UNIT THREE - DRIVING FUNDAMENTALS

Perhaps in no other phase of educational operations do school administrators, transportation staff and drivers accept more responsibility for student life and welfare than during the mass movement of children in school transportation vehicles on the public highways, streets, and roads of Colorado.

Therefore, it is essential not only to provide adequate equipment, but also to strive continually to improve operational safety and efficiency.

STANDARD OPERATING PROCEDURES

Please follow your district operating procedures as developed by owner manual and fleet services.

Getting Ready to Drive - After completing the pre-trip inspection (see Unit Two), position yourself for driving.

- Become familiar with all controls and lights on the vehicle.
- Adjust the seat to enable you to reach and operate panel and floor controls easily and comfortably.
- Check all mirrors for optimum rear vision of traffic behind the vehicle, for proper vision to both sides and across the front of the vehicle. (See Unit Two, Pre-Trip Inspection.)
- Fasten and adjust seat belt. 1 CCR 301-26, 4204-R-227.01
- Go through standard shift pattern if vehicle is a model unfamiliar to you.

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

1. Set parking brake to keep the vehicle from moving.
2. Depress clutch pedal (standard transmission).
3. Shift gear lever into neutral position (standard/automatic).
4. Turn on ignition key to complete electric circuits.
    - In vehicles with a diesel engine and glow plugs or air inlet heater, wait until the indicator light has shut off before engaging the starter. These components must warm up to the proper temperature before the engine will start.
5. Turn the key further to engage starter.

- Use accelerator sparingly.

6. Warm up engine without racing the engine. Check with the service technician for proper rpm during warm-up time as authorized by your district.
7. Check instrument gauges insuring they are registering properly. (See Unit Two, Pre-Trip Inspection, for specific gauges.)

Shifting Gears and Accelerating the Standard Transmission

1. Shifting gears is a phase of vehicle driving that requires skill and practice. You must learn the correct range of speed (or tachometer range) in changing gears upward or downward. You must shift the gears without losing your view of the road. Many school buses have synchromesh standard transmissions. Generally, vehicles are equipped with either four (4) or five (5) speed standard transmissions.
2. Learn the gear positions and shift pattern.
    - Check chart on shift lever or on the dash.
3. Depress clutch pedal.
4. Shift gear lever into starting position.
    - With average terrain and load, this should be first or second gear. Check district procedure.
    - Never start out in a gear higher than second as this places undue load and wear on the engine and clutch.
    - Drivers must always be aware of the gear they are in.

Local districts will provide training on appropriate use of gears.

5. Depress foot brake.
6. Release parking brake.
7. Release clutch gradually to friction point and hold. You will at this point, have the clutch just at the point of friction and the foot brake ready to release. Friction point is when clutch starts to engage and vehicle begins to move.
8. Release the foot brake.
9. Hold friction point and slightly depress accelerator increasing the power to prevent stalling.
10. Release the clutch.
    - Slowly and gradually release the clutch to the remainder of the pedal travel while slowly increasing acceleration.

- Remove foot from clutch pedal completely.
- Increase to proper rpm before shifting to next higher gear.

11. Shift to next higher gear.
    - Depress clutch pedal and release accelerator.
    - Shift to next higher gear.
    - Release clutch smoothly and more quickly than in starting gear. Depress accelerator smoothly and quickly.
    - Prevent loss of vehicle speed.
    - Do not race the engine and slip the clutch.
    - Remove foot from clutch pedal completely.
    - Proceed in this gear until proper vehicle speed is reached for shifting to next higher gear.
12. Repeat step 11 of procedures until the vehicle is in cruising gear.
13. Skipping a gear in shifting up or downshifting causes undue engine and clutch wear. **NEVER SKIP A GEAR**!
14. Shift up or down as necessary to prevent engine lugging or excessive rpm.

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

15. When going down a hill, shift into the gear that would be used going up the hill, or one gear lower. (Refer to Unit Six, Mountain Driving) Ratios vary according to equipment. Check district procedures for proper shifting speeds and rpm.
16. Approximate miles per hour (mph) before shifting up or downshifting (mph may vary slightly depending on make of engine, transmission, gear ratio, and terrain.)
17. Never allow the vehicle to “coast” in neutral.

WARNING--Allowing your vehicle to coast in neutral is against state law (42-4-1009, CRS, Coasting prohibited). This practice can result in severe transmission damage. Also, no engine braking is available.

Use the proper shifting pattern and speeds for your standard transmission.

Shifting the Automatic Transmission

Most school buses are equipped with an automatic transmission.

1. Learn the shift pattern.
2. Depress foot brake before releasing the park brake.
3. Move selector lever to the forward or drive position.
    - The drive position will be sufficient on level terrain and without a load.
    - With a load and/or uneven terrain, a position of lower range will be necessary.
4. Release parking brake.
5. Release foot brake and depress accelerator (prevent rolling).
6. As speed of vehicle increases, transmission will automatically shift to the next higher gear until reaching cruising gear.
7. Manual shifting up or down the gear range, or staying in a particular gear may be necessary depending upon load and/or terrain. When going down a hill, shift into a gear or next lowest gear that would be used going up the hill. Shift one gear at a time without lugging the engine. Refer to Unit Six, Mountain Driving, for more information.

Read the manufacturers manual or ask your service technician for recommended gear selection. You should emphasize proper gear usage with practice.

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

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

STEERING AND TURNING

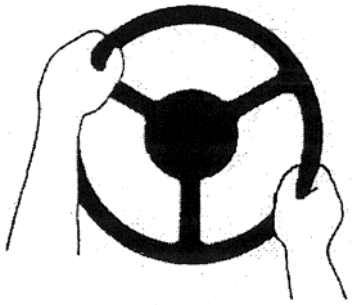
You must be able to assume the proper steering position and make all turning maneuvers smoothly and correctly. Learn the correct procedures to prepare for the turn, make the turn, and re-enter the traffic pattern. When you are confronted with an unusual turn or turnaround, use extreme caution. The interstate highway systems upon which you may travel, may force you to use additional skills and judgment in making a turn properly and safely.

1. Use one of the four steering positions following this procedure:
    - Grip the steering wheel with both hands at all times.
    - Hands on outside of steering wheel and thumbs on the top or gripping outside of the wheel.

Some driving experts feel the 9-3 hand position is the best overall.

The 10 and 2 position.

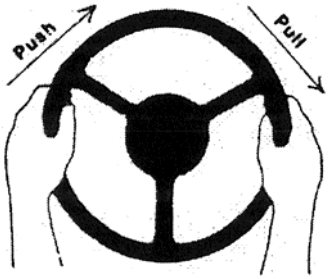
The 10 and 4 position.



The 9 and 3 position.

The 8 and 4 position (vehicles equipped with driver side air bags).

2. The push-pull steering method is recommended while turning. One hand pulls and the other hand pushes.

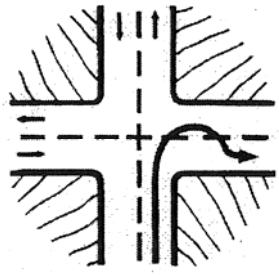


By using the push-pull method, the driver will always have a good grip position on the steering wheel.

PREPARING FOR TURNS

1. Check traffic to the front and rear of vehicle.
2. Check traffic to either side of vehicle.
3. Give proper signal to move vehicle into correct lane.
4. Enter the **proper** lane and cancel turn signal.
5. Use lane providing the widest arc for double/triple turns.

RIGHT TURN



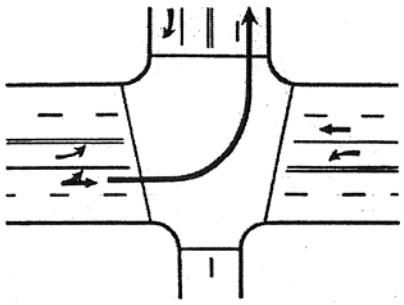
MAKING A RIGHT TURN

1. Activate right turn signal as least 100 feet before desired turning point (200 feet when traveling over 40 mph).
2. Reduce speed and downshift standard transmission to proper gear needed to execute the turn.
3. Position vehicle in **proper** lane. Use outmost lane for double/triple turns.
4. Check for clear right-of-way.
    - Traffic signals, signs, pedestrians, or vehicles.
    - Check right and left mirrors.

Check for both bicyclist and pedestrians before completing the turn.

5. Execute the turn.
    - Make turn smoothly and without strain on the engine.
    - Never shift gears during a turn. You should downshift prior to making the turn.
    - Check right and left mirrors while executing turn.
6. If you are driving a bus that cannot make a right turn without swinging into another lane, turn wide as you complete the turn, as shown in the diagram above.

LEFT TURN



MAKING A LEFT TURN

1. Activate left turn signal at least 100 feet before desired turning point (200 feet when traveling over 40 mph).
2. Reduce speed and downshift standard transmission to proper gear needed to execute the turn.

3. Position vehicle in the proper lane. Use outside lane for double turns.
4. Check for clear right-of-way.
    - Traffic signals, signs, pedestrians, or vehicles.
    - Check right and left mirrors.
    - If stopping is necessary, keep front wheels straight and brake pedal depressed. This activates the stop-lights and prevents rolling. If struck from the rear, this will keep your vehicle from being pushed into the oncoming traffic lane. Do a traffic check using both outside mirrors before proceeding.
5. Execute the turn.
    - Drive into the intersection, make turn smoothly and without strain on the engine.
    - Never shift gears during a turn. You should downshift prior to making the turn.
    - Check left and right mirrors while executing turn.
    - Enter the **proper** lane and cancel turn signal if necessary.
    - After completing a left turn upon a multiple lane highway, resume proper speed, check traffic in both outside mirrors, activate right turn signal, and move into right lane as soon as it is safe to do so.

The 689 Rule: In a large vehicle, it takes 6 seconds to cross an intersection, 8 seconds to make a right turn and accelerate to 30 mph, and 9 seconds to make a left turn and accelerate to 30 mph.

Entering the Flow of Traffic at Intersection, While Turning

1. Activate right or left turn signal prior to intersection.
2. Stop at point of entry into the traffic flow, or at sign, signal or crosswalk line (wheels straight).
3. Check for pedestrians or other obstacles in the path of the bus.
4. Look to right and left to determine whether there are vehicles in motion on the roadway to be entered. Check traffic using both outside mirrors.
5. Yield right-of-way to vehicles already on the road.
6. Look for suitable gap in traffic and when safe, accelerate smoothly into lane.

7. Cancel turn signal as correct lane position is established.
8. Check traffic using both outside mirrors.

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

Crossing Intersections

1. Observe traffic ahead to the left and to the right, at least three times, when approaching an intersection.
    - Cover brake pedal to be prepared to brake if needed.
    - Watch for vehicles that are fast approaching the intersection.
    - Watch for vehicles approaching from the left and signaling a right turn. Decelerate and prepare to enter the intersection only after the other vehicle has begun to turn.
    - If your vision is obscured by buildings, trees, parked vehicles, or blind spots created by parts of your vehicle, stop at the intersection, lean forward or back in your seat to eliminate the blind spots before proceeding.
    - Always yield the right-of-way.
2. Check traffic using all outside mirrors.

Lane Use and Position on the Roadway

When you are on special trips, pre-plan your trip to know which lanes and exits to use. Use the map web sites to help in planning.

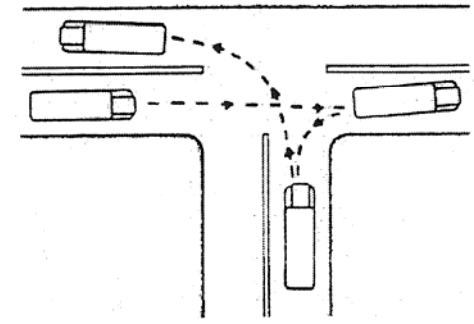
1. Center vehicle in the proper lane. Do not encroach on other lanes.
2. The shoulder or parking lane is only for stopping and parking.
3. Generally, when there is more than one lane for traffic going the same direction, travel in the farthest right driving lane unless passing or turning to the left. State law – passing lane is the left lane.
4. When following other vehicles, drive at a safe distance behind. Use the 4-second rule as described in Unit Four, Managing Space.

Changing Lanes

1. Look for rear traffic in the new lane before deciding to change lanes.
2. Do not change lanes in or near an intersection.

3. Move your head enough and lean forward or back in the seat to eliminate any blind spots.
4. On a multi-lane road, look for vehicles about to enter the new lane from the far adjacent lane.
5. Check all mirrors to observe any vehicles passing, closing fast from the rear, or vehicles about to enter the new lane. Use proper turn signal 100 feet (200 feet if going over 40 mph) before lane changing (allow the signal to flash at least three times).
6. When a vehicle is trying to pass, and an oncoming vehicle is too close for the passing vehicle to complete the pass, consider:
    - Slow bus to allow other vehicle to safely pass before oncoming vehicle reaches, or
    - Move to shoulder, parking lane, or leave roadway only if doing so doesn't create a hazard for vehicle or passengers.

Turnaround



Making Turnaround

1. Tap brake to activate brake signal well in advance of turnaround.
2. Use 4-way hazard lights and tap horn before backing.
3. Stop bus in proper position on roadway.
    - One bus length ahead of road to be used.
    - There should be good visibility in either direction.
4. Before backing, check traffic to the front and rear.
5. If possible, have traffic pass the bus before backing.
6. Back off of the main roadway into least traveled roadway or driveway. Use right and left mirrors.

7. Pull forward to re-enter main roadway.
8. If this is a student stop, have students on the vehicle while making a turnaround.

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

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

1 CCR 301-26, 4204-R-220.01. Rules for the Operation of School Transportation Vehicles

The school bus operator shall use extreme caution when backing. It is recommended that the rear of the school bus be observed and directed by a second responsible person stationed outside of the bus. Before backing on roadway or school grounds, the horn or audible warning device shall be sounded and hazard lamps actuated.

***Reminder**: If alone, get out of the vehicle and walk to the back to make sure it is safe before backing.*

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

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

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

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

STARTING AND STOPPING ON A HILL

Standard Transmission

1. Stopping on a hill (upgrade).
    - Check traffic in all directions using mirrors.
    - Apply the brake lightly for a smooth stop and hold. Use retarder if equipped. (See Unit 4, Maintaining Vehicle Control With the Retarder.)
    - Allow extra distance between the bus and the vehicle ahead.
    - Depress clutch with left foot. Apply the parking brake before shifting into neutral.
2. Starting on a hill (upgrade).
    - Check traffic in all directions using ALL mirrors.
    - With park brake set and left foot on the clutch, place transmission in gear; let the clutch out slowly to the friction point.
    - Hold clutch at the friction point.
    - Release park brake with enough acceleration to hold the weight of the bus without drifting backward.
    - Release clutch until completely engaged to pull the bus smoothly up the hill.
    - Check traffic using all outside mirrors.
3. Stopping on a hill (downgrade).
    - Check traffic in all directions using mirrors.
    - Downshift and use the engine compression to reduce speed.
    - Apply steady pressure to brake pedal as needed to slow gradually. Use retarder if equipped. (See Unit Six, Maintaining Vehicle Control with the Retarder.)

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

Automatic Transmission

1. Stopping on a hill (upgrade).
    - Check traffic in all directions using ALL outside mirrors.

- Take foot off accelerator.
- Use retarder, if equipped. (See Unit 6, Maintaining Vehicle Control With the Retarder.)
- Apply the service brake lightly for a smooth stop; hold.
- Allow extra distance between the bus and the vehicle ahead.
- Apply the parking brake if needed.

2. Starting on a hill (upgrade).
    - Check traffic in all directions. Make eye contact with other drivers and pedestrians. Use all outside mirrors.
    - Place transmission in gear.
    - Accelerate slightly, release park brake, keeping vehicle from rolling back.
3. Stopping on a hill (downgrade).
    - Check traffic in all directions using outside mirrors.
    - Take foot off accelerator.
    - Downshift and use the engine compression to reduce speed.
    - Use retarder, if equipped. (See Unit Six, Maintaining Vehicle Control with the Retarder.)
    - Brake smoothly and evenly.

OVERTAKING AND PASSING

When overtaking or passing other vehicles, follow these steps:

1. Check traffic signs and markings to determine if passing is allowed.
2. Check traffic using mirrors, making sure there is no oncoming traffic or traffic from behind preparing to pass.
3. Activate left turn signal at least 100 feet (200 feet if going over 40 mph) before executing passing maneuver (allow the signal to flash at least three times).
4. When clear, pull smoothly into passing lane.
5. Cancel left turn signal.
6. Move smoothly past the vehicle at a safe speed within the speed limit.
7. Activate right turn signal.

8. Move back into right lane when approximately one and one-half bus lengths ahead of the passed vehicle. After returning to the lane, perform another traffic check.
9. Cancel right turn signal.

Use extra caution when:

- The vehicle to be passed is towing a trailer, has an open trunk lid, ice or snow on the rear window, or objects in the rear window.
- The leading vehicle is about to pull out and pass.
- While being passed, the vehicle moves laterally toward the bus.
- The driver of the leading vehicle appears inattentive.
- There is reduced visibility due to weather conditions.
- Passing a truck. Remember, they have blind spots.

Do not pass when the driver of the lead vehicle is:

- Signaling or otherwise indicating a left or right turn, or changing lanes preparing to pass.
- Decelerating suddenly.
- Passing pedestrians, cyclists, or animals.
- Being passed by another vehicle. In this case, wait until the lead vehicle has been passed, your view of the road ahead is clear, and an acceptable gap is present.
- Weaving or wandering.

You may sound horn or flash the headlights to alert the driver of the lead vehicle and, if the weaving does not cease, wait until you can pass with at least one-half lane separation.

ROUNDABOUT

1. Yield to traffic in the roundabout.
    - Signal the yield by tapping the brakes.
2. Use signals to warn other drivers.
3. Slow the vehicle to give yourself unimpeded use of the roundabout.
4. If the loop is too small for your length of vehicle to be able to stay in one lane, once it is clear, use the center of the two lanes combined.
5. Check mirrors often.

6. Signal your exit.
7. Slowing down allows motorists in adjoining lanes to clear the roundabout and make your entry and exit maneuvers easier and safer.

Stopping and Parking the Vehicle - Stopping a school bus smoothly and safely is one sign of a professional driver. Keep your vehicle under control at all times and know that braking distances increase greatly as the speed and weight of the bus increases. By using correct stopping procedures, the maintenance costs on the braking system may be reduced.

Vehicle weight and road conditions affect stopping distances. A fully loaded bus may need 8 times the stopping distance on snow or ice, as compared to an empty bus on a dry road. For more information on stopping see Unit Four, Controlling Speed.

1. Stopping in low gear or at 10 mph and less.
    - Depress clutch pedal and release accelerator (standard transmission).
    - Apply brakes gradually by increasing pressure.
    - Reduce brake pressure slightly, (not completely) just before coming to a stop to prevent jerking.
    - Shift gear lever into neutral position, release clutch, and remove foot from clutch pedal (standard transmission).
2. Stopping when in cruising gear.

    Release accelerator and depress brake pedal.

    When proper rpm is obtained, downshift to next lower gear. This reduces heat buildup in the brake systems and extends the life of the brakes (standard transmission).
3. Retarders.

    Some vehicles have “retarders” that provide another way of slowing a vehicle. They reduce brake usage and excessive wear on the brakes. There are different types of retarders. The retarder should be used to slow the bus. Apply the service brake if greater slowing or stopping is needed.
4. Parking the vehicle.
    - Shift lever into low gear on level terrain or upgrade and reverse gear on downgrade (standard transmission). Use normal stopping/parking

procedures for vehicles with an automatic transmission.

- Turn wheels into curb.

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

- Set parking brake.
- Turn off ignition and remove ignition key.
- Release clutch and take foot off pedal (standard transmission).

LOADING/UNLOADING PROCEDURES

One of the most important maneuvers you make is the loading and unloading of students. This is the point where students and drivers are exposed to many hazards. You must learn proper procedures for controlling traffic, crossing students, loading and unloading students, and proper seating of passengers. The following procedure will help prevent crashes or injury.

1 CCR 301-26, 4204-R-224.04. Rules for the Operation of School Transportation Vehicles

> School bus alternately flashing warning signal lamps are placed on school buses for the purpose of warning traffic that the school bus is about to stop (amber lamps) or is stopped (red lamps) to load or unload students. The following procedure shall be observed when controlling traffic with a school bus during the process of loading or unloading students on any highway, road or street.

Statute regarding loading/unloading procedures for lift equipped buses. 42-4-1903, (2)(b)(11), C.R.S.

> A school bus shall be exempt from the provisions of subparagraph (1) of this paragraph (b) when stopped for the purpose of discharging or loading passengers who require the assistance of a lift device only when no passenger is required to cross the roadway. Such buses shall stop as far to the right off the roadway as possible to reduce obstruction to traffic (the bus would be completely out of the lane of traffic).

School buses create passing situations when loading or unloading. Be aware of motorists attempting to pass just because it is a school bus.

Loading and unloading in hazardous conditions should be reported immediately.

42-4-1903 (2) (b) (I) and (5), C.R.S. was amended and made more effective in 1998. It reads:

42-4-1903, (2) (b) (I) C.R.S. School buses – stops – signs - passing

The red visual signal lights shall be actuated by the driver of the school bus whenever the school bus is stopped for the purpose of receiving or discharging school children, is stopped because it is behind another school bus that is receiving or discharging passengers, or, except as provided in subsection (4) of this section, is stopped because it has met a school bus traveling in a different direction that is receiving or discharging passengers and at no other time; but such lights need not be actuated when a school bus is stopped at locations where the local traffic regulatory authority has by prior written designation declared such actuation unnecessary.

42-4-1903 (5) C.R.S. School buses – stops – signs - passing

Every school bus shall stop as far to the right of the roadway as possible before discharging or loading passengers; except that the school bus may block the lane of traffic when a passenger being received or discharged is required to cross the roadway. When possible, a school bus shall not stop where the visibility is obscured for a distance of two hundred feet either way from the bus. The driver of a school bus that has stopped shall allow time for any vehicles that have stopped behind the school bus to pass the school bus, if such passing is legally permissible where the school bus is stopped, after the visual signal lights, if any, are no longer being displayed or actuated and after all children who have embarked or disembarked from the bus are safe from traffic.

Loading Procedures

1. Stopping and loading procedures:
    - When approaching the designated stop, begin slowing down in preparation for the stop.
    - Check traffic in all directions using right and left mirrors, to see that it is safe to pull to the right of the traveled portion of the roadway to stop. Do not leave the roadway. Activate amber warning lights 200 feet in the city and 500 feet in rural areas. Do not activate red flashers until stopped.
    - Apply brakes to activate brake lights so that motorists following will know you are about to stop. Use retarder (if equipped) to slow the bus.
    - Approach students with extreme caution, giving due consideration to the surface on which you are stopping: dry, slippery, dips sharply to the right, rough ground, etc.

- Allow sufficient area to the right and front of the bus for the students to clear the bus safely while in sight of the operator.
- 1 CCR 301-26, 4204-R-224.04 (h) - Instruct student passengers to stand away from curb or roadway so when the bus stops to load, they are not next to the bus.
- 1 CCR 301-26, 4204-R-224.04 (g) - Students shall be instructed to walk a distance of approximately 10 feet in front of the school bus and wait for operator's signal before crossing the roadway.
- If a backing turnaround is required on the route, load students onto the bus ***before*** backing into turnaround. Unload students ***after*** making the turnaround. When making a backing turnaround, students should remain seated at all times. Use extra caution.
- 1 CCR 301-26, 4204-R-224.04 (f) - When stopped, the parking brake or equivalent shall be set prior to loading and unloading. Transmission shall be placed in neutral or in park, (if vehicle is so equipped).

Opening the service door automatically deactivates the amber flashing lights and activates the red flashing warning lights and stop arm.

Open service door when you are ready to board students. They should be trained not to move toward the vehicle until the door opens or when directed by the driver with a predetermined hand motion.

Instruct students to go directly to their seats as prescribed by district procedures.

Make sure students are all properly seated.

Deactivate red flashing warning lights and stop arm by closing door.

Place the transmission in gear.

Release park brake.

Check traffic using right and left mirrors. When safe, pull gradually back into the lane of traffic. Check traffic again, regain road speed, and proceed to next stop.

2. Don't impede the regular flow of traffic. If a build-up occurs behind you, display professional courtesy.

- If possible, activate right turn signal, pull to side of road only if entire vehicle can get off the road and stop.
- Allow vehicles to pass.
- Check traffic using all outside mirrors.
- Activate left turn signal.
- Resume position on road.

3. Procedure for students:
    - Use handrails when boarding vehicle.
    - Students should go directly to their seats as prescribed by the district.
    - Remain seated when the bus is moving.

Unloading Procedures

1. Unloading students poses additional problems. Follow loading procedures with these additions:
    - You are responsible for the safety of all students crossing the roadway regardless of grade level.
    - When stopped, not rolling, give the vehicles behind you a chance to react by activating the flashing red warning lights before you open the door all the way. Students should stay seated until the door opens fully. Do not allow students to get off the school bus until all traffic has stopped.
    - A backing turnaround must be completed before students are unloaded.
    - 1 CCR 301-26, 4204-R-224.04 (g) - If students must cross the road, instruct them to walk approximately 10 feet to the front of the bus and wait for signal from the driver before crossing roadway.
    - When it is safe to cross, establish eye contact with the student/s and give the pre-arranged signal for crossing. The signal should be clear enough that motorists will not mistake it as a signal to proceed.

Suggestion: Point with the entire hand to the student, then point hand in direction of crossing. Use outside P.A. system, if available. Follow district procedures.

- Instruct students to pause and look both ways before continuing beyond the bus.

- When students have safely crossed the road, and/or cleared the unloading zone, cancel the flashing red warning lights by closing the door.
- Check traffic in both directions before allowing students to cross a roadway.
- While performing this operation, remember you are not a traffic officer and have no rights other than those of a regular motorist. Do not signal any motorist to do anything.
- If a driver of a motor vehicle violates the stop arm law, follow district procedure for reporting.
- Use safe procedures to allow stopped traffic to move on.
- Place transmission in gear.
- Release park brake.
- If the students are crossing, the bus should be in the center of the lane – no need for turn signal. Check traffic using all outside mirrors. When safe, gradually resume correct position on roadway and continue.

2. When unloading students on school grounds, stops should be situated so that students get off on the curbside, not having to cross in front of traffic.

Ref 42-4-1904(1) C.R.S. and 1 CCR 301-26, 4204-R-224.01 (b). On major thoroughfares, freeways, US highways, interstate highways, highways with four or more lanes, or with multiple lanes divided with a median, students are not allowed to cross after unloading. There are exceptions, which must be approved by the local school board in consultation with the local traffic regulatory authority.

Report Route Hazards.

1 CCR 301-26, 4204-R-224.03. It shall be the responsibility of each school transportation vehicle operator to report any condition on a route that may be construed as a safety hazard. These hazards and the corrective action may need to be listed on the route description for the substitute driver.

Review the district procedure on reporting route hazards and how to determine when a change is warranted.

RAILROAD CROSSING PROCEDURES

1 CCR 301-26, 4204-R-209.00. Buses are not required to stop at crossings which are controlled by an "exempt crossing" sign or at crossings controlled by a red, amber, green traffic control signal

when it is in the green position, or when crossing is controlled by police officer, or human flag person.

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

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

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

RAILROAD CROSSINGS CAN BE VERY DANGEROUS.

For procedures regarding Denvers RTD Light Rail Tracks, see Unit Four.

ACTIVITY/FIELD TRIPS

Making a trip into a congested city area you are unfamiliar with can be a frightening experience for the small city or country school bus driver. It does not have to be. Rural districts can help their employees overcome this apprehension with three easy procedures.

1. The first helpful activity is to have a driver lesson plan in place that addresses the topic of a trip to an unfamiliar, busy city.
2. The second is to have resources available for the actual trip.
3. Have a process set up to gather feedback from drivers who make these trips, building resources and helpful hints for future reference.

New Driver Trip Training

1. Build a training session that compares the hazards in your area to what a driver might expect in an urban area. Driving on a trip is different from driving a regular route. Remember, the hazards might be different, yet the driver's awareness, needs, and defensive driving techniques will be quite similar.
    a. Establish a skills course of maneuvers the driver might encounter in the city. For example, parallel parking and tight right turns.
    b. Implement basic map reading skills, stress relieving techniques, and a good mastery of emergency procedures.
    c. Include information regarding procedures for on-ramps with traffic lights, multi-lane highway usage, Denver Light Rail, and turning on a red light after stopping.
    d. Review the hours of service rules and have a good itinerary development procedure in place within your transportation department and with the schools you service.
    e. Develop a short pre-trip program including minor maintenance and/or specialized training and vehicle troubleshooting techniques to be used before leaving from the destination.
2. There are important differences to be aware of.
    a. An unfamiliar route.
    b. Trip sponsors and their responsibilities.

- Sponsors are generally responsible for maintaining order on the bus and accounting for students. You will find students who are not familiar with ridership rules and there may be excesses in behavior due to the nature of the trip. Review district procedures regarding student management during special trips. A student roster is highly suggested. Sponsors should keep the bus clean.
- When the destination has been reached, make certain all passengers know which school bus, and at what time they are to board for the return trip.
- 1 CCR 301-26, 4204-R-222.00. Check that no passenger(s) board the bus at any time unless authorized by you or by a sponsor. Only authorized passengers are allowed to ride the bus.

c. Storage of large and oversized equipment.
   - 1 CCR 301-26, 4204-R-223.01. The equipment must be stored or secured to reduce the danger to a minimum, in case of an emergency stop or an accident. The driver must make a reasonable and prudent determination that all carry-on items are properly handled in order to minimize the danger to all others.
   - Store band instruments and other large items in the storage compartment under the bus, if so equipped. If there is no under storage area, make sure the items are stored away from the front and rear doors, not stacked above seat back height and out of the aisle. **DO NOT BLOCK THE EMERGENCY DOOR(S)**.
   - Other options may include: equipment truck, cargo van, or a second bus as an equipment bus.

d. 1 CCR 301-26, 4204-R-216.02. Emergency evacuation instruction given prior to departure to include roof hatches and emergency windows.

3. The school district documentation should provide the following information:
   - Destination and date.
   - Nature and purpose of trip.
   - Departure and expected return times.

- Number of passengers to be transported.
- Equipment to be transported.
- Rest stops and overnight arrangements (if applicable).
- Authorized signature and school contact.

When the trip is completed, fill out a district activity/field trip report or documentation as required by district procedure. Items may include:

- Mileage, student list, actual number of passengers, time returned, and problems that were encountered, if any.
- 1 CCR 301-26, 4204-R-216.03. documentation of emergency evacuation instruction.

Legal Requirements During Activity/Field Trips - All regulations governing the operation of school transportation vehicles (1 CCR 301-26) are applicable on trips. The driver must follow:

- Vehicle failure and accident procedures for activity/field trips as they apply to the local district.
- Convoy Distance, 1 CCR 301-26, 4204-R-212.01. “shall not follow another convoy vehicle within 300 feet, when traveling outside the corporate limits of a town or city.”
- Emergency Evacuation Drill, 1 CCR 301-26, 4204-R-216.02. “Passengers on activity or field trips shall receive emergency evacuation instruction prior to departure.”
- 1 CCR 301-26, 4204-R-216.03. Records shall be maintained showing that the required evacuation instruction was given.
- Tobacco Products, Controlled Substances, or Alcohol, 1 CCR 301-26, 4204-R-2l8.01. Prohibits the use of tobacco, controlled substances and alcohol aboard all school transportation vehicles at all times.
- Food and Drink, 1 CCR 301-26, 4204-R-219.01. Food and drink shall not be consumed by the operator unless the vehicle is parked in a secure location with the park brake set.
- Authorized Passengers, 1 CCR 301-26, 4204-R-222.01. “No one except school personnel and school children regularly assigned...”

- Transportation of Unsafe Items, 1 CCR 301-26, 4204-R-223.01.
    - Do not block exits or aisles.
    - Secure loose items.
    - Do not transport anything endangering the lives, health, safety of passengers and vehicle operator.

Resources for the Trip

1. Call ahead to your destination. Prepare a small notebook with phone numbers and the name of the person to contact when you arrive. Don't stop with just one phone number. Obtain the department's dispatcher number, the mechanic's number, and the number of the school that will be your destination.
2. Cellular phones can be utilized on out-of-town trips.
3. Request area maps and a suggested route to your destination from the sponsoring district. Plan more than one route in case of unexpected detours. Remember, most major urban districts have computerized scheduling systems in place which might help generate a detailed map of the area into which you will be traveling.
4. Obtain information regarding road closures.
5. Create an "Over-the-Road" packet. Include the Emergency Service List from CDE.
6. Per school district procedures, consider having extra tools, hoses, belts, bolts, flashlights, etc. which could be used in case of a minor breakdown.
7. Review school district procedures regarding securing the bus when you reach your destination.
8. Use stress-relieving techniques and take unscheduled rest breaks if needed. For instance, stop and secure the bus, get out and walk around outside. The back is particularly vulnerable to injury when driving or working around school buses. A number of factors include sitting for long periods of time, vibration of the vehicle, having to lean over seats to put up windows, and lifting and pushing heavy objects such as wheelchairs. All of these contribute to the driver's susceptibility to back injuries. However, a little care can go a long way towards keeping drivers on the job and out of pain.
9. While driving, sit straight in the seat with back and legs making a 90 degree angle. Change position or shift weight

every 15 to 20 minutes. Lean forward to operate the door mechanism. Practicing these posture habits will help keep the back healthy and happy.

Build a Library of Resources

1. Document knowledge and experience gained from each trip.
2. Assemble maps, resources and a list of contacts.
3. Create a checklist of helpful techniques used and things that were overlooked that should be included on the next trip.
4. Document feedback regarding the vehicle driven, itinerary used, and passengers serviced.

HOURS OF SERVICE

1 CCR 301-26, 4204-R-229.0

229.01 No school transportation vehicle operator shall drive nor shall the school district/service provider permit or require an operator to drive:

229.01 (a) After being on-duty 14 hours following 10 hours off duty. This would include on-duty time for all employers. Ten hours off duty may be consecutive or accumulated in two or more periods of off duty time with one period having a minimum of 6 consecutive hours off duty.

229.01 (b) After being on-duty for more than 70 hours in any seven consecutive days.

229.02 Nothing in these rules prohibits a school district/service provider from complying with part 395 of the Federal Motor Carrier Safety Regulations (FMCSR) in place of this section.

229.03 Definitions:

229.03 (a) Adverse driving conditions - In case of emergency, an operator may complete their trip without being in violation if such trip reasonably could have been completed absent the emergency.

229.03 (b) Day - Means any 24-consecutive hour period beginning at the time designated by the school district/service provider.

229.03 (c) On-duty time - Includes all time worked for any and all employers, including all driving and non-driving duties.

229.03 (d) Off-duty time - School transportation vehicle operators may consider waiting time at special events, meal stops, or activity trips as off-duty if the following criteria is met: (compensated waiting time does not necessitate on-duty time) (1) the operator shall be relieved of all duty and responsibility for the care and custody of the vehicle, its accessories, and students, and (2) the operator shall be at liberty to pursue activities of their choice including leaving the premises on which the bus is located.

229.04 The operator shall document that they are in compliance with this section, hours of service.

229.04 (a) An operator's daily log shall be completed for the trip in the operator's own handwriting, when the trip requires a scheduled or unscheduled overnight stay away from the work reporting location.

229.05 No school transportation vehicle operator shall transport students, nor shall the school district/service provider require the operator to transport students, while the operator's ability or alertness is so impaired, through fatigue, illness or any other cause, as to make it unsafe for the operator to transport students.