School Bus Driver

PRE-SERVICE COURSE

Trainee Manual

Unit 9
Driving Safely

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INTRODUCTION

Welcome, new New York State school bus driver!

The *School Bus Driver Pre-Service Course* has one goal: to prepare you to safely transport children on a school bus.

You are entering a proud profession. New York State's school bus drivers have established an admirable safety record over the past generation. Statistically, New York's school buses represent the safest form of ground transportation ever devised. Children riding in school buses are approximately 24 times safer than when they're riding in the family car!

However, student safety is never assured. Your responsibility for safety will be serious from the first day you drive a bus with children on board. What you learn in this course can save a child's life.

This *Trainee Manual* will prepare you for the course. Read it carefully before the course begins. Complete the review questions at the end of each Unit before you come to class. Write down any questions you have for your instructor. If you don't understand something, say so. Asking questions is one sign of a professional.

Again, welcome to our New York State school bus safety community!

Marion Edick
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State Director of Pupil Transportation

OPTIONAL UNIT 9: DRIVING BUS SAFELY IN YOUR LOCAL ENVIRONMENT

Unit 9 Topics

Introduction

While many school bus safety procedures apply in all situations, local driving environments vary remarkably across New York State. Driving a school bus in midtown Manhattan and driving a school bus on a dirt road in the Adirondacks both require staying constantly alert for potential hazards – but the hazards most likely to be encountered in each setting are far from identical. Adjusting your driving for local road, traffic, and weather conditions is one sign of a professional driver. An awareness of unusually hazardous intersections and roadways in your area is one of the best ways to avoid an accident.

Local driving environments vary remarkably across New York State.

9.1 Urban, Suburban, and Rural Driving Challenges

9.1.1 Urban challenges. Driving a school bus in an urban environment can be daunting. Intense traffic, disdain for traffic laws, and constricted roadways are only some of the most common challenges in cities.

Urban school bus drivers share the streets with types of roadway users seldom encountered in other driving environments. Taxi drivers, gypsy cab drivers, and transit bus drivers have earned a reputation for highly aggressive driving. Bike messengers dart in and out of traffic. Delivery trucks, garbage trucks, and double-parked vehicles block traffic, and rushing, distracted pedestrians are everywhere. Our largest cities are often flooded with international visitors who may lack full comprehension of our rules of the road.

Bus stops in big cities often have hazards seldom seen outside of urban areas. Dozens of children may be assigned to a single bus stop at large apartment complexes. Multilane and one-way streets, combined with heavy traffic and the frenetic pace of urban life, make it less

likely that all motorists will stop for a stopped school bus.

9.1.2 Suburban challenges. Suburban areas near cities have their own driving characteristics. Commuter traffic congestion often overlaps with morning bus routes, as well as late bus runs in the afternoon. Shopping centers and malls create traffic bottlenecks that frustrate motorists and contribute to risk-taking behaviors. Red light runners are common at busy suburban intersections.

Commuter traffic congestion in suburban areas often overlaps with morning bus routes.

Bus stops in suburban areas often have distinct hazards. Wide shoulders on newer roadways lend themselves to right-side passers. Suburban housing developments often include short spur roads. Parked cars or snowbanks in cul-de-sacs can make turning around difficult and require backing. Children may be nearby.

9.1.3 Rural challenges. In spite of low traffic density, rural roads can be dangerous. A false sense of security at isolated rural intersections contributes to rolling stops, or no stops, at stop signs. Many severe motor vehicle accidents take place at rural intersections.

Crossing a rural intersection without carefully checking for a vehicle speeding toward you with no intention of stopping on the intersecting roadway is a recipe for disaster. View obstructions on school buses (corner pillars and posts, mirrors, etc.) make it easy to miss vehicles approaching from the side. No

matter how isolated, <u>always</u> look carefully left, right, and left again, and "rock before rolling" forward into an intersection. <u>Never</u> become complacent or let yourself be in a hurry at rural intersections.

Visibility is severely limited on many rural roads. Hills and winding roads make it difficult to know what's ahead. Slow down every time you approach the crest of a hill or a curve. In case an approaching vehicle is over the center line, move to the right of the driving lane as you approach any area of limited visibility.

Dirt roads still exist in some rural districts. "Washboarding" – dried gullies across a dirt road caused by earlier rains – can make it difficult to control a bus at normal road speeds. Bumping on an uneven road could knock a child from the seat. A dirt road in very poor condition might even damage suspension or steering components. Slow down.

Small roads without year-round residences may be considered seasonal by the local highway department. This means they will not be plowed in winter weather. Do not attempt to use seasonal roads after the posted closing date. Even if the road is clear of snow that day, road maintenance will have stopped.

Tree limbs, gullies, or a seasonal gate further up the road could block your travel.

Even on paved roads, weather changes cause damage. "Spring heave" caused by alternating freezes and thaws can buckle or crack pavement, especially around culverts and bridges. Until they are repaired in the spring, potholes torn up by snowplows can be deep enough to throw your bus out of the driving lane or to damage the bus. Slow down.

Rural roads are filled with unusual hazards. Slow moving, oversized farm vehicles are common in most rural areas of our state during the growing season. Even horse-drawn buggies and farm equipment are present in some regions.

> Deep ditches line many rural roads - taking your attention off the forward motion of your bus, even for a moment, can be lethal.

In the winter, farm vehicles are replaced by equally large snow plows. You may have to pull your bus onto the shoulder to let an approaching snow plow pass. Snow-covered shoulders are dangerous. It's difficult to know where the shoulder drops off.

Rural roads are often very narrow, with narrow shoulders or no shoulders at all. Gravel and dirt roadsides can become dangerously soft in wet weather. Deep ditches line many rural roads. Taking your attention off the forward motion of your bus, even for a moment, can be lethal. Swerving just slightly off the pavement and dropping a wheel off the shoulder can result in a sudden rollover. It's happened many times in our state.

Collisions or other types of bus emergencies occurring in rural areas can be especially challenging because of the distance from emergency services. In outlying areas, it may take rural ambulance services 30 minutes or more to get to your bus. Be mentally prepared for such a delay. Stay calm and continually reassure your students.

In hilly rural areas, you may be out of radio or cell phone range altogether at some points on your route. There may be occasions when it's best to drive back into radio or cell phone range so you can report an incident or problem. Of course, if your bus is damaged this is not an option. Talk over this scenario ahead of time with your supervisor; it's against the law to leave the scene of an accident. Never move your bus from the scene of an accident unless immediate student safety urgently requires it.

In rural areas, bus stops are often individual house stops. Homes are seldom close enough together to create group stops for several children at once. Children should be waiting outside five minutes before the scheduled pick-up time. If you have to wait a few minutes at several stops on a morning run, your bus will be late for school. Most children are late on occasion, but repeated infractions constitute a serious safety problem and should be reported to your supervisor or a school administrator. Children who are late and afraid of missing school might do anything to catch the bus as they see it pulling away. Children have been struck and killed in such scenarios.

On rural loop routes, where a bus travels the same road out and back in to school, some students may try catch it on the return trip.

Teenagers are especially tempted by a few minutes extra sleep. If this means they must unnecessarily cross a dangerous roadway, it's a serious safety problem and should be treated accordingly. The child could be struck and seriously injured by another motorist while crossing the road. It's happened.

> On rural loop routes, teenagers may be tempted to catch the bus on the return trip back to school, even if it means they must cross a dangerous roadway to do so. This is a serious safety problem and should be treated accordingly.

Trailer parks in rural areas can be challenging. Controlling students as they wait for the bus to stop and then move toward it at your signal takes strong, consistent training and rule enforcement. Picking up students on private roads, such as in a trailer park, should be done only with your supervisor's or router's approval.

Most rural school districts are located in a central village. Even small villages are often bisected by a state highway. Traffic through town can be surprisingly heavy. Work with your supervisor to find ways to get on and off your school campus without having to enter a dense traffic stream.

9.2 Animals

8.2.1 Taking the danger seriously. Animals are one of the most common hazards on rural roads. Any type and size of animal could be in the roadway – farm animals, domestic pets, or wild animals. The most common animal collision is with a deer. Thousands are struck every year by New York motorists, including school bus drivers. Collisions are usually most prevalent at the beginning of hunting season, when deer are being moved about.

One reason animals in the roadway are so dangerous is our natural human instinct to try to avoid the animal. If you can safely stop your bus or steer around an animal without losing control, do so. But at highway speeds, swerving a loaded bus to miss an animal is very dangerous. You could lose control of your bus. It could go off the road or roll over and a child could be hurt or killed. Sad as it is, the safest thing to do may be to hit the animal straight on.

> Swerving a loaded school bus at highway speed to miss a deer or other animal is very dangerous.

If you strike a deer or other animal, pull your bus over in the closest safe location. Stop and secure the bus and activate the 4-way flashers. As soon as you can do so safely, put out your emergency reflector triangles.

Reassure your students. If they witnessed the injured animal, they may be upset or frightened.

Inform base by radio or cell phone. They will instruct you what to do.

9.2.2 Avoiding collisions with animals. Continually search the road ahead for animals. Know your route well enough to anticipate where deer or turkey are most likely to cross. Take animal warning signs seriously. Scan the shrubbery along the edge of the road ahead for animal profiles. Animal eyes shining in headlights can often be spotted if you're looking carefully. If you see one deer cross the road ahead, expect more to follow. Slow down and be prepared to stop. Activate your 4-way flashers to alert other motorists of the situation.

9.3 Highway Driving

9.3.1 Speed on highways. New York State law limits school buses to a maximum of 55 mph when transporting students. This law applies on all roads, even out of state. Even if a road is posted for 65 mph, school buses with children on board cannot exceed 55 mph at any time.

55 mph is fast enough for a school bus filled with children. "Keeping up with the flow of traffic" is not automatically safer. On some roadways, many vehicles are traveling 75 mph. Stopping distances are dangerously increased at such a speed in a school bus. Vehicle handling characteristics degenerate. If you come upon a disabled vehicle in your lane or a deer jumps out in front of your bus at such a speed, you could lose control.

Because you will often be traveling slower than other traffic, stay in the right lane on multilane highways whenever it's safe to do so.

Coaches and chaperones should be informed before the trip about the 55 mph maximum speed limit law for school buses. Travel times should be computed accordingly.

Carefully watch your speed on on-ramps and off-ramps. Posted speeds for on-ramps and off-ramps are geared to cars, not large commercial vehicles. You could lose control or even tip over if you enter a ramp too fast.

Slow down when approaching toll booths and EZ Pass lanes. Speed postings vary from exit to exit. It's dangerous to drive through an EZ Pass lane too fast. Thruway employees could be walking across the lane. Vehicles traveling too fast in EZ Pass lanes are automatically photographed and ticketed. You could jeopardize your job.

Strictly observe construction zone speed limits on highways. They're lower for a reason. Many road construction workers are struck by speeding motorists each year. A ticket for excessive speed in a road construction zone could cost you your job as a school bus driver, as well as hundreds of dollars in fines and legal fees.

9.3.2 Sharing the highway with trucks. Most New York State highways are filled with trucks. Even rural highways can have lots of truck traffic.

Most truck drivers are proud of their safety record and highly safety conscious, especially around school buses. However, if a truck is

tailgating your bus in what appears to be an effort to "push" you, look for a safe place to pull over and get out of his or her way.

Be especially careful when picking up or dropping off students on highways shared by trucks. Insist that students utilize the "space cushion" concept explained in Unit 3. Unless you are filled to capacity, keep at least the last row of seats empty, or use that row to stow sports equipment, coolers, etc. If a truck strikes your bus while stopped to pick up or drop off students, a safety cushion will save lives.

When there are puddles of water or snow on the road from a recent storm, large vehicles passing your bus can throw large amounts of water or slush onto your windshield, temporarily blinding you. Be aware of vehicles about to pass your bus and activate your wipers ahead of time to reduce the amount of time you can't see.

9.3.3 Long trips. Driving a school bus on a long trip can be physically and mentally tiring. Get plenty of rest the night before and eat healthy to keep up your stamina. Take the time to adjust your seat for maximum comfort. You should be far enough back from the foot controls that you can stretch out your legs periodically.

Stop your bus at a safe rest area about every two hours and do a walk-around inspection to make sure your tires are still in good condition and all lights are functioning. Getting out of the driver's seat for a short walk also helps prevent back spasms and leg cramps.

Stop for a rest break even if you're concerned about staying on schedule.

If you begin to feel sleepy, stop more frequently. Stop for a rest break even if you're concerned about staying on schedule. Safety is far more important than schedule.

Occasional brief conversations with a teacher, coach, or parent chaperone riding on the bus may help keep you alert, but don't become so involved in chatting that you stop concentrating on the road. It is against the law to engage in distracting conversations with passengers.

Make a point of introducing yourself to coaches, teachers, and chaperones at the beginning of the trip. Go over the itinerary and route with them ahead of time. Work together to ensure a safe and comfortable trip for everyone involved.

Remember, it is against the law to drive a school bus more than ten hours in one day or to be responsible a bus for more than fifteen hours in one day. (Also, see Optional Unit 7.) You also need at least eight hours rest before going on duty the next day. Violating driving hours regulations exposes you and the students on board to great risk – don't do it.

Field and activity trips sometimes involve more than one bus. Before you leave, go over the itinerary and route with the other drivers involved. Decide ahead of time which driver will be lead bus (usually, the driver most familiar with the destination). Before setting out, discuss the details of the trip, such as when to take breaks, etc., with the other drivers as well as with the teachers and chaperones going along.

Do not rely on the team leader for arriving at the location. Every driver should have directions to the location. Trying to "keep up" with the lead bus can lead to unsafe acts like red light running, speeding to catch up and passing. Leaving more space than five seconds between vehicles will also give every driver a clear view of the road ahead.

Once on the road, maintain at least a five second following distance from the bus ahead of you. Unfortunately, many bus-bus accidents occur on field and activity trips, caused by bus drivers tailgating other buses. (In one embarrassing incident, five buses on a field trip collided end-to-end in a single chain reaction.) School bus convoys are not exempt from the dangers of tailgating.

When driving at night on a highway, do not stare directly into the headlights of oncoming vehicles. Keep your eyes directed slightly to the side of the road as you pass approaching vehicles. Headlight glare can blind you for several seconds. A dirty windshield – inside or out – makes glare worse. (Do not wear sunglasses in an attempt to reduce glare at night; sunglasses reduce night vision in general and are dangerous.) Headlight glare from vehicles behind your bus can also be a problem. Adjusting your driving mirrors slightly before driving at night so glare isn't reflected directly into your eyes may help.

9.3.4 Breakdowns on highways. A breakdown on a highway can be challenging. Do everything you can to get your bus well off the roadway. If possible, drive to the next rest area before stopping. If you can't make it to a rest area, pull as far to the right on the shoulder as you can. Activate your 4-way flashers at once. Shut off and secure the bus. Radio for help or use a cell phone to call 911. Stay calm and reassure the students that everything will be okay. Ask a chaperone, coach, teacher, or Good Samaritan to place the reflector triangles approximately a football field's length behind your bus.

9.4 Hills

9.4.1 Braking on hills. Proper brake use is critically important on hills and downgrades. Improper braking technique could result in overheating the brakes or depleting the air (in an air brake system), leading to a loss of control.

Correct brake use is especially important when your bus is loaded to capacity. A full load of students adds several tons to the weight of your bus. The added mass puts even more stress on your brakes on steep hills.

Utilize the following techniques to ensure safe braking on hills and downgrades:

- The importance of a careful pre-trip inspection of your braking system cannot be overstated. Brakes are even more important on routes or trips traversing steep downgrades. An air leak that was overlooked because of a cursory pre-trip could result in a catastrophic brake failure on a hill later that morning. (Although modern air brake systems include a spring- activated emergency brake in case of an air leak, emergency brakes can overheat and fail on a steep hill. Regardless of how well designed, no braking system is fail-safe.)
- Slow down *before* starting down a steep grade. The faster you're going as you start down the hill, the harder your brakes will need to work to maintain a safe speed, and the quicker they will heat up. Overheated brakes can easily "fade" (lose their braking efficiency) or fail altogether.

The faster you're going as you start down a hill, the harder your brakes will need to work to maintain a safe speed, and the quicker they will heat up.

- Strictly observe posted speed warnings before downgrades. Speed warnings for trucks also apply to school buses.
- Use your transmission to help control speed on hills. In a standard transmission vehicle, downshift *before* going over the crest of the hill. Avoid downshifting on the hill; if you can't get it into gear, you could lose control. Some automatic transmissions can also be manually downshifted before a steep grade. To protect the equipment, modern automatic transmissions are designed to upshift on their own if the RPM limit is exceeded, even if you've manually shifted into a lower gear. Whether in a standard or automatic transmission vehicle, using a lower gear on a hill is only effective if you also keep your speed down through proper intermittent braking.
- If your bus is equipped with a supplemental engine brake, use it on hills. (There are many different types of engine brakes. Some types are called exhaust brakes or "jake brakes.") Most engine brake systems are activated by a simple "on-off" switch. Engine brakes reduce wear and stress on the service brakes. They are very effective on hills, but you must still use the service brakes properly to maintain a safe speed through intermittent braking. When the engine brake is engaged, keep an eye on the tachometer to avoid exceeding the RPM limit for your unit. If you have questions about how the engine brake works on any bus, ask your supervisor or Head Mechanic for advice.
- Keep your bus under control and maintain a safe speed on the hill through intermittent braking. Intermittent braking means using the service (foot) brake to slow down approximately 5 mph <u>below</u> a safe speed that allows full vehicle control for that degree of grade. Once you're approximately 5 mph below safe speed, release the service brake for several seconds, just long enough to resume safe speed again. Release the service brake completely for this short period, but do not let your bus exceed a safe, controllable speed at any time. Applying and releasing your service brakes intermittently helps prevent overheating. (However, avoid rapid, repeated pumping of the service brakes. In an air brake system, you could deplete the air faster than the compressor can replenish it.)

Keep your bus under control and maintain a safe speed on hills through intermittent braking.

9.4.2 Bus stops on hills. Bus stops on steep hills pose special safety concerns.

- Try to predict problems that other motorists will have handling the hill. An inattentive or incompetent motorist

could slide past your stopped bus. Training your students about exactly what the "universal horn danger signal" means is even more important.

- Starting up again from a dead stop on a very steep hill without rolling back can be challenging. Use the spring brake, not the service brake. (This procedure works on both automatic transmission and standard transmission buses.) Release the spring brake just as you apply power to the accelerator pedal. It may take a little practice to learn how to pull off this technique smoothly. Ask your supervisor or a trainer to go out with you on a practice run on a local hill.

9.4.3 Slippery conditions. In severe winter weather, assess the condition of a hill before starting down or up. If it hasn't been plowed, or freezing rain is covering the surface, it may not be safe for a school bus. If you don't think it's safe, don't attempt it. If you see other vehicles struggling to negotiate the hill, or already stuck on it, don't try it. Contact base by radio and let them know the situation. Local highway departments respond quickly to any school bus-related road problem. It's better to wait for help and be a little late to school than slide off the road. Student safety is always the priority.

If you've already started down a hill when you realize it's slippery, stay calm. Activate your 4-way flashers. If there's a safe spot to pull off the road until it can be plowed or sanded, wait there. (Let your dispatcher know what you're doing.)

As a new school bus driver, make it a priority to get to know the hills and downgrades in your school district.

If there's no alternative and you must continue down a slippery grade, go as slowly as you can, but avoid over-braking. (In a panic, untrained motorists often try to "push the brake pedal through the floor" in slippery conditions.) Locking up the brakes can put any vehicle into a slide. Creeping slowly by "feathering" the service brake (applying just enough pressure on the brake pedal to slow the vehicle without locking the wheels) is usually the best technique for maintaining control in slippery road conditions.

9.4.4 Know your hills. As a new school bus driver, make it a priority to get to know the hills and downgrades in your school district. Ask your supervisor or SBDI about them. Take a ride with a veteran driver to learn where they are located and any specific safety tips they've learned over the years.

9.5 Railroad Crossings

9.5.1 Understanding the danger. Railroad crossings are dangerous. Nationally, several hundred motorists are killed every year when their vehicles are struck by trains at grade crossings. (Many of these fatalities occur because motorists ignore warning devices and illegally drive around lowered crossing gates!)

The worst school bus accident in our state's history was the result of a train striking a school bus. The tragedy occurred on March 24, 1972, in Congers, New York. Five

children were killed and many were seriously injured. The bus driver did not stop for the tracks.

The Congers tragedy shook up our entire state, resulting in many new laws and training requirements for school bus drivers. This *Pre-Service Course*, for instance, was first required in response to the Congers accident. But railroad crossings are still dangerous. Many other school bus-train tragedies have occurred across the country since Congers. Close calls have continued to occur in our state.

No vehicle – including a school bus – is a match for the massive force of a train. Even a low speed train can demolish a bus.

The closing speed of an approaching train is hard to gauge. High speed trains now crisscross our state. View obstructions and other challenging physical features and traffic patterns are present at many grade crossings. As a new school bus driver, you must take railroad crossing dangers seriously.

9.5.2 Railroad crossing safety procedures. Every railroad crossing is unique to some degree, with its own set of challenges for school bus drivers. Train speed, warning devices, number of tracks, traffic speed, roadway configuration, visibility down the tracks, etc., vary greatly. Any unusual features of a crossing need to be taken into account, but the following procedures represent the fundamentals of crossing tracks safely, and should always be followed:

When you turn on your 4-way flashers as you approach a railroad crossing, turn off the master flasher switch at the same time. Linking the two steps together makes it less likely you'll forget one.

1. *Prepare early for the stop ahead*. Watch carefully for railroad warning signs ("crossbucks") indicating a crossing ahead. As soon as you know you're approaching a crossing, begin monitoring traffic behind your bus. Inattentive motorists might not realize you're going to stop for tracks. Activate your 4-way flashers early enough to alert other motorists – a good rule of thumb is at the first crossbuck sign. When you turn on your 4-way flashers, turn off the master flasher switch at the same time. Linking the two steps together makes it less likely you'll forget one. If necessary to alert motorists behind you, tap the brake pedal lightly to flash your brake lights. (Do not activate student flashers approaching or at railroad tracks.) As you get closer to the tracks, prepare for the stop by reminding passengers to be quiet, opening the driver window, and turning off all noise-making equipment such as heaters, am/fm radio, and fans. (Some buses are equipped with a "noise kill" switch which allows you to turn off all noise-making equipment at once.)

2. *Stop before the tracks.* School buses must stop at all railroad tracks with or without passengers on board, with only three exceptions: if a police officer at the crossing

directs you to proceed; if the crossing is posted as "Exempt"; or if a traffic light at the crossing is green. Small school buses such as vans and school cars must stop at tracks, just like full-sized yellow school buses. By law, you must stop at least 15' from the nearest rail, but no further than 50'. Some crossings have a stop line painted across the road telling you where to stop. On multilane roads, stop in the right lane – it's easier for other vehicles that don't have to stop to go around you. Secure your bus with the parking or spring brake once you're stopped.

3. *Check for trains.* Once stopped, open the passenger door. (Leave your 4-way flashers on while checking for trains, but make sure your red student flashers are not activated.) With passenger door and driver window open, look and listen carefully for trains. Look left, right, and left again. Move actively in the driver's seat so you can "look around" view obstructions on your bus or outside. At crossings with multiple tracks, check each track carefully. Make sure there's adequate room on the other side of the tracks for your bus to be entirely clear after crossing. If other vehicles are lined up directly across the tracks and you're not sure there's enough room for your bus, wait. If you can't see a train or hear a train whistle, carefully check all warning devices at the tracks before starting across. Typical warning devices are a combination of red lights and bells. Warning devices are designed to tell you a train is 20 seconds away from the crossing. If the bells begin to ring or the red lights start flashing, stay put – do not start across the tracks. Never try to beat a train.

4. *Cross the tracks.* Once you're certain no train is approaching, cross the tracks. Crossings can be bumpy, but get across the tracks as quickly as you can. If you are driving a bus with a standard transmission, do not shift while crossing the tracks. With an automatic transmission, leave the bus in "Drive" just as you would whenever you resume forward motion. After crossing the tracks, leave your 4-way flashers on until your bus is again traveling at normal road speed for that stretch of roadway. Re-arm the master flasher switch at the same time you turn off the 4-way flashers – there's less chance of forgetting if you do them both at the same time.

Ask other drivers or your supervisor about railroad crossings you will encounter on trips to unfamiliar areas.

9.5.3 Malfunctioning signals. If warning flashers at the crossing are activated and/or the gate is lowered, but no train arrives even after several minutes, do not proceed across the tracks, even if other vehicles are doing just that or even if you can see the train stopped at a distance from the crossing.

Contact base by radio and inform them of the situation. Usually, a police officer will be dispatched to the scene to escort your bus across the tracks. Never go around lowered crossing gates – it's against the law and very dangerous. Even if you make it safely, you could lose your job.

9.5.4 Railroad crossings on trips. On trips out of the district to areas you aren't familiar with, ask other drivers or your supervisor about crossings you will encounter. Stay alert whenever driving in unfamiliar areas – you could suddenly come up on a set of tracks. Teach yourself to systematically read all

warning signs – it's one sign of a professional driver.

9.6 Hazardous Intersections

9.6.1 Intersections are dangerous. Approximately half of all traffic accidents occur in intersections. Intersections are dangerous because vehicles and other roadway users are often approaching from several directions.

Violations of basic traffic laws at intersections are commonplace. Many motorists fail to make complete stops at stop signs. "Rolling stops" contribute to many intersection crashes, including school bus crashes. Some motorists are in the habit of accelerating instead of slowing down when they see a yellow traffic light ahead. "Red light runners" cause many serious intersection accidents.

School bus drivers must practice a consistently high level of defensive driving to avoid an intersection accident**:**

- Even if you have the right of way or a green light, slow down and be prepared to stop as you approach an intersection. "Cover the brake" – rest your foot lightly on the brake pedal to reduce reaction time as you enter the intersection.

Always "rock before you roll" into an intersection.

- Before you arrive at the intersection, search carefully for vehicles approaching on intersecting roadways. Always "rock before you roll" into an intersection – move actively in the driver's seat to see around view obstructions on your bus.
- If buildings, trees, billboards, or other physical objects block your view down one of the intersecting roadways, slow down even more. A speeding vehicle could suddenly emerge from the blind spot and into the intersection.
- Do not assume other vehicles will stop for stop signs or red lights. Defensive driving means preventing accidents that could be caused by the unsafe actions of other motorists.
- Never accelerate when you see a yellow traffic light or "stale" green traffic light ahead (a traffic light that's been green for several seconds is considered "stale" because it's due to cycle through to yellow). Trying to "beat the light" is very dangerous. Slow down and prepare to stop.
- When stopped at a red light, wait 2-3 seconds before entering the intersection once your light turns green. Be alert for a "red light runner" on the intersecting roadway.

9.6.2 Know your area. All intersections are potentially dangerous, but some are more challenging than others. Roadway configuration, view obstructions, traffic controls, traffic density and speed, and accident history vary greatly from intersection to intersection.

Learn about the most dangerous intersections in your area. Talk with experienced school bus drivers about what they do to prevent an accident at challenging intersections in your school district.

9.7 Know Your Turnarounds

9.7.1 Safety procedures at turnarounds. Most school districts utilize turnarounds on at least some routes. Turnarounds are usually located at the end of a route or the edge of the district. Turnarounds save school districts significant amounts of money over the course of the school year by cutting miles off routes

Turnarounds vary greatly, from well-maintained pull-offs that are big enough to swing a bus around without backing, to narrow lanes requiring expert backing skills.

Because of the presence of children, turnarounds at or near bus stops are of special concern. In the morning, always load children before backing at a turnaround, and discharge them after backing on the afternoon run.

If you must back up at a turnaround, follow these safety procedures:

- Scan the area carefully before backing. Are any unusual hazards present? Any signs of children in the area?
- Position your bus to maximize your view of the turnaround before and during backing. Pick a distinctive object along the perimeter of the turnaround (a sign, large tree, boulder, fence, etc.). Before backing, find the object in your driving mirror, and use it as a reference point to orient yourself as you back.
- Activate 4-ways before backing. If you must back into a turnaround from the road, activate the 4-ways as you pull up and position your bus. Be aware of other vehicles approaching on the road as you begin to back.
- Always honk and pause before backing - "just in case."

Before backing, pick a distinctive object along the edge of the turnaround – find it in your driving mirror and use it as a reference point as you back.

- If you have a bus attendant on board, he or she should be a "spotter" from the inside rear of your bus. Make sure you can hear each other before you start to back up. An older, reliable student can also spot for you from the inside rear of the bus. As the driver, you are still responsible for avoiding an accident, but a second set of eyes always enhances safety when you must back up.
- Back only as far as necessary to turn the bus around. Often, going back a few feet gives you the room to make the turn and pull back on the road. Don't back up any further than you need to. The greater the distance you back up the bus, the more chance there is of running into something.
- In snowy weather, take special care at turnarounds. Be sure you know where the edge of the turnaround is. Use a known reference point to orient your bus and prevent backing off the turnaround. Marking the edge of a turnaround with reflectors on poles can be helpful in the winter.
- Hunters, hikers, snowmobilers, and other outdoor enthusiasts sometimes park their vehicles in turnarounds in isolated rural areas. Farmers or work

crews may leave equipment in turnarounds. If a turnaround is blocked, you will need to find an alternate site to turn around that day, or may need to go around the block – even if it's a very long block. Report the problem to your supervisor.

- All turnarounds should be approved by the transportation office.

9.7.2 Local turnarounds. New drivers often start out as substitutes. Because turnarounds can be so challenging, a concerted effort should be made to familiarize subs with the turnarounds on every route. Ask your supervisor, router, or SBDI to go over the district's turnarounds with you. Ride with experienced drivers to learn how they handle challenging turnarounds.

9.8 Local Weather Awareness

9.8.1 Regional weather. Severe weather can occur anywhere, but weather patterns vary greatly across our state. Be aware of the type of severe weather most likely in your region, and learn what specific locations are most likely to be effected by it.

9.8.2 Snow and ice. Snow is the most common type of severe weather likely to be encountered by school bus drivers across the state. Many areas experience heavy snowfall at various times throughout the winter. Areas in the "lake effect" belt downwind from the Great Lakes are usually the hardest hit, but snowstorms can strike any region of the state.

Any snowfall can make the roads slippery. Increased stopping distance and the potential for going into a slide or spin when turning, braking, or accelerating, are recurring concerns on snowy roads. Hills that haven't been plowed yet may be impassable early in a

snowfall. If you're not sure you can make a hill safely, don't attempt it.

Motorists who don't know how to drive in snow are a common hazard. You must drive even more defensively than usual. Pedestrians may walk in the road instead of on snow-covered sidewalks. Foolhardy snowmobilers may fly across the road in front of your bus.

A combination of snow and wind often creates the most challenging driving conditions. Road crews struggle to keep roads clear in blowing snow. An unexpected snow drift could jolt a vehicle out of its lane. Blowing snow can make it tricky to know where the pavement ends. Learn the specific roadways in your district where blowing snow is often a problem. Slow down and stay alert as you approach wind-prone areas in snowy weather.

Whiteouts often occur in blizzard conditions – so much snow is being blown around that visibility is drastically reduced. Do not use your highbeams – they only reflect light back at you from the suspended snow, further reducing visibility.

In whiteout conditions, get well off the road into a known safe area such as a parking lot as soon as possible. Do not stop your bus in the roadway – you could be struck by another vehicle. Activate your 4-way flashers (and

strobe light, if your bus is equipped with one) and drive slowly enough that you can stay on the pavement until there's a safe spot to pull off the road. Think about the location of safe pull-off areas on your route ahead of time.

> A combination of snow and wind often creates the most challenging driving conditions – an unexpected snow drift can jolt a vehicle out of its lane.

Icy conditions are likely after roadways have been plowed and salted following a heavy snow. Certain sections of road are usually most prone to icing after a storm. Bridges often ice up when conditions are right. Learn where these ice-prone areas are ahead of time – ask your supervisor or an experienced driver.

"Black ice" is a thin layer of ice that may linger on stretches of roadway that are shaded or exposed to wind. Black ice is treacherous – it's nearly invisible and can take the inattentive driver by surprise. You can quickly lose control of your bus if you hit a patch of icy pavement going too fast. Black ice can be so slippery that even a gust of wind or a crown in the road can send your vehicle into a spin. Hitting the brakes once you're on a stretch of icy pavement usually makes things worse. Slow down early whenever icing is even a slight possibility.

Bus stops require special caution in snowy weather. In slippery conditions motorists may have difficulty stopping for children crossing the road. Children may slip getting on or off your bus. Insist that all children use the handrail, and keep bus steps free of ice and snow. Children may slide off a snowbank into the path of your bus as you approach their stop. They may wear thick hats that block their vision and hearing. As children get off the bus, scarves or mittens attached to a string can get tangled in the door or handrail.

Bus windows often steam up in wintry weather. Turn on defrosters and fans early, before children have boarded. Aim fans at the spots on the windshield, driver window, or passenger door most prone to steaming up. Opening a window or roof vent slightly may help reduce fogging. Ask students in the first row to keep their windows clear with paper towels. Keeping the front passenger windows clear is critical when crossing intersections or merging into traffic.

Make sure your student flashers and other lights aren't caked with snow in severe weather. Keep them clear with a broom.

If you become stuck on snow or ice, contact base by radio to get help headed your way. Activate 4-way flashers and keep children calm. Gentle, short, rocking can sometimes help regain forward motion, but avoid violent maneuvers that could dig you in deeper or

> Make sure your student flashers and other lights aren't caked with snow in severe weather.

result in your bus sliding off the pavement altogether. On some types of buses, disengaging "automatic traction control" may allow you to regain traction in deep snow. Ask your supervisor or Head Mechanic to explain how and when to turn off "automatic traction control".

Freezing rain is very dangerous. Watch for early signs of the transition from rain to freezing rain, such as icicles beginning to form under signs or guardrails. As the temperature drops below freezing, roadways can instantly become too slippery to drive on. Inattentive motorists can lose control and slide toward your bus.

Ice storms can bring down trees and wires. Except in emergencies such as a school-wide evacuation, buses should not be on the road in such dangerous conditions. If power goes out, traffic lights no longer control traffic. Be aware of intersections on your route that would be especially difficult in such a situation.

9.8.3 Heavy rain. Puddles from heavy rain create an ideal situation for hydroplaning. Hydroplaning means momentarily losing contact with the road surface. It is very dangerous. Even a thin film of standing water in the roadway can cause a vehicle traveling too fast to lose traction. Learn which stretches of roadway in your area are most likely to have standing water in heavy rain.

Large commercial vehicles – such as school buses – can hydroplane just like small cars. Slowing down is the only way to prevent hydroplaning. Be alert for other motorists who don't appreciate the risk and keep up their speed in heavy rain. Don't travel next to other vehicles in rainy conditions on multilane roads such as interstate highways. They could suddenly hydroplane and spin into your lane.

Low-lying areas may be prone to flooding after heavy rainfalls. Coastal flooding can occur during hurricanes. Learn which roads have experienced flooding in the past and approach those areas cautiously in heavy rain. Don't try to cross a flooded road even if the water appears shallow. It may be deeper than you realize and your vehicle could stall.

9.8.4 High winds. High winds can be dangerous. Trees and wires may come down. Large vehicles such as school buses are especially difficult to control in high winds. Slow down and be prepared to maintain vehicle control as you approach bridges and open areas when it's very windy.

Fog is very dangerous for school buses, especially at bus stops – other motorists may not see your bus. Learn the areas in your district that are most susceptible to fog.

9.8.5 Fog. Fog is very dangerous for school buses, especially when picking up or dropping off children. Other motorists may not see your bus. Learn the areas in your district that are most susceptible to fog. Ask your supervisor or SBDI. Activate 4-way flashers and strobe light in foggy conditions. In heavy fog, get off the road to a safe area. Radio base to let them know what you're doing.

9.8.6 Difficult light conditions. Whether at night on a field trip or on an early morning run at first light, low light driving presents many challenges for school bus drivers. Transitional periods such as twilight or as the sun comes up in the morning are often the most challenging. Low contrast objects can be difficult to pick out against the background in twilight conditions. It's easy to miss a pedestrian or jogger dressed in gray along the edge of the road. Compensate for challenging light conditions by driving slower.

Sun glare can be dangerous. A motorist heading directly into the sun may not see your stopped bus, or a child crossing the road to your bus. It's happened in our state.

Learn the areas on your route where morning or afternoon sun makes it difficult to see. With your supervisor's approval, it may be possible to change the route slightly so you're not headed right into the sun at the worst times.

Don't look directly into sun glare. (A dirty windshield, inside or out, makes glare worse.) Keep your eyes angled to the edge of the road. Drive slowly until you're not headed directly into the sun.

9.9 Unit 9 Review

Write down or circle the best answer(s).

1. TRUE or FALSE? *"If your bus is traveling at highway speed and you see a deer in the road ahead, the safest thing to do is swerve your bus to miss it."*

2. What should you do if instead of getting on at the assigned stop, a child crosses a dangerous road to board your bus a few minutes later on its way back to school?

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3. When students are on board, what is the maximum speed for a New York school bus?

_____

4. TRUE or FALSE? *"It is against the law to engage in distracting conversations with passengers."*

5. TRUE or FALSE? *"When the engine brake is engaged, you don't need to use the service brake on a steep hill."*

6. Fill in the blank: *"When you turn on the 4-way flashers approaching a railroad crossing, you should turn off the*

_____

at the same time."

7. What does "cover the brake" mean?

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8. What does "rock before you roll" mean?

a. *Moving actively in your driver's seat to see around view obstructions on the bus.*

b. *It's important to enjoy yourself the night before you take a long trip.*

c. Drive fast over bumps to reduce vehicle sway.

d. *None of the above.*

9. TRUE or FALSE? *"Before backing into a turnaround, pick a distinctive object near the edge of the turnaround and use it as a reference point as you back."*

10. TRUE or FALSE? *"Black ice is easy to spot."*

11. TRUE or FALSE? *"Large commercial vehicles are less prone to hydroplaning than small cars."*

12. TRUE or FALSE? *"On school grounds, children could be present anywhere at any time."*

UNIT 9 NOTES & QUESTIONS

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