stop arm.
7. Slow down sufficiently to stop if necessary at an intersection controlled by a yield sign, and proceed cautiously only when intersection is clear.

PRECAUTIONS

1. Observe oncoming traffic for an indication of a left turn, and prepare to stop quickly if oncoming vehicle suddenly makes a left turn.
2. Reduce speed to enable left-turning vehicle in intersection to complete turn, and be ready to stop if the vehicle does not complete the turn.
3. Observe path ahead of a left- or right-turning vehicle to anticipate a forced stop by turning vehicle.
4. Slow down or stop to permit a vehicle approaching from right to clear intersection if vehicle is close and rapidly approaching intersection.
5. Observe path of vehicle approaching from right to anticipate vehicle entering intersection.
6. When vehicle approaches from left and the bus is on a major road, observe other vehicles for an indication of slowing down and prepare to stop if the vehicle on the left does not yield right-of-way.

PROCEEDING THROUGH INTERSECTIONS

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Procedure

- a. Be ready to stop.
- b. Observe path of traffic ahead to anticipate any stops and prepare to stop should the lead vehicle stop suddenly.
- c. Stop if oncoming traffic suddenly makes left turn across path of bus.
- d. Observe traffic from left. If a vehicle signals for a right turn, do not pull out until the vehicle begins to turn.
- e. Observe traffic from right before entering an intersection and enter only when safe passage is assured.
- f. Slow down and proceed cautiously if pedestrians are near the corner, yielding right-of-way or stopping if pedestrian enters street.
- g. Observe oncoming traffic preparing to turn left and prepare to stop should a left turn be initiated.

It is recommended that a school bus driver NEVER signal another driver to proceed.

Response

1. When light changes from red to yellow, do not anticipate green light by moving on yellow light. Wait until light has changed to green before starting.
2. Enter intersection after checking for cross traffic if light is green or flashing yellow.
3. Come to a complete stop before proceeding through intersection if there is a flashing red light.
4. If green arrow governs the lane, proceed only in direction indicated by arrow.
5. When intersection is controlled by a stop sign, come to a complete stop, proceeding only when it will not interfere with cross traffic.
6. When encountering a yield sign, proceed only when it will not interfere with cross traffic.

OFF-STREET AREA ON LEFT

Procedure – Approach

1. Check mirrors for traffic flow.
2. Signal for left turn.
3. Position bus in lane just to right of center line or in left-turn-only lane.
4. Keep your wheels straight ahead.
5. Yield to oncoming traffic.
6. Watch for other traffic entering or exiting off-street areas.
7. Check mirrors for rear traffic and passing vehicles.
8. Check right mirrors to ensure that pivot point of bus will clear object on right.

Procedure – Turn

1. Complete turn.
2. Maintain safe entrance speed when turning into off-street area entrance.
3. Stop only after bus is completely through entrance and well off main roadway.

OFF-STREET AREA ON RIGHT

Procedure – Approach

1. Check mirrors for traffic flow.
2. Signal for turn.
3. If intending to turn into off-street area immediately beyond an intersection, activate turn signal when halfway through intersection so that vehicles do not interpret signal as an indication to turn at intersection. Signal for the benefit of other drivers. You know where you are going; they do not.
4. Position vehicle in appropriate lane.
5. Look for signs or entryway marking indicating direction of travel.
6. Adjust position of bus to provide proper clearance for entering off-street area.

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7. Check right mirror for passing vehicles and obstructions.
8. Check left mirrors to ensure that pivot point of bus will clear object on left.

Procedure – Turn

1. Complete turn.
2. Maintain safe entrance speed when turning into off-street area entrance.
3. Stop only after bus is completely through entrance and well off main roadway.

INTERSECTION – TURNING RIGHT

Procedure – Approach

1. Check mirrors.
2. Signal intention to turn well in advance of turn.
3. Both the approach for a right turn and the right turn itself shall be made as close as practical to the left edge of the right-turn lane.
4. Observe traffic controls before attempting to make right turn.
5. Check cross traffic on the left side of your bus and if there is a line of traffic, wait for a gap of sufficient size before proceeding.
6. Check cross traffic to right to make sure vehicles are not blocking passage in intended lane.
7. Check right arrow.

Procedure – Turn

1. Enter travel lane nearest curb, turning sharply enough to avoid blocking the left lane.
2. When making turn, use the hand-over-hand technique and turn the steering wheel all the way to the right if needed.
3. Avoid shifting gears or using hands for any other activities other than steering while turning.
4. Check mirrors for clearance of right rear duals as you turn.
5. Check mirrors on left to ascertain that pivot point is clear.
6. Accelerate slightly out of turn.
7. Steering recovery should be done using hand-over-hand technique (explain tracking).
8. After turn has been completed, check to see that directional signal has been cancelled.
9. Adjust vehicle speed to conditions.

Regulations – Right Turns

Both the approach for a right turn and a right turn itself shall be made as close as practical to the right curb or edge of roadway. (For school buses, this is the far left side of the right-turn lane – watch pivot point.)

Vehicular traffic facing a steady red signal, after stopping before entering the crosswalk or stop line, shall not make a right turn on a red light from a one-way or two-way street into a two-way street or into a one-way street carrying traffic in direction of the right turn. The vehicular traffic shall yield right-of-way to pedestrians lawfully within an adjacent crosswalk and to other traffic lawfully using intersection.

A right turn on red in a school bus is not a wise move because of the time element. It is felt that the benefits of such a turn are far outweighed by the additional chances that a driver must take.

As a result, a right turn on red is prohibited in a Kentucky school bus.

INTERSECTIONS – TURNING LEFT

Procedure – Approach

1. Observe traffic controls before making turn.
2. Check mirrors.

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3. Signal intention to turn well in advance of intersection.
4. Reduce speed of bus.
5. Check cross traffic and wait until there is a sufficient gap in traffic from left and right before proceeding to turn.
6. Observe traffic and pedestrians for clear way to make turn.
7. Yield to oncoming traffic.
8. Check right mirrors to ascertain that pivot point is clear.

Procedure – Turn

1. When making a turn, use hand-over-hand technique and turn the steering wheel all the way to the left if needed.
2. Avoid shifting gears or using hands for any activities other than steering while making the turn.
3. Steering recovery should be done using hand-over-hand technique (explain tracking).
4. Enter lane to right of center line or the closest lane from the direction of the turn.
5. When turning onto a one-way street, turn into left lane unless otherwise marked.
6. Check to be sure that directional signal has been cancelled after completing the turn.
7. Adjust speed to conditions.

Regulations – Left Turn

1. To make a left turn, move into lane next to the center line or into the left-turn-only lane. On one-way street, enter the left (curb) lane.
2. When turning into one-way street or highway, drive into lane to right of center line. When turning into one-way street, turn into left lane.
3. Vehicular traffic facing steady red signal, after stopping before entering crosswalk or stop line, may legally make a left turn from a one-way on a one-way road carrying traffic in the direction of the left turn unless prohibited by sign, signal, marking, light or other traffic control device. **This is not allowed in a Kentucky school bus.** Vehicular traffic shall yield the right-of-way to pedestrians lawfully within adjacent crosswalk and to other traffic lawfully using intersection.



URBAN (CITY) DRIVING SKILLS

Urban traffic demands a high level of concentration on the part of the bus driver due to the high number of events occurring in the driving environment. You can expect more traffic conflicts, more pedestrian and cycle interaction and more complex maneuvers than in any other area.

TUNNEL OR BRIDGE

Procedure – Approach

1. Slow down for better control.
2. Remain to the right to provide clearance with traffic in adjacent lane.
3. Look for signs regarding:
 - lane availability and usage
 - clearance
 - load limit
 - speed limit and passing restrictions and/or
 - use of lights in a tunnel

Procedures – Travel Through or Across

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1. Observe other traffic and lane side structures.
2. Remove sunglasses in tunnel, if worn.
3. Adjust speed to grade changes and observe speedometer frequently.
4. Stop only if traffic flow required it or if emergency exists.
5. Turn lights on in tunnel, if necessary.

Procedures – Exiting Tunnel or Bridge

1. Observe posted signs regarding exit information and speed limit.
2. Turn off lights upon leaving tunnel during daylight hours.
3. Be prepared for wind bursts when existing the tunnel.

MERGING

Procedure – Approach

1. When approaching an entrance ramp, observe information signs indicating correct lane or ramp usage, speed, lights and warning.
2. When entering an entrance ramp, check for:
 - an acceleration lane at the end of the entrance ramp.
 - exit ramp which shares portion of entrance ramp.
 - observe entrance ramp/main roadway configuration to aid in judging merging distance and pattern.
 - check mirrors carefully.
 - glance back briefly and quickly over left shoulder to check location and speed of traffic on main roadway.
 - check location and speed of load vehicles on entrance ramp acceleration lane.
 - make initial speed adjustment based on entrance ramp/roadway configuration and traffic conditions.
 - prepare to enter the acceleration lane.



Procedure – Entrance

1. Check mirrors.
2. Signal intention to merge.
3. **Glance** back to check for gap in merging lane. (If merging from right, glance over left shoulder.)
4. Adjust speed as necessary to merge safely.
5. Try to maintain same speed as the traffic with which you are merging.
6. Recheck traffic in merging lane with mirrors and head check.
7. Merge with traffic.
8. Adjust speed to traffic.

ROADWAY EXITING

Procedure – Approach

1. Look for correct exit.
2. Check mirrors.
3. Move into proper lane.
4. Watch for deceleration lane.
5. Check mirror.
6. Signal intention to turn.

Procedure – Exit

1. Reduce speed on deceleration lane (not before), if possible to do so.
2. Watch for exit ramp speed limit sign.
3. When deceleration lane is part of acceleration lane, watch for entering vehicles.
4. Observe speed limit signs.
5. Drive in center of appropriate lane and stay clear of barriers.

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6. Watch for other vehicles changing lanes.
7. Observe signs on cross roadways giving information on alternate destinations.
8. Check speed.
9. When nearing end of exit ramp, slow down and prepare to stop. Watch for traffic that may be stopped or waiting in line at the end of ramp.

TRAFFIC CIRCLES

Procedure – Negotiation

1. Enter traffic circle in counter-clockwise direction, if appropriate.
2. Yield to vehicles already in the circle.
3. Remain in outer lane at a consistent speed.
4. Maintain a slow speed.

LANE CHANGING

Procedure – Preparation

1. Signal intention to change lanes.
2. Check mirrors to see if other vehicles are about to enter your new lane.
3. Check for vehicles in blind spots with convex (fender) mirrors.
4. Head check for blind spots (to left only).
5. Maintain constant, steady speed throughout lane change.

Procedure – During Change

1. Turn steering wheel sufficiently to slowly enter new lane.
2. Position bus in center of new lane.
3. Check to see that directional signal is cancelled.
4. Check mirror upon completion.
5. Adjust speed to that of traffic in new lane.

REGULATIONS REGARDING LANE CHANGES

1. The driver of any vehicle on a highway, before stopping or turning from a direct line, shall signal intended movement.
2. Do not change lanes when prohibited by regulatory signs or when solid yellow line is on your side of highway markings.

SOME CONDITIONS DETERMINING LANE CHANGES

1. When a lane is blocked by another vehicle
2. Collision
3. Detour
4. Road construction
5. Slow-moving vehicle
6. Cyclists and pedestrians
7. Road defects
8. Debris in lane

Lane changing is one of the most dangerous and difficult maneuvers that a driver can make. Change lanes only when absolutely necessary.

PASSING

Procedure – Preparation

1. Using rear-view mirrors, check to be sure that traffic following a bus is clear for passing. On a two-lane road, check for oncoming traffic and traffic signals.
2. Bus drivers should have a minimum of 15 seconds of visual lead time to activate turn signals well in advance of passing.

Procedure – During Pass

1. Move into passing lane and attempt to maintain a constant speed.

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2. Check for clearance and signal before returning to original lane.

Procedure – Returning to Original Lane

1. Move into original lane.
2. Cancel turn signal.
3. Check mirrors upon completion.
4. Maintain safe and authorized speed.

Times When Passing on Left is Permitted

1. When overtaking other traffic moving in same direction where passing is allowed and safe.
2. When right half of road is blocked. Yield to oncoming traffic.
3. When using a street with two or more lanes for one-way traffic, and when there is slower traffic in right lane.



TIMES WHEN PASSING ON LEFT IS PROHIBITED

1. When approaching crest of a hill on a two-way roadway or a curve in highway where the driver's view is obstructed.
2. When view is obstructed upon approaching within 100 feet of any bridge, viaduct or tunnel.
3. When there is oncoming traffic that is close enough to be a danger.
4. When there is a solid line in your lane.
5. When there is a no passing sign.

TIMES WHEN PASSING ON RIGHT IS PERMITTED

1. When vehicle being overtaken is making a left turn, if you do not leave the existing roadway.
2. When two or more lanes of traffic are moving in the same direction.

Times When Passing on Right is Prohibited

1. When passing movement causes vehicle to drive off of pavement or main traveled portion of the existing roadway.
2. You should not leave the existing roadway to pass on the right.

“Behind-the-Wheel” (BTW) Driving

BTW driving is composed of:

1. Vehicle operation (minimum three hours)
2. Vehicle-at-speed (minimum one hour)
3. Bus route identification, route review and instruction (minimum two hours)
4. Driver Review I (minimum two hours)
5. Driver Review II (minimum two hours)
6. Driver Review III (minimum one hour)

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CHAPTER 5

LOADING AND UNLOADING

OBJECTIVES

- Explain the proper behavior for students while waiting for the school bus
- Perform necessary and safe actions for loading and unloading students

INTRODUCTION

Each year, several fatalities occur at or near school bus stops across the country. The tragic loss of life in a loading or unloading incident receives less media attention than an incident that takes many lives at one time; however, it is just as painful to family, friends and loved ones.

The student is in the greatest danger while waiting, boarding and exiting a school bus. The driver of the school bus must follow proper procedures in order to give the most reasonable and safe protection to those school students for which he or she is responsible.

In this unit, we will be dealing with student behavior at school bus stops and proper loading and unloading procedures in various situations.

LOADING PROCEDURE

The following sequence shall be used when loading students:

APPROACH

- Step 1. Visual scan
- Step 2. Tap brakes
- Step 3. Visual scan
- Step 4. Warning lights

STOP

- Step 5. Set parking brake
- Step 6. Gear
- Step 7. Visual scan
- Step 8. Stop arm, red loading lights and crossing gate, if equipped

LOADING

- Step 9. Visual scan
- Step 10. Open service door
- Step 11. Handrail
- Step 12. Count and greet students
- Step 13. Seating

DOOR

- Step 14. Visual scan
- Step 15. Close service door
- Step 16. Place into proper gear
- Step 17. Release parking brake
- Step 18. Visual scan

STEP-BY-STEP DETAILS

APPROACH

Step 1 – Visual Scan

Perform a visual scan – look for pedestrians and vehicular traffic – as you reduce your speed. Check mirrors.

Step 2 – Tap Brakes

Lightly apply the service brake (three to five times) in order to activate the brake lights to

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warn motorists of your intention to stop.

Step 3 – Visual Scan

Perform a visual scan, looking for pedestrians or vehicular traffic that may converge on the loading area. Check mirrors.

Step 4 – Warning Lights

Activate the warning lights 150 to 200 feet, which is four to six bus lengths, from the loading area. Check the yellow indicator light to ensure warning lights are operating.

STOP

Step 5 – Set Parking Brake

Bring the bus to a complete stop 10 feet from the nearest student. Set the parking brake.

Step 6 – Gear

Place gear selector in park or neutral.

Step 7 – Visual Scan

Perform a visual scan for pedestrians and vehicular traffic. Check mirrors.

Step 8 – Stop Arm, Red Loading Lights and Crossing Gate, If Equipped

When safe to do so, activate the red loading lights by activating the stop arm (150 to 200 feet before stop).

Check the red indicator light to ensure the red loading lights are operating. Visually check to see that the stop arm and crossing gate, if equipped, has opened out.

LOADING

Step 9 – Visual Scan

Perform a visual scan to ensure all vehicular traffic has stopped. Check mirrors.

Step 10 – Open Service Door

Students shall board the bus in an orderly manner. All students must wait until the bus arrives at the stop and driver signals the student(s) to board. Those students who must cross the road shall do so at least 10 to 15 feet in front of the bus. Every effort shall be made to keep students from having to cross the road.

Step 11 – Handrail

Students shall use the handrail as they board the bus if needed.

Step 12 – Count and Greet Students

The bus driver shall count and greet the students as they board the bus.

Step 13 - Seating

Students shall go directly to their seats after boarding the bus.

DOOR

Step 14 – Visual Scan

The driver shall perform a visual scan to ensure that all students have boarded the bus, checking the danger zone around the bus for pedestrian and vehicular traffic. Check mirrors.

Step 15 – Service Door

After the driver ascertains that it is safe to do so, he or she may close the service door. The driver shall double check the step well to ensure that no students are stuck in the door, handrail, et cetera.

Step 16 – Gear

The driver shall place the gear selector in proper gear.

Step 17 – Release Parking Brake

With his or her foot on the service brake, the driver may release the parking brake.

Step 18 – Visual Scan

The driver shall perform another visual scan of pedestrian and vehicular traffic. Check mirrors. Proceed when safe to do so.

UNLOADING PROCEDURE

The following step-by-step sequence shall be used when unloading students:

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APPROACH

- Step 1. Visual scan
- Step 2. Tap brakes
- Step 3. Visual scan
- Step 4. Warning lights

STOP

- Step 5. Set parking brake
- Step 6. Gear
- Step 7. Visual scan
- Step 8. Stop arm, red loading lights and crossing gate, if equipped

LOADING

- Step 9. Visual scan
- Step 10. Open service door
- Step 11. Count students
- Step 12. Handrail
- Step 13. All clear

DOOR

- Step 14. Close service door
- Step 15. Visual scan
- Step 16. Gear
- Step 17. Release parking brake
- Step 18. Visual scan

STEP-BY-STEP DETAILS

APPROACH

Step 1 – Visual Scan

Perform a visual scan – look for pedestrians and vehicular traffic – as you reduce your speed. Check mirrors.

Step 2 – Tap Brakes

Lightly apply the service brake (three to five times) in order to activate the brake lights to warn motorists of your intention to stop.

Step 3 – Visual Scan

Perform a visual scan, looking for pedestrians or vehicular traffic that may converge on the loading area. Check mirrors.

Step 4 – Warning Lights

Activate the warning lights 150 to 200 feet, which is four to six bus lengths, from the loading area. Check the yellow indicator light to ensure warning lights are operating.

STOP

Step 5 – Set Parking Brake

Bring the bus to a complete stop 10 feet from the nearest student. Set the parking brake.

Step 6 – Gear

Place gear selector in park or neutral.

Step 7 – Visual Scan

Perform a visual scan for pedestrians and vehicular traffic. Check mirrors.

Step 8 – Stop Arm, Red Loading Lights and Crossing Gate, If Equipped

When safe to do so, activate the red loading lights by activating the stop arm (150 to 200 feet before stop).

Check the red indicator light to ensure the red loading lights are operating. Visually check to see that the stop arm and crossing gate, if equipped, has opened out.

EXIT

Step 9 – Visual Scan

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Perform a visual scan to ensure all vehicular traffic has stopped. Check mirrors.

Step 10 – Open Service Door

When safe to do so, open the service door all the way.

Step 11 – Count students

Count the students as they exit the bus. All students must wait until the driver signals them to exit the bus. If a student must cross the road, he or she shall do so 10 to 15 feet in front of the bus after being signaled to cross by the school bus driver.

Step 12 – Handrail

Students shall use the handrail as they exit the bus. The driver shall be sure that no student has snagged any object or piece of clothing in the handrail.

Step 13 – All Clear

The driver shall ascertain, by count and visual scan of the danger zone around the bus, that all students have safely cleared the roadway.

DOOR

Step 14 – Close Service Door

After the driver ascertains that it is safe to do so, he or she may close the service door. The driver shall double check the step well to ensure that no students are stuck in the door, handrail, et cetera.

Step 15 – Visual Scan

The driver shall perform a visual scan of pedestrian and vehicular traffic. Check mirrors.

Step 16 – Gear

The driver shall place the gear selector in proper gear.

Step 17 – Release Parking Brake

With foot on service brake, the driver may release the parking brake.

Step 18 – Visual Scan

The driver shall perform another visual scan of pedestrian and vehicular traffic. Check mirrors. Proceed when safe to do so.

LOADING

Following is the summarization of the step-by-step procedures. Loading students at the bus stop should be done in the following manner:

1. Slow down well in advance of the designated stop. Perform a visual scan. Tap the service brake three to five times to activate the brake lights and alert motorists of your intention to stop. Perform a visual scan to include mirrors.
2. Activate the yellow warning lights at least 150 to 200 feet (four to six bus lengths) from the loading zone. Check the yellow indicator light to ensure that the lights are functioning properly.
3. When the bus has completely stopped, set the parking brake, place the transmission selector in park or neutral, perform a visual scan to include mirrors and activate the stop arm, red flashing loading and crossing gate, if equipped. Check the red indicator light to ensure the red loading are operating and the stop arm has opened out. Continue performing a visual scan.
4. **NOTE:** The stop arm shall be used at all times when loading or unloading students. This includes while on school property.
5. Stop 10 feet from loading zone and have the students walk to the bus.
6. A bus driver should not stop a school bus within an intersection or within 30 feet of any flashing beacon, stop sign or traffic control signal located at the side of a roadway.
7. Make sure all traffic has stopped before loading. You should continue to be aware of the traffic environment while loading the students (visual scan).
8. Students who live on the opposite side of the roadway from the bus stop are not to cross the roadway until the bus arrives on the scene, stops traffic with lights and the stop arm and the driver signals to cross at a distance of 10 to 15 feet in front of the bus. The driver and students shall have eye contact until the road crossing is complete.
9. When loading students, set the parking brake and place the transmission in park or

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neutral.

10. When buses are being loaded or unloaded, the driver shall be on the bus.
11. While a school bus is parked to load or unload students, another school bus should not pass. School bus drivers should set the example for all other drivers. **This includes when the bus is on school grounds.**
12. Students should enter the bus in an orderly manner. They should use the handrail when loading. Do not allow students to push, shove or carry unauthorized objects aboard.
13. NOTE: Beware of clothing and/or accessories that may get caught in the handrail area prior to proceeding.
14. Make sure students are properly seated, then close the door, canceling the stop arm and lights. With foot on service brake, perform a visual scan of traffic and of the danger zone around the bus. Place the bus in proper gear and, when safe to do so, release the parking brake and proceed while continuing to perform a visual scan.
15. NOTE: Students are to remain seated at all times.

UNLOADING

1. Reduce speed well in advance of the designated stop as you perform a visual scan. Tap the service brake three to five times to activate brake lights and alert motorists of your intention to stop while continuing to perform a visual scan of pedestrian and vehicular traffic, including checking the mirrors.
2. Activate the warning lights at least 150 to 200 feet (four to six bus lengths) from the unloading zone. Check the indicator light to ensure the warning lights are operating.
3. When the bus has completely stopped, the driver shall set the parking brake, place the transmission in park or neutral, perform a visual scan of traffic and, when safe to do so, activate the stop arm, red flashing loading lights and crossing gate, if equipped. The driver shall check the red indicator light to ensure that the red loading lights are functioning and also visually check that the stop arm has opened out.
4. NOTE: The stop arm shall be used at all times when loading or unloading students. This includes while on school property.



5. Students should remain seated until the bus comes to a complete stop. You should not stop a bus within an intersection or within 30 feet of any flashing beacon, stop sign or traffic control signal located at the side of a roadway.
6. The driver shall perform a visual traffic scan, including mirrors, and when safe to do so, open the service door.
7. The driver shall not permit the student(s) to exit the bus until traffic has come to a

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- complete stop. The driver should then continue to be aware of the traffic environment while unloading the students.
8. Students should exit the bus in an orderly manner. They should use the handrail when unloading. Do not allow the students to push or shove. Check the step well and service area outside the bus to ensure that no student is caught in the handrail or in the service door area by clothing, backpack strings or straps, etc.
 9. When buses are being loaded or unloaded, the driver shall be on the bus.
 10. While a school bus is parked to load or unload students, other school buses should not pass. School bus drivers should set the example for all other drivers. This includes during the time the bus is parked on school grounds.
 11. Do not permit the pupils to get off any place except their regular stop unless they have written permission, authorized with the signature of the school administrator and proper date and time.
 12. Count students as they leave (and enter) the bus and visually check again before you pull away. Check all mirrors to see whether students have cleared the roadway and that the danger zone area around the bus is free of pedestrians. You must be sure you are clear to leave the bus stop without endangering any students.
 13. Students who live on the opposite side of the roadway shall wait for the driver to signal when it is safe to cross the roadway. The student(s) shall cross 10 to 15 feet in front of the bus in order to have eye contact with the driver until the roadway crossing is complete.
 14. Every effort must be made to keep students from having to cross roadways. KRS 189.375 states in part, “however, no driver shall stop a school bus or church bus and allow it to remain standing for the purpose of discharging students to the opposite side of the road on a highway of four or more lanes, provided that this provision does not prohibit the discharging of students at a marked pedestrian crossing.”

BUS STOP BEHAVIOR

Most school bus-related fatalities occur outside the bus. Darkness in the early morning and active youngsters waiting for the school bus combine to make this time of day especially dangerous. It is a school bus driver’s duty, at the earliest possible opportunity in the beginning of the school year, to instruct his or her students on how and where to wait for a school bus. A student waiting for the school bus should:

1. arrive 5 minutes before the time his or her bus is to arrive. The bus driver cannot wait.
2. wait well away from the street or road.
3. wait on the side of the street on which the he or she lives. The student should not cross the street until the bus comes to a complete stop, traffic in both directions is controlled and the driver signals him or her to cross. The student shall cross in front of the bus at a distance of approximately 10 to 15 feet from the bus in order for the driver to see him or her, signal the student and maintain eye contact until the road crossing is complete.
4. respect the property of others. Avoid walking on the grass, littering, picking flowers, damaging shrubs, et cetera.
5. keep belongings out of the roadway.
6. **NOTE:** If a student should drop an object in the roadway, he or she should never stop to pick it up until the driver is made aware and gives permission.
7. avoid loud behavior. Proper behavior is expected at all times.
8. line up in a single line, well away from the street (at least two big steps from the curb) when the bus is sighted.
9. approach the bus after it stops and board in an orderly manner, after the driver’s signal, using the handrail.
10. go immediately to his or her seat and sit down facing forward. The bus driver cannot start the bus until everyone is seated.

The bus driver has the responsibility of controlling traffic while loading and unloading the students on his or her bus. He or she has to minimize the risks involved with their loading. To do this, he or she must correctly follow the aforementioned guidelines.

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CHAPTER 6

DRIVING FUNDAMENTALS

OBJECTIVES

- Overview of responsibilities while driving a school bus
- Learn procedures for safely and efficiently driving a school bus
- Practice operating a school bus safely and efficiently in accordance with applicable laws and regulations

PERFORMANCE STANDARDS

All drivers must demonstrate their ability to apply all the knowledge and skills gained during the instructional phase of this unit by successfully completing the over-the-road test with a minimum proficiency of 80 percent and scoring 80 percent or more on the written exam.

INTRODUCTION

In the past, accidents involving school buses were caused by the school bus driver in about 50 percent of the cases. Proper driving fundamentals were not followed in many of these incidents. School bus drivers have been entrusted with a most precious cargo – our children. A great responsibility is assumed by an individual who becomes a school bus driver.

This unit will cover:

1. Getting ready to drive
2. Characteristics of a school bus
3. Starting the engine
4. Use of transmissions
5. Steering and turning the bus
6. Stopping, starting the bus
7. Parking the bus
8. Use of mirrors
9. Danger zone
10. Backing the bus
11. Crossing railroads
12. Maneuvering the bus
 - a. Enter flow of traffic
 - b. Adjusting speed of bus
 - c. Lane use and position of roadway
 - d. Being overtaken and passed
 - e. Overtaking and passing
 - f. Following a bus
13. Speed and traffic laws
 - a. Crossing an intersection
 - b. Turning on red
 - c. Traffic control devices and signs



GETTING READY TO DRIVE

There are several tasks a driver must complete in order to get ready to drive a school bus. To many of you, these might seem very simple and should not be given any attention. After all, doesn't everybody know how to start a motor vehicle?

We will discuss all the little things which must be considered in order to properly drive a school bus. If you take care of the little things, the big things will take care of themselves.

- A good bus driver positions himself in control. The driver must be in a position to

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be able to reach and operate the controls in comfort and see all the way around the bus. A driver shall use his or her right foot only when driving a bus equipped with an automatic transmission.

- The seat must be adjusted so that the driver's feet can operate the brake pedal, clutch, accelerator and light dimmer switch easily.
- All mirrors must be adjusted for optimum vision of traffic behind the bus, to both sides and across the front of the bus.
- Driver must fasten and adjust seat belt.
- If bus is unfamiliar and has a manual transmission, go through shift pattern with clutch depressed.

When driving a school bus, drivers will be handling a vehicle that is much larger than the vehicle many of them are accustomed to driving. What are some of the similarities between a car and a school bus? What are some of the differences between a car and a school bus?

The major differences between a car and a school bus are:

- A bus is longer and heavier.
- A bus is higher and wider, requiring more clearance than that for a car.
- A bus has slower acceleration.
- A bus requires longer stopping distance.
- Buses have a wider turning radius, meaning they take more room to turn.
- Bus drivers must rely more on mirrors for adequate rear, side and in some instances, front views.
- Buses have a pivot point when turning that causes the rear of the bus to swing wide out of its lane into the next lane.

There are some advantages associated with driving an oversized vehicle such as a school bus. The height gives a better view of traffic ahead and a better chance to avoid incidents. Other drivers can see you better, and the height offers protection in case of an incident.

The disadvantages are that the vehicle is more susceptible to tipping and has a greater chance of hitting an overhead obstruction. You can compensate for that additional height by being alert, adjusting speed, changing lane position and using added caution. You must watch for traffic condition changes 12 to 15 seconds ahead of time.

The weight of a full-size, empty bus is approximately 12,000 pounds, and it weighs about 20,000 pounds when loaded with 64 students. This weight has an effect on our ability to stop, and we should be careful to avoid panic stops. To avoid panic stops, we must plan ahead, slow down sooner and drive defensively.

The width of a bus is 96 inches – 2 feet wider than a standard car and occupying one-third more lane space than a standard-size vehicle. To compensate for added width, you must plan ahead and adjust speed accordingly.

You must be fully aware of all the characteristics of each bus you drive because, even though all buses are similar, they have individual characteristics for which you must compensate. A school bus driver's prime responsibility is to deliver his or her precious cargo safely to their destinations. Knowing how the bus handles and knowing its characteristics will enable the driver to accomplish this task.

CONTROLS OF THE SCHOOL BUS

From the driver's seat, you will be able to see and monitor various aspects of the operation of the school bus. The controls that must be monitored and understood for safe, efficient and economical operation are located in the driver's area of the bus. It is very important that the driver fully understand the function of each of the controls and how to read each of them.

Located on the instrument panel in front of the driver are lights and gauges that indicate the status of various vehicle functions. To the driver's left are switches that control the lights and fans. The service door control is located to the right or left of the driver. The parking

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brake and transmission shift levers are located to the right of the driver. This arrangement is fairly standard for all school buses currently used in Kentucky.

We are now going to discuss each of these controls and determine how each one functions to give us the basic engine status. We will also interpret the readings of the lights and gauges.

Kentucky school buses will have, as a minimum, these instruments in the chassis instrument panel:

- Speedometer, showing miles per hour
- Odometer, showing accrued miles
- Volt meter
- Oil pressure gauges
- Water temperature gauges
- Fuel gauge
- High beam headlamp indicator
- Turn signal indicator lights
- Air gauge
- FMVSS 105 indicator lights
- Red light, indicating low air pressure or loss of hydraulic brake booster power

Drivers must be aware of the following indicators and what each reading means:

Oil Pressure Light or Gauge

- The oil pressure light or gauge indicates if there is sufficient pressure to circulate oil in the engine. If there is insufficient pressure, the warning light will flash red. The gauge will register pounds per square inch of oil pressure.

Temperature Light or Gauge

- The temperature light or gauge indicates proper temperature of water circulating in engine. Water is too hot if the red indicator light is showing or the gauge registers 220 degrees or above.

Volt Meter (Alternator Light)

- The volt meter (alternator light) indicates if there is sufficient energy to start the engine and run the electrical system. If energy is not sufficient, the red alternator light will show or the gauge will register on the discharge side with less than 12 volts.

Low Air Buzzer or Gauge

- The air pressure gauge indicates the amount of air pressure available. The low air pressure buzzer will sound if the pressure drops below 60 psi.

Fuel Gauge

- The fuel gauge must show adequate supply of fuel to complete trip.

STARTING A SCHOOL BUS ENGINE

It is necessary to properly start a school bus engine in order to safely operate the bus. Starting the engine must become a matter of routine, incorporating principles of safety and preventative practices.

The following is the correct sequence for starting a school bus engine:

1. Set the parking brake to keep the bus from moving.
2. Review gauges before starting.
3. Shift the gear lever into the neutral position.
4. Turn on the ignition key to complete electric circuits and engage the starter switch.
5. Warm up the engine at fast idle. **Do not race the engine.**
6. Check instruments to see that they are registering properly:
 - a. Volt meter shows 12 volts plus.
 - b. Oil pressure gauge registers at the middle of the gauge.
 - c. Temperature gauge is at the midpoint.
 - d. Fuel gauge registers full, or enough to complete the run.

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- e. Air pressure gauge indicates pressure is building.

On some occasions, especially during cold weather, the engine might be difficult to start and the air pressure will not build as a result of ice in the airlines. Drivers can correct these problems by taking appropriate actions.

In order to build air pressure in cold weather, the driver should:

1. release the parking brake.
2. start the engine.
3. run the engine at fast idle with the transmission in neutral.
4. depress the brake pedal and hold it.
5. when the pressure reaches 120, pump the brake several times.
6. let the pressure build up again without the brake pedal being depressed.
7. if the air pressure does not come up to its required level, repeat process.

To shut down a diesel engine:

1. bring the bus to a full stop.
2. set the parking brake.
3. place the transmission in neutral.
4. allow the engine to idle for at least 1 minute, by the clock.
5. after 1 minute, turn off the engine.
6. remove the key from the ignition.

The proper methods to use in operating a bus with an automatic transmission are:

1. Depress the foot brake and move the selector lever into the forward or drive position.
2. Release the parking brake, release the foot brake and depress the accelerator. As the speed of the bus increases, the transmission will automatically shift to the next higher gear, until reaching the cruising gear.
3. Downshift for additional power by depressing the accelerator toward the floor firmly. A driver can downshift manually by moving the selector lever to the next lower position.

STEERING

To be classified as an expert driver, a school bus driver must be able to assume the correct steering position and make all turning maneuvers correctly and smoothly. It is vital that each driver learn and execute the correct procedures necessary to prepare for making and executing turns. When an unusual turn or turnaround is required, the driver should use extreme caution. Added skills and judgement in making turns properly and safely are required as a result of the traffic conditions in which the bus travels each day.

In steering the school bus, it is very important for the driver to use both hands. The correct steering position is:

1. Grip the steering wheel with both hands.
2. Hold the left hand at approximately the 9 or 10 o'clock position.
3. Hold the right hand at approximately the 2 or 3 o'clock position.
4. Each hand should be located directly across from each other; for example, 9 and 3 o'clock or 10 and 2 o'clock.
5. Hands should be on the outside of the steering wheel, and thumbs on top or outside of the wheel.

VISUAL SCAN

The eyes should be focused on the road ahead as well as all around the bus. The correct way to accomplish this is to:

1. Keep your eyes constantly on the move to obtain the "big picture."
2. Look straight ahead. Use the left side, right side and rear view mirrors.



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To steer the bus, the driver should use the hand-over-hand method.

TURNING

There are some general procedures for turning the school bus that all drivers must know and utilize.

In preparing for turns, the driver must:

1. check traffic at the front, sides and rear of the bus.
2. give proper signals to move the school bus into the proper lane for turning.

When making turns, the driver must:

1. give the proper turn signal.
2. reduce speed and before turning, downshift to the proper gear needed to safely execute the turn.
3. check for a clear right-of-way to ensure that traffic signals give the right-of-way to you, watch for pedestrians, traffic control signs and other vehicles. Use all outside mirrors to check around the bus.

To properly execute the turn, the driver must:

1. make the turn smoothly without a strain on the engine.
2. never shift gears during a turn.
3. check mirrors before and while executing a turn.
4. enter the proper lane and check the turn signals for cancellation.
5. steer the wheels back into position by using the hand-over-hand recovery technique.

When turning right, school buses must have curb clearance for the rear wheels. Two procedures may be used in executing right turns. Regardless of the method used, the school bus driver must remember that the responsibility for making a safe turn rests with him or her.

One alternative is to approach the corner in the right lane, about 4 feet from the curb. The bus should be close enough to the curb to keep a car from passing on the right. As soon as the front wheels pass the corner, turn wide to the right, swinging over the center of the side street if necessary in order for the right rear wheels to clear the curb. (It is not recommended to cross the side street center lane marking.)

The other alternative, to be used when the street onto which the turn is to be made is narrow, may require the same approach as above, but then, steer left far enough to place the right rear wheel in position to miss the curb, but not far enough away to invite passing on the right.

MAKING A RIGHT TURN

1. Give the proper right turn signal.
2. Reduce speed and before turning, downshift to the proper gear needed to execute the turn.
3. Position the bus to the right side of the lane.
4. Check for a clear right-of-way.
 - a. Check traffic signals, signs, pedestrians and/or other vehicles.
 - b. Use both outside mirrors.
5. Execute the turn.
 - a. Make the turn smoothly without any strain on the engine.
 - b. Never shift gears during a turn.
 - c. Check the right and left mirrors while executing the turn. This will enable you to check your pivot point while turning.
 - d. Enter the most available right lane and check turn signal for cancellation.
 - e. Steer the wheels back into position by using the hand-over-hand recovery technique unless the bus is equipped with a non-tilt lap wheel.

MAKING A LEFT TURN

1. Give the proper left turn signal.

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2. Reduce speed and downshift, if needed.
3. Position the bus to the left edge of the lane.
4. Check for a clear right-of-way.
 - a. Check traffic signals, pedestrians or other vehicles.
 - b. Use both outside mirrors.
 - c. If required to stop, keep front wheels straight and brake pedal depressed. This will prevent drifting and activate the brake lights and also prevents being shoved into the line of approaching traffic if you were to be struck in the rear.
5. Execute the turn.
 - a. Drive into the intersection and make the turn smoothly, without strain on the engine.
 - b. Check the left and right mirrors while executing the turn.
 - c. Never shift gears in a turn.
 - d. Enter the roadway in the most available left lane and check the turn signal for cancellation.
6. After completing a left turn upon a multiple-lane highway or street, pick up speed, activate right turn signal and move into the right lane as soon as it is safe to do so.

MAKING A TURNAROUND – TWO POINT TURNAROUND

1. Give the proper turn signal and tap brakes well in advance of turnaround.
2. Stop the bus in the proper position on the roadway – one bus length ahead of the road to be backed into.
 - a. Check traffic – front and rear.
 - b. Visibility should be excellent in all directions.
 - c. Have traffic move around the bus, if possible.
 - d. Back into the roadway or driveway, using outside mirrors.
 - e. Check traffic and re-enter the roadway with caution after proper signaling.

LANE SELECTION IN TURNING

Turning left from:

1. Two-way roadway onto a two-way roadway with two, four or six lanes.
2. Two-way roadway onto a one-way roadway.
3. One-way roadway onto a two-way roadway.
4. One-way roadway onto another one-way roadway.
5. Two-way roadway onto a three-lane, two-way roadway.
6. Three-lane, two-way roadway onto a two-lane, two-way roadway.

Turn right from:

1. Any type of roadway onto any type of roadway.

STOPPING THE SCHOOL BUS

A professional school bus driver will always stop the school bus in a smooth and safe manner. The driver must have the bus under control at all times and know that the distance required to make a smooth, safe stop increases as the speed and weight of the bus increases.

The normal reaction time for most drivers is $\frac{3}{4}$ of a second. This might not seem like very much time, but even in $\frac{3}{4}$ of a second, the bus can cover a considerable distance depending upon the speed of the bus.

How far does a bus travel in the $\frac{3}{4}$ of a second that it takes a driver to remove his or her foot from the accelerator and apply the brake? This interesting bit of traffic arithmetic can be used to determine how far you would travel in $\frac{3}{4}$ of a second: Take the first digit of the speedometer reading and add it to the total speed. This will give the reaction distance in feet.

EXAMPLE: $36 \text{ mph} + 3 = 39 \text{ feet in } \frac{3}{4} \text{ second}$

$45 \text{ mph} + 4 = 49 \text{ feet in } \frac{3}{4} \text{ second}$

Now that the driver has the brakes on, the bus will still travel quite a distance before it can be brought to a stop. This is called braking distance.

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What determines braking distance?

Braking distance varies with speed. It increases at a geometric rate as speed increases. To stop a bus, the driver must allow for reaction time and braking distance. A driver can allow for this by maintaining a space cushion between the bus and the vehicle ahead.

To determine the safe following distance, the driver must allow 1 second of following distance for each 10 feet of vehicle length up to 40 mph. The driver should add 1 second if traveling over 40 mph.

In Kentucky, all bus drivers should assume that their vehicle is at least 40 feet long; hence, no driver should ever be closer than 4 seconds to the vehicle ahead. To apply the 4-second rule, a driver picks a point ahead (an overhead bridge, post, sign, et cetera). As the vehicle passes the selected point, start counting, “One thousand and one, one thousand and two, et cetera.” if you don’t complete “one thousand and four” by the time the front of the bus passes the selected point, you are following too closely.

Drivers should always operate their bus within posted speed limits and with consideration for road and weather conditions. Be sure to drive at a speed that will permit stopping within the clear distance ahead.

Correct stopping procedures reduce wear and tear on the brake system as well as maintenance costs. To stop correctly, a school bus driver must follow these procedures:

1. Release the accelerator and depress the brake pedal.
2. Apply brakes gradually by increasing the pressure.
3. Reduce brake pressure slightly, but not completely, just before coming to a stop to prevent jerking.

There will be occasions when it will become necessary for the bus driver to stop the bus on a hill or incline. To do this correctly the driver must:

1. Check for following traffic.
2. Apply the brake lightly for a smooth stop.
3. Allow an extra safety margin between the bus and the vehicle ahead.

PARKING THE SCHOOL BUS

Drivers must be able to park the bus in several situations. To comply with state laws and properly park the bus so that it will not become a traffic hazard or problem, drivers must know how to legally park the bus. Care must also be utilized when parking the bus so that incidents can be prevented and the safe, efficient operation of the bus continues.

Drivers will be required at one time or another to park the bus in the following ways:

- At an angle
- Perpendicular
- Parallel
- On a hill

The procedure for angle parking is:

1. When preparing to forward park in a 45-degree angle space, position the bus as far out in the driving lane as is practical.
2. Check the left, then right mirrors.
3. Signal for a right turn.
4. Drive forward past the right edge of the angle space and turn sharply so that the front bumper clears the left edge of the angle space.
5. Move forward slowly, watching the right mirror to see that the bus clears the right edge of the angle space.



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6. Position the bus in the center of the space.

The next procedure is the one that drivers will use most because it is used when parking the bus at most bus garages and compounds. The procedure for left side perpendicular parking is to:

1. Drive past the parking stall.
2. Check the left mirror.
3. Shift to reverse.
4. Turn the wheels to the left.
5. Slowly back toward the stall, observing the left mirror, then the right mirror for dual wheel positions.
6. Keep the left rear wheel close to the front corner of the stall.
7. Begin to straighten the wheels.
8. Use mirrors to monitor the direction of the bus.

Parallel parking is the next procedure that drivers must be able to perform correctly and legally. When preparing to parallel park:

1. Signal your intentions well ahead of time.
2. Position the bus next to and about 3 feet from the vehicle parked in front of the space to be occupied.
3. Stop when the rear of the bus is even with the rear of the front vehicle.
4. Check the left mirror, right mirror and then left mirror again.
5. Shift into reverse.
6. Back slowly while turning the steering wheel slowly to the right until the right rear wheel is in line with the rear or the front parked vehicle.
7. Straighten the steering wheel when the entrance door is in line with the rear of the vehicle parked in the front space.
8. Back straight in until the front bumper reaches the rear bumper of the front vehicle.
9. Continue backing slowly while turning the steering wheel sharply to left when the front of the bus clears the rear of the vehicle.
10. Check the left mirror to position the bus.
11. Stop the bus just short of the vehicle parked behind.
12. Shift into drive
13. Center the bus in the space no more than 1 foot from the curb.

Sometimes drivers will be faced with parking the bus on a hill. It is very important that the wheels be positioned properly when a bus is parked on a hill. The wheels must be positioned as follows:

- Parked on upgrade with curb, turn the wheels outward.
- Parked on upgrade without a curb, turn the wheels inward.
- Parked on downgrade with or without a curb, turn the wheels inward.

Given the high visibility and the public relations aspects of school bus drivers, it is important that the driver set a good example of obeying the law.

NO-PARKING ZONES

Parking a school bus is prohibited:

- on a sidewalk.
- in front of any driveway, alley, theater, emergency exit or fire escape.
- within intersections.
- within 15 feet of fire hydrants.
- on crosswalks.
- within 20 feet of crosswalks, or if none, within 15 feet of intersection of property lines at intersection of highways.
- between safety zones and adjacent curbs or within 30 feet of points on curb immediately opposite ends of the safety zone, unless a different length is indicated by official signs.

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- within 50 feet of the nearest rail or railroad crossing.
- within 20 feet of driveway entrance to any fire station and on the side of a street opposite entrance to any fire station, 75 feet of said entrance when proper signs are posted.
- along the side or opposite a street evacuation or obstruction when stopping, standing or parking would obstruct traffic.
- on highway side of a vehicle stopped or parked at the edge or curb or a street.
- upon a bridge or other elevated structure upon a highway or within a highway tunnel.
- at a place where official signs prohibit stopping.
- within 500 feet of an incident at which police officers are in attendance when the scene of the incident lies outside of a city or village.
- more than 12 inches from a curb on the main traveled part of the highway when it is possible to park off the main traveled part of the highway outside of the city.

When the bus must be moved from the parking space, the following procedure must be used to leave a parallel parking space:

1. Back the bus as far as possible (requires depth perception skills, use spotter if possible).
2. Check the left mirror.
3. Put into drive or normal starting gear.
4. Turn steering wheel sharply to the left.
5. Check for traffic and signal left.
6. Enter the travel lane when clear.
7. Check mirrors for clearance of the front and right side of the bus.
8. Steer bus into the proper lane position.

For leaving an angular or perpendicular parking space, the procedure is to use either forward or backward motion. Using forward motion, the driver moves the bus forward until the rear of the bus has cleared the other vehicle, using mirrors to check. Using backward motion to leave, the driver backs when traffic permits until the front of the bus clears the obstacles.

At no time is it recommended to back a school bus out into traffic flow.

RAILROAD CROSSING PROCEDURES

Safety procedures at all railroad grade crossings dictate that extreme care be exercised by school bus drivers. Crossing railroad tracks represents one of the greatest hazards for school buses. Mass casualties could occur in the event of a train-school bus incident. STOP, LOOK AND LISTEN are the keys. The safe and legal way to cross a railroad track must be automatic. All buses, loaded or empty, MUST STOP, and specific procedures must be followed before crossing any railroad at grade level.

GENERAL INFORMATION

- The driver of any school bus, whether carrying students or not, must bring his or her bus to a full stop not less than 15 feet or more than 50 feet from the rails nearest the front of the bus before crossing a grade level of any track or tracks of a railroad.
- A driver making a stop for a railroad crossings shall carefully observe traffic and reduce his or her speed far enough in advance of the stop to avoid trapping other motorists in panic stops or rear-end collisions with the bus. To aid motorists, lightly tap your brakes four or five times as you approach the crossing and activate four-way flashers. Generally, on multiple-lane roadways, no such stop should be made in the center or left lane.
- The driver shall then set the parking brake and shift the gear selector to neutral.

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- Eight-way lights shall not be used at railroad crossings.
- The driver, when stopped fully, will open the service door and driver side window and turn off all noisemakers and must, while stopped, listen and look in both directions along the track or tracks for approaching engines, trains or cars. Before resumption of motion, the service door is to be closed.
- If the view of the track or tracks is not clear or is obstructed in any way for a distance of 1,000 feet in either direction, no portion of the bus may be propelled onto the tracks until the driver has ascertained that no train is approaching by personal visual inspection. In no instance may a signal indicating safety be considered as conclusive or serve to override this precaution.
- Drivers shall, in every instance, shift into the lowest gear and shall not, under any circumstances, shift gears when the bus is actually crossing tracks or a railroad crossing.
- In the event that a train has passed over the crossing, no driver shall drive his or her bus onto the track or tracks until the train has sufficiently cleared the crossing so that the driver is certain that no train, hidden by the first train, is approaching on an adjacent track.
- For improved hearing, the window shall be opened and all noise equipment (fans, radio, et cetera) should be shut off until the bus has cleared the crossing.

AT CROSSINGS CONTROLLED BY SIGNALS ONLY

In addition to the aforementioned safety standards, the driver of a school bus that has stopped at any railroad track or tracks at which there is in operation any flashing red lights and/or bell, shall not proceed across such track or tracks UNLESS authorized by a law enforcement officer or train personnel. This does not relieve the driver of personal responsibility for safe crossing.

In the event that switching operations or stopped trains delay the use of the crossing unnecessarily for frequent or extended periods of time, complaints should be made through proper channels to railroad management and traffic authorities.

AT CROSSINGS CONTROLLED BY CROSSING GATE OR BARRIER

No bus driver shall drive his or her bus through, around or under any crossing gate or barrier at a railroad crossing while such gate or barrier is closed or being opened or closed.

The driver must never accept a lack of movement as indicating that the device is either in or out of order or not properly handled, but must always take a railroad grade crossing as a conclusive warning of danger and must not cross the tracks until he has ascertained that no train is approaching.

The driver should treat multiple tracks as one track only.

WEATHER CONDITIONS

During wet, stormy or foggy weather, before placing part of the bus on the tracks, the driver must know conclusively that the crossing can be made in safety. Any use of flares, et cetera, in addition to warning signals or devices maintained at such railroad crossings must be taken as an additional warning of danger.

BEHAVIOR OF STUDENTS

When stopping for any railroad track at grade, all students must be silent until crossing is completed. Such signal for silence shall be given by the driver in a manner deemed suitable and appropriate.

CROSSING PROCEDURE/SEQUENCE

The school bus driver will take the following steps in sequence each time he or she crosses a railroad track in a school bus:

1. Activate the four-way flashers approximately 150 to 200 feet before the railroad cross-

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- ing.
- a. Tap the brakes four or five times when slowing.
2. Prepare to stop.
 - a. Request silence.
 - b. Check traffic control devices.
 3. Stop the bus.
 - a. Follow legal stopping procedure.
 - b. Turn off heaters, fans, noise abatement switch.
 - c. Stop in a position that gives a clear view of the tracks in both directions. The front bumper must be no closer than 15 feet or further than 50 feet from the track.
 - d. Set the parking brake.
 - e. Shift into neutral gear.
 4. Look and listen.
 - a. Open the service door and driver's window.
 - b. Look and listen through the open window and door.
 5. If no indication of approaching train:
 - a. shift into the lowest gear possible.
 - b. look and listen a second time.
 - c. close the door, release the parking brake and proceed quickly and smoothly across the track.
 6. If there is an approaching train:
 - a. hold bus position.
 - b. after train passes, wait 15 seconds
 - c. follow items under Procedure No. 5.
 7. At a multi-track crossing:
 - a. Treat multiple tracks as one track.
 - b. Make sure no train is approaching on any track.
 - c. After a train passes, wait 15 seconds and until other tracks become visible before proceeding. A second train may be approaching from the opposite direction.
 - d. Follow items under Procedure No. 5.

RAILROAD TRAFFIC CONTROL DEVICES

- Flasher lights and bells
 - These are warnings of an approaching train.
 - Vehicles may proceed around the gates only at the direction of a law enforcement officer or an authorized railroad representative. Even then the driver must be certain of safety.
- Gates
 - All traffic must obey these devices.
 - Vehicles may proceed around the gates only at the direction of a law enforcement officer or an authorized railroad representative.
- Railroad crossing controlled by a flagman
 - Make a safety stop.
 - Follow directions of the flagman as to when to cross.
 - Cross using items in Procedure No. 5 above.

SPEED OF TRAVEL FOR SCHOOL BUSES

The school bus shall not be operated at a speed in excess of the posted speed over any section of highway over which the bus travels. The driver shall not drive the bus on any roadway at any time at a speed at which the conditions of the roadway, weather conditions or other extenuating circumstances would likely make it unsafe for the bus to travel at that speed.

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Prevailing environmental conditions is one area that can dictate the speed at which a school bus should be operated. The basic rule of thumb is to drive at no greater speed than will permit stopping in assured clear distance ahead.

PROPER LANE USAGE

Lane usage and the position of the bus on the road are vital to the safe and efficient completion of each bus run. **Safety first, schedule second is the key.**

Drivers must stay in one lane for normal driving, not straddling lane marker lines or obstructing more than one lane. Drivers should use the parking lane for stopping and parking.

Generally, where there is more than one lane for traffic going in one direction, travel in the furthest right lane (not including parking lane) unless parking or turning left. Drive at a safe distance from other vehicles. Use the 4-second minimum rule for following vehicles. Remain at least 50 feet (1-1/4 bus lengths) behind a bus leaving school grounds.

When changing lanes, look for rear approaching traffic in the new lane. Glance out the window to check any blind spots. Move your head enough to see around the blind spot by using the mirrors. On multi-lane roads, look for vehicles about to enter the new lane from the adjacent lane. Check fender and West Coast mirrors to observe vehicles passing in the new lane, following vehicles closing fast from the rear in the new lane and/or following vehicles about to enter the new lane.

Position the bus so that you safely and smoothly accomplish the required maneuver.

BEING PASSED

When the bus is being passed, the driver has a condition which could contribute to a very hazardous situation. The possibility for a potentially dangerous incident exists. The driver could be in a head-on collision, sideswiped or run off the road. Other vehicles can pass you in a number of ways.

- They can overtake and pass you on a straight road – a normal passing situation.
- They can pass you as you are pulling out of a parking space.
- They can attempt to pass just as a driver moves out to pass another vehicle.
- They can pass on the right, which is legal on multi-lane roads or on one-way streets if they do not leave the roadway, but a driver still has the responsibility for preventing an incident (last clear chance law).

There are several things a driver must do to make the act of being overtaken and passed a very safe one.

1. When there is no possible hazard, stay in the right lane and maintain speed.
2. Help the other driver pass. Check for oncoming traffic. Slow down if the passing vehicle will need more room to get back in line.
3. When another vehicle is also approaching from the opposite direction creating a hazard for the vehicle trying to pass, move the bus to the parking lane or leave the roadway if it seems that the passing vehicle cannot complete the pass before the oncoming vehicle reaches you, if safe to do so.
4. Before a driver changes lanes, check West Coast and fender mirrors and glance back to make sure blind spots are clear. Use lane change signal. Move over only when the lane is clear. Proper order is 1) signal, 2) mirrors, and 3) glance. **Do not stare.**
5. Get into the proper lane early when making a turn. When turning right. Stay close enough to the right curb to block anyone from passing on the right. Use the turn signal early.
6. Don't move out of a parking space to check for oncoming traffic. Take a good look before the bus is moved. Signal your intention. Wait for a break in traffic and pull out slowly but efficiently.

MERGING

Care must be used when the driver leaves the bus compound and begins the route. Smooth entry into the flow of traffic is vital for the safe operation of the school bus. Follow

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these steps to accomplish a smooth entry into the flow of traffic at a stop:

1. Stop at point of entry into the traffic flow.
2. Activate right or left turn signal.
3. Look to determine that there are no pedestrians in the path of the bus.
4. Check mirror to determine that all students are seated.
5. Look to the right and left to determine whether there are vehicles in motion on the roadway to be entered.
6. Yield right-of-way to vehicles already on the road.
7. Look for a suitable gap in traffic and when safe, accelerate smoothly into the road, utilizing the turn signal to establish lane position.

PASSING

A school bus driver should not have to pass another vehicle. On occasion, however, it might become necessary, and each driver should be aware of how to do it correctly, safely and legally. There is nothing wrong with passing for the right reasons, but it isn't likely to save time.

REMEMBER: SAFETY FIRST, SCHEDULE SECOND!

Passing entails risk. The best rule is: "When in doubt, don't."

In any passing maneuver, there are 13 things to do:

1. Decide if the pass is necessary.
2. Make certain that you have maintained a safe following distance.
3. Check traffic ahead. If the bus and oncoming vehicle are both traveling at 55 mph, the gap is closing between vehicles at the rate of 1.8 miles per minute. Since it takes a minimum of 10 seconds to complete a pass, the oncoming vehicle should be at least a 1/2 mile away.
4. A driver should signal before the lane change.
5. Check mirrors and all blind spots. Check fender and West Coast mirrors.
6. Check traffic behind before changing lanes.
7. Move into the left lane.
8. Accelerate as the bus moves left.
9. Signal the vehicle by tapping the horn or flashing the lights.
10. Signal intention to return to the right lane.
11. Return to the right lane when driver can see all of the passed vehicles in your fender and West Coast mirrors.
12. Cancel directional signal.
13. Resume cruising speed as soon as driver has completed the passing maneuver.

DO NOT PASS if the vehicle ahead is:

1. signaling or otherwise indicating a turn.
2. changing lanes preparatory to passing.
3. weaving or wandering.
4. decelerating suddenly.
5. passing children, cyclists or animals.
6. being passed by another vehicle.

FOLLOWING DISTANCE/SPACE CUSHION

To operate a school bus safely and legally in today's traffic requires the school bus driver to be constantly alert. This is especially true when following a school bus or another vehicle. The driver must maintain a safe following distance. Keep a space cushion in order to comply with the law and to avoid an incident. There are four simple steps that will help the school bus driver properly follow another bus or vehicle:

1. Stay alert. Watch for signs from the driver ahead as to what he or she intends to do. Is his or her turn signal on? Are his or her brake lights lighted? Has he or she been gradually drifting to the right or left as if to prepare to turn?

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2. Stay ahead of the situation. Look beyond the driver ahead to see situations that may force him or her to act quickly and thereby become a threat to you. Are there vehicles in the roadway or on the shoulder? Are the intersections marked or unmarked? Are cars, pedestrians or livestock present?
3. Stay back. Use and apply the 4-second minimum rule.
4. Start slowing sooner. Slow down and touch your brakes the instant you see a hazard developing that may require you to stop or take evasive action. Failure to do this is known as delayed braking, a serious flaw in your driving technique. A competent, professional school bus driver will rarely, if ever, have to make a panic stop.

The best advice that a driver can adhere to is to **STAY AWAY FROM OTHER VEHICLES**. Do not travel next to or close to any other vehicle, person or obstacle at any time unless it is absolutely necessary.

INTERSECTIONS/CROSSWALKS

A thorough knowledge of highway signs, signals, markings and legal rights on the road is necessary to be a safe school bus driver. Without traffic laws, rules and controls, travel by a motor vehicle would be very unsafe and impractical. We already have covered two of the three areas of importance – use of lanes and parking. In this section, we will look at speed, crossing intersections and turning on red.

Any time a driver comes to a place at which others may cross or enter his or her path, he or she must look to each side to make sure it is safe to proceed. These places include intersections, crosswalks, railroad crossings, parking lots, school areas, playgrounds, shopping centers and related areas.

Crossing intersections is a time for extreme care. Not all drivers obey the traffic control devices. School bus drivers must follow these rules any time they approach an intersection.

1. Look both ways.
 - a. Look to the left first, since traffic coming from the left is closer.
 - b. Look to the right.
 - c. Take one more look to the left before pulling out, just in case there is something you did not see the first time.
2. Do not rely on traffic signals.
 - a. At an intersection, look left and right, even if other traffic has a red light or a stop sign. Someone may disobey either one.
3. Make sure you have a good view.
 - b. If the view of a cross street is blocked by a building or a row of parked vehicles, edge forward slowly until visibility is clear in both directions.
 - c. If traffic in one lane is blocking the view of another lane, wait until it clears. If you try to look by putting the front of the bus into the other lane, you may get hit.

Crosswalks are set aside for people to cross the street. Usually they are marked with yellow or white lines and have warning signs.

Most crosswalks are located at intersections. However, some are located in the middle of the block, especially in cities and towns. While turning a corner, watch for pedestrians who are about to cross the street you are turning onto. Remember, if a driver has a green light, the pedestrian has a green light also. The law requires drivers to yield to pedestrians in the crosswalk.

Certain rules govern the crossing and entering of intersections. The right-of-way rules contribute to the safe passage of the vehicles through an intersection provided each driver obeys the rules.

1. Right-of-way rules for an intersection not controlled by signs or signal devices:
 - a. Generally, drivers on single-lane or two-lane roadways must yield the right-of-way to vehicles on divided roadways or roadways of three or more lanes.
 - b. Usually, drivers on unpaved roadways must yield the right-of-way to vehicles on paved roadways.

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- c. Drivers on roadways consisting of the same number or lanes and similar surfacing must yield the right-of-way to vehicles approaching from the right that are close enough to contribute to a hazard.
 - d. Drivers who are required to yield the right- of-way may enter the intersection only if the movement can be made without interference or collision with traffic using the intersection.
2. Right-of-way rule at an intersection with a stop sign or yield sign:
- a. Drivers approaching intersections controlled by stop or yield right-of-way signs must obey such signs and may enter the intersection if the movement can be made without interference or collision with traffic using the intersection.
3. Right-of-way at an intersection with a signal light:
- a. When stop and go lights are operating, a driver entering the intersection on a green light has the right-of-way.
 - b. When stop and go lights are operating, a driver approaching the intersection on a red light alone must stop. After waiting until the intersection may be safely entered, a driver may turn right, or if the intersecting streets are both one-way, he or she may turn left. (Turns on red lights may be prohibited by traffic signs. A Kentucky school bus shall not turn right on red.) **Remember, safety first, schedule second!**
 - c. The driver may drive only in the direction the arrow points and shall yield the right-of-way to pedestrians lawfully using the crosswalk and to other traffic lawfully using the intersection.
 - d. When a flashing red light is operating, a driver approaching the red light must stop before entering the intersection. Procedure and right-of-way after stop are the same as



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-
- at a stop sign.
 - e. A flashing yellow light is a caution signal to warn drivers of a traffic hazard and requires a speed slow enough to avoid a collision.
4. Right-of-way when entering a roadway:
 - a. A vehicle entering a crossing or roadway from an alley, building, private road or driveway must yield to vehicles on the roadway.
 - b. A vehicle merging from an alley, driveway (including a school driveway) or building in a business or residential area must stop before driving onto the crosswalk or past the sidewalk and must yield to any pedestrians and to vehicles on the roadway.
 - c. A vehicle entering a roadway or traffic lane from an angle or parallel parked position or from the roadway shoulder must yield to all vehicles close enough to contribute to an immediate hazard.
 5. Right-of-way on left turns.
 - a. A vehicle turning left at an intersection must yield to those vehicles approaching from the opposite direction that are close enough to contribute to an immediate hazard.
 - b. A vehicle turning left within an intersection or into an alley, private road or driveway must yield to any vehicle approaching from opposite direction which is within the intersection or close enough to be an immediate hazard.
 6. Right-of-way on the approach of an emergency vehicle.
 - a. The approach of an emergency vehicle using a siren and/or red light requires other vehicles to move to the right, clear of any intersections and stop until the emergency vehicle has passed. When conditions make it impossible to move to the right, the vehicle should stop and remain stopped until the emergency vehicle has passed. Under no circumstances should a driver ever pull to the left. Emergency vehicle drivers are taught to pass on the left.

TRAFFIC AIDS (LIGHTS, SIGNALS, ET CETERA)

Traffic laws and signals are standard throughout the state, but traffic signs may vary depending upon the local road geography. The United States is moving toward an international style of traffic signs that emphasizes pictures and symbols rather than written messages.

Size, shape and color are used in specific ways, and each convey a definite message.

SHAPE

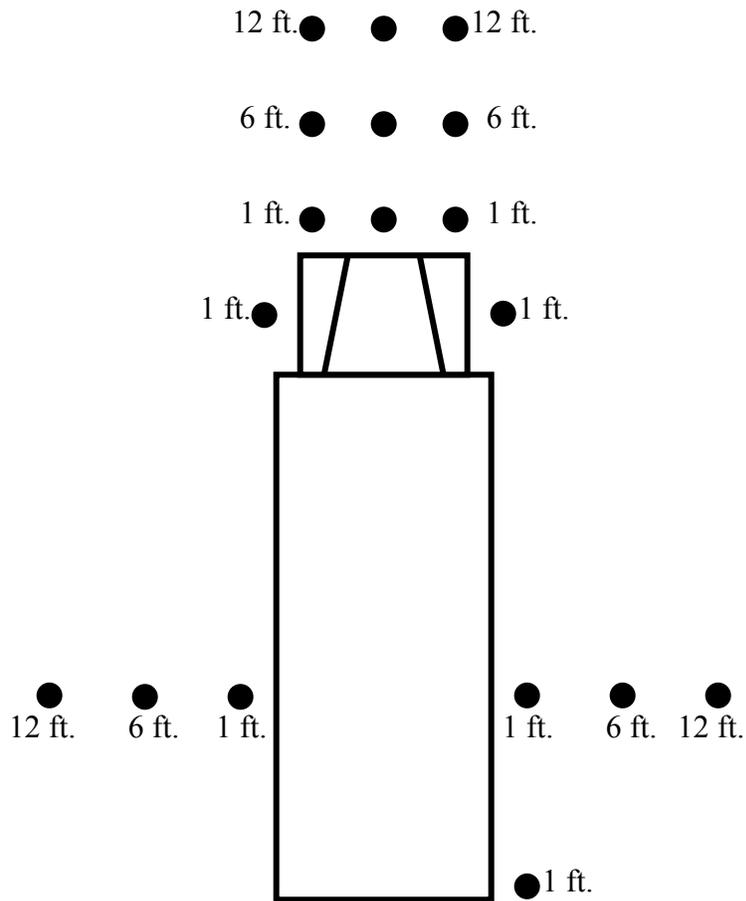
1. An octagon (eight-sided) shape always means stop.
2. A diamond shape is a warning of existing or possible hazards on the roadway on adjacent areas.
3. A triangle shape means to yield.
4. A round shape (circle) means railroad crossing.
5. A pentagon (five-sided) shape tells you there is a school zone or school crossing ahead.
6. A horizontal (rectangle) shape is a guide sign.
7. Vertical rectangles are generally used for regulatory signs that tell you the law – what you must do.

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FMVSS – 111 Mirror Grid Specifications Field of Vision Chart



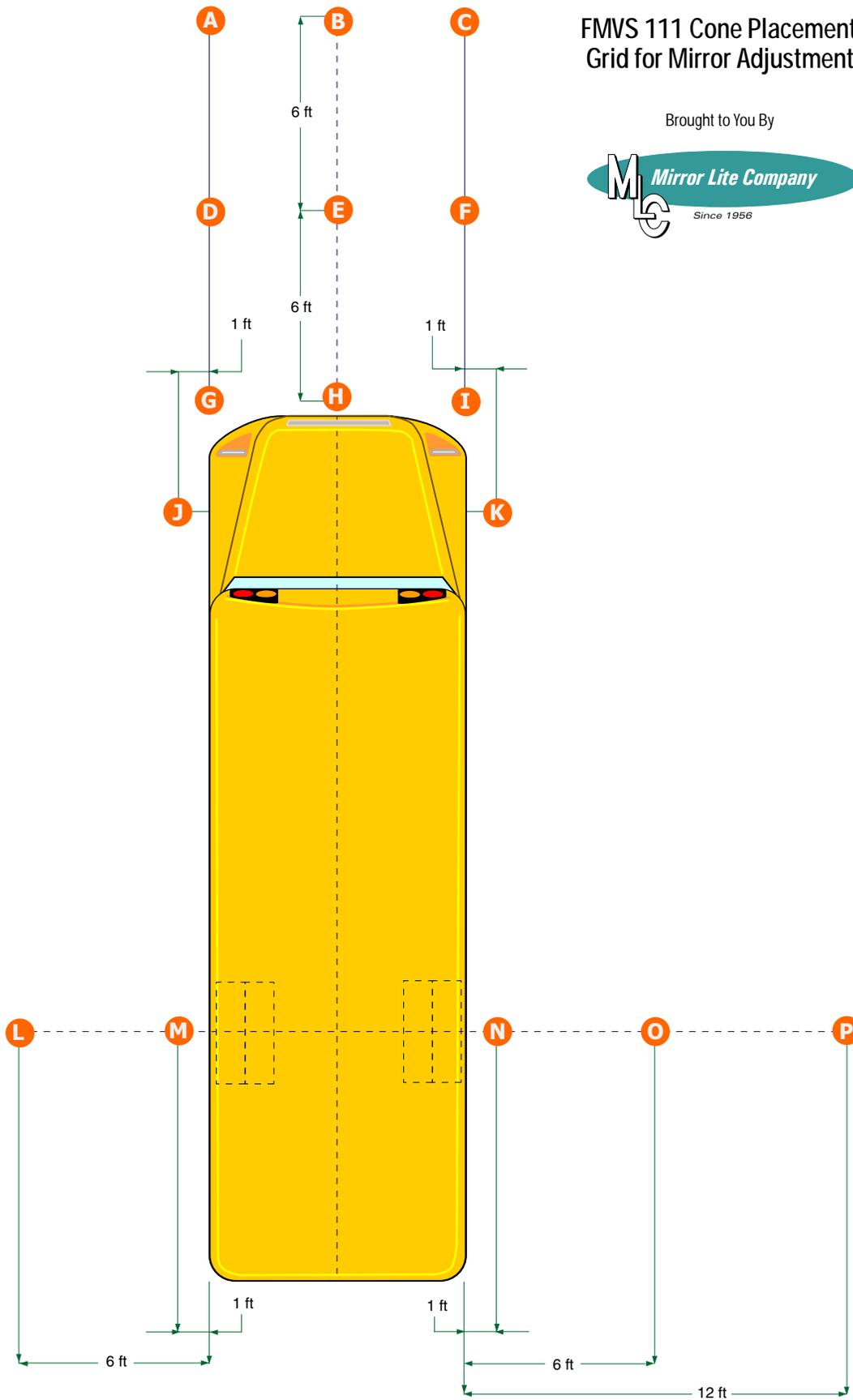
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FMVS 111 Cone Placement Grid for Mirror Adjustment

Brought to You By

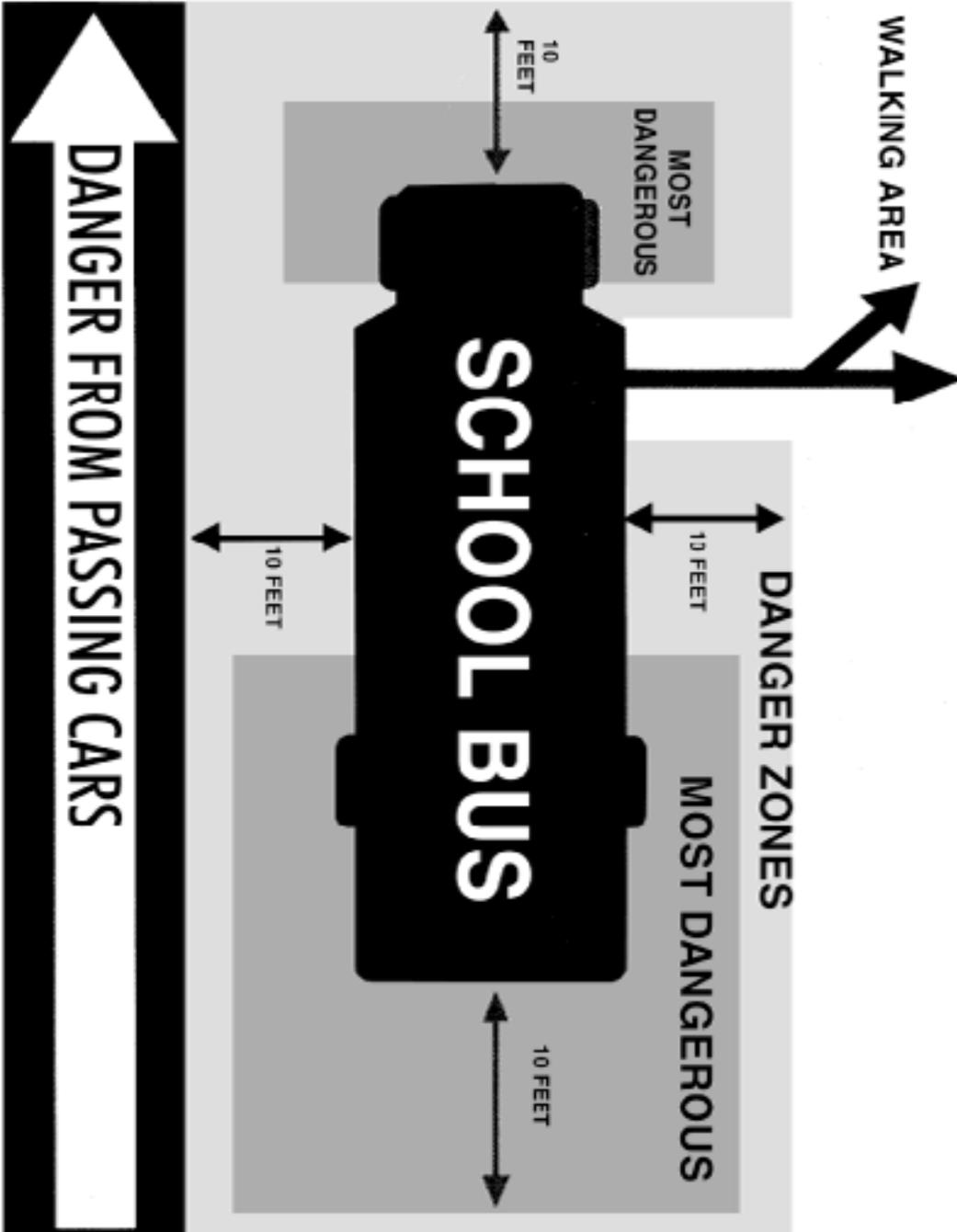


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THE DANGER ZONES



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COLOR

- Red: Stop, yield, do not enter or wrong way
- Yellow: General warning of what to expect ahead
- Blue: Information about motorist services along the road
- Green: Guide information such as distance or direction
- White: Regulatory
- Black: One-way traffic and weigh stations
- Orange: Warning of construction and maintenance
- Brown: Public recreation areas and scenic guidance

TRAFFIC LIGHTS

There are control devices located at intersections. These could be either traffic signals or signs. First we will discuss traffic signals or lights. The three main colors which guide traffic flow are:

- Red: Means stop
- Green: Means go
- Yellow: Means warning/caution, possible hazard ahead

Red

A red light without a green arrow means STOP behind a crosswalk or stop line until the green light appears.

Yellow

The yellow light means that the traffic signal is about to turn red. Stop if you can do so safely. Never try to “beat” a yellow light. Not only is it unsafe, it is against the law to be in an intersection when the light is red, even if it was yellow when you entered.

Green

If the way is clear, you may go straight or turn left or right unless such turns are prohibited.

Flashing Yellow Light

A flashing yellow light means you must slow down and watch for others. It is found at intersections, construction areas and on some emergency vehicles such as tow trucks.

Flashing Red Light

A flashing red light means that you must come to a complete stop and proceed only when the way is clear.

Two Flashing Red Lights

Two flashing red lights mark a railroad crossing.

Lighted Arrows

Some intersection traffic lights have lighted arrows in addition to the regular lights to tell you when it is your turn to proceed.

Green Arrow

A green arrow means you may proceed in the direction of the arrow provided you are in the proper lane.

Flashing Yellow Arrow

A flashing yellow arrow means you may proceed with caution in the direction of the arrow.

Arrow Pointed Upward or Downward

This means you may go straight ahead. When there is more than one traffic light, obey the one that is over your lane.

TRAFFIC SIGNS AND SIGNALS

Traffic signals tell you what to do.

Stop Sign

A stop sign is red with white letters and has eight sides. It means you must come to a complete stop in a safe position in relation to traffic, then proceed when the way is clear.

Yield Sign

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A yield sign is shaped like a triangle and is red and white. It means you should slow down and yield to traffic.

Red Slash Inside a Circle

A red slash inside a circle means you cannot do something. At any intersection which has a police officer directing traffic, do what the officer instructs you to do.

MIRRORS

The school bus is equipped with mirrors to assist the driver in seeing all that goes on around the bus. One of the characteristics of school bus construction is that it produces blind spots and danger zones. Many of the serious incidents involving school buses occur in these areas.

Mirrors have been added to the school bus to assist the driver in seeing these areas. A driver cannot safely operate a bus without using the mirrors properly. The first and foremost action a driver must take when using the mirrors is to ensure that they are properly adjusted so that all areas can be monitored and the mirrors can be readily seen from the driver's seat. Mirrors should be positioned and adjusted so the driver can monitor all areas without moving his or her head. Mirrors should be monitored by shifting the eyes only. Mirrors must be checked as part of the scanning process that the driver follows in reading the road.

A school bus is equipped with the following mirrors:

- An interior rear view mirror is mounted above the windshield.
- West Coast mirrors are mounted on the left so the driver has an unobstructed view of the mirror through the driver's window and on the right so the driver has a good view of the mirror through the right side of the windshield.
- Each school bus also has four convex mirrors (on older buses) – two mounted on each front fender. Two mirrors are positioned to give the driver a clear view in front of the bus all the way down to ground level – these are called crossover mirrors – and one positioned on each side to give a view down the left and right sides of the bus – these are called fender mirrors.

MIRROR ADJUSTMENT

Drivers must be sure to check mirror adjustment as part of the pre-trip inspection. No movement of the bus should be made until mirrors have been checked to ensure that no child or any object is close to the bus. Mirrors are vital to the safe operation of the school bus. They must be used to safely turn, back or move the bus in traffic. A driver cannot be an effective professional school bus driver without using mirrors properly. A driver should constantly be performing a visual scan. He or she should check all mirrors at least every five seconds.

Drivers will have an opportunity to work with adjusting the mirrors later in this course. Use of mirrors is called for throughout this course. **BE SURE THAT YOU USE THEM PROPERLY.**

DANGER ZONES/DEATH ZONES

Most injuries that involve school buses occur outside of the school bus. Drivers must exercise extreme care to ensure that they do not injure or kill a child with a school bus. There are very hazardous areas around the bus – areas in which drivers have great difficulty seeing all that goes on around the bus. These areas are referred to as danger zones or death zones.

Drivers must have their mirrors adjusted so that they can see into these areas. It is virtually impossible to see small children when they are in these areas or zones.

It cannot be emphasized enough that no movement of the bus is to be made until the driver has checked each zone or area for clearance.

USE OF MIRRORS FOR BACKING

School buses should be backed only when there is no other alternative. Back only when absolutely necessary because of the dangers involved. It is better to drive around the block and alter your route to avoid backing the school bus. There will be, however, instances when

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this is not feasible, and drivers must know the proper method to back a school bus. Backing a school bus in a straight line will require extreme caution on the part of the driver.

The driver must learn to back into a given space without scraping or hitting stationary objects. In backing a school bus with an automatic transmission, the driver must:

1. activate four-way flashers prior to stopping or backing.
2. stop bus in correct position to back.
3. check mirrors.
4. assure that area is clear.
5. secure visual assistance if possible.
6. apply brake.
7. shift to reverse.
8. tap horn lightly.
9. release brake.
10. gradually and slowly move.
11. steer wheel as necessary.
12. use mirrors to monitor the direction of the bus.

Several techniques for backing which the driver should use are:

1. Physically get out and check behind the bus.
2. Use helper assistance, if possible.
3. For straight backing, hold the steering wheel in 10/2 or 9/3 position.
4. Use hand-over-hand steering for either right or left backing.
5. Back slowly.
6. Use side mirrors.
7. Use the inside rear view mirror when possible.
8. Use crossover mirrors for obstructions (not distance judgement).
9. Keep eyes moving to all five mirrors.
10. If still unsure while backing, stop and check outside again.

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CHAPTER 7

FORWARD-CONTROL BUSES

OBJECTIVES

- Gain knowledge and display the necessary skills to safely and properly operate a forward-control bus
- Provide safe and efficient transportation of students with this gained knowledge of skills to properly operate a forward control bus

INTRODUCTION

Due to the differences in forward-control buses versus the more common conventional style buses, this unit will focus on the driver adapting to these differences:

- Mirrors
- Turning radius
- Backing
- Driver's seat
- Distance from students
- Foot position
- Air-operated door
- Driving fundamentals
- Stopping distance

VOCABULARY

Air-Operated Door (automatic door) – operates on air pressure by an electrical switch located on the control panel.

Controlled Slipping – steering recovery technique.

Conventional (Type C) – engine is in front of the windshield and the entrance door is behind the front wheels.

Convex Mirror – the center of the mirror is higher than its sides.

Counter-Steer – to turn the steering wheel back in other direction.

Crossover Mirror – mirror that shows the front of the bus and down to the pavement.

Dog House – the inside cover of the engine, located by the driver's seat.

Double-Nickel Mirror – a mirror that provides a long view along the left and right sides of the vehicle to enable the driver to view the rear tires at ground level minimum distance of 200 feet to the rear of the bus and at least 12 feet perpendicular to the side of the bus at the rear tire.

Egress – to exit.

Forward Control (Type D) – a body installed upon a chassis with the engine mounted in front in which the front axle is behind the windshield, the engine is beside the driver's seat and the entrance door is ahead of the front wheels.

Hand-Over-Hand – a steering technique where hands cross over one another.

Ingress – to enter.

Pivot Point – the rear-end swing from the rear tire of the bus while making turns rear overhang swings in opposite direction of turn.

Push-Pull – a steering technique where one hand pushes the steering wheel up while the other hand pulls the steering wheel down.

Tracking – the path of front tires on a separate path of rear tires when turning, a visual technique used to teach drivers proper lane positioning.

West Coast Mirror – a rear visual outside long mirror that provides view along the left and right side of the vehicle.

Wheelbase – the distance from the front tires to the rear tires.

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DIFFERENCES OF FORWARD-CONTROL VS. CONVENTIONAL BUSES

There are many differences between a forward-control and conventional bus. One of the major differences is visibility in relation to mirrors, side windows, windshields and maneuverability. In operating a forward-control vehicle, the driver will notice almost immediately that visibility is greater due to the width of the windshield.

MIRRORS

There are seven mirrors on a forward-control bus. Mirrors will be different on each bus, depending upon the year of manufacture. There may be a West Coast mirror and two convex mirrors on each side, or there may be a set of double-nickel mirrors with two convex mirrors on each side, which could bring the total number of mirrors to nine, counting the inside rear view mirror. The double-nickel mirror replaces the West Coast mirror. The driver of a forward-control bus does not have as clear a view of the windows down the left side. The mirrors can be difficult to adjust in order to achieve full view. The driver will need assistance in the adjustment due to the height of the mirrors.

TURNING RADIUS

Whenever you drive a forward-control bus, be aware that the longer the wheelbase, the wider the turn. A forward-control bus has a shorter wheelbase than the conventional bus, so turns can be made easier in close areas. The wheelbase and rear wheels must be considered while making turns and rounding curves. A forward-control bus is generally easier to maneuver in tight places. Making left and right turns can be achieved with less available room, which decreases incident potential.

BACKING

In backing a forward-control bus, there is very little difference since both vehicles are straight. Use of the mirrors is a must for backing all buses. All mirrors must be in proper adjustment to meet the needs of the individual driver. Since the turning radius is smaller, care must be taken when backing and turning the wheel. You must remember that you have an overhang in front of the axle and in the rear, so be aware that the right or left corner will strike any object near the bus if the driver turns the wheel in excess of what is required. **The secret to backing is to go slow.**

DRIVER'S SEAT

When entering a forward-control bus, it is apparent that the driver's seating arrangement is much different than in a conventional bus. The housing for the engine (dog house) is an obstacle. In older forward-control buses, the dog house is not to be climbed upon for any reason. The driver must get into the driver's seat by careful maneuvering. Newer forward-control buses have a plate on the dog house that the driver can step on or walk over.

DISTANCE FROM STUDENTS

Upon entering a forward-control bus, it is obvious that the driver is in an isolated area. This creates potential problems. Student behavior is more difficult to manage because the sound of the motor is loud and the driver cannot always hear the students, so students cannot always hear the driver giving instructions. The driver also is restricted by space, which could cause problems if he or she needs to leave his or her area quickly. The time it would take to actually get to a student takes longer, so the driver has to be alert to potential safety problems.

FOOT POSITIONS

Older Type D forward-control driver seats have little or no lateral movement. Forward and reverse movement of the driver's seat is adequate. To obtain the best possible foot position, all drivers should adhere to the following:

1. Adjust the driver's seat to the best possible body configuration.
2. Adjust the seat so the right foot can reach the foot pedals for safe operation of the vehicle.
3. When moving the right foot from the accelerator to the brake, lift the right foot completely off the accelerator pedal and place on the brake pedal. Do not mistake the

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accelerator for the brake pedal.

4. When depressing the brake pedal, it is recommended that only light steady pressure be applied, using the forward portion (ball) of the right foot to apply the brake.

AIR-OPERATED DOOR

Forward-control buses are equipped with an air-operated door activated by an electrical switch located on the control panel. All air-operated doors are not equipped with a delay switch. Even though this door is easier to operate, the driver must constantly be aware of student movement to guard against student injury and/or egress.

TURNING

When turning a forward-control bus, you should pull further into the intersection before turning. As with turning any vehicle, you must reduce your speed, be in the proper lane for turning and constantly monitor the mirrors and traffic environment.

STOPPING DISTANCE

Tests have shown no significant differences in stopping distances between a forward-control bus and a conventional bus. In a forward-control bus, the driver feels the stopping distance is longer due to the increased distance of the driver from the rear of the vehicle. Note that forward-control vehicles seem to slide more than the conventional when making a panic stop.

NOTE: The main concern regarding the differences between conventional and forward-control buses is the changing back and forth of driving one type of vehicle and then the other type of vehicle. When a driver makes such a change, he or she must continually be aware of the difference as he or she adapts.

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Chapter 8

DEFENSIVE DRIVING

OBJECTIVES

- Review procedures and techniques to help avoid placing the driver, vehicle and/or students in hazardous situations

PERFORMANCE STANDARDS

- Understand both the vital importance of constantly evaluating the mechanical limitations of the bus and the driver's own physical and mental limitations as far as driving is concerned
- Develop the ability to use surveillance techniques to aid in recognizing possible dangers associated with drivers, vehicles, and natural and man-made conditions
- Know what steps to take in anticipation of potentially hazardous situations and how to select driving techniques adapted to the specific circumstances involved

INTRODUCTION

Incident investigators report that between 95 and 99 percent of all traffic incidents are caused by human failure.

Probably the most significant human failure, as far as the school bus driver is concerned, is his or her failure to adjust his driving to hazardous conditions that can cause incidents. Proper adjustment to such conditions is what we mean by defensive driving.

Defensive driving is defined as a set of procedures and techniques designed to help the driver avoid getting himself, his vehicle and his students into hazardous situations or staying away from other motorists, obstacles or pedestrians. **If you are not close to something, you cannot hit it and it can't hit you.**

Stated as a formula, defensive driving safety means:

RECOGNIZE

POTENTIAL HAZARDS + DECIDE ON THE DEFENSE AND ACT IN TIME = SAFETY

The definition says to avoid hazardous situations and the formula describes how to do it. Your success as a defensive driver and a safe school bus driver will depend in part upon your ability to recognize and react to potentially hazardous situations.

POTENTIAL HAZARDS

What is a potential hazard, and how do we recognize it? Let's look at an example of what we mean. Let's say you are driving your own car and have gone to a party at which alcoholic beverages are being served.

- The potential hazard is becoming drunk.
- The defenses are don't drink or don't drive.
- The time to act is before drinking or before driving.

ALL THE PARTS OF THE FORMULA ARE IMPORTANT. You can't act if you have not recognized the potential hazard, and all the recognition in the world won't help if you can't understand the necessary defense and act in time.

This is just one example. In the remainder of this section, we will see how the defensive driving formula can be applied to the following types of normal and unusual conditions that the school bus driver must face.

DRIVER'S CONDITION

Let's start with you, the driver. When you drive a school bus, you may be a hazard to yourself, the vehicle or your students if you lack the necessary knowledge skills, health and/

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or attitude to be a safe driver.

DRIVER'S KNOWLEDGE

A driver must be considered a hazard if he or she does not possess the following knowledge:

- State highway laws
- Local rules and regulations
- Maintenance procedures
- Incident and emergency procedures
- Defensive driving
- First aid

Ignorance is the potential hazard and recognition is simple: Are you knowledgeable in each of the areas discussed above? Do you know how, what, where, when and why about each? If not, the time to become knowledgeable is before you drive.

DRIVER'S SKILL

As with knowledge, a driver without the necessary skills is also a hazard when he or she is on the road with a bus load of children. The driver must be able to:

- correctly and safely perform all driving maneuvers.
- operate all equipment (including emergency equipment).

Practice should be performed in a bus with no students.

DRIVER'S HEALTH

Another condition that must be checked for potential hazards is the driver's health. A good defensive driver will not drive with any of the following health problems:

- Fatigue
- Sickness
- Defective eyesight
- Defective hearing
- Emotional instability

If you must drive with a health problem, take extra precautions in order to compensate for the problem, but be alert to compensating for health problems with prescription or over-the-counter medicines. A driver should report to his or her supervisor any medication that he or she is currently taking. Some effects of the cure may be as bad as the original problem. Check with your doctor about the possible effects of prescriptions and read medicine labels carefully. Will they affect your ability to safely operate a bus?

DRIVER'S ATTITUDE

The last driver condition to check for potential hazards is attitude. Although often overlooked, this area is probably the one that has the greatest influence on a person's driving performance. While not usually difficult to correct, it is probably the most difficult condition to recognize. The defensive driver must constantly check to make sure he or she is:

- alert.
- thinking positively.
- concentrating on the job at hand.
- in control of his or her emotions.

If you've had an argument BEFORE you start driving, you may not be in control of your temper – or properly in control of the bus.

DRIVER SUMMARY

In summary, the first and most often overlooked area of defensive driving is in the mental and physical condition of the driver. Check and correct yourself before you drive. A driver on the road without the necessary knowledge or skills, with health problems or with a poor

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attitude is headed for disaster.

VEHICLE CONDITIONS

It is obvious now that the driver may constitute a hazard. In this section, we'll turn our attention to the vehicle and ask a similar question: Is the mechanical condition of the bus a hazard? How can the defensive driving formula be applied to vehicle conditions? Is the bus in safe operating condition?

You'll never know unless you perform a proper pre-trip inspection, and even then, recognition of a potential hazard is only half the battle. Defects or potential defects should be repaired or at least watched and compensated for, if applicable.

It should be obvious to you that the recognition of and defense against potential vehicle hazards is nothing more than preventive maintenance.

SUMMARY

To summarize quickly and offer a little review, let's go over the pre-trip inspection items (see Chapter 4):

- Tires and wheels
- Battery
- Headlights
- Heater
- Turn signals
- Windows
- Belts
- Horn
- Mirrors
- Crossing gate, if equipped
- Flashers
- Stop arm and eight-way loading lights
- Seats
- Coolant
- Brakes
- Windshield
- Brake lights
- Doors
- Oil
- Emergency equipment
- Engine
- Transmission

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CHAPTER 9

CRITICAL SITUATIONS

OBJECTIVES

- Explain how a driver can improve his or her ability to correctly respond to critical situations
- Identify and list a set of principles for preventing and correcting any kind of traction loss
- Explain the correct response for dealing with loss of brakes, steering failure, tire blowout, headlight failure, stuck accelerator and overheated engine
- Identify the three classifications of fires and name the number and type of fire extinguisher(s) to be carried on the bus
- Explain and demonstrate the correct procedure for operating a fire extinguisher
- State the procedure for placing warning devices around the bus
- Explain in depth the seven emergency evacuation procedures and briefly explain the eighth

INTRODUCTION

Even the most competent bus driver is confronted by critical situations created by various causes, such as hazardous roadway conditions, mechanical malfunction, unpredictable outside forces or obstacles and driving failures. The professional bus driver is prepared to meet these situations. Here are some of the most common critical situations you might experience, which we will discuss in this chapter:

- Responses to critical situations
- Traction loss
- Vehicle malfunction and failure

One of the goals of this unit is helping you properly respond to critical situations. To help you in this regard, this unit will:

- define critical situations.
- identify critical situations.
- predict how drivers respond.
- explain why they respond a certain way.
- explain how you can improve your responses.

CAUSES

A critical situation is any situation which may result in a collision or incident. Critical situations may be caused by:

- driver action.
- roadway situation.
- vehicle malfunction.

Critical situations allow little or no time for decision making and frequently produce an incorrect response.

A driver will make close to **20 major decisions every mile**. A major decision is classified as one that could be life threatening.

The element of surprise influences a driver's actions. Lack of knowledge and skill, and lack of practice of that knowledge and skill also can influence whether a driver is surprised.

RESPONSE

Why drivers respond as they do:

SURPRISE CAUSES HASTY ACTIONS



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SURPRISE LEADS TO PANIC/FEAR

PANIC CONFUSES SKILLS

CORRECT ACTIONS MUST BE LEARNED IN ADVANCE

Experience in dealing with a critical situation reduces the emotional impact on drivers and increases the chance of making the correct response. Drivers can improve their responses by learning the following:

THINKING REDUCES PANIC

ABILITY DEPENDS ON DRIVER MINDSET

KNOWLEDGE AND PRACTICE REDUCES SURPRISE

“WHAT IF” IS GOOD PRACTICE

REPETITION REDUCES SURPRISE



DRIVER SAFETY FORMULA

SKILL
+ KNOWLEDGE
+CONDITIONING
+CONCENTRATION
= REDUCTION IN CRITICAL SITUATIONS

The main point of this formula is a combination of several components that leads to a reduction in critical driving situations. These components will be covered in this unit. A conditioning process and constant concentration will help prevent critical situations from going beyond the point of no escape.

It is felt that if a driver makes a concerted effort to stay away from other vehicles, obstacles and pedestrians, he or she will lessen the decisions that they will be required to make. Thus the fewer the decisions, the fewer the opportunities for mistakes.

TRACTION LOSS

Traction is important for starting, stopping and turning any vehicle. Therefore, when traction is reduced or lost completely, you are confronted with a critical situation.

Traction is the friction between the tires and the road surface that prevents the wheels from slipping or skidding.

Traction loss occurs when tires lose their rolling grip on the road surface, resulting in partial or total loss of vehicle control.

CAUSES OF TRACTION LOSS

- Tire conditions

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- Hydroplaning
- Environmental conditions
- Driving techniques (over-accelerating, over-braking, over-steering)
- Speed

Skidding can be minimized by:

- keeping brakes and tires in good working order.
- increasing sight distance and reacting to hazards well in advance.
- matching speed to conditions.
- avoiding over-powering, over-braking and over-steering.
- periodically checking the “feel” of a slippery surface.
- staying off the highway when conditions are hazardous.

POTENTIAL VEHICLE MALFUNCTIONS

Critical situations influencing the safety of the school bus and its students can develop from vehicle malfunctions as well as from traction loss. Listed below are the potential vehicle malfunctions:

- Loss of brakes
- Steering failure
- Tire blowout
- Headlight failure
- Accelerator sticking
- Engine overheating
- Stop arm/crossing gate malfunction

Loss of Brakes Indicator

- Low air pressure buzzer, gauges.

Correction:

- Use the engine as a brake, downshift.
- Use remaining air pressure to stop bus in a safe location.
- Call for assistance.

Steering Failure Indicator

- Bus does not respond to steering or responds strangely.

Correction:

- Grip wheel firmly – decrease bus speed.
- Stop bus quickly and safely – get off road if safe to do so.
- Evacuate students, if needed.
- Secure area.

Tire Blowout Indicator

- Front tire – bus will pull in direction of flat.
- Back tire – rear of bus will swerve or sway violently.

Correction:

Grip wheel firmly.

- Release accelerator.
- Brake gradually – do not lock wheels.
- Move off roadway when safe to do so.
- Secure vehicle.

Headlight Failure Indicator

- Roadway darkens.

Correction:

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- Slow down.
- Stay on path.
- Look for escape.
- Look for alternate lighting to assist you.
- Turn on parking/auxiliary lights.
- Turn on emergency flashers, brake lights and right/left turn signals.

Accelerator Sticking Indicator

- The engine races.

Correction:

- Cut power to wheels by shifting to neutral.
- Depress clutch if manual transmission.
- Get off roadway.
- Turn off ignition.

Engine Overheating Indicator

- Shown by temperature gauge or warning light.

Correction:

- Pull off road.
- Shift to neutral and set parking brake.
- Run engine at fast idle.
- Stop engine if it does not cool
- **NOTE:** Do not take the cap off the radiator. Because of the tremendous pressure that has built up in the cooling system, the water will shoot out and you could be severely burned.
- Call for assistance.

EMERGENCY EQUIPMENT

At times, when critical situations occur, it is necessary to operate some of the emergency equipment in the bus or to engage in emergency procedures to protect the students and the bus. This section will review:

- operating a fire extinguisher.
- placing reflective triangles.
- evacuating the bus in an emergency.

FIRES/FIRE EXTINGUISHERS

There are different types of fires, and each must be handled differently. Furthermore, fire extinguishers are classified by the types of fires they are designed to combat. It is important that you recognize the different types so you can select the appropriate fire extinguisher for the type of fire involved.

There are three major classifications of fires:

- Type A – combustible materials
- Type B – flammable liquids
- Type C – electrical

A school bus must carry at least one fire extinguisher. The fire extinguisher should be 3A-40-BC.

During any fire, time is of the essence. There is no time to be fumbling around trying to find the fire extinguisher or figuring out how to operate it. It is important that you know the location of the fire extinguisher, how it operates and how to fight the fire. This response must be almost automatic.

OPERATING A FIRE EXTINGUISHER

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- Pull pin – use twisting motion.
- Hold in upright position.
- Squeeze trigger lever.
- Direct at base of fire.
- Use side-to-side motion.
- Leave yourself an exit.

All of the aforementioned information is secondary to getting the students off the bus – **the safety of the students should always come first.** A school bus can be replaced; students cannot.

WARNING DEVICES



The Kentucky School Bus Minimum Specifications requires that three bi-directional emergency reflective triangles be carried in all school buses and used for warning devices.

If the situation dictates using reflective triangles, you should do so within 10 minutes after stopping. Place the triangles in the following locations:

1. On the traffic side of the vehicle, within 10 feet of the rear bumper
2. About 100 feet behind and ahead of the vehicle, on the shoulder or in the lane in which you are stopped
3. Back beyond any hill, curve or other obstruction that prevents other drivers from seeing the bus within 500 feet.

If you must stop on or by a one-way or divided highway, place warning devices 10, 100 and 200 feet behind the bus, toward the approaching traffic.

When placing your triangles, hold them between yourself and the oncoming traffic.

EMERGENCY EVACUATION PROCEDURES

There are times when a critical situation occurs of such severity or poses such a threat to the students that the best thing to do is evacuate the school bus.

1. A helper(s) should be appointed to take position outside the front door to assist those leaving the bus.
2. A leader should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
3. Starting with the right seat, begin evacuating by backing toward the rear of the bus while releasing the pupils one seat at a time alternating from right to left until all students are evacuated.
4. Walk to the front of the bus, checking each seat to be sure it is empty.
5. Leave the bus and have the helper(s) go with you to join the other students.

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REAR-DOOR EVACUATION

1. The driver should give the command “emergency bus evacuation, remain seated, rear door.”
2. After the driver announces a rear-door evacuation, he or she should proceed to the rear emergency door and open it.
3. Have the helper(s) open the rear door and take positions outside it.
4. A leader should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
5. The driver should start evacuating the students one seat at a time, beginning with the left rear seat first and alternating left and right seats until the driver, who is backing toward the front of the bus, reaches the front of the bus and all students have been evacuated.
6. The driver should walk to the rear of the bus to ensure that all students have exited the bus.
7. The driver should exit the bus and join the students at the designated assembly location.



SIDE-DOOR EVACUATION

Front Collision

1. The driver should give the command “emergency bus evacuation, remain seated, side door.”
2. When evacuating from the left side, the first thing a driver must determine is if there is traffic approaching the bus from the road and if there is room to evacuate without jumping into traffic.
3. The driver should go to the left side emergency door and open it.
4. He or she should swing out the door and look in both directions for other vehicles approaching the bus and ensure that no child is evacuated into the path of a moving vehicle.
5. Two helpers should be placed on the ground at the side door to assist those leaving the bus.
6. A leader should be appointed to lead the children around the bus, toward the rear, facing traffic to a designated location (to be determined by the driver) at least 100 feet away from the bus.
7. In the event of a front collision, the driver should begin the evacuation by backing toward the front of the bus while releasing the students one seat at a time until all those students riding in the front portion of the bus are evacuated.
8. After the front portion of the bus is clear, the driver should proceed to the area of the side door and back toward the rear of the bus and release the students one seat at a time until the remainder of the students are evacuated.
9. The driver should check the bus to determine that everyone has evacuated and exited through the left side door.
10. Walk to the rear of the bus, facing traffic, and ensure there are no students alongside the bus and then join the students at the designated location.

SIDE-DOOR EVACUATION

Rear Collision

1. The driver should give the command “emergency bus evacuation, remain seated, side door.”

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2. When evacuating from the left side, the first thing a driver must determine is if there is traffic approaching the bus from the road and if there is room to evacuate without jumping into traffic.
3. The driver should go to the left side emergency door and open it.
4. He or she should swing out the door and look in both directions for other vehicles approaching the bus and ensure that no child is evacuated into the path of a moving vehicle.
5. Two helpers should be placed on the ground at the side door to assist those leaving the bus.
6. A leader should be appointed to lead the children around the bus, toward the front, with traffic to a designated location (to be determined by the driver) at least 100 feet away from the bus.
7. In the event of a rear collision, the rear of the bus should be evacuated first, with the driver backing toward the rear from the left side door releasing the students one seat at a time.
8. After the rear portion of the bus is clear, the driver should back toward the front of the bus from the left side door, releasing the student's one seat at a time.
9. The driver should check the bus to determine that everyone has evacuated then exit through the left side door.
10. Walk to the front of the bus, with traffic, to ensure that there are no students alongside the bus and then join the students at the designated location.

FRONT-SIDE-DOOR EVACUATION

1. The driver should give the command "emergency bus evacuation, remain seated, front-side door."
2. The driver should open the front door and then stand between the first occupied seats, facing the front.
3. Direct the helper(s) to take position outside the front door to assist those leaving the bus.
4. A leader should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
5. Starting with the right seat, begin evacuating by backing toward the rear of the bus while releasing the students one seat at a time, alternating from right to left until all students riding in the front portion of the bus are evacuated.
6. The driver should open the left side emergency door and check traffic to determine there is no other moving traffic present that would create a danger to exiting students.
7. Two helpers should be placed on the ground to assist students as they evacuate the bus.
8. Another leader is appointed to lead the students around the bus toward the rear, facing traffic to a designated location, where they will join the students from the front of the bus.
9. The driver resumes the evacuation, backing toward the rear of the bus, releasing the remaining students one seat at a time by the right-left side method until all the students have evacuated the bus.
10. After the bus is empty, the driver should check to determine that everyone is off, then exit the front door.
11. The driver should walk around the bus to ensure that no one is standing alongside the left side of the bus and then join the students at the designated location.

REAR-SIDE-DOOR EVACUATION

1. The driver should give the command "emergency bus evacuation, remain seated, side door."
2. After the driver announces a rear side-door evacuation, the driver should proceed to the rear emergency door and open it.
3. Two helpers should be placed on the ground to assist students as they evacuate the bus.

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4. A helper should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
5. The driver should then start evacuating the students one seat at a time, beginning with the left rear seat first and alternating left and right seats until the driver who is backing toward the front of the bus reaches the halfway point.
6. At that point, the driver should open the left side emergency door and check traffic to determine there is no other moving traffic present that would create a danger to exiting students.
7. Two more helpers should be placed on the ground to assist students as they evacuate the bus.
8. Another leader is appointed to lead the students around the bus, toward the rear, facing traffic to the assembly point where the rear half of the students are located.
9. The driver resumes the evacuation, backing toward the front of the bus, releasing the remaining students one seat at a time using the left-right side method until all the students have evacuated the bus.
10. After the bus is empty, the driver should check to determine that everyone has been evacuated, then exit the left side door.
11. Walk to the rear of the bus, facing traffic to ensure that there are no students alongside the bus and join the students at the designated point.

FRONT-REAR-DOOR EVACUATION

1. The driver should give the command “emergency bus evacuation, remain seated, front-rear door.”
2. The driver should then stand between the first occupied seats, facing the front.
3. A helper(s) should be appointed to take position outside the front door to assist those leaving the bus.
4. A leader should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
5. Starting with the right seat, begin evacuating by backing toward the rear of the bus while releasing the students one seat at a time, alternating from right to left until all students riding in the front portion of the bus are evacuated.
6. The driver should proceed to the rear emergency door and open it.
7. Two helpers should be placed on the ground to assist students as they evacuate the bus.
8. A helper should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
9. The driver should start evacuating the student’s one seat at a time, beginning with the left rear seat first and alternating left and right seats until the bus is empty.
10. The driver then should walk to the front of the bus, checking that the bus is empty, then leave through the front door and have the helper(s) go with you to join the other students.

FRONT-REAR-SIDE DOOR EVACUATION

In this type of evacuation, the students in the front eight seats exit the front door. The students in the next six or seven seats (depending on the year of the bus; 1993 buses have a seat in front of the left side door) exit through the left side emergency door and the rear eight seats exit through the rear emergency door.

1. The driver gives the command “emergency evacuation, remain seated, front, rear and side door.”
2. The driver should open the front door and stand between the first occupied seats, facing the front.
3. A helper should be appointed to take position outside the front door to assist those leaving the bus.
4. A leader should be appointed to lead the children in a safe direction (to be determined

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- by the driver) at least 100 feet away from the bus.
5. Starting with the right seat, begin evacuating by backing toward the rear of the bus while releasing the students one seat at a time, alternating from right to left until all students in the front eight seats are evacuated.
 6. The driver should open the left side emergency door and check traffic to determine there is no other moving traffic present which would create a danger to exiting students.
 7. Two helpers should be placed on the ground to assist students as they evacuate the bus.
 8. Another leader is appointed to lead the students around the bus, toward the rear, if safe, facing traffic to the assembly point where the students from the front are located.
 9. The driver resumes the evacuation, starting with the seat next to the left side door and the seat across from the side door. As the driver is backing toward the rear of the bus, release the remaining students one seat at a time by the left-right side method for five more seats, depending on bus size.
 10. The driver should proceed to the rear emergency door and open it.
 11. Two helpers should be placed on the ground to assist students as they evacuate the bus.
 12. A leader should be appointed to lead the children in a safe direction (to be determined by the driver) at least 100 feet away from the bus.
 13. The driver should start evacuating the students one seat at a time, beginning with the left rear seat first and alternating left and right seats until the driver, who is backing toward the front of the bus until the rest of the bus is evacuated.
 14. After the students are clear, the driver returns to the front of the bus to ensure all students are off and exits the front door.
 15. The driver walks off around to the left side of the bus, facing traffic, to ensure no one remains alongside of the bus and then joins the students at the designated assembly location.

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CHAPTER 10

ACCIDENTS AND EMERGENCY PROCEDURES

OBJECTIVES

- Handle incidents, mechanical failures/breakdowns and emergency evacuations

PERFORMANCE STANDARDS

Know and understand:

- The major causes of incidents involving school buses
- The legal responsibilities and required action in case of an incident
- Procedures that should be taken in case of an incident
- Procedures that should be taken in case of mechanical failures/breakdowns
- Procedures that should be followed in evacuating a bus in case of emergency

INTRODUCTION

On a national and state level, statistics show that school bus drivers are at fault about half of the time, with failure to yield the right-of-way being the most common driver violation. Young and elderly drivers have a higher incident rate than the intermediate age group. Defective brakes are the most common mechanical factor; however, mechanical failures cause very few incidents.

DRIVER LIABILITY FOR PUPIL INJURIES

A driver can be liable for injuries to school children caused by negligence. Courts have held that four essential elements for negligence must be present:

1. Your legal duty to conform to a standard of conduct for the protection of others against unreasonable risks
2. Your failure to conform to the standard
3. A reasonable close connection between your conduct and resulting injury
4. Actual loss of damage of the interests of another

The considerations that most courts use in determining driver negligence are:

1. The degree of care a driver must use ranges from “ordinary” and “reasonable” to “extraordinary” and highest degree” and depends on their type of duty. Courts tend to require more care when younger children are involved.
2. Children ages 10 or 11 and up are generally considered capable of recognizing traffic dangers.
3. The driver and the district are accountable for maintaining a safe vehicle.
4. In incidents occurring while boarding and leaving a bus, factors or “reasonable care” and “safe places” determine negligence.
5. A driver is expected to keep order on a bus and may use any of the normally accepted procedures.
6. A driver is not automatically guilty of negligence if injury occurs. The driver can refute charges with proof that proper care was used.
7. A driver may be held liable for his or her actions separate from the district’s liability.
8. **Negligence is determined by a jury.**

INCIDENT PROCEDURES

If a driver is involved in an incident, there are prescribed procedures to follow that will meet the requirements of state law.

Always remember that no two incidents are exactly the same. The sequence of things in

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the suggested procedure may not be practical in every case. Good common sense should always be the rule.

Remember, a driver's primary responsibility is to his or her students. The driver must remain calm. If a driver is physically unable to perform his or her duties, he or she should direct others to perform them. Should this be the case, the oldest and most responsible pupil should be asked to help.

The following procedures are recommended, should the driver be involved in an incident or an emergency situation:

1. Set the parking brake.
2. Turn off the ignition and remove the keys.
3. Remain calm and reassure the students.
4. Use the emergency reflectors to protect the scene. To protect the students and the bus from further incidents and injuries, place the emergency reflectors in the following manner:
 - a. On a two-lane highway
 - i. Place the first reflector 100 feet or 40 paces to the rear of the bus so it can be seen but not run over.
 - ii. Place the second reflector 10 feet from the left rear corner of the bus.
 - iii. Place the third reflector 100 feet or 40 paces to the front of the bus.

- b. On a curve of a hill:
 - i. Place the second and third reflectors as stated in Section A.
 - ii. Place the first reflector 100 to 500 feet – or 40 to 200 paces – to the rear of the bus, where it will give ample warning to motorists.

- c. On a divided highway:
 - i. Place a reflector 200 feet or 80 paces to the rear of the bus.

d. If the bus is blocking a traffic lane, all reflectors should be placed in that lane.

- e. If the bus is on the shoulder of the roadway, the reflectors should be placed on the edge of the roadway.

NOTE: When placing emergency reflectors, carry the open reflector in front of you between your body and oncoming traffic so you will be visible to more drivers.

5. Protect the scene from traffic and people so evidence is not destroyed.
6. Under normal circumstances, the vehicles involved should not be moved until law enforcement officers advise to do so, unless the bus is on a railroad track or in danger.
7. Check for injury to students. If students are injured, follow first-aid procedures. (First aid is covered in another unit.)
8. Keep all students on the bus except in the following cases:
 - a. A fire or the possibility of a fire. The following are some causes of fires:
 - i. Ruptured fuel tank and fuel lines
 - ii. Electrical fires
 - iii. Hot tires that may catch fireExtinguish fire if possible; however, a driver should never endanger himself or herself or their students to extinguish a fire.
 - b. Danger of further collision.
 - c. In normal traffic conditions, the bus should be visible for a distance of 300 feet or more.



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- d. Whenever students are endangered.
- 9. Account for all students.
- 10. Notify school administrators and appropriate law enforcement agencies of the location and nature of the bus incident. You should carry a list of emergency telephone numbers on the bus.
- 11. Do not discuss the facts of the incident with anyone except the investigating officer and school officials.
 - a. Make a list of all students' names, ages and addresses. (Each district should develop a card for this information.)
 - b. Information should be given to the investigating officer concerning the school bus such as insurance, make, model, number, owner, bus number, driver's name, address, driver's license number and bus serial number, along with the names of children, their ages and seating arrangements. This information should be carried on the bus.

While being investigated:

- a. Be patient
 - b. Evaluate questions
 - c. Give clear, concise answers
 - d. A driver involved in an incident is required to give his name, address, driver's license number and vehicle registration number. Be ready to give this information to the other driver and write down the same information regarding him or her.
 - e. If witnesses are present other than the pupils, get their names, addresses and license numbers.
 - f. The driver should never admit fault or try to assign blame. Generally, the less said the better.
12. Cooperate with school officials.
 - a. During the investigation of the incident or during a breakdown, do not release any of the students to anyone unless told to do so by school administrators.
 - b. If students are injured, use the radio to summon help or send someone to call for aid, such as hospital, ambulance or fire department, wherever help can be summoned quickly. Injured students should be transported by proper and acceptable means to a hospital for care.
 - c. When authorized to do so, continue the transportation of the pupils by the present bus, if safe or operable, or a substitute bus.
 - d. Report the facts of the incident to the school official in charge of pupil transportation and assist in completing the necessary incident report forms.
 - e. The driver may be required to submit to an alcohol and/or controlled substances screening in accordance with state and federal laws.

MECHANICAL FAILURE/BREAKDOWN PROCEDURES

Despite preventive maintenance, buses will have mechanical failures. Know what to do and when to do it if a breakdown occurs on the road.

Let's begin by studying legal requirements as far as equipment is concerned.

1. Stop the bus as far to the right as possible (on the shoulder, if available).
2. Secure the bus and activate the four-way hazard lights.
3. Keep the students on the bus. If the location of the bus is unsafe, evacuate the students to a safer location.
4. Place reflectors in accordance with state and federal laws.
5. Telephone, radio or contact the proper school authorities, giving the bus location and description of breakdown.
6. See that all pupils are delivered to their destination. **Remember, the driver is responsible for the safety of all of his or her students.**
7. Complete maintenance repair reports.

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LOCAL EXCEPTIONS

Evacuating the Bus

Usually, students remain on the bus during an emergency. There are situations in which the bus should be evacuated. Two examples of such times are:

Fire or Danger of Fire

The bus should be stopped and evacuated immediately if the engine or any portion of the bus is on fire. Pupils should move to a safe place (100 feet or more from the bus) and remain until the driver of the bus has determined that no danger exists. Being near an existing fire and unable to move the bus away or near the presence of gasoline or other combustible materials should be considered as danger of fire, and students should be evacuated. Also, if smoke is present, the bus should be evacuated.

Unsafe Position

In the event that a bus is stopped due to an incident, mechanical failure, road conditions or human failure, the driver must determine immediately whether it is safe for pupils to remain in the bus or to evacuate. You must evacuate if:

- the final stopping point is in the path of a train or adjacent to any railroad tracks.
- the stopping position of the bus may change and increase the danger. If, for example, a bus should come to rest near a body of water or where it could still move and go into the water or over a cliff, it should be evacuated. The driver should see that the evacuation is carried out in a manner that affords maximum safety for the students.
- the stopped position of the bus is such that there is danger of collision. In normal traffic conditions, the bus should be visible for a distance of 300 feet or more. A position over a hill or around a curve where such visibility does not exist should be considered reason for evacuation.

In any school bus emergency situation, the driver must use his or her own judgement when deciding the best action to take under the circumstances. If an evacuation is necessary, the type of evacuation will depend on the particular situation. Make sure the students get off of the bus safely and ensure they are safe after they leave the bus by having them assemble at least 100 feet from the bus and traffic. This is a good time to take roll.

EVACUATION PLANS

There are eight emergency evacuation plans or procedures:

Front Door

Everyone exits through the front entrance.

Rear Door

Everyone exits through the rear emergency door.

Front and Rear Door

The front half of the bus exits through the front door and the rear half exits through the rear emergency door.

Left Side Door

Everyone exits through the left side door.

Front and Left Side Doors

Half of the students exit through the front door and half exit through the left side door.

Rear and Left Side Doors

Half of the students exit through the rear and half exit through the left side door.

Front, Rear and Left Side Doors

Students exit through the front, rear and left side doors.

NOTE: If no door can be used, everyone exits through the side windows, windshield or roof hatches.

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Only the evacuation procedures listed above, excluding the side windows, roof hatches and windshield, should be practiced by the local school districts during the four annual evacuation drills.

In a real emergency, a driver may need help. He or she may become incapacitated and unable to assist in the evacuation. At the beginning of each school year, the driver should choose two or three dependable pupils for helpers. (These are not pupil monitors.) The helpers should be instructed in how to:

- Take control and stop the bus if something happens to the driver.
- Turn off the ignition switch and set the parking brake.
- Open the service and emergency doors.
- Assist the other students in exiting the bus. One helper should stay inside the bus to keep everyone calm and direct them to the exit they should use. Another helper should be outside the bus to assist exiting students and direct them to a safe assembly area.
- Operate the fire extinguisher.
- Use the emergency warning devices.
- Give basic first aid.
- Summon help.

Written consent from the parent should be obtained before assigning a pupil as a helper.

EMERGENCY EVACUATION DRILLS

In an emergency, it is possible for children to jam the emergency door by all trying to get out of the door at the same time. To help avoid this situation, you and the school administration should organize and conduct emergency evacuation drills for all students who ride school buses. These drills should be conducted at least four times during each school year. The required time to conduct these drills are: the first full week of school, the first full week of the second semester and twice within the school year, preferably once in late fall and once in early spring.

In the interest of safety, all drills should be planned in advance with the school administration. The age levels of the pupils should be considered in the planning.

All drills should be supervised by the principal, or by people assigned by the principal, to act in a supervisory capacity. The driver is the person who should administer the drills.

The driver should have a briefing session with his or her helpers before the drill. Go over the drill procedures with them and make sure they understand what to do.

All pupils should be carefully informed about the drill. They should know what to do during the drill or in a real emergency. Never have surprise school bus evacuation drills.

Drills should be held on school property and not on bus routes.

The driver should stay on the bus during the drill and follow these steps:

1. Stop the bus, set parking brake, turn off engine and remove the key.
2. Stand and open the door, face the students and get their attention.
3. Give the command for the evacuation: “Emergency drill, remain seated,” then give one of the following:
 - a. “front evacuation”
 - b. “rear evacuation”
 - c. “front-rear evacuation”
 - d. “side evacuation”
 - e. “front-side evacuation”
 - f. “rear-side evacuation”
 - g. “front-rear-side evacuation”
4. Refer to Chapter 9 for the proper procedure of the seven emergency evacuations.
 - a. Student should be shown how the emergency door operates and should be told not to open the door until the driver has given the command to do so.
 - b. Care should be given to small children while exiting the emergency door.

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They can lower themselves to a sitting position with feet outside the door, then drop to the ground. A gym mat should be placed beneath the door during the drill and a helper should assist the students as they exit.

- Types of bus drills should be varied.
- Do not permit children to take lunch boxes, books, et cetera, with them when they leave the bus. Getting the students off safely in the shortest time possible and in an orderly fashion is the objective of a school bus evacuation.
- The students should go to a distance of at least 100 feet from the bus away from traffic in an evacuation drill and remain there in a group until given further directions by the driver or assigned students.
- All students who ride the bus, at any time, should participate – including those children who ride a bus on special trips.
- Each student should be instructed in the proper safety precautions while riding the bus and in evacuation drill procedures.
- Instruct pupils how and where to get help. Instructions and telephone numbers should be posted or otherwise carried on the bus.
- Every step of an evacuation should be carried out, including placing the reflectors at the proper distance from the bus.
- Since the driver is an active participant in the drill, the principal or some other school official should observe the drill. After the drill, the driver and the observer can advise the students of improvements to be made or tell them of the job well done.



EMERGENCY EQUIPMENT

When an emergency or incident happens, it is too late to learn how and when to use the emergency equipment. You should know the exact location and operation of the:

- reflectors.
- hazard flasher.
- first-aid kit.
- fire extinguisher.
- body fluids clean-up kit.

Reflectors

- There are three reflectors located on your bus. These can be used at night or in the daytime. Find the location of these and make sure they are on the bus. Check them daily as part of the pre-trip inspection.
- Follow the directions for their placement that were described in Chapter 9.

Hazard Flashers

- The switch to activate the hazard flashers is located on the steering column or turn signal arm.
- Good judgment should be used when turning on the hazard flashers. They should only be used to warn traffic or in a dangerous situation.

First-Aid Kit

- The first-aid kit is a 24-unit kit located in the driver's compartment. The first-aid kit should contain the items listed below.
- Most of the items in the first-aid kit are used to control bleeding.
- Three primary first-aid procedures are:
 - To restore breathing
 - Stop bleeding and/or
 - Prevent shock.
- All items used from the first-aid kit should be replaced immediately.

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| 11-inch adhesive bandage | 2 units |
| 12-inch compress | 2 units |
| 13-inch compress | 2 units |
| 14-inch compress | 2 units |
| 12-inch-by-6-yard gauze bandage | 2 units |
| 1 Triangular bandage | 4 units |
| 13-by-3 gauze pads | 1 unit |
| 118-by-36-inch gauze compress | 3 units |
| 124-by-72-inch gauze compress | 3 units |
| 1 1/2-inch-by-2-1/2-yard adhesive tape | 1 unit |
| 1 Eye pads with tape | 1 unit |
| 1 Microshield with gloves | 1 unit |

Fire Extinguisher

1. A 3A-40-BC fire extinguisher is required on all Kentucky school buses manufactured after 1986.
2. Class A fires are of ordinary combustible material such as wood, paper, textile fabrics, rubbish, et cetera. A Class B fire is a chemical fire that would include flammable liquids such as gasoline, oil, paints, grease, etc. A Class C fire is an electrical equipment fire in which the use of a nonconductor extinguisher agent is of first importance.
3. The fire extinguisher gauge should be checked daily to see that it has adequate pressure. If the indicator needle is in the red area, the extinguisher should be replaced with one that is properly charged.
4. To operate the fire extinguisher:
 - a. Remove the fire extinguisher from the bracket.
 - b. Hold the extinguisher in an upright position so that all the powder in the extinguisher will be available for use.
 - c. Pull the safety pin by breaking the seal.
 - d. If possible, stand upwind from the burning material to prevent standing in smoke and heat.
 - e. Squeeze the handle to discharge the powder. Turn on and off to control the fire.
 - f. With nozzle in hand, aim powder at base of fire. The idea is to smother the fire and allow no oxygen to reach the flame. On oil or gasoline fires, it is better to use a sweeping motion with the extinguisher.
5. The fire extinguisher, regardless of the extent of use, should be recharged or replaced with a substitute immediately after use.
6. The three most common areas where fires occur in a school bus are:
 - a. Under the hood, which can be a fuel and oil fire, electrical fire, or a combination of both
 - b. Electrical fire under the dash or in the console
 - c. A fuel fire in the area of the fuel tank

Hazardous Body Fluids Clean-Up Kit

The driver is in full charge of the bus at all times. Knowing proper emergency procedures, emergency evacuation procedures and incident scene procedures is a must. These areas of responsibility deal directly with the safety and care of your students in the event of an incident, as well as other emergency situations which may arise.

The school bus driver must know:

- What to do
- How to do it
- When to do it

Check school district policies concerning incidents, emergency procedures or breakdowns.

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CHAPTER 11

FIRST AID

OBJECTIVES

- Understand the basic principles of first aid and the immediate responsibilities of a school bus driver in case of an incident or sudden illness
- Learn ways of controlling bleeding
- Be familiar with contents of a first-aid kit
- Realize the seriousness of shock and the proper treatment to administer
- Learn the basic principles in splinting a suspected fracture
- Recognize the signs and symptoms of a victim who has fainted and be able to administer the proper treatment
- Administer the proper first aid to the victim with a nosebleed
- Administer the proper first-aid treatment to a victim having an epileptic seizure

INTRODUCTION

First aid is the immediate and temporary care given to a victim of an incident or sudden illness until further medical services can be obtained. The primary objective of first aid is to save lives. A school bus driver must know how to administer basic first aid. In an emergency, an error could have disastrous consequences to the patient. **It is as important to know what to do as what not to do.** A person will respond more quickly to treatment if he or she recognizes that a competent person is administering the first aid.

EVALUATING THE SITUATION – SETTING PRIORITIES

To effectively deal with emergencies, the situation must be evaluated and priorities set. Three evaluations, which must be made to establish priorities for treatment are:

1. The condition of the scene
2. The type of the injury
3. The need for treatment.

The primary first-aid procedures are:

1. To restore breathing
2. To control bleeding
3. To prevent shock

The most urgent action following an incident is to remove everyone from danger. Several types of situations are of high priority, such as fires, electrocution and drowning. Do not give aid until everyone is safe. Do not attempt to make a rescue until you are sure you will not become a victim.

SCHOOL AUTHORITIES SHOULD ALWAYS BE NOTIFIED OF ANY INCIDENT OR INJURY THAT OCCURS WHILE STUDENTS ARE BEING TRANSPORTED.

EMERGENCY MEDICAL SERVICES (EMS) SYSTEM

An EMS system is a communitywide, coordinated means of reporting an incident or sudden illness. The EMS system is activated by calling 911, 0 or the local EMS number.

When you call for help, give the following information:

1. Where the emergency is, with cross streets if possible
2. The phone number you are calling from
3. What happened – bus incident, fall, et cetera
4. How many people need help
5. What is being done for the victim

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AT THIS STAGE, WE RECOMMEND YOU FOLLOW CURRENT AMERICAN RED CROSS OR OTHER CERTIFYING AGENCIES PROCEDURES.

CONSCIOUS VICTIM WHO CANNOT BREATHE, COUGH OR SPEAK

Perform the Heimlich maneuver as outlined by the American Red Cross or other certifying agency.

BLEEDING

Bleeding requires immediate attention. If a person is bleeding intensely, he or she can die in less than 2 minutes. The loss of a pint of blood by a child or a quart of blood by an adult can have disastrous results. Even the loss of a small amount of blood produces weakness and possibly shock. Evaluate the type of bleeding and the blood loss.

EVALUATION OF BLEEDING

Capillary Bleeding

Results from injuries to capillaries or small veins. It is indicated by steady oozing of dark-colored blood.

Venous Bleeding

Bleeding from a vein indicated by a flow of dark-colored blood at a steady rate.

Arterial Bleeding

Bleeding from an artery indicated by bright red blood flowing quickly in spurts or jets. Arterial bleeding may be mixed with venous bleeding.

Internal Bleeding

Internal bleeding often has no outward indication. Tender, swollen, bruised or hard areas of the body, such as the abdomen, may indicate there is a possibility of internal bleeding. If the person collapses or has anxiety, marked paleness of the skin, rapid breathing, rapid and weak pulse, restlessness and thirst, the person could be in shock from internal bleeding.

CONTROL OF BLEEDING

Direct Pressure

The primary step to control bleeding is to exert direct pressure over the wound. As a universal precaution, use protective gloves in situations involving blood or body fluids.

1. Place the cleanest material available against the bleeding point and apply firm pressure with the hand until the wound clots and it can be properly dressed. Do not wait if a clean bandage or any material is not available. Apply direct pressure with the bare hand.
2. If a bandage is used and blood soaks through the bandage, **do not remove it**. Apply additional bandages and secure them in place. Be sure the bandage is not too tight.
3. Elevate the wound above the level of the heart, except when there is a broken bone.

Arterial Pressure Points

If direct pressure on the wound does not control bleeding, direct pressure on any arterial pressure point close to the wound is necessary. The arterial pressure point must be located between the heart and the wound.

- **Brachial** – located on the inner side of the upper arm, approximately 3 inches below the armpit.
- **Femoral** – located midway in the groin
- **Temporal** – located in the temple area
- **Carotid** – located deep and back of each side of the Adam's apple.
- **Subclavian** – located deep down in the hollow near the collarbone
- **Facial** – located in the small crevice 1 inch from the angle of the jaw.

When you use a pressure point, keep using direct pressure.

Tourniquet

A tourniquet applied to control bleeding is mentioned principally to discourage its use. It is dangerous to apply, dangerous to leave on and dangerous to remove. It will cause

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tissue injury and stoppage of the entire supply of blood to the part below it. This can cause gangrene and could result in the loss of a limb. A tourniquet is rarely required and should be used only for severe, life-threatening hemorrhaging that cannot be controlled with direct or arterial pressure.

Dressing and Bandages

A dressing, also called a compress, is the immediate protective cover placed over a wound. A bandage is a strip of woven material used to hold a dressing or compress in place. It may also be used to hold a splint in place.

Bus Driver First-Aid Kit

1 Gauze compress – Use as a dressing or padding for a splint.

1 Bandage compress – Compress and bandage attached.

1 Triangular bandage – May be used as a sling for fracture or other injury of the arm or hand. May be folded and used as a circular, spiral or figure-eight bandage.

1 Adhesive bandage – Band-Aid

1 Gauze bandage – To be used around body or limb to hold compress in place.

1 Scissors and tweezers

SHOCK

Shock is a condition in which the circulatory system fails to deliver blood to all parts of the body. **Shock can be fatal even though the injury which causes it may not be enough to cause death.** Shock can be made worse by extreme pain and fright.

Three very common causes of severe shock are:

1. Inadequate breathing
2. Excessive bleeding
3. Unsplinted fractures

Treating these problems lessens the shock.

Symptoms of Shock

1. Skin is pale, cold and clammy, with small drops of sweat, particularly around the lips and forehead.
2. Nausea and dizziness may be present.
3. Restlessness or irritability may occur.
4. Altered consciousness may occur.
5. Pulse may be fast and weak, or absent.
6. Breathing may be shallow and irregular.
7. Eyes may be dull with enlarged or dilated (larger) pupils.
8. Victim may be unaware of the seriousness of the injury, then suddenly collapse.

Treatment Objectives

1. Improve circulation of blood.
2. Ensure an adequate supply of oxygen.
3. Maintain normal body temperatures.

Body Position

1. Standard position – lying on back, feet elevated 6 to 12 inches – unless you suspect head, neck or back injuries or possible broken bones involving the hips or legs.
2. If you are unsure of the victim's condition, leave him or her lying flat.
3. A victim who is bleeding from the mouth or vomiting should lie on one side so that fluid will drain from the mouth.

Regulating Body Temperature

Keep the victim warm enough to avoid or overcome chilling. If the victim is exposed to cold or dampness, blankets or additional clothing should be placed over and under him or her to prevent chilling.

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Administering Fluids

Do not give the victim anything to eat or drink, even though he or she is likely to be thirsty. Call your local emergency number immediately. Shock can't be managed effectively by first aid alone. A victim of shock requires advanced medical care as soon as possible.

FRACTURES AND SPLINTING

A closed fracture is an injury beneath the skin and may be difficult to detect. Do not move or have the victim move any body parts. The signs of a closed fracture are pain, swelling, deformity and discoloration.

An open fracture is usually much more serious than closed fractures because of the amount of tissue damage, bleeding and danger of infection. In most cases, the bone slips back inside the skin. Do not try to push a bone end back inside the skin.

Splinting

- Splint only if the victim must be moved or transported by someone other than emergency medical personal.
- Splint only if you can do it without causing more pain and discomfort to the victim.
- Splint an injury in the position you find it.
- Splint the injured area and the joints above and below the injury.
- Check for proper circulation before and after splinting.

It may be necessary to stop any associated bleeding and treat for shock.

FAINTING

Fainting is partial or complete loss of consciousness due to a reduced supply of blood to the brain for a short time.

Occasionally, a person may collapse suddenly without warning. Recovery of consciousness almost always occurs when the victim falls or is placed in a reclining position.

Signs and symptoms are usually preceded or accompanied by:

- Extreme paleness
- Sweating
- Coldness of the skin
- Dizziness
- Numbness and tingling of the hands and feet
- Nausea
- Possible disturbance of vision

NOTE: To ward off a fainting spell have patient sit with head between the knees.

First Aid for Fainting

First aid for fainting should include:

1. Leave the victim lying down.
2. Loosen any tight clothing and keep crowds away.
3. If the victim vomits, roll him/her onto their side and, if necessary, wipe out his or her mouth with your fingers.
4. Maintain an open airway.
5. Do not pour water over the victim's face because of the danger of aspiration. Instead, bathe the face gently with cool water.
6. Do not give any liquids unless the victim has revived.
7. Examine the victim to determine if he or she has suffered an injury from the fall.

NOSE BLEEDING

1. Place the victim in a sitting position. Have the victim lean forward.
2. Loosen the collar and anything tight around the neck.
3. Give the victim a compress to hold over his or her nose. (Driver should use protective gloves to do these procedures.)

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4. Apply pressure directly at the site of the bleeding by pressing the bleeding nostril toward the midline.
5. If bleeding continues, the victim should insert a small, clean pad of gauze (not absorbent cotton) into one or both nostrils and apply pressure with thumb and index finger.
6. Do not allow the victim to blow his or her nose.

EPILEPSY AND OTHER SOURCES OF CONVULSIONS

The two major signs of a serious epileptic attack are convulsions and loss of consciousness. A mild attack may last only a second and may not be noticed by others.

First aid for epilepsy is the same as for other convulsions, with the primary effort being made to prevent the victim from hurting himself or herself.

1. Push away nearby objects.
2. Do not force a blunt object between the victim's teeth.
3. When jerking is over, loosen the clothing around the neck.
4. Keep the victim lying down.
5. Keep his or her airway open.
6. Do not try to restrain the victim. Jerking motions and/or foaming at the mouth may often occur.
7. If breathing stops, give artificial respiration.
8. Allow the victim to sleep or rest following the seizure. Do not question, disturb or embarrass the victim.
9. Assure all bystanders that the victim will not harm anyone.

BLOOD-BORNE PATHOGENS

Blood-borne pathogens are micro-organisms in the bloodstream that can cause disease. The two diseases that are of major concern in the work environment are Hepatitis B and HIV (AIDS).

Blood-borne pathogens are found in blood and blood products such as semen, vaginal secretions, breast milk and other body fluids. Only blood, semen, vaginal secretions and breast milk have been proven to transmit the HIV virus. HIV is a more lethal virus, yet Hepatitis B is more contagious. HIV and Hepatitis B can only be transmitted if the exposed blood is infectious and that blood is allowed to enter directly into the body.

Blood or other infectious material could enter the body through:

- unprotected openings in the skin such as cuts, scrapes and dermatitis.
- unprotected mucus membrane openings such as the eyes, nose and mouth.
- penetration into the skin by a sharp object such as broken glass, a needle or knife blade.

Drivers should report any exposure to their supervisor.

Drivers should always use the body fluid cleanup kit when dealing with blood or body fluids, such as vomit. Kits usually include items such as disposable gloves, spatulas, a contaminated materials bag and germicidal antiseptic wiping cloths. Employees should consult their school district's "Exposure Control Plan Reference Procedures and Universal Precautions" relating to blood-borne pathogens. Each school district is required to provide training for employees with occupational exposure.

SUMMARY

There are obviously many other medical problems that may arise on a school bus or at the scene of an emergency. Only a few critical problems have been dealt with in this unit. Drivers should remember that, above all, as a first-aid worker, they should know the limits of their capabilities and make every effort to avoid further injury to the victim in an attempt to provide the best possible emergency care.

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CHAPTER 12

TRANSPORTING STUDENTS WITH SPECIAL NEEDS

OBJECTIVES

- Identify some physical characteristics and behavior tendencies of special needs students
- Describe loading/unloading procedures
- Describe student management techniques
- Suggest ways to communicate with special needs students

INTRODUCTION

A school bus driver has a unique opportunity to provide a positive influence on the lives of special needs students as they are being transported. Many basic tasks of meeting personal care needs, communicating and socializing with others and physically moving from one location to another are major accomplishments for these students. By providing an atmosphere of friendly assistance and responding to their individual and group needs, a driver is in a position to become an important link in their efforts to reach their achievement potential.

The success of a program for exceptional children depends upon the people who have daily contact with the children. They should be patient, alert, flexible, resourceful, enthusiastic and emotionally stable and have personal warmth, friendliness, understanding and compassion. A bus driver should be able to develop and maintain rapport with children and be able to exercise mature judgement in relation to both the care of exceptional children and the responsibilities of driving.

A driver should be able to accept this child and his or her problems as he or she would accept any child. These children should be treated as a person would treat his or her own children with special needs.

The daily bus ride to school can be an important part of the child's progress toward accomplishment of his or her goals. The child will learn how to leave home to meet the bus. The bus rules should be explained, and the child will learn to obey them. The bus ride to and from school can be a pleasant experience which a child anticipates eagerly, or it can become a dreaded experience. The driver should be thoughtful and careful about such routine matters as assigning a seat or seatmate, the presentation and purpose of a seat belt and student management.

The driver of special needs students has many areas that are unique to his or her bus and the students on it that other bus drivers do not have.

Following are some ideas that could be helpful to the driver in these special areas. They are given only as suggestions and ideas:

- Be firm – but gentle.
- Be patient – but persistent.
- Always be consistent and fair.

The driver's primary purpose is to take children to and from school safely and dependably. While allowances are made for specific problems of these students, a child's social adjustment should be of less importance than getting to school on time and the safety of the bus, driver and other children.

COMMUNICATIONS

The driver should know about the needs and abilities of the students, and the best way to learn these is through communication with school staff.

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PARENT-DRIVER

With the school's permission, drivers and parents should discuss safety rules on the bus, special equipment use, schedules and transporting medication as various needs require various plans.

LIFTING STUDENTS

There are several safe and effective ways to lift a child. The driver will be able to learn these techniques by conversation and application with school specialists. These techniques will vary depending on each child's needs.

SPECIAL EQUIPMENT

Following are recommendations for special needs students:

- Due to varied disabling conditions, all seats have rolled padded tops and sides to help reduce chances of pupil injury on panic stops. Foam seats provide more secure seating. Modesty panels and stanchion posts should be added.
- Seat belts on school buses are recommended for the safety of all special needs students.

DRIVER QUALIFICATIONS

Besides operator qualifications regarding age, health, past experience, knowledge of vehicles and maintenance, safe driving practices, et cetera, a driver should be able to operate specially equipped or adapted vehicles. The driver should become familiar with the use of wheelchairs, braces, crutches, et cetera.

MEDICAL NEEDS

The driver should be aware of the problems of each of the students who ride the bus. He or she should be familiar with the medical and physical aspects of the disabilities of each child. He or she should, through communication with school personnel and parents, know when a child is on medication and the effects of that medication. This will help him/her to determine when a child is behaving accordingly.

The driver has the responsibility of reporting to school authorities or to parents specific incidents, attitudes, et cetera, that may be significant in the treatment of the child. He or she should know what special steps to take in case of a traffic incident or breakdown because the comfort and emotional well-being of these children is the driver's responsibility. He or she may spend much time learning how to care for each child under the many circumstances that might occur while the children are on the bus.

SEIZURE MANAGEMENT

To prevent injury to the child:

1. Observe the progression of symptoms during the seizure. Note the:
 - a. first thing the child does in an attack, in regard to movements.
 - b. types of movements of the part involved (stiffness starts, position of eyeballs and head).
 - c. body parts involved.
 - d. size of the pupils.
 - e. incontinence of urine and feces.
 - f. duration of each phase of the attack.
 - g. unconsciousness, if present, and its duration.
 - h. any obvious paralysis or weakness of arms or legs after the attack.
 - i. inability to speak after the attack.
 - j. whether or not the child sleeps after the attack.
2. Support the child during the convulsive seizure.
 - a. Ensure the child has adequate airway.
 - b. Give the child privacy and protection from curious onlookers.

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- c. Protect the head with padding to prevent head injury.
 - Towels, blankets, coats, clothes or book bags can be used.
 - Loosen constrictive clothing.
 - f. Provide protection with the possibility of suffocation.
- d. When jaws are clenched in spasm, DO NOT attempt to pry open to insert a mouth gag.
- e. Place child on his or her side during convulsion, if possible, to facilitate drainage of mucus and saliva. Do not attempt to lift child during the seizure; to do so may cause injury. Instead of moving the child during a seizure, remove things that could cause injury.
- f. Once convulsive movements have stopped, allow the child to recover naturally. When appropriate (when the child awakens), reorient the child to his or her environment.

TYPES OF SEIZURES AND THEIR CLINICAL MANIFESTATIONS

1. Aura

- a. Small localized seizures that sometimes precede grand mal seizures and act as a warning.
- b. The child cannot explain them but knows they exist.
- c. May include vague symptoms such as irritability, headache, gastrointestinal disturbances or mental dullness.
- d. The interval between the aura and grand mal seizure is usually short, but it may be an hour or more than a day.

2. Grand mal

a. Onset

- Onset is abrupt.
- May occur at night.
- An aura occurs in about one-third of epileptic children prior to a grand mal seizure.

b. Tonic spasm

- The child's entire body becomes stiff.
- The child usually loses consciousness.
- The face may become pale and distorted.
- The eyes are frequently fixed in one position.
- The back may be arched with the head held backward or to one side.
- The arms are usually flexed with the hands clenched.
- The child may bite his or her tongue or cheek. (This occurs because of a sudden forceful contraction of jaw and abdominal muscles.)
- The child is often unable to swallow his or her saliva.
- Breathing is ineffective and cyanosis (turning blue) results if spasm includes the muscles of respiration.
- The pulse may become weak and irregular.
- Clonic phase
- This phase is characterized by twitching movements that follow the tonic state.
- Phase usually starts in one place and becomes generalized, including the muscles of the face.

c. Duration

- Length varies.
- Convulsions usually cease after a few minutes and consciousness returns.

d. Post-convulsive state of child

- The child is usually sleepy or exhausted.
- May complain of headache.
- May appear to be in a dazed state.

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- Often performs relatively automatic tasks without being able to recall the episode.
3. Petit mal
 - a. Petit mal onset rarely appears before age 3.
 - b. Clinical signs
 - Loss of contact with the environment for a few brief seconds. May appear to be staring or daydreaming and will suddenly discontinue any activity and resume it when the seizure has ended.
 - Minor manifestations include rolling of the eyes, nodding of the head and slight quivering of the trunk and limb muscles.
 - c. Duration is usually less than 30 seconds.
 - d. Frequency varies from one to two per month to several hundred each day.
 - e. Post convulsive state of child:
 - Appears normal.
 - The child is not aware of having had a convulsion.
 4. Focal seizures (psychomotor)
 - a. Clinical signs
 - Child undertakes purposeful but inappropriate motor acts.
 - Child may pick at clothing with hands.
 - Child may make chewing movements with mouth or perform other complicated actions.
 - A young child may emit a shrill cry or attempt to run for help. There is usually a gradual loss of postural tone.
 - May have pallor around mouth.
 - b. Duration is brief, usually about 1 minute.
 - c. Post convulsive state of child
 - Child may be confused after an attack, but has no memory of what happened.
 5. Focal motor (Jacksonian seizures)
 - a. Clinical signs
 - Sudden jerking movements occur in a particular area of the body such as the face, arms or tongue (less often the leg or foot).
 - Seizure begins on one side of the body and spreads to adjacent areas on the same side in a fixed progression.
 - Prognosis: Seizure may become more extensive as the child matures, leading to grand mal seizures.
 6. Focal sensory (rare in children)
 - Sensations may occur, such as numbness, tingling and coldness.

TO OBSERVE THE CHILD FOR RECURRENT SEIZURES

1. Place the child where he or she can be watched closely.
2. Check the child frequently. Watch for and report to school or parent/guardian if you see:
 - behavior changes
 - irritability
 - restlessness and/or
 - listlessness

CARE DURING A SEIZURE

1. Maintain patient airway and adequate ventilation. Loosen tight clothing (belt, collar, et cetera), turn child onto side to facilitate drainage or turn head to the side and point

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- chin downward. This allows saliva and mucus to run out of the mouth and not be aspirated, as the tongue will drop forward away from airway. During convulsions, the child is unable to swallow. This increases the possibility of aspiration because vomit and increased secretions are frequently present.
2. Do not attempt to forcibly open convulsing child's mouth if the jaws are clenched.
 3. Do not attempt to push an airway or tongue blade forcibly between front teeth. To do so may break or loosen teeth or injure lips.
 4. Never put your fingers into the child's mouth. The child may accidentally bite you during the seizure.
 5. Do not attempt to restrain the child's movements during convulsions. Restraint may increase the movements and their severity and could cause fracture if extreme spasticity is present. Lightly hold the child's hands to prevent him or her from banging them.

DEFINITIONS AND DESCRIPTIONS OF DISABILITIES AND IMPAIRMENTS

Physically Disabled or Orthopedically Impaired

- Severe orthopedic impairment which adversely affects educational performance to the extent that specially designed instruction is required for the pupil to benefit from education.
- These students have a range of physical or health problems. Some are able to work full time in the general (comprehensive) education program and need only special transportation and an architecturally accessible building. They are taught to lead productive, independent lives by learning to compensate for their physical disabilities.

Other Health Impaired

- Limited strength, vitality or alertness due to a chronic or acute health problem that adversely affects educational performance to the extent that specially designed instruction is required for the pupil to benefit from education.
- These students are medically fragile and/or chronically ill and need the environment of a special classroom. They are taught to compensate for their physical disabilities to the extent possible in order to lead productive, independent lives.

Communication Disorder – Speech/Language Impaired

- Disorder in language, articulation, voice or fluency, which adversely affects educational performance that specially designed instruction is required for the pupil to benefit from education.
- The student may have any or all of the following problems: does not pronounce words clearly, stutters, does not understand what people say to him/her, and/or is unable to put his or her thought into words.

Hearing Impairment

- Physiological hearing loss ranging from mild to profound, permanent or fluctuating, and of such a degree that the pupil is impaired in the processing of linguistic information via the auditory channel either with or without amplification, adversely affecting educational performance so that specially designed instruction is required for the student to benefit from education.
- These students have a range of hearing loss from mild to profound. All of them are encouraged to communicate through speech that is somewhat difficult to understand. They are also expected to speech read (read lips) as much as possible so that they will be able to communicate with nonhandicapped persons. Some students supplement their speech with various types of manual (hand) signing. It is easier for them to speech read if the person is facing them and speaks at a normal (not slowed) rate. (A mustache or beard sometimes makes speech reading more difficult.) Many hearing impaired students have some speech but have difficulty discriminating between speech and background noises. Almost all hearing impaired students have hearing aids and should be encouraged to wear and use them

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at all times.

Mental Disability

- Deficit or delay in intellectual or adaptive behavior functioning that adversely affects educational performance so that specially designed instruction is required for the student to benefit from education.
- Individual intellectual assessment reflects:
 - Educable Mentally Handicapped (EMH, 75-50 IQ). These students are mildly mentally disabled. As adults, many may be successfully employed and live independently. They learn best when provided with very clear, specific directions and much repetition. They tend to follow the leadership of others (adults or fellow students) but have difficulty discriminating whether or not that leadership is appropriate.
 - Trainable Mentally Handicapped (TMH, 50-35 IQ). These students are moderately mentally disabled. As adults, they may be employable and may experience independent living. Many TMH students have impaired motor skills and move more slowly and awkwardly than do nonhandicapped students. They are generally willing and able to follow directions that are given in simple terms.
 - Severely/Profoundly Handicapped (SPH, Below 35 IQ). These students are severely mentally disabled and frequently have physical disabilities as well. They will benefit from inclusion in social activities and other learning experiences with nonhandicapped persons. A major goal is to teach them to be as independent as possible, using whatever language and motor skills they have in order to care for their own needs and interests with others. As adults, while gainful employment and independent living are possible, self-care is anticipated.

Emotional-Behavioral Disability

- Behavioral excess or deficit that significantly interferes with a student's interpersonal relationships or learning process to the extent that it adversely affects educational performance so that specially designed instruction is required.
- The major problems these students have are usually those of controlling their own behavior and interacting appropriately with adults and peers. They may overreact to apparent trivial situations. They may also be defiant of authority – especially in front of their peers. They may test an adult to find out if misbehavior will be tolerated. They need to be given – before an incident occurs – very specific directions as to what is expected of them. It is helpful to establish a few rules. It is better to state rules in terms of what they should do (for example, “Keep your hands inside the bus”) rather than what they should not do (for example, “Do not put your hands outside the bus”). Do not make idle threats if consequences have been previously established for a specific misbehavior; they must be capable of being carried out. Some students are on a behavior management program and are rewarded when the bus driver reports to the teacher that their bus behavior has been acceptable.

Multiple Disability

- A combination of two or more disabilities resulting in significant learning, developmental or behavioral and emotional problems. These adversely affect educational performance to the extent that specially designed instruction is required for the pupil to benefit from education.
- Students in this category have a combination of two or more handicapping conditions – physical and/or mental. The students within this category do not all have similar needs. Their programs are specially designed to match their needs and abilities.

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Specific Learning Disability

- Disorder in one or more of the psychological processes. Primarily involved in understanding or using spoken or written language, which selectively and significantly interferes with the acquisition, integration or application of listening, speaking, reading, writing, reasoning or mathematical abilities.
 - This disorder is lifelong. Intrinsic to the individual, it adversely affects educational performance to the extent that specially designed instruction is required for the student to benefit from education.
 - This term does not include a learning problem that is a direct result of a hearing impairment, visual, physical, mental or emotional-behavioral disabilities or environmental, cultural or economic differences.
- These students have difficulties in one or more specific areas, such as motor skills or reading, writing or mathematics. Their problems are mostly academic, but sometimes their frustration with avoidance of academic tasks can result in mild behavior problems. These students tend to learn each thing in isolation, rather than applying their knowledge to many situations, and they tend to act on impulse without considering the consequences.

Visually Disabled

- Visual impairment that, even with correction, adversely affects educational performance to the extent that specially designed instruction is required for the student to benefit from his or her education.
- Very few of these students are totally blind. Most have some usable vision and can see shapes, shadows and other clues that help them to move through their surroundings. They are taught to use their senses of touch and hearing to provide the additional information they do not receive with their eyes. While some read Braille materials, most can use large print textbooks or other enlarging devices.

Traumatic Brain Injury

- Acquired impairment to the neurological system resulting from an injury to the brain that adversely affects educational performance to the extent that specially designed instruction is required for the pupil to benefit from education. Does not include a brain injury that is congenital or degenerative, or a brain injury induced by birth trauma.
- These students have experienced some injury to the brain and exhibit a wide range of mental and physical abilities. These students will have shorter attention span, short-term memory loss or lack of concentration. Mild behavior problems may result. Due to the nature of the injury, students have individual needs.

Autism

- Developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3 that adversely affects education performance to the extent that specially designed instruction is required for the pupil to benefit from education. Characteristics include:
 - irregularity and impairment in communication.
 - engagement in repetitive activity and stereotyped movement.
 - resistance to environmental change or change in daily routine.
 - unusual responses to sensory experiences.

This does not include children with characteristics of an emotional-behavioral disability.

- The student displaying autistic or autistic-like behaviors may have difficulty developing and using verbal or nonverbal communication systems, making it difficult to use traditional methods of interaction. The student may engage in repetitive motions or behavioral patterns and perhaps will be sensitive to being touched.

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Specific behavior modification techniques are needed to elicit the most correct behavior, making it important for the transportation staff to conference with the student's teacher regarding appropriate interventions.

BEHAVIOR PATTERNS

Behavior patterns of each child are individual problems and should be understood. Each driver must treat each child separately. For example, don't give a general direction to the entire busload of children. You can't assume everyone would understand this direction.

Behavior patterns of these children for any given day or hour of the day can be caused or changed by the actions of many people:

- School bus driver
- Parents or members of the family
- Teacher or aide
- Other bus students

These people affect any child, but they can compound the trouble that a special needs child may already have. The person managing the student can understand what may have caused the problem and be able to correct it.

When you correct a child, regardless of his or her age and size, take into consideration his or her attention span. With some children, this can be rather short. Be consistent when you correct a child.

A student may behave differently from day to day because of medication he or she may be taking. Many students are extremely hyperactive and use their excessive energy to get attention from you or from someone else.

It is difficult to give guidelines for handling all situations. Following are some courses of action that should prove helpful:

- Work with school specialist by talking over any problems
- Work with the teachers
- Work with the parents
- Work with the child

It can also be of help to move the child to another seat away from a student who may be causing problems.

EDUCATIONALLY HANDICAPPED CHILDREN

In Transport

Maintain a set of clear-cut rules. Make a short list of rules concerning behavior while riding the bus and follow them to the letter. The child wants to know where he or she stands at all times. Remember, once children begin to misbehave, they may not be able to help themselves; you must help them. Any deviation from these rules will only confuse the child. Be firm but fair. Smile often for this child, but be direct when you address him or her. You could be the key to the student's whole day. You are the first school authority to see him or her in the morning and the last to see him or her at night. Say "good morning" and let him or her know that you are glad to see him or her and want him or her to ride on your bus. (This will be difficult at times, but it will pay off in the long run.) If a child is on a medication, you must know the effects of the medication and what to do if it should wear off.

You must be resourceful in discipline areas.

Loading and Unloading

Most transportation systems, when possible, load and unload special education children in front of each child's home due to the fact that the child cannot be left unattended. These children sometimes need assistance to board the bus. Eye-to-eye contact with some children is a must. Most buses used for this purpose are equipped with safety devices (harnesses, et cetera) that should be used.

Care is needed at all times to keep these children on the bus when other children are

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being loaded or unloaded. A child who must use special equipment such as a wheelchair, braces, crutches, et cetera, has problems during the loading and unloading process, and it is your responsibility to learn these problems and know how to correct them. Remember, care and protection are two things that parents and children expect from a driver.

Usually, you will follow the same loading and unloading procedures for controlling the bus as you would when transporting regular students.

Procedure for Operating Some Lift Equipment

- Bus must be in neutral, emergency brake on.
- Open lift doors and hook latches in outside wall of bus.
- Remove hand-held controls and push long lever down to unfold platform (platform will be flush with floor of bus).
- Press “lower platform” button.
- Lower platform to ground level (make sure hinge releases barrier).
- Roll wheelchair backward and lock hand brakes.
- Place hand on wheelchair to give the student a secure feeling.
- Press “raise platform” button, making sure barrier locks in place. (Platform will raise to bus floor level.)
- Pull wheelchair into bus and secure.
- Fold platform back into bus and shut doors.
- No one may ride on the lift with a student.

If an Aide is Assigned to the Bus

1. Be sure each person knows his or her role. In the case of misunderstanding, don't argue. Carry on any discussion out of the student's presence.
2. Direct the aide to carry or guide the student onto the bus.
3. When the use of assistive devices is required, check to see that they are securely fastened before putting bus into motion.
4. When specially equipped buses are used to accommodate wheelchairs, et cetera, with the use of a ramp or lift, supervise the aide in guiding chair onto bus and securing it in place inside the bus.
5. When loading or unloading, the driver must be on the bus.
6. Check to see that the ramp and side door have been securely fastened into a locked position after the student has entered the bus. Start the bus and follow procedure for entering the flow of traffic.

If an Aide is Not Used

1. Set the parking brake, secure the bus in park, turn off the motor and take the key out of the ignition.
2. Leave the bus and carry or guide the handicapped student onto the bus. (The student should be brought to the bus by a parent or other responsible person.)
3. Check to see that the ramp and side door have been securely fastened into a locked position after the student has entered the bus. Start the bus and follow proper procedure for entering the flow of traffic.

Unloading on School Grounds

1. Carry or guide each student off the bus into the charge of a teacher or other school attendant.
2. Check to see that all belongings of each student are taken off the bus.

Unloading at the Student's Home

1. Guide each student off the bus into the charge of a parent or other responsible person.
2. Check to see that all belongings of each student are taken off the bus.
3. Report tactfully to the parent and school officials any observation that may be inappropriate, whether medical or behavioral.
4. If an authorized person is not at home to receive the student, follow local procedures.

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DUTIES

On the Road

1. Assign the bus aide to ensure that all students remain safely seated. Occasionally a particular student's needs require more than you can provide as one who must be responsible for the safety of all students. Do not allow students to continually demand your attention when you are driving.
2. If any students show symptoms of illness that require immediate attention, pull the bus as far off of the road as possible, stop and activate four-way hazard lights.
 - a. If a radio is available, notify the proper authorities otherwise, notify the aide or passing motorist to call authorities from a phone booth or nearby private home.
 - b. Watch for unusual behavior that may occur, such as petit mal or grand mal seizures, erratic behavior or inactivity, et cetera.

GETTING THE FACTS

A driver must have pertinent information about each of his or her students and be a special observer of behavior on the bus. A driver is often the source of information that is vitally important to the supervisor, the student's teacher and parents. Some students will have medical instructions specifying special care or medication limitations. Secure pertinent information about each student transported. Make a confidential card file form to be kept on the bus and in your supervisor's office. A 3-by-5-inch card is suggested. See below:

Name:

Address:

Telephone Number:

Emergency Back Up Number:

Birthdate:

Parents:

Medication:

Hospital:

Doctor:

Doctor's Phone Number:

Insurance:

Special Instructions:

Map where child lives may be put on back.

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CHAPTER 13

COMMERCIAL DRIVER'S LICENSE (CDL)

OBJECTIVE:

- Be knowledgeable of the federally mandated CDL law

INTRODUCTION

This unit will discuss the various aspects of the federally mandated CDL law that affect a Kentucky school bus driver.

TYPES OF VEHICLES

Class A

Any combination of vehicles with a gross vehicle weight rating of more than 26,000 pounds, provided that the vehicle being towed is a semi-trailer with two or more axles or has a gross vehicle weight rating in excess of 10,000 pounds.

Class B

Any single vehicle with a gross vehicle weight rating of more than 26,000 pounds or any such vehicle towing a vehicle that is not in excess of 10,000 pounds or is a semi-trailer or a trailer with two or more axles.

Class C

Any single vehicle with a gross vehicle weight rating of 26,000 pounds or less or any such vehicle towing a vehicle not in excess of 10,000 pounds that is designed to transport 16 or more students, including the driver, or used in transportation of hazardous materials requiring the vehicle to be placarded under 49 CFR, Part 172, Sub-Part F.

Class D

Automobiles, pickup trucks and all other motor vehicles not specified in Classes A, B or

WHO MUST HAVE A KENTUCKY COMMERCIAL DRIVER'S LICENSE (CDL)?

If you live in Kentucky and want to drive a commercial motor vehicle on public roads, you must have a Kentucky commercial driver's license unless you are expressly exempt.

COMMERCIAL DRIVER'S INSTRUCTION PERMIT (CDP)

A commercial driver's instruction permit may be issued to an individual who holds a valid operator's or Class D driver's license and who has passed the vision and written tests required for issuance of a CDL. The CDP may be issued for a period not to exceed six months.

The holder of a CDP may drive a commercial motor vehicle on a highway only when accompanied by the holder of a CDL valid for that type of vehicle and who occupies a seat beside the individual for the purpose of giving instruction or testing.

A CDP may only be issued to an individual who is at least 18 years old and has held an operator's license for at least two years. (You must be at least 21 years old to drive a Kentucky school bus.)

The applicant for a CDP must also be otherwise qualified to hold a CDL.

APPLICANT RECORD CHECK

Before issuing a CDL, the Division of Motor Vehicle Licensing must obtain driving record information through the commercial driver's license information systems, the National Driver Register and each state in which the person has been licensed.

NOTIFICATION OF LICENSE ISSUANCE

Within 10 days after issuing a CDL, the commissioner shall notify the commercial driver's license information system (CDLIS) of the fact, providing all information required to

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ensure identification of the person.

AGE AND FITNESS REQUIREMENTS

You must be at least 18 years old and have two years of experience as a licensed driver to qualify for a CDL or CDP. A Federal Motor Carrier Safety Regulation (FMCSR) (49CFR, Part 391.41) requires that drivers subject to those rules meet specific physical qualification standards and carry evidence of such qualification in the form of a medical certificate.

At the time of application for a Kentucky CDL, you must certify under oath that you either possess such certificates or are not subject to the FMCSR. Should you later become subject to FMCSR and fail to obtain the proper medical certification, your license may be subject to cancellation. A false statement on your application will also subject your license to cancellation.

NEW RESIDENT AND TRANSFER OF CDL

After establishing residence in Kentucky, anyone who wishes to drive commercial motor vehicles must apply for a Kentucky CDL within 30 days. If he or she has a valid out-of-state CDL, he or she must pass the vision test if he or she desires a Kentucky CDL. The Kentucky Transportation Cabinet, Division of Motor Vehicle Licensing, will obtain driving record information through the CDLIS, the National Driver Register and each state in which he or she has been licensed. He or she will also be required to surrender his or her out-of-state license before a Kentucky CDL can be issued.

New residents who do not hold a valid commercial driver's license from another state must follow the same procedures as any first-time applicant for a commercial driver's license.

RESTRICTED LICENSES

The Division of Motor Vehicle Licensing is authorized to impose license restrictions to assure the safe operation of motor vehicles. The department may issue you a restricted license or may indicate restrictions on the regular license form. Operating a motor vehicle in violation of the restriction is a serious offense and could result in the suspension or revocation of your driving privilege.

EXPIRATION OF LICENSE

CDLs expire four years from the date of issuance.

A CDL held by a member of the armed forces that expires while he or she is on active duty remains valid for 30 days from the date the person re-establishes residence in Kentucky.

Any person applying to renew a CDL that has been expired for two years or more must follow the procedures for initial issuance of a commercial driver's license, including testing provisions.

LICENSE RENEWAL PROCEDURES

All applicants applying for renewal of a CDL must do so 30 days prior to the expiration date on their current license. The applicant must complete the application form, providing updated information and required certifications. If the applicant wishes to retain a hazardous material endorsement, he or she must take and pass the written test.

CHANGE OF NAME OR ADDRESS

If you change your name or address, you are required to notify the Division of Motor Vehicle Licensing in writing with copies of documents making this change legal. An application for a change of name or address must be made to the Department of Transportation on a driver's license application form. Since this change is considered as a duplicate or reissuance license, a monetary fee is required.

ORGAN DONOR PROGRAM

If you wish to become an organ donor, include this information on the back of your

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license.

COMMERCIAL DRIVERS PROHIBITED FROM OPERATING WITH ANY ALCOHOL IN SYSTEM

Notwithstanding any other provision of law, a person with measurable alcohol in his or her system may not drive, operate or be in physical control of a commercial motor vehicle.

A person with measurable alcohol in his or her system who drives, operates or is in physical control of a commercial motor vehicle or refuses to take a preliminary breath test to determine blood alcohol level must be placed out-of-service for 24 hours.

IMPLIED CONSENT AND THE CHEMICAL TEST

Anyone who accepts the privilege of driving in Kentucky is deemed to have given consent, if requested, to taking the designated test to determine body alcohol content. If the driver refuses to take the chemical test, his or her privilege of operating a motor vehicle will be suspended for a period of one year to life.

Many people mistakenly think that the implied consent law means that they will be fined or go to jail if they have alcohol on their breath when they are stopped. On the contrary, since the blood alcohol test provides a medically accepted measure of alcohol concentration, the law protects the driver who has not been drinking. The implied consent law protects the public from intoxicated drivers who refuse to be tested for blood alcohol content when arrested. Without this law, some drivers might escape punishment and continue to pose a danger to the public.

KNOWLEDGE EXAMINATION

All applicants must take the knowledge test, either written or oral, and pass it with a score of at least 80 percent. Beginning with a general knowledge test, all applicants must pass an air brake test or the CDL will be restricted to vehicles without air brakes. Endorsement tests can be taken at the same time as the general knowledge test or at a later time.

SKILLS TEST

The skills test, if required, will not be given until you have passed all parts of the written examination. Each section of the skills test (pre-trip inspection, basic controls and road test) must be passed in sequence in order to proceed to the next section. All skills tests will be administered by certified third-party examiners.

DRIVER RESPONSIBILITIES

The driving privilege carries with it many responsibilities. The driver is responsible for his or her actions. There are a number of areas that the license holder must be aware of in order to maintain the privilege of driving in Kentucky.

No person who operates a commercial motor vehicle is allowed to have more than one driver's license at a time.

Any Kentucky licensed commercial motor vehicle driver who receives an out-of-state violation (other than parking violations) must notify the Division of Motor Vehicle Licensing within 30 days of the date of the violation.

NOTIFICATION OF SUSPENSIONS, REVOCATIONS, CANCELLATIONS AND EXPIRATIONS

Each driver who has his or her license suspended, revoked, cancelled or expired by any state, who loses the privilege of driving a commercial motor vehicle in any state for a period or who is disqualified from driving a commercial motor vehicle for any period must notify his or her employer before the end of the business day following the day the driver received notice of that fact.

NOTIFICATION OF PREVIOUS EMPLOYMENT

Anyone who applies to be a commercial motor vehicle driver must provide the employer,

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at the time of application, with the following information for the 10 preceding years:

1. A list of names and addresses of previous employers for whom the applicant drove a commercial motor vehicle
2. The dates of such employment
3. The reason for termination.

Applicants must certify that all information furnished is true and complete. An employer may require an applicant to provide additional information.

ENDORSEMENTS

H Hazardous Materials

N Tank

P Student

T Double/Triple Trailer

X Tank/Hazardous Materials combined

S School Bus

RESTRICTIONS

I No Air Brake Equipped CMV

J No Full Air Brake Equipped CMV

K No Manual Transmission Equipped CMV

L No Tractor-Trailer CMV

O No Class A Student Vehicle

S No Class A and B Student Vehicle

8 Intrastate Only

DISQUALIFICATION AND CANCELLATION

A driver will be:

1. disqualified from driving a commercial motor vehicle for a period or not less than one year if convicted of a first violation of:
 - a. driving a commercial motor vehicle under the influence of alcohol or a controlled substance.
 - b. driving a commercial motor vehicle while his or her blood or breath alcohol concentration is 0.04 or more.
 - c. refusal to submit to a test to determine his or her alcohol concentration while driving a commercial motor vehicle.
 - d. using a commercial motor vehicle in the commission of any felony, as defined in this article.
2. disqualified as an operator of any vehicle for conviction of any of the following offenses (for a period of not less than three years if the violations occurred while transporting a hazardous material required to be placarded):
 - a. manslaughter or negligent homicide resulting from operation of a motor vehicle.
 - b. driving while license is suspended or revoked.
 - c. perjury or making a false affidavit or false statement under oath to the Division of Motor Vehicle Licensing.
3. disqualified for life if convicted of two or more violations or any of the offenses specified in Subsection A of this section or any combination of those offenses arising from two or more separate violations.

Under CDL regulations that took effect in 2003, any holder of a CDL will be held accountable for any and all tickets, infractions, et cetera, received while operating his or her personal vehicle. These infractions may result in the suspension of the driver's CDL. By board policy, all districts should require drivers to report any and all infractions incurred.

This section will discuss the skills needed to safely operate a commercial motor vehicle. A school bus driver must have a comprehensive knowledge of the procedures used in operating a commercial vehicle safely.

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BASIC CONTROL OF YOUR VEHICLE

Safe operation of a commercial vehicle calls for skills in:

1. Accelerating
 - a. Partly engage clutch before taking your foot off of the brake.
 - b. Use the parking brake to keep from rolling back, and release only when you have enough power to keep you from rolling back.
2. Steering
 - a. Hold steering wheel firmly with both hands, either in the 9-3 or 10-2 positions.
 - b. Hands should be on opposite sides of the wheel.
3. Backing up safely.
 - a. Back up slowly.
 - b. Use the mirrors.
 - c. Correct drift of a bus by turning the top of the steering wheel in the direction that the rear of the bus is drifting.
 - d. Pull forward to reposition the vehicle as needed.
 - e. Use a helper and hand signals.
 - f. Back and turn to the driver's side when possible.
 - g. Avoid backing, when you can.

SHIFTING GEARS

Correct shifting of gears is necessary for control of your vehicle.

1. Many manual transmissions for heavy vehicles must be double-clutched.
2. Downshift **before** going down a hill.
3. Downshift **before** entering a curve.

SCANNING

Seeing what is around you is important.

1. Look ahead the distance the vehicle would travel in 12 to 15 seconds (about 1/4 mile at highway speeds) for:
 - a. traffic.
 - b. road conditions.
 - c. signs.
2. Look to the sides and rear, using mirrors for:
 - a. checking traffic.
 - b. checking your vehicles and tires.
 - c. lane changes, turns, merges and tight moves.
3. Check mirrors quickly and return attention to road ahead.
4. Curved mirrors, as well as convex mirrors, make things seem farther away than they are.
5. There are blind spots that your mirrors cannot show you.

COMMUNICATING

Signaling what you will do is very important for safety.

1. Signal early before you turn or change lanes.
2. Cancel your signal after the turn or lane change.
3. Flash the brake lights to warn other drivers that you will need to slow down for a hazard or stop.
4. Use the four-way emergency flashers when moving slowly or when you are parked, when appropriate.
5. Don't signal others to pass, as it could cause an incident.
6. Brake early and slow gradually for tight turns.

In communicating your presence to others:

1. Don't assume that others can see you.
2. At night, flash lights to high beam, then back to low beam when you are about to pass a

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- vehicle.
- 3. Use low-beam headlights so you can be seen easier.
- 4. When passing, tap the horn lightly or flash the high beams.
- 5. Use the horn only when needed; otherwise, it can startle other drivers.
- 6. When parked on the side of the road:
 - a. turn on four-way emergency flashers.
 - b. place reflective triangles within 10 minutes after stopping.
 - c. when putting out the triangles, hold them between yourself and the oncoming traffic for your safety.

NOTE: On a hill or curve, the rear triangle should be moved up to 500 feet to provide adequate warning.

CONTROLLING SPEED (STOPPING)

You may have to change your speed because of traffic, hills, weather conditions and curves. Stopping distance includes:

1. the distance the vehicle goes from the time your eyes see a problem to the time your brain knows it – perception distance.
2. the distance traveled from the time your brain tells your foot to move from the accelerator until your foot pushes the brake – reaction distance.
3. the distance it takes to stop once the brakes are applied – braking distance.

At 55 mph, it will take about 6 seconds to stop. Your vehicle will travel about the distance of a football field.

$$\begin{aligned}
 &\text{PERCEPTION DISTANCE} \\
 &+ \text{REACTION DISTANCE} \\
 &+ \text{BRAKING DISTANCE} \\
 &= \text{TOTAL STOPPING DISTANCE}
 \end{aligned}$$

1. If you double your speed, it will take you about four times the distance to stop your vehicle.
2. Brakes on heavy vehicles are made to work better if your vehicle is loaded. Empty trucks require greater stopping distance because an empty vehicle has less traction. This may cause bouncing and wheel lockup. The heavier a vehicle is, the more work the brakes must do to stop. This makes the brakes hotter.
3. Match your speed to the road surface:
 - a. Slippery roads make the vehicle harder to turn and cause you to take longer to stop. Slow down gradually and allow much more space than is needed for ideal driving conditions.
 - b. On wet roads allow for double stopping distance. Reduce speed by 1/3 (for example, from 55 mph to 35 mph).
 - c. On packed snow, reduce speed by 1/2 or more.
 - d. On ice, stop driving as soon as you can safely do so.
 - e. Hydroplaning may happen to a vehicle when it travels on wet roads. Tires lose road contact and have little or no traction.
4. Speed and curves:
 - a. Adjust speed for curves.
 - b. Downshift before you enter a curve.
 - c. Braking in a curve may cause skidding.
 - d. Vehicles with a high center of gravity can roll over at the speed limit posted for a curve.
5. Be able to stop within the distance you can see ahead.
6. Generally, the safest speed in heavy traffic is the speed of other vehicles.
7. Shift to a lower gear before starting down a grade or hill.

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VEHICLE SPATIAL AWARENESS

1. Space behind
 - a. Stay to the right so faster vehicles may pass.
 - b. Deal with tailgaters safely by:
 - avoiding quick lane changes.
 - increasing your following distance.
 - not speeding up.
 - turning on tail lights or tapping brake lights.
2. Space to the sides
 - a. Stay in the center of the lane.
 - b. Avoid traveling next to other vehicles, especially when coming out of tunnels. Strong winds may make it difficult to stay in your lane.
3. Space overhead – check to be sure you always have overhead clearance
 - a. Don't assume that the heights posted are correct.
 - b. If your vehicle tilts, it could hit an object near the side of the road. Drive closer to the center of the road.
4. Space below

NOTE: Most drivers forget about the clearance under the vehicles.
5. Space for Turns

NOTE: Because of wide turning and off-tracking, large vehicles can hit other vehicles or objects during turns.

 - a. Right turns
 - Turn slowly to give yourself and others more time to avoid problems.
 - Turn wide as you complete the turn.
 - Don't turn wide to the left at the beginning of the turn unless necessary.
 - b. Left turns
 - Reach the center of the intersection before you start the turn.
 - Use the right turn lane if there are two turning lanes.
6. Crossing or entering traffic
 - a. Be sure of the size and weight of your bus.
 - b. You need a larger gap than a car to enter traffic.
 - c. Allow more room if your bus is heavily loaded.
 - d. Be sure you can get all the way across before traffic reaches you.

DRIVING AT NIGHT

Driver factors causing problems when driving at night are:

1. Vision – people can't see as sharply at night.
2. Glare – you may be blinded for a short time by bright lights. Don't look directly at bright lights.
3. Being tired and sleepy.

ROADWAY FACTORS

1. Poor lighting
2. Drunk drivers

VEHICLE FACTORS

1. Headlights – low beams let you see 250 feet ahead. High beams let you see 350 to 500 feet ahead.
2. Dirty or broken vehicle lights.
3. Dirty windshield and/or mirrors.

NIGHT DRIVING

1. Be rested and alert.

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2. Don't blind others with high beams. Dim your lights when following or approaching another vehicle within 500 feet.
3. Avoid looking directly at lights of oncoming vehicles.
4. Use high beams when conditions allow.
5. Drive slowly enough to be able to stop within the range of your headlights.
6. Stop driving and rest at the nearest safe place if you get sleepy or tired.
7. Slow down.

DRIVING IN WINTER WEATHER

Winter pre-trip inspections should include:

1. antifreeze in your vehicle.
2. windshield wiper fluid in your vehicle.
3. defrosters and heaters are working properly.
4. windshield wipers are working properly
5. tire chains are available.
6. radiator shutters are working properly.
7. making sure there are no exhaust system leaks that could allow poisonous carbon monoxide to leak into your vehicle.

DRIVING IN WET WEATHER

1. Start engine and accelerate slowly to get the feel of the road.
2. Make turns as gently as possible.
3. Adjust speed to conditions.
4. Adjust space to conditions.
5. Avoid getting brakes wet, use lower gear and increase RPMs.
6. Gently apply brakes when going through any water. Maintain light pressure on brakes for a short distance to heat them up in order to dry them out.

DRIVING IN HOT WEATHER

During pre-trip inspections:

1. Inspect tires every two hours or 100 miles. Tire tread may separate in hot weather.
2. Check proper oil level and pressure – oil helps keep the engine cool.
3. Check proper engine coolant level.
4. Make sure engine coolant has antifreeze. Antifreeze helps the engine in hot weather as well as cold. Never take off the radiator cap or any part of pressurized system until the engine has completely cooled.
5. Make sure belts are tight to avoid overheating.
6. Make sure coolant hoses are not cracked or dry-rotted.

While driving:

1. Watch for bleeding tar on the road.
2. High speeds will increase tire problems and make tires and engine hotter.
3. Never check air pressure in hot tires. If tire is too hot to touch, remain stopped until tire cools.

MOUNTAIN DRIVING

1. Be in correct gear before going down steep grades.
 - a. Older vehicles – choose same gear you would use to go up the grade.
 - b. Newer vehicles – choose a gear lower than you would use to go up the grade.
2. Brake properly.
 - a. Go slow enough down a grade that light use of the brakes will keep your speed from increasing.
 - b. Brakes that get hot may fade.
 - c. Use on again-off again braking with a target speed. Refer to the Commercial Driver License Manual (Revised 1994), Chapters 2-39.

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3. Know escape ramp locations on the route. Escape ramps are made to safely stop runaway vehicles as well as to avoid damage and prevent injury to drivers, students and vehicles.

SEEING HAZARDS

A hazard is any road condition or road user that is a possible danger.

- Seeing hazards lets you be prepared.
- Learn to recognize hazards.

Slow down and drive with care if any of the following road hazards are in evidence:

1. Work zones – drive slowly and use four-way flashers or brake lights to warn others.
2. Drop-offs – don't drive too near edge of road.
3. Foreign objects – try to avoid them without making sudden or unsafe moves.
4. Off/on ramps:
 - a. Posted off-ramp speeds may not be safe for larger vehicles or heavily loaded vehicles.
 - b. Braking and turning at the same time is dangerous.
 - c. Slow down before the curved part of an off-ramp or on-ramp.

Be aware of hazards such as:

1. drivers with blocked vision.
2. distracted drivers.
3. talkers.
4. children.
5. workers.
6. disabled vehicles.
7. incidents.
8. shoppers.
9. confused drivers.
10. slow drivers.
11. drivers in a hurry.
12. impaired drivers.
13. slow vehicles (identified with red triangle with an orange center).
14. movement inside a parked car, which could mean someone is about to get out.

Always have a plan. Driver body movement may be a clue for a turn or lane change.

1. Watch for other drivers who can't decide which way to go.
2. Look for hazards to have time to plan before an emergency.
3. Be ready to act based on emergency plans.



EMERGENCIES

An example of a traffic emergency is when two or more vehicles might crash. Vehicle emergencies can happen when tires, brakes or vehicle parts fail.

REMEMBER: A vehicle may be able to turn more quickly than it is able to stop.

Steer to avoid a crash:

1. Stopping is not always the best thing to do.
 - a. quick turn can be made safely if the driver:
 - doesn't apply brakes when turning.
 - avoids braking until the vehicle speed is less than 20 mph.
 - keeps both hands on steering wheel.
 - b. Counter-steer (turn wheel back in other direction) once you have passed the danger.
2. Steer to the right if an upcoming car has drifted into your lane. Don't turn any more

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- than necessary to clear what is in your way.
3. Leave the road if necessary.
 - a. Brake gently to avoid skidding.
 - b. Keep one set of wheels on the pavement, when possible.
 - c. Stay on the shoulder if possible.
 - d. If the driver must return to the road before stopping:
 - reduce speed or even stop if safe to do so.
 - turn enough to get back on the road.
 - counter-steer immediately when front tires are on the road.

STOPPING QUICKLY AND SAFELY

1. Controlled braking:
 - a. Apply brakes as hard as possible without locking the wheels.
 - b. If wheels lock, release brakes.
 - c. Use brakes again, as soon as possible.
2. Stab braking:
 - a. Apply brakes all the way.
 - b. Release brakes when wheels lock up.
 - c. As soon as wheels start rolling again fully apply brakes.
3. Don't jam on the brakes. If the wheels are skidding, you cannot control the vehicle.
4. Never disable or unhook steering axle brakes.

BRAKE FAILURE

- Brake failures are caused by:
 - loss of hydraulic pressure.
 - brake fade from overheating.
- When brakes fail:
 - downshift.
 - pump the brakes.
 - use the parking brake.
 - find an escape route.
 - use escape ramp, if available.

TIRE FAILURE

1. Recognize a tire failure by:
 - a. sound.
 - b. vibration.
 - c. feel.
2. Hold the steering wheel firmly.
3. Stay off the brake until the vehicle slows down.
4. After stopping, check all the tires.

SKID CONTROL AND RECOVERY

Main causes of skids are:

- Over-braking
- Over-steering
- Over-accelerating
- Driving too fast for road conditions
- Not enough weight on front axle

DRIVE WHEEL SKIDS

- Drive wheel skids caused by acceleration can be stopped easily by taking your foot off the accelerator.

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- Drive wheel braking skids can be corrected by:
- stopping braking.
- turning quickly in the direction of the skid.
- counter-steering.

FRONT-WHEEL SKIDS

- Front wheel skids are caused by driving too fast for the conditions.
- The front end tends to go in a straight line no matter how much you turn the steering wheel.
- Slow down as quickly as possible without skidding.

INCIDENT PROCEDURES

1. Protect the area.
 - a. Get the vehicle to the side of the road.
 - b. Park away from the incident if stopping to help.
 - c. Put your flashers on.
 - d. Set out reflective triangles.
2. Notify authorities.
 - a. Use two-way radio to notify authorities before leaving the vehicle if possible.
 - b. Protect the area, then telephone or send someone for help.
3. Care for the injured.
 - a. If a qualified person is at the incident scene and helping the injured, stay out of the way unless asked to help.
 - b. Don't move a severely injured person unless the danger of fire or passing traffic or additional danger makes it necessary.
 - c. Stop bleeding by applying direct pressure to the wound.
 - d. Keep the injured person warm.
4. Collect information on the incident.

FIRES

Some causes of fires are:

- Spilled fuel after an incident
- Under-inflated tires or dual tires that touch
- Electrical system short-circuits
- Improper fueling, loose connections or driver smoking
- Flammable cargo, improperly loaded with poor ventilation
- Improper use of flares.

Fire prevention should involve pre-trip inspections (see Chapter 2):

- Inspection of vehicle at stops during the trip
- Following safety procedures
- Monitoring vehicle gauges and mirrors to check cargo and vehicle

FIREFIGHTING

1. Pull off the road.
 - a. For engine fires, turn off the engine as soon as possible. Don't open the hood.
 - b. For cargo fires, keep cargo doors shut.
2. Keep the fire from spreading.
3. Use the fire extinguisher.
4. Extinguish the fire.
 - a. Don't use water on an electrical or gasoline fire.
 - b. Burning tires must be cooled with water.

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STAY ALERT AND FIT TO DRIVE

Stay alert by:

- getting enough sleep.
- scheduling trips during hours you are normally awake and can remain alert.
- not taking medicine that has a label warning against operating vehicles.
- keeping cool.
- taking short breaks before you feel drowsy.

When sleepy:

- stop driving.
- sleep or take a nap.
- avoid taking drugs to keep you awake.

NOTE: Sleep is the only way to overcome being tired.

ALCOHOL AND DRIVING

- Alcohol in your body is measured by blood alcohol concentration (BAC).
- The alcohol in drinks affects human performance. It first affects a person's good judgement and self-control. It then affects muscle control, vision and coordination, which can cause serious driving errors and increase the possibilities of incidents due to:
 - increased reaction time.
 - driving too fast or too slow.
 - weaving.
 - straddling lanes.
 - quick, jerky starts.
 - not signaling.
 - running stop signs and red lights
 - improper passing.

OTHER DRUGS

- Possession or use of many drugs while on duty is forbidden.
- Don't take over-the-counter drugs that warn of side effects.
- Use of drugs can lead to traffic incidents, arrest, fines and/or jail sentences.
- Possession and use of prescription drugs is permitted if the doctor informs the driver that it will not affect safe driving ability.

NOTE: Don't drive when ill.

AIR BRAKE SYSTEMS

An air brake system is made up of three parts:

- The service brake system applies and releases the brakes when you use the brake pedal when driving.
- The parking brake system applies and releases the parking brake when you use the parking brake control.
- The emergency brake system uses parts of the service and parking systems to stop the vehicle if the service brake system fails.

Air brakes use compressed air to make the brakes work. Air brakes are a safe way of stopping large vehicles if the brakes are well kept and used correctly.

PARTS OF THE AIR BRAKE SYSTEM

The air compressor pumps air into the air storage tanks. If the compressor has its own oil supply, check the oil level before driving.

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The air compressor governor turns the air compressor on and off and controls the air being pumped into the tanks.

The air storage tanks hold enough compressed air to let the brakes be used several times even if the air compressor stops working.

AIR TANK DRAINS

- Compressed air has some water and oil in it.
 - Water and compressor oil tend to collect in the bottom of the air tank.
 - Water can freeze in parts of the brake system, making the brakes fail.
- Drain valves let you drain the unwanted oil and water that collects in the bottom of the tank.
 - Tanks with manual valves must be drained by hand after each day of driving.
 - Tanks with automatic valves drain the water and oil by themselves.

ALCOHOL EVAPORATOR (FOUND ON SOME VEHICLES)

- The alcohol evaporator puts alcohol into the air system.
 - Alcohol helps keep ice from forming in air brake valves and parts.
 - Ice can make the brakes stop working. Check the alcohol container every day during cold weather and fill when needed.
- Drain air tanks daily if tank has a manual valve. (See your local district procedure on this.)

SAFETY VALVE

The safety valve protects the tank and the rest of the system from too much pressure.

- The brake pedal controls pressure to the brakes.
- Pushing the pedal down harder applies more air pressure.

FOUNDATION BRAKES

- The foundation brakes are the brakes at each wheel.
- The most common type is the S-cam drum brake.
- Other types are wedge and disc brakes.

SUPPLY PRESSURE GAUGE

The supply pressure gauge tells how much pressure is in the air tanks. All vehicles have a supply pressure gauge.

APPLICATION PRESSURE GAUGE

- The application pressure gauge shows how much air pressure you are supplying to the brakes.
- The need to apply more pressure to hold the same speed when going down steep grades:
 - means the brakes are fading – slow down and look and listen for air leaks.
 - can also be caused by:
- brakes that are out of adjustment.
- air leaks.
- mechanical problems.

LOW AIR PRESSURE WARNING SIGNAL

The low air pressure warning signal:

- is required on vehicles with air brakes.
- must come on before the air pressure falls below 60 psi.
- is usually a red light.
- means that you should stop right away and park your vehicle safely.

STOP LIGHT SWITCH

The stop light switch turns on the brake lights when you put on the air brakes to warn drivers behind you.

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SPRING BRAKES

Spring brakes:

- hold emergency and parking brakes on.
- are held back by air pressure when driving.
- put the brakes on with their very powerful springs if the air pressure is removed.
- depend on brakes being in adjustment for their braking power.

PARKING BRAKE CONTROLS

The parking brake valve is used to apply the spring brakes slowly if service brakes fail.

Dual parking control valves consist of:

- one valve used to put on the spring brakes for parking.
- another valve using pressure from a separate tank to release the spring brakes so you can move the vehicle in an emergency.

INSPECTING AIR BRAKE SYSTEMS

When inspecting an air brake system:

1. Check air compressor drive belt.
2. Check manual slack adjusters on S-cam brakes with the vehicle parked on level ground, wheels chocked (held in place by blocks) and parking brake off.
3. Check brake drums (or discs), linings and hoses.
4. Test low air pressure warning signal.
5. Check that spring brakes are activated automatically.
6. Test air leakage rate:
7. Loss rate should be less than 2 psi in one minute for single vehicles with engine off, brakes released.
8. Loss rate should be less than 3 psi in one minute for single vehicles with service brake on.
9. Check air compressor governor cut-in and out pressure.
10. Test parking brake.
11. Test service brakes:
 - a. Move the vehicle forward slowly and apply the brakes firmly.
 - b. Note any vehicle pulling to one side, unusual feel or delayed stopping action.

USING AIR BRAKES

For a normal stop, use brake pedal to control the pressure so the vehicle comes to a smooth, safe stop.

For emergency stops, brake so you can steer safely and the vehicle stays in a straight line.

Controlled braking requires you to:

1. firmly apply brakes.
2. release brakes if wheels slide.
3. reapply brakes.

Stab braking requires that you:

1. press the brake pedal as hard as you can.
2. release the brakes when the wheels lock up.
3. put the brakes on again when the wheels start rolling.

STOPPING DISTANCE FOR VEHICLES WITH AIR BRAKES

Air brakes, unlike hydraulic brakes, take time to work after the brake pedal is pushed.

- It takes 1/2 of a second or more for the air to flow through the lines to the brakes.
- On dry pavement, the air brake lag distance at 55 mph is about 32 feet.

Stopping distance is the total of four factors:

$$\begin{aligned} & \text{PERCEPTION DISTANCE} \\ & + \text{REACTION} \\ & + \text{EFFECTIVE BRAKING DISTANCE} \\ & + \text{BRAKE LAG DISTANCE} \\ & = \text{STOPPING DISTANCE} \end{aligned}$$

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BRAKING ON DOWNGRADES

- When you try to slow down from a high speed often or quickly, the brakes get too hot.
- Brakes will fade when they get too hot, and you will have to push harder to get the same stopping force.
- Use a low gear. An on-again-off-again techniques with a target speed is the approved downhill braking procedure.
- Brake system adjustments must be balanced to give the same braking to each wheel.

PARKING BRAKE

Use the parking brake any time you park the vehicle (or load/unload students).

- Let hot brakes cool before applying parking brakes (chock wheels).
- Before using parking brakes in freezing weather, be sure to dry brakes that are wet (drive with brakes lightly applied).
- Parking brakes must be held by mechanical force.
- Drain air tanks of water and oil after each working day (see your local district procedures before doing this).

LOADING THE BUS

NOTE: All bus drivers must have a commercial driver's license with a student endorsement.

Any item transported on a school bus must:

- be stored in the undercarriage of the bus. The driver is the only person who shall store or retrieve items from undercarriage.
- fit in the lap of the student and shall not infringe upon the space of other riders.
- be placed on the floor of bus and held by the student and shall not infringe upon other riders' space.
- if it cannot be secured by the above means, be secured using approved webbing or straps that meet all applicable federal and state standards.



RIDERS

School bus riders:

- may not stand forward of the rear of the driver's seat.
- must remain behind the standee line.

There should be no standees on a Kentucky school bus.

Remind riders to take carry-ons with them as they are getting off the bus.

ON THE ROAD

Supervise students:

- While driving, scan the inside of the bus as well as the road ahead.
- Remind riders about rules, if needed.
- Follow local education agency rules for handling drunk or rude drivers.
- Remind riders to watch their step when leaving the bus.
- Never drive with an open emergency exit door or window.

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SPEED MANAGEMENT AND BRAKING

- Whenever you double your speed, it takes approximately four times as much stopping distance.
- Slow down before curves. Although the posted speed is safe for cars, it may be too high for buses.
- Stop 50 feet before a drawbridge that does not have a signal light or traffic attendant.
- Adjust your speed by slowing down when going from high beams to low beams.
- Slow down and look:
 - at streetcar crossings.
 - where a policeman or flagman is directing traffic.
 - at crossings marked as exempt crossings.

FOLLOWING DISTANCE

- Use 1 second for every 10 feet of vehicle length up to 40 mph.
- Add 1 second over 40 mph.
- When driving on a slippery road, allow much more space for following distances.

Other measures to prevent having an incident are:

- Use caution at intersections.
- Know the space your bus needs to merge with traffic:
 - Never assume other drivers will brake to give you room.
 - Avoid traveling next to other vehicles.
 - Lane changes – you need to check your mirrors to make sure no one is alongside you or about to pass you. Check mirrors:
 - before you start to change lanes.
 - after you have signaled your intentions.
 - immediately after starting the change.
 - after the change is completed.
- Be cautious at railroad crossings.
 - Stop between 15 and 50 feet from railroad crossings. Set parking brake.
 - Listen and look both ways for trains.
 - If one train has passed, look both ways again to make sure another train isn't coming.
 - Never change gears while crossing railroad tracks.
- See ahead.
- All drivers look ahead, but many drivers don't look far enough.
- Recognize hazards such as an ice cream truck, blind intersections or a driver signaling a turn.

AFTER-TRIP INSPECTION

- Inspect your bus after every shift.
- Report any damage or mechanical problems.

PROHIBITED PRACTICES

- Don't do anything that distracts you from driving.
- Don't tow or push a bus with riders on it unless getting students off would be dangerous.
- Don't refuel a bus when riders are on board.
- Don't use brake interlocks when safety requires use of a parking brake.

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CHAPTER 14

EXTRACURRICULAR TRIPS

OBJECTIVES

- Identify the information needed in planning a field trip, handling emergencies while on field trips, types of field trips, leaders and responsibilities of each and to identify behavioral problems and solutions
- Accurately and carefully plan for and conduct a safe, efficient and trouble-free trip

INTRODUCTION

Numerous problems can arise when driving on field trips – problems such as selecting the wrong route, running out of fuel, arriving late or not arriving at all. Student problems can also arise because of a lack of food or rest stops. These can also cause the driver to have an unhappy trip, or more importantly, an unsafe trip.

The field trip or activity trip is a special and exciting time for all concerned. It also should be a safe time.

The best way to ensure a safe and happy trip is through **planning**. Following are items to be discussed in this chapter:

- Times
- Route planning
- Emergency preparations
- Responsibilities
- Problem-causing situations

TIMES

Many field trips take drivers out of their district. If problems arise, the driver will probably have a more difficult time in getting assistance. Therefore, problems take on a more critical nature. Without planning, minor problems can become major ones.

Have the students arrive at the designated meeting location 30 minutes prior to departure for information concerning the field trip, practicing emergency evacuations, explaining planned stops, expected behavior, et cetera.

Departure times and locations are important. Drivers have to know the exact time they are to arrive at the school, the exact location for the student pickup and the exact time of departure for the event.

The same is true for arriving at the event. The exact arrival time and location must be known.

For the return trip, drivers must know when they are to arrive at the student pickup spot, the exact location and when to depart.

It is also important that drivers know their expected arrival time and location back at the school so parents know when and where to pick up their children.

ROUTE PLANNING

Since departure and arrival times are important, it is necessary for the driver to plan routes in sufficient detail so travel times can be reasonably estimated. The planned route should include both a primary route and a secondary route in case of a traffic tie-up or detour on the primary route.

Special stops along the way should also be planned in advance. These would include stops for food, fuel and comfort. (Refer to 702 KAR 5:080, Section 17, “Fueling the Bus.”) It is best if they can all be accomplished in one stop rather than a separate one for each. If a fuel stop is required, the driver must have adequate means to pay for the fuel, whether by school fuel card, cash or other means.

When estimating travel time, time estimates for these stops will have to be included. A driver should know any special situations along the way. Bridges and tunnels would be good examples. The questions the driver might ask is, “Is there anything along the way that I cannot get over, under or through?”

Tolls are another consideration. Does the route cross any toll bridge or use a toll road? If it does, the driver will need sufficient money to pay the tolls.

Frequently at special events, there is a special parking area for buses. The driver needs to know if there is

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such a special area and where it is located.

A final consideration is any special instructions. Is there anything else you need to know for a safe and happy trip? Drivers should check with the transportation supervisor for special conditions or situations.

EMERGENCY PREPARATIONS

Many things can go wrong while on any trip. These mishaps can range from very minor events to major catastrophes. On a field trip, a mishap of any degree of seriousness is always more difficult to handle because drivers typically are not as familiar with the area as they are with their own route, and assistance may be more difficult to obtain.

Drivers should have on hand several phone numbers in case they should need to get in touch with key supervisory personnel. These would include the numbers for the school office and transportation supervisor. Phone numbers of where these individuals can be reached in the evening should be obtained along with their normal office phone numbers.

The driver should have available the name, address and phone number of the insurance carrier in case an incident should occur. This information should be on each bus the district operates.

A two-way radio is almost a necessity under emergency conditions. If at all possible, a radio should be carried so the driver has a means to contact the school or emergency agencies to request assistance. If a cell phone is taken, the driver should stop the bus in a safe location before use.

Some students may have special medical problems. These students and their medical problems should be known before the trip begins. Only in this way can any medical problem be planned for in advance.

Because of the excitement of the trip, and its length, it is possible that a student might become ill. Drivers need to know how to handle common illnesses and plan for them in advance.

RESPONSIBILITIES

A number of different types of groups participate in field or activity trips. Each group may have one or more different types of group leaders. Typical groups and group leaders would include:

- team/coach
- class/teacher
- group/chaperone

On field and activity trips, responsibilities are shared between the driver and the group leader and/or chaperone. The transportation supervisor also has certain responsibilities to determine whether road conditions are such that it would be safe or practical to travel.

RESPONSIBILITIES OF THE DRIVER

1. To obey all safety regulations
2. To review with the students the emergency evacuation before the beginning of the trip or if needed conduct an evacuation drill
3. To maintain student control
4. To control emergency situations
5. To maintain safe vehicle condition
6. To select rest, food and fuel stops
7. To ensure the eight-way warning lights, stop arm and crossing control arm are activated at any time students are loading or unloading
8. To ensure any and all cargo is properly secured
9. Head counts

RESPONSIBILITIES OF GROUP LEADERS AND/OR CHAPERONES

KRS 161.185 requires teachers or staff members to accompany students on school-sponsored or endorsed trips.

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Exceptions, as stated in the statute:

1. Except as provided in subsection (2), boards of education shall require a certified or classified staff member who is at least 21 years of age to accompany students on all school-sponsored or school-endorsed trips.
2. Boards of education may permit a nonfaculty coach or nonfaculty assistant, as defined by administrative regulation promulgated by the Kentucky Board of Education under KRS 156.070(2), to accompany students on all school-sponsored or school-endorsed athletic trips. A nonfaculty coach or nonfaculty assistant shall be at least 21 years of age, shall not be a violent offender or convicted of a sex crime as defined by KRS 17.165 which is classified as a felony, and shall submit to a criminal record check under KRS 160.380.
 - a. Prior to assuming his or her duties, a nonfaculty coach or nonfaculty assistant shall successfully complete training provided by the local school district. The training shall include, but not be limited to, information on the physical and emotional development of students of the age with whom the nonfaculty coach and nonfaculty assistant will be working, the district's and school's discipline policies, procedures for dealing with discipline problems, and safety and first aid training. Follow-up training shall be provided annually. (Repealed and reenact. Acts 1990, ch. 476, Pt. V § 482, effective July 13, 1990 1998, ch. 178 § 1, effective July 15, 1998.)

Other responsibilities of group leaders and/or chaperones:

1. To relay trip plans and safety precautions
2. To provide student information
3. To maintain student control
4. To provide supervision at stops
5. Field trip activity
6. Head counts
7. To provide student instructions
8. To properly group students together

RESPONSIBILITIES OF DIRECTOR/SUPERVISOR

1. Vehicle and driver ability; buses should be filled to only 2/3 capacity on all out-of-district trips when transporting middle school or high school students
2. To ensure that any and all dunnage to be transported can be properly secured on the selected vehicles
3. To provide necessary time for planning
4. To know where to communicate with driver in emergency situations
5. To return special care students

PROBLEM-CAUSING SITUATIONS

Problems may arise while on a field or activity trip because of the nature and length of the trip. Unless plans are made and precautions taken, student behavior problems may arise which could get out of control.

The following conditions should be identified:

1. **Fatigue** – The driver should plan to have sufficient rest and comfort stops to avoid problems arising from this condition. **There should be no more than 90 minutes between stops.** Driver fatigue should also be considered. (Refer to Federal Motor Vehicle Safety Standard 395.3 for the definition of “on duty time.”) Remember, federal safety regulations supersede all others.
2. **Excitability** – The driver should recognize that this will occur because of the nature of the trip. An opportunity should be provided for students to vent some of this excitement before an effort is made to restrain them. The group leader or chaperone should handle problems arising from these situations.
3. **Depression** – The driver should recognize that this condition could occur and call

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- it to the attention of the group leader or chaperone. The group leader or chaperone should be alerted and deal with this condition on a one-to-one basis with the student.
4. **Discomfort** – The driver should be alerted for conditions that could lead to student discomfort. The temperature of the bus should be closely monitored and sufficient fresh air should be provided.
 5. **Lack of understanding guidelines** – The driver should discuss with the group leader or chaperone the guidelines that are to be followed during the field trip. The group leader or chaperone and the driver should discuss these with the students before the trip begins.

SUMMARY

During this unit, we have examined a number of topics that are necessary to consider when planning and conducting any field trip. Specifically, we reviewed:

- Times
- Route planning
- Responsibilities
- Problem-causing situations

If adequate attention is paid to planning the trip and precautions are taken to avoid problem producing situations, the field trip should be a pleasant experience for all concerned. However, without it things can easily get out of hand. Be prepared and enjoy a pleasant trip.

EXTRACURRICULAR TRIPS POINTS TO REMEMBER

- Departure Times
- Arrival times (to and from)
- Planned route
- Secondary route
- Special route
- Special situations
- Tolls
- Parking
- Special instructions
- Evacuation procedures
- Phone numbers
- Insurance carrier name, address and phone
- Radio
- Special medical problems
- Drive responsibilities
- Speed limits
- Use of cargo boxes, when possible
- Securing luggage
- Prohibited use of towing trailers

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CHAPTER 15

TRAFFIC CONTROL DEVICES, SIGNS AND MARKINGS

OBJECTIVES

- Identify the meaning of the standard colors, shapes, symbols and messages used on traffic signs
- Identify the meaning of standard roadway markings

INTRODUCTION

Standardized traffic control devices are used to control and guide driver behavior. Most school bus drivers will be familiar with most of the devices because they have been driving private automobiles for several years. Many drivers do not know the meanings of some older traffic control devices. Many new signs have been introduced that are unfamiliar to the average motorist.

This chapter will review all types of traffic control devices, highlighting some of the less understood and newer devices. Following are topics to be discussed in this chapter:

- Traffic Signs
- Traffic Signals
- Roadway Markings

TRAFFIC SIGNS

Traffic signs can convey many different kinds of messages to the driver. They can inform of laws, warn of hazards ahead or provide information or guidance to the driver.

As you travel down the roadway, the shape or color of the sign can be recognized long before the pictorial can be recognized or the message read. For this reason, traffic signs are standardized by shape and color. Each shape and color has a specific meaning.

Standard colors and their meanings are:

1. RED – stop or movement prohibited.
2. GREEN – indicates movements permitted, direction guidance.
3. BLUE – motorist service and guidance.
4. YELLOW – general warning.
5. BLACK – regulation.
6. WHITE – regulation.
7. ORANGE – construction and maintenance warning.
8. BROWN – public recreation and scenic guidance.

Standard shapes and their meanings are:

1. OCTAGON – stop.
2. HORIZONTAL RECTANGLE – guidance information.
3. DIAMOND – general warning.
4. PENTAGON – school warning.
5. PENNANT – warning of no passing zone.
6. VERTICAL RECTANGLE – regulatory except for stop and yield.
7. EQUILATERAL TRIANGLE – yield.
8. ROUND – advance warning of a railroad crossing.
9. CROSSBUCK – railroad crossing.

The United States is moving toward an international system of traffic signs that emphasizes pictures and symbols rather than written messages. Symbolic signs are not entirely new, as some have been used in this country for many years. They provide almost instant

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communication with the driver since they can be understood at a glance without having to be read.

Some of the present word signs will remain in use. These are signs which have proven effective in the past and which contain easily understood messages.

Using the standard colors and shapes, there are three classifications of traffic signs.

Regulatory Signs

Regulatory signs inform highway users of traffic laws or regulations. Regulatory signs are generally a rectangle with the longer dimension vertical with a black legend on a white background. Other colors and shapes are also used. Two of the most common regulatory signs are used to indicate right-of-way. These are stop and yield signs.

Regulatory signs are used to control speeds such as maximum, night or minimum speeds.

Regulatory signs do exactly what they say – they regulate what a driver can do. They are also used to control turning movements. These are shown two ways: by the older message signs or the newer symbolic signs with the red circle and red slash mark that means “no” or “do not.” For example: “Do Not Turn Right” or “No U Turn.”

They also control turning movements by showing direction of travel in a particular lane. Both lanes can turn left, but only the right lane can go ahead – the familiar center lane is for left turns only.

Regulatory signs are used to control alignment such as “Pass With Care” or “Do Not Pass.”

Alignment is also controlled by indicating keep right or keep left.

Regulatory signs indicate exclusion such as “Do Not Enter” or “Wrong Way,” or by prohibiting certain types of vehicles such as “No Trucks,” “No Bicycles” or “Motor Vehicles Only.”

Some regulatory signs indicate one-way movement. Certain regulatory signs control parking.

When parking is prohibited, the parking signs have red lettering, such as “No Parking Any Time,” “No Stopping, Standing, or Parking” or “No Parking, Bus Stop.”

When parking is permitted but restricted as to time or manner, the lettering is green such as “One-Hour Parking” or “Parallel Parking Only.”

Regulatory signs can be used to supplement information given by traffic signals, such as “Stop Here On Red,” “No Turn on Red,” or “Crosswalk.”

Finally, regulatory signs are used for a variety of other controls, such as to provide axle weight limits or to indicate railroad crossings or when the road is closed to through traffic.

Warning Signs

The second major classification of traffic signs is warning signs. Warning signs inform the driver of situations ahead that may require extra care. These signs are yellow with black lettering and generally are diamond-shaped. Other shapes are used for very specific purposes.

Warning signs are used to show changes in horizontal alignment such as turns, curves and winding roads.

Various types of intersections ahead are indicated symbolically. These signs indicate a cross road, a “T” and a “Y” intersection.

Advance warning of traffic control devices is provided. Sometimes, a written message is used such as “Stop Ahead.” On others, the sign uses the pictures of the device ahead, such as a yield sign or a traffic signal.

Warning signs are used to show converging traffic lanes, such as the symbolic merge sign or the message or symbolic sign for showing that the right lane ends. They are used to indicate narrow roadways such as “Road Narrows” or “One-Lane Bridge.”

Changes in highway design are also shown on warning signs. For instance, “Divided Highway Ahead,” “Divided Highway Ends,” or “Two-Way Traffic.”

Highway grades and advance warning of railroad crossings are indicated on warning signs.

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Roadway surface conditions such as “Bump,” “Soft Shoulder” and “Slippery When Wet” are also indicated.

Various kinds of entrances and crossings are shown on warning signs. For instances, “Truck Entrance,” “Deer Crossing” or “Bicycle Crossing.”

Warning signs are used to indicate advisory speeds such as exit and ramp speeds.

A special type of warning sign is the pennant-shaped “No Passing Zone” sign. When used, it is on the left side of the road and is used in conjunction with the regulatory “Do Not Pass” sign.

Finally, school signs are special kinds of warning signs, utilizing the pentagon shape. These indicate “School Area” and “School Crossing.”

Guide Signs

Guide signs are the third major classification of traffic signs. Guide signs guide drivers along streets and highways, inform them of interesting routes or direct them to their destination.

Guide signs are generally rectangular in shape and have a white message on a green background. On conventional roads and streets, black messages on white backgrounds are frequently used as an alternative. Also, different colors and shapes are used for special purposes.

One type of special guide sign is the route marker. Each highway system has its own distinctive route marker. These illustrate those used on or in conjunction with the interstate system.

These are used for U.S. routes, state routes, county roads and roads in national parks and forests.

Guide signs are used to indicate junctions of highways, the cardinal direction of a highway, an alternate route to a particular number highway when a numbered route ends and temporary routes.

A variety of advance route turn arrows and directional arrows are among common guide signs.

The most typical guide signs are mileage signs.

On some interchanges, symbolic destination signs are used.

A special type of guide sign is used for recreation areas. These signs have a white message on a brown background.

Another special guide sign is the service sign. These are white messages on a blue background and illustrate the location of a phone or hospital and that there are not barriers to the handicapped.

Other service signs show gas, food, lodging or camping either through symbolic or message signs.

Mileposts are another form of guide signs. Mileage always runs from south to north or west to east and begins at the state line or at a junction where the route begins.

Guide signs are used to show the locations of airports, bus stations and train stations.

Finally, special panels reading “Exit Only” advise drivers of an imminent lane end situation. These signs use the warning sign combination of black letters on a yellow background.

Highway construction and maintenance signs fall into the same three major classifications as other signs namely regulatory, warning and guide signs. Regulatory signs used in construction and maintenance zones use the normal standard colors, shapes and messages.

Warning and guide signs also use the standardized shapes and messages but are distinctive in that black letters are used on an orange background.

Typical construction and maintenance warning signs warn of construction or a detour ahead. They can warn of road work, shoulder work or a survey crew ahead. Typical construction and maintenance guide signs provide information on the length of a construction or maintenance zone or the direction of a detour.

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TRAFFIC SIGNALS

Traffic signals are valuable devices to control traffic and assign right-of-way. The message in traffic signals is relayed through the use of colors; therefore, the meanings of the colors has been standardized.

1. STEADY CIRCULAR GREEN SIGNAL – permits traffic to proceed if it is safe to do so.
2. STEADY CIRCULAR YELLOW SIGNAL – always follows a circular green signal or green arrow and warns that the red signal is about come on. Driver must stop if it is possible to do so.
3. STEADY CIRCULAR RED SIGNAL – means stop and remain stopped until a green signal is shown and it is safe to proceed.
4. STEADY GREEN ARROW – may be used instead of a steady circular green signal. The driver is permitted to proceed in the direction of the arrow if it is safe to do so.
5. FLASHING CIRCULAR RED SIGNAL – means stop and remain stopped until it is safe to proceed. Flashing red signals are used at particularly dangerous locations.
6. FLASHING CIRCULAR YELLOW SIGNAL – is a warning of a particularly hazardous location. Drivers may proceed but should use extreme caution.

ROADWAY MARKINGS

Like traffic signs and signals, roadway markings have a definite purpose and convey a special meaning. In some cases, they supplement the regulations and warnings conveyed on traffic signs and signals. In other instances, they are used alone, as there is no other way to effectively communicate this information. Roadway marking are standardized in color and type.

1. WHITE LINES – delineate separation of traffic flow in the same direction.
2. YELLOW LINES – delineate separation of traffic flow in the opposite directions.
3. BROKEN LINES – are permissive in nature. When traffic permits, broken lines may be crossed.
4. SOLID LINES – are restrictive in nature. Generally, they are not to be crossed.
5. DOUBLE SOLID LINES – indicate maximum restriction. They are not to be crossed.
6. BROKEN WHITE LINES – separate traffic lanes moving in the same direction when a roadway has more than one lane moving in the same direction. Drivers are to drive between and not straddle the lines. When traffic permits, broken white lines may be crossed to change lanes.
7. SOLID WHITE LINES – are used to mark the edge of the pavement. Pavement edge lines should not be crossed at moderate to high speeds. They may be crossed, however, at slow speeds when it is necessary to pull off onto the shoulder. When solid white lines separate traffic moving in the same direction, do not cross to change lanes.
8. BROKEN YELLOW LINES – separate traffic moving in the opposite direction. When the broken yellow lines are on the driver's side of the road, it may be crossed if oncoming traffic permits.
9. SOLID YELLOW LINES – also separate traffic moving in the opposite direction. When the solid yellow line is on the driver's side of the road, it must not be crossed. One of the newer uses of the solid and broken yellow line used together is to delineate a left turn lane. The left turn lane is marked on both sides by both solid and broken yellow lines. Drivers wishing to turn left must turn from this lane.
10. DOUBLE SOLID LINES – are used to indicate that traffic from both directions is prohibited from crossing.
11. WHITE ARROWS – are used to show direction of travel for a given lane.

Pavement markings are sometimes used to delineate pedestrian crosswalks. These are marked by solid white lines. When lines are used, they run all the way across the pavement. If a stop is required, drivers must stop before crossing the pedestrian crosswalks.

Delineators are special kinds of guide markings to aid drivers at night. These little re-

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flective devices are sometimes used on long, continuous stretches of highway or on short sections where there is a change in the curvature of the road.

Delineators are intended to help guide motorists as to the horizontal and vertical alignment of the highway. Delineator colors conform to the edge line colors painted on the highway. Three colors are used:

1. WHITE – may be placed on the side of the roadway.
2. YELLOW – may be placed on the left side of the roadway.
3. RED – placed backwards on a ramp or roadway so it would be viewed by motorists traveling in the wrong direction on the ramp or roadway.

SUMMARY

During this chapter, traffic control devices, regulation, warning and guiding traffic signs were reviewed. Specifically, we reviewed.

- Traffic signs
- Traffic signals
- Roadway markings

Traffic control devices are used to assist motorists in performing their driving task. Drivers should pay particular attention to all signs, signals and markings and adjust their driving behavior accordingly. This results in a safe, more effective flow of traffic.

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