

DECIDE SMART, ARRIVE SAFE

Highway-Rail Grade Crossing Training for School Bus Drivers

Presented by Operation Lifesaver, Inc. in cooperation with the
National Association of State Directors of Pupil Transportation Services

PROVIDED IN THE INTEREST OF SAFETY



INSTRUCTOR'S GUIDE



**OPERATION
LIFESAVER®**

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Instructor's Guide

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Introduction

TARGET AUDIENCE

The pupil transportation industry helped Operation Lifesaver develop this training video for school bus drivers and substitute drivers. This program is geared to increase driver awareness of the potential dangers at highway-rail grade crossings and to ensure the safety of their passengers and themselves. Several situations that resulted in tragedy are reviewed to help drivers learn to make smart decisions as they approach and cross highway-rail grade crossings.

OPERATION LIFESAVER, INC.

Decide Smart, Arrive Safe, developed in conjunction with the National Association of State Directors of Pupil Transportation Services, joins a number of training videos developed by Operation Lifesaver Inc. (OLI) to assist key audiences at risk for tragedy at rail crossings. Operation Lifesaver is a national, non-profit, public education program dedicated to ending collisions, deaths and injuries at highway-rail grade crossings and along railroad rights-of-way. All 49 continental United States and the District of Columbia have ongoing, statewide programs. To contact your state's Operation Lifesaver Coordinator, visit "contact us" at www.oli.org.

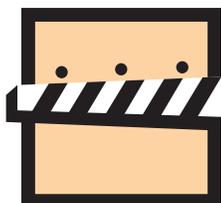
GOAL

Operation Lifesaver's goal is to eliminate collisions, injuries and fatalities at highway-rail crossings. By explaining the potential dangers that await school bus drivers at highway-rail grade crossings, Operation Lifesaver helps school bus drivers *Decide Smart, Arrive Safe*. The program reminds drivers that it is never safe to attempt to cross the tracks if a train is approaching.

Suggested Time Frame For Training Module 60 Minute Format

- Introduction..... 5 minutes
- Discussion..... 10 minutes
- Video18.5 minutes
- Study Material..... 10 minutes
- Safety Quiz 10 minutes
- Question & Answer..... 5 minutes

Select Discussion Points (Prior to Viewing Video)



1. Ask drivers about their driving experiences operating a school bus. What do they enjoy about their routes?
2. Do you know what to look for when you approach a crossing?
3. What are some of the stress factors in your job? How about railroad crossings?
4. What are some of the safety habits you practice onboard the bus?
5. Do you have a system for quieting the riders before you begin to cross the tracks?
6. Do you talk with your supervisor if there is an obstruction on your route that makes it difficult for you to see up and down the track?
7. Do you have an opportunity to check out your route before you drive young people on the route?
8. Discuss differences between rural and urban driving. Explore their present awareness of warning devices at highway-rail intersections.
 - a. What are the signs we refer to as PASSIVE signs.
 - b. Discuss the signs and their meaning for drivers.
 - c. What passive signs could you see at the railroad crossing?
 - Yield sign
 - Do Not Stop on Tracks sign
 - Tracks Out of Service sign
 - Exempt sign
 - d. What is an ACTIVE signal device at a railroad crossing? (Answer: Electronically powered equipment, including gates, lights and bells.)
9. As you are coming up to a crossing, how do you decide if there is enough room for your bus to fit on the other side? Can you tell me the meaning of "containment"?
 - a. How do you judge the length of your bus?
 - b. How do you know when you're safely over the tracks?
 - c. Do you have a method of estimating the amount of space on the other side of the tracks—where your bus will be going?
 - d. Do you calculate the width of the train when you figure the space?
 - e. What do you do when there is more than one set of tracks?
10. When you come up to a railroad crossing, who has the right of way? (The train) Why? The train can take a mile to stop—that's 18 football fields.
11. How do you judge the train's speed and distance from the crossing? (It is almost impossible. Don't risk a collision—wait!) How do you decide how much time you have to cross the tracks before the train arrives? Do you wait when you hear or see a train?
12. Over the last ten years, do you think rail traffic has increased or decreased? (Rail and vehicular traffic have increased, but vehicle-train collisions have declined over this period.)
13. Do freight trains follow a schedule or are they delivering products upon request? (Freight trains don't follow set schedules. Passenger train schedules change. Drivers must "Always Expect a Train.")

VIDEO NOTES

School bus drivers from urban Fairfax County, Virginia, and rural Dalton, Georgia, spent several days working with the film crew to show a variety of crossings and safety problems drivers may encounter. Share your concerns with your supervisor. If you have concerns about a particular crossing, look for the railroad's emergency notification number listed at or near the crossing to report the problem or notify local law enforcement. Provide the DOT crossing ID number (Alphabet letter plus 6 digits) when you call.

Five Alive Safety Drill

CROSSING A HIGHWAY-RAIL GRADE CROSSING

STEP 1 Approach with Care



Slow Down

STEP 2 Alert Students for Quiet



a Turn off Radio & Fan b Listen for a Train

STEP 3 Stop No Closer than 15 Feet from the Crossing



a Open Windows and Doors
b Look Both Ways Carefully
c Look and Listen for the Train



a If necessary, Rock Back and Forth to see around pillars, posts, buildings, trees, etc.

STEP 4 Double Take - Look Again in Both Directions



STEP 5 GO! Cross with Care



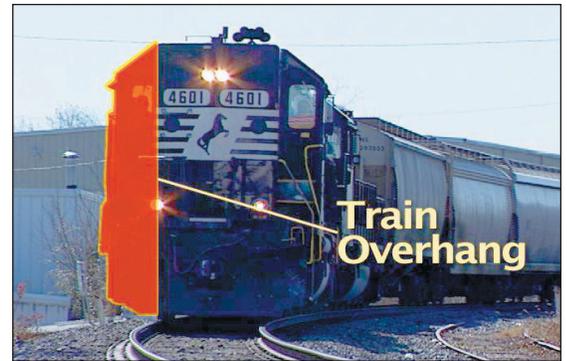
Do Not Switch Gears While Crossing

Review Procedures at Highway-Rail Crossings

- Check for traffic around you before you start to move at a crossing. Use a pull-out lane if one is available. Turn on your flashers in traffic, if necessary.
- Choose an escape route for your vehicle in the event of a brake failure or traffic tie-ups in front or behind you. Plan this so you can get off the crossing before the train arrives.
- While slowing or stopped, look and listen carefully in each direction for approaching trains. Move your head and shoulders to see around obstructions, like mirrors, windshields and pillars.
- If you drive a regular route, learn the locations of the highway-rail grade crossings on it and what you need to look out for.
- When coming up to a crossing, tap your brakes to warn cars behind you that you will be stopping the bus.

BEFORE RESUMING TRAVEL

- Make sure there is enough room on the other side of the track for your whole vehicle.
- Look beyond the tracks to see if there is traffic congestion, or a signal or STOP signal at a highway-intersection up ahead. Is the space large enough for you to completely clear the crossing? Allow for your vehicle's overhang and remember the train's 3-foot overhang. For safety, plan a distance of 15 feet between the tracks and your back bumper.



- If the flashing red lights at the grade crossing begin to flash after you have started over the track, KEEP GOING!
- DO NOT start to cross AFTER the lights at the crossing begin to flash.
- Check the crossing signals one final time before proceeding.

Signs and Signals at Highway-Rail Grade Crossings

PASSIVE SIGNS AT RAILROAD CROSSINGS

Passive signs and **active traffic control devices** are installed along the roads near the railroad tracks to regulate, warn and guide traffic. They alert drivers to the presence of railroad tracks and to the possibility of an approaching train. These signs and signal devices also provide a safety message and remind the driver of the laws regarding highway-rail grade crossings. What follows is a list of various signs and devices that you will see in connection with highway-rail grade crossings.

1. The **CROSSBUCK** sign is the most common sign at public highway-rail intersections. It has two crossed white boards with the words railroad crossing. It marks the crossing and should be considered the same as a YIELD sign.



If there is more than one track, a sign below the Crossbuck indicates the number of tracks present. After one train has passed, wait, look and listen for another train coming from either direction.

Take extra care at passive crossings (marked with a Crossbuck). **Always expect a train!**

2. The **STOP** and **YIELD** signs mean the same as they do at highway intersections. A driver must always stop at the STOP sign in advance of the railroad track. Every driver must YIELD the right of way to a train.
3. The **DO NOT STOP ON THE TRACKS** sign reminds the driver not to stop on the railroad track for any reason.
4. The **TRACKS OUT OF SERVICE** sign tells the driver trains no longer travel these tracks. It is not necessary to stop at these crossings.



5. The **EXEMPT** crossing sign placed below the crossbuck informs drivers of school buses carrying children that a stop is not required, except when a train is approaching or occupying the crossing, or the driver's view down the tracks is blocked.



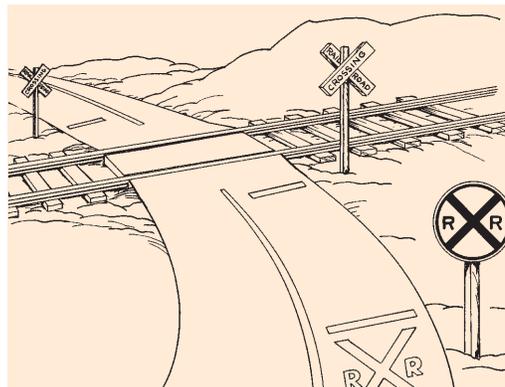
SIGNS IN ADVANCE OF RAILROAD CROSSINGS

These signs warn the motorist that the road ahead crosses the railroad track.

1. Yellow circular **ADVANCE WARNING** sign warns drivers that the road crosses a railroad ahead. It reminds the driver to slow down, look and listen for a train and be prepared to stop if a train is sign approaching.
2. **PAVEMENT MARKINGS** on paved roads near the yellow circular Advance Warning sign also alert drivers that the road crosses railroad tracks ahead.

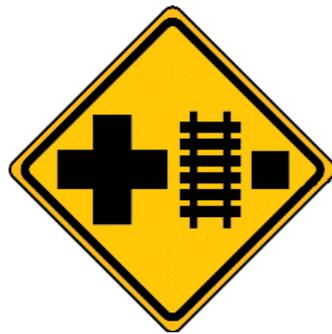


3. A **STOP LINE** may be painted across the lane on paved roads and identifies the safe place to stop while looking and listening for an approaching train.



Signs and Devices at Highway-Rail Grade Crossings (Cont'd)

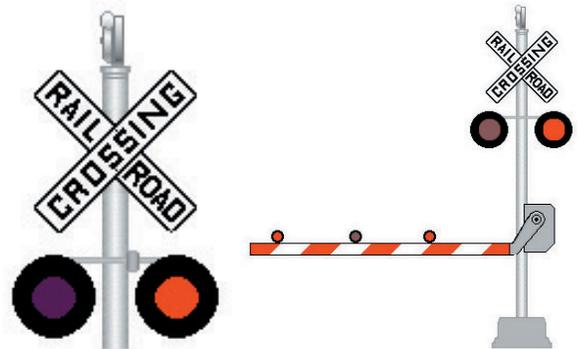
4. The **DRIVER MUST STOP THE BUS BEFORE THE CROSSBUCK** sign or signal at the crossing. On gravel roads there are no pavement markings or Stop Lines. The Stop Lines on each side of a single track grade crossing are at least 35 feet apart. Do not stop within this area. Drivers should remember to apply the emergency or parking brakes while waiting at the Stop Line so they won't move or be shoved into the path of the train.
5. The yellow diamond **PARALLEL TRACK** sign identifies highway-rail grade crossings that appear immediately after making either a right or a left turn.



ACTIVE SIGNAL DEVICES AT RAILROAD CROSSINGS

These are electrically powered devices that warn of an approaching train.

1. **Flashing Red Lights**—with or without bells—warn of an approaching train. When the red lights are flashing, a train is approaching. Stop and wait for the train to pass, then proceed when it is clearly safe to do so. Know the regulations in the state where you operate.



2. **Flashing Red Lights**—with bells and gates—warn that a train is approaching. It is illegal to go around lowered gates.

Special Procedures

POLICE OFFICER OR FLAGMAN AT THE CROSSING

If a police officer or properly-identified railroad flagman is present at the crossing, obey directions. If there is no flagman, and you believe the signals are malfunctioning, do not proceed. Look for an emergency notification at or near the crossing to report the situation to the railroad or contact local law enforcement. Then find another route.

OBSTRUCTED VIEW OF TRACKS

Plan your route so it provides an adequate sight distance down the tracks in both directions at highway-rail grade crossings. Do not attempt to cross the tracks unless you can be sure no trains are approaching. Be especially careful at passive crossings (those without gates, flashing lights, bells).

STORAGE AREAS

If it won't fit, don't commit. Each driver needs to know the length of their bus and the size of the storage or containment area on the other side of the crossing. When approaching a crossing with a traffic light or stop sign on the far side, be sure there is enough room to proceed to avoid hanging over the tracks. You must look ahead and use your judgment. If there is any doubt about the storage space necessary to completely clear the tracks, don't start across. Remember, the train will be 3 feet wider than the rails on both sides.

WATCH YOUR OVERHANG

Know the length of your vehicle and allow for your vehicle's overhang as well. While the wheels of the bus may have crossed the track, many drivers don't realize that their back end could still be hanging over the tracks. Many times a crash could be avoided if it weren't for the last few feet.

PLAN AHEAD FOR AN EMERGENCY EVACUATION

If your bus stalls or is trapped on the tracks or you are required to evacuate your bus for any reason, review these steps (follow the program established by your School District),

- 1. Scout the Crossings on your route.**
Know the safest location to take your students in the event of a crisis at any crossing on your route.
- 2. Plan how you would evacuate your bus.**
- 3. Get the students out quickly, without panic.**
- 4. Once students are safely evacuated, call your dispatch.**
Ask your dispatch to call the railroad, using the emergency notification number posted at or near the crossing.

Real Incidents - Lessons Learned

FOX RIVER GROVE, IL 1995

Containment or Storage Problem

This is a multiple-track crossing with gates and lights in an urban community outside Chicago. The school bus driver pulled across the tracks and stopped for a red highway traffic signal. Unfortunately, the driver did not realize there was not enough room for the entire bus to fit safely on the other side of the tracks.

Three feet of the bus overhung the crossing when a commuter train arrived. A radio playing above the head of the driver prevented the warnings from students at the back of the bus from reaching the driver. Seven students on the bus were killed in the collision.

How a Driver can Avoid this Collision

1. **Know the length of your bus.** Check your reference points to determine if your bus will fit. For safety, add 15 feet between your back bumper and the crossing.
2. **Quiet your bus**—hit the noise suppression switch or turn off the fans and radio and ask the students for silence—before crossing. This will give you a moment to focus and to make a safe decision.
3. **Do a double take** just before you cross the tracks. This will give you the latest information at the crossing before you move your bus.

BUFFALO, MT 1998

This rural crossing with a crossbuck in a Montana farming community has clear vision in all directions. Two brothers died when the school bus collided with a freight train. The driver was interrupted by a student asking a question and did not check the crossing again before moving the bus.

How a Driver can Avoid this Collision

1. **Quiet your bus** as you approach the crossing. Talk with your students at the beginning of the school year. Explain why you can not interact with them while you are driving, particularly at the crossings, when full attention is required.
2. If for any reason you are interrupted as you do your **Five Alive Drill** before crossing the tracks, start over and review ALL steps. Make sure nothing has changed at the crossing.

CONASAUGA, TN 2000

Failure to Stop at a Crossbuck

The school bus driver at the Tennessee/Georgia line was caught on camera failing to stop at this crossbuck. A freight train hit the school bus killing three children and severely injuring the driver's daughter.

How a Driver can Avoid this Collision

1. Remember the crossbuck sign requires school bus drivers to **STOP at the crossing.**
2. **Check carefully** at the crossing, following the entire "Five Alive" Drill.
3. Just before you cross, **do a quick double take** in both directions. Listen carefully for a train's horn before you move your bus across.
4. Always Expect a Train!

SAVANNAH, GA 2005

Instructing Student to Leave the Bus to Lift a Railroad Gate

Four students were instructed to leave the bus to lift a gate. The driver believed the gate malfunctioned and did not want to turn around. The students attempted to lift the gate, then walked over active tracks to their bus moments before a train came through. A parent who viewed the incident said the students barely escaped death. Both the driver who sent the students from the bus to lift the gate and another bus driver who drove a school bus around the gates were fired by the Savannah School District.

How a Driver can Avoid a Tragedy

1. **Never send students out of the bus** unless you are evacuating it and lead the students yourself. Never cross live tracks with students on foot if you are required to evacuate your bus.
2. Look for the emergency notification number at or near the crossing. **Call your dispatch** or local law enforcement if you believe the crossing gate is malfunctioning.
3. Call the 800 number for the railroad listed on or at the crossing to **report the downed gate.**

Answers to School Bus Driver Safety Quiz

1. **c** 18 football fields = average stopping distance of freight train
2. **d** Know the length of your bus. Add an extra 15 feet for safety!
3. **c** An optical illusion makes the train appear slower and farther away. If you see an approaching train, wait
4. **b** Slow down and prepare to stop.
5. **d** All of the above.
6. **d** All of the above.
7. **FALSE.** Trains always have the right-of-way at highway-rail crossings. The laws of physics make it impossible for a train to stop quickly enough to prevent a collision.
8. **TRUE.** A highway-rail grade crossing is marked with a crossbuck sign, which should be considered the same as a YIELD sign.
9. **TRUE.** A STOP sign at a highway-rail grade crossing means the same as a STOP sign at any other highway intersection.
10. **TRUE.** A number posted below a crossbuck sign indicates how many train tracks cross at that highway-rail intersection.
11. **TRUE.** Lowered gates and flashing red lights mean a train is approaching. Do not cross!
12. **FALSE.** When there is more than one set of tracks, another train could be approaching from either direction, hidden by the first train.
13. **TRUE.** If the bus stalls, evacuate the students immediately. Look for an emergency notification number posted near the crossing. Call it to report the problem to the railroad or notify local law enforcement.
14. **TRUE.** Do not stop, even if it means the bus will break the gate.
15. **FALSE.** By the time the locomotive engineer can see a school bus on the tracks, it is too late to be able to avoid a collision. Trains cannot stop quickly, even after applying emergency brakes.
16. **TRUE.** School bus drivers are required to stop the vehicle no closer than 15 feet from the nearest rail.
17. **TRUE.** Most states and communities require school bus drivers to stop at the crossing whether or not students are on the bus.
18. **TRUE.** States may have more stringent laws than the federal government. Learn the laws in your state from your school bus trainer.

U. S. STATISTICS

You will find the most recent vehicle-train and pedestrian-train incident statistics at the Operation Lifesaver website: www.oli.org . These are based on updates from the Federal Railroad Administration.

TRAIN FACTS

- Stopping distance = 1 mile or more at 55 mph
- Trains have no steering wheel = trains cannot swerve
- Trains are heavier. 400 loaded school buses = 1 average train (12 million pounds or 6 million tons)

RESOURCES

Operation Lifesaver, Inc.
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1-800-537-6224
www.oli.org

Federal Railroad Administration
Department of Transportation
Office of Safety
Washington, DC 20590
www.fra.dot.gov

Federal Highway Administration
Office of Highway Safety
Washington, DC 20590
www.fhwa.dot.gov

Federal Transit Administration
Office of Technology
Washington, DC 20596
www.fta.dot.gov

National Highway Traffic Safety Administration
Office of Traffic Safety
Washington, DC 20590
www.nhtsa.dot.gov

National Association of State Directors of Pupil Transportation Services
6298 Rock Hill Road
The Plains, VA 20198-1916
1-540-253-5520
www.nasdppts.org

National Association for Pupil Transportation
1840 Western Avenue
Albany, NY 12203
1-800-989-6278
www.napt.org

National School Transportation Association
113 South West St., 4th Floor
Alexandria, VA 22314
703-684-3200
www.yellowbuses.org

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