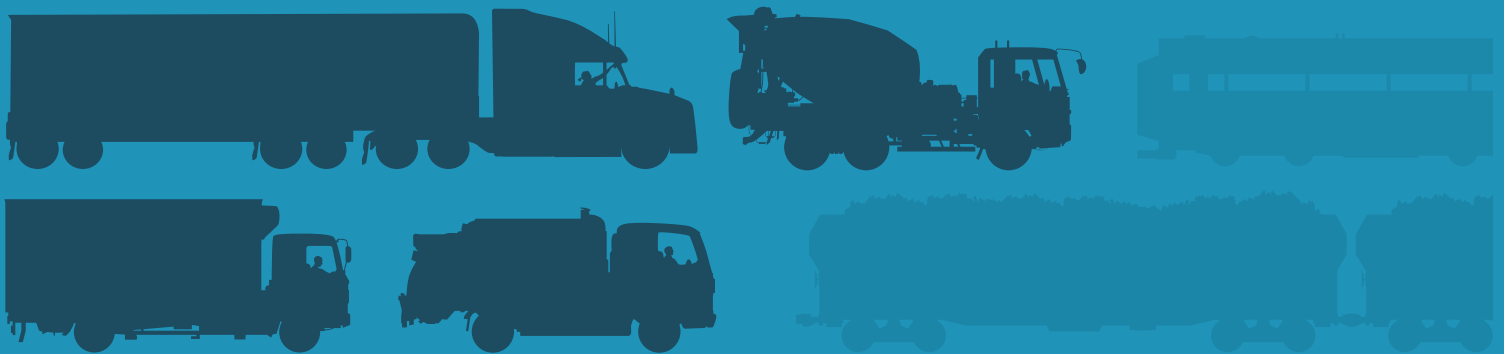


INSTRUCTOR'S GUIDE

# Alive and Truckin'

Highway-Railway Crossing Awareness Training for Professional Truck Drivers



OPERATION  
LIFESAVER

## WHAT WE DO

Operation Lifesaver is a nationwide, non-profit public information and education organization dedicated to eliminating collisions, injuries, and fatalities at highway-railway crossings and from trespassing on railway rights-of-way. The program provides information to professional truck drivers, school bus drivers, motor coach and transit drivers, emergency responders, and the general public.

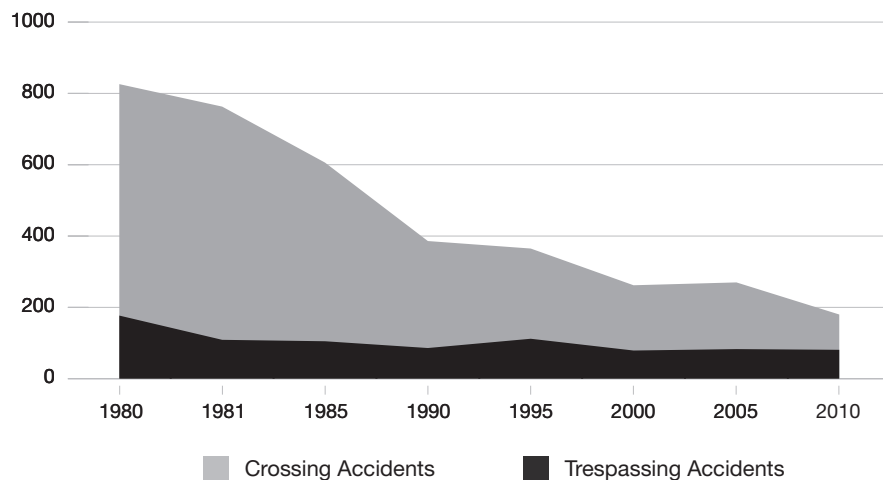
## WHO WE ARE

Operation Lifesaver is a partnership initiative of the Railway Association of Canada and Transport Canada and works in cooperation with the rail industry, government, police, unions, and many public organizations and community groups.

## WHY WE DO IT

The program has contributed significantly to a more than 75 percent reduction in train/vehicle collisions and casualties since 1981, despite a nationwide increase in train and vehicle traffic.

## PROOF IT WORKS



## MORE RESOURCES

For additional learning materials and access to supplementary videos and audio recordings, visit [www.operationlifesaver.ca](http://www.operationlifesaver.ca).



# TABLE OF CONTENTS

<b>INTRODUCTION</b> .....	<b>1</b>
NEED TO KNOW	
TARGET AUDIENCE	
GOALS	
TOOLS	
<b>PRESCREENING DISCUSSION TOPICS</b> .....	<b>2</b>
<b>STUDENT STUDY MATERIALS</b> .....	<b>3</b>
<b>WARNING SIGNS AND DEVICES</b>	
Passive Signs/Pavement Markings in Advance of Highway-Railway Crossings	
Active Signs in Advance of Highway-Railway Crossings	
Passive Signs/Pavement Markings at Highway-Railway Crossings	
Active Devices at Highway-Railway Crossings	
<b>RECOMMENDED PROCEDURES AT HIGHWAY-RAILWAY CROSSINGS</b> .....	<b>6</b>
Resuming Travel	
If Planning to Stop at Highway-Railway Crossings	
Penalties	
Other Considerations	
Reporting Hazards	
Crossbuck Safety Drill	
<b>TRAIN FACTS</b> .....	<b>9</b>
<b>HIGHWAY-RAILWAY CROSSING FACTS</b> .....	<b>9</b>
<b>SAFETY QUIZ ANSWER KEY</b> .....	<b>10</b>
<b>MORE INFORMATION</b> .....	<b>11</b>





# INTRODUCTION

## NEED TO KNOW

- Highway-railway crossings are intersections where the road crosses the railway tracks.

## TARGET AUDIENCE

- Professional truck drivers.

## GOALS

- Illustrate the potential dangers that await truck drivers at highway-railway crossings.
- Teach truck drivers important safety tips to follow to help them avoid tragedies at highway-railway crossings.
- Reduce truck-train collisions by sharing safety materials with truck drivers.

## TOOLS

- **Instructor’s Manual & Student Notes:** these materials will help you to prepare truck drivers to successfully navigate the potential dangers at railway crossings.
- **Video, “Alive and Truckin”:** teaches truck drivers safety tips to follow at highway-railway crossings.
- **Safety Quiz:** 24 questions based on the Video and Student Notes: 11 multiple choice questions, 13 true or false.
- **Website:** [www.operationlifesaver.ca](http://www.operationlifesaver.ca) for additional learning materials, including access to supplementary videos and audio material.



### Recommended Time Frame For Training Module (using a 60-minute format)

- Introduction ..... 5 minutes
- Discussion ..... 15 minutes
- Video ..... 10 minutes
- Student Study Material..... 15 minutes
- Safety Quiz ..... 10 minutes
- Question & Answer Period ..... 5 minutes



*The primary contributing cause of vehicle-train collisions is **driver error**.*

# PRESCREENING DISCUSSION TOPICS

*Before viewing the video, engage students in discussion using the following topic suggestions:*

- 1** Have the class describe their everyday driving experiences.
  - How well do they know their territory?
  - How well do they observe unfamiliar roads?
  - What are their everyday driving stresses and expectations?
  - What are their present safety habits?
  - What decisions must they make while driving?
  - Have they ever thought about the consequences of ignoring crossing gates and lights?
- 2** Discuss the differences between urban and rural driving.
  - Do they see any differences in highway-railway crossings in the two environments?
- 3** Explore the drivers' present recognition of highway-railway crossing warning devices and their meaning.
  - Review the list of signs and devices, located on page 3 of these Instructor Materials and page 2 of the Student Notes and visit the Operation Lifesaver website for additional information: <http://www.operationlifesaver.ca/facts-and-stats/signs-and-devices/>.
- 4** Discuss how trucks interact with highway-railway crossings in various situations. Give examples.
- 5** Discuss clearance issues for large trucks.
  - Do they know the size of their truck?
  - How do they approach more than one set of tracks with signals on the other side of the crossing?
  - How do they approach crossings with two or more sets of tracks in close proximity?
- 6** Ask what they would do if a gate lowers, trapping them on the tracks.
- 7** Have they ever personally tried to "beat the train"? Have they ever taken their truck around the gates? (Answers don't need to be out loud).
- 8** Can they distinguish how trains differ from other vehicular traffic?
  - Remind them that they must always yield to a train because trains travel too quickly to stop for any vehicle.
- 9** Can they judge the speed of a train or tell how far away the train is as it approaches the crossing?
- 10** Truck drivers can "Always Expect a Train".
  - Remind drivers that train traffic has been steadily increasing in the last ten years.
  - Inform them that trains have irregular schedules: freight trains do not travel on schedule, and passenger trains change schedules.





# STUDENT STUDY MATERIAL

The following information is provided in the *Student Notes*

## WARNING SIGNS AND DEVICES

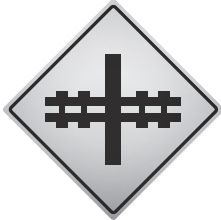
Visit the Operation Lifesaver website at <http://www.operationlifesaver.ca/facts-and-stats/signs-and-devices/>, for further information on this section.

Signs and traffic control devices are installed along roads near highway-railway crossings to:

- Regulate, warn and guide traffic.
- Alert drivers to the presence of railway tracks and the possibility of an approaching train.
- Provide a safety message and remind drivers of the laws regarding highway-railway crossings.

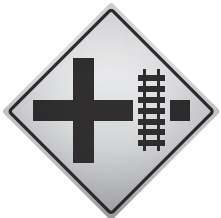
## PASSIVE SIGNS/PAVEMENT MARKINGS IN ADVANCE OF HIGHWAY-RAILWAY CROSSINGS

These are non-active signs that warn that a highway-railway crossing is ahead.



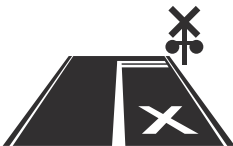
### Yellow Diamond-Shaped Advance Warning Sign

- Warns drivers that the road crosses railway tracks ahead.
- Shows the angle of the track to the road.
- Reminds you to slow down, look and listen for a train and be prepared to stop if a train is approaching.



### Yellow Diamond-Shaped Parallel Track Sign

- Identifies highway-railway intersections that appear immediately after making either a right or a left turn.

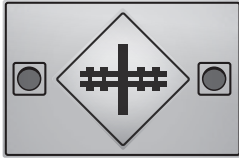


### Pavement Markings

- A white "X" may be painted on the pavement in advance of highway-railway crossings.
- A double Stop line may be painted on the pavement five metres prior to the crossing.
- You must stop your vehicle no closer than five metres and no farther than 15 metres from the nearest rail.

## ACTIVE SIGNS IN ADVANCE OF HIGHWAY-RAILWAY CROSSINGS

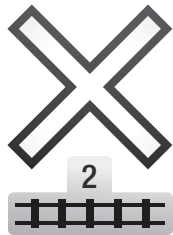
*These are automated devices that warn of an approaching train.*



### Yellow Diamond-Shaped Advance Warning Sign with Yellow Flashing Lights

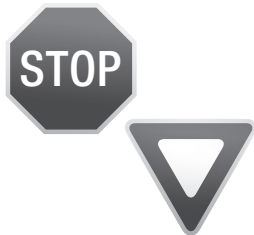
- Warns drivers that they are approaching a highway-railway crossing.
- When the yellow lights are flashing it indicates that the crossing signals are, or are about to become, active.
- Be prepared to stop.
- Shows the angle of the track to the road.

## PASSIVE SIGNS/PAVEMENT MARKINGS AT HIGHWAY-RAILWAY CROSSINGS



### The Railway Crossing Sign – also known as a “Crossbuck”

- The most common sign at public highway-railway crossings.
- Indicates to drivers that they must yield the right-of-way, stopping if necessary, before entering the railway crossing area and must not proceed until it is safe to do so.
- If there is more than one track, a sign below the Crossbuck indicates the number of tracks present. After one train has passed, look and listen for another train approaching from either direction. Be especially careful at crossings without gates, flashing lights or bell(s).
- Always expect a train.



### STOP and YIELD signs (when used at highway-railway crossings)

- Mean the same as they do at highway intersections.
- The Stop sign indicates to drivers that they must stop their vehicles completely before entering the railway crossing area and must not proceed until it is safe to do so.
- The Yield sign indicates to drivers that they must yield the right-of-way, stopping if necessary, before entering the railway crossing area and must not proceed until it is safe to do so.



### The EXEMPT sign

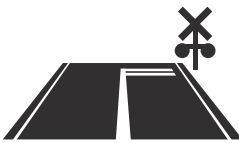
- Used in some provinces and placed below the Crossbuck.
- Informs drivers of vehicles required by law to stop at all highway-railway crossings, that a stop is not required, except when a train is approaching or occupying the crossing, or the driver's view of the sign is blocked.





### DO NOT STOP ON TRACKS sign

- Usage and placement varies from province to province.
- Reminds you not to stop on the railway track for any reason.



### Pavement Markings

- A double stop line may be painted on the pavement five metres prior to the highway-railway crossing.
- You must stop no closer than five metres and no farther than 15 metres from the nearest rail.

## ACTIVE DEVICES AT HIGHWAY-RAILWAY CROSSINGS

*These are automated devices that warn of an approaching train.*



### Flashing Red Lights

- Used to stop traffic when a train approaches.
- Accompanied by bell(s).
- Red lights flashing means a train is approaching.
- Stop and wait for the train to pass.
- Proceed when the lights and bell(s) have stopped, the train has passed and you can do so safely.



### Flashing Red Lights with Bell(s) and Gates

- Used to close the road when a train approaches.
- Stop when the lights and bell(s) are activated and prior to the gates lowering across your side of the road.
- Remain stopped until the gates are fully raised and the lights stop flashing.
- It is illegal to go around the gates.



*Drivers may encounter various important “WARNING SIGNS” not uniformly recognized across Canada. Heed the warning and be familiar with their location.*

For additional information related to Signs and Devices, please visit:  
<http://www.operationlifesaver.ca/facts-and-stats/signs-and-devices/>

## RECOMMENDED PROCEDURES AT HIGHWAY-RAILWAY CROSSINGS

- 1** Slow down as you approach the crossing by shifting to a lower gear (manual transmission) and test your brakes.
- 2** Check for traffic behind you and make sure they know your intentions. Turn on your flashers in traffic, if necessary.
- 3** Choose an escape route in the event of a brake failure or unexpected problems or traffic tie-ups in front or behind you.
- 4** While slowing or stopped, look carefully in each direction for approaching trains, moving your head and eyes to see around obstructions, such as mirrors and windshield pillars.
- 5** If you drive a regular route, learn the highway-railway crossings on it and how your truck fits those crossings.
- 6** When waiting for the train to pass, put on your emergency brakes so you won't move onto the track.

### RESUMING TRAVEL

- Before resuming, make sure there is enough room on the far side of the track for the whole unit to clear the tracks, including your truck's overhang (and the minimum one-metre overhang of the train) from the closest rail.
- Use a gear that will let you cross the tracks without shifting.
- If the red lights begin to flash after starting over tracks, KEEP GOING.
- Check the crossing signals one final time before proceeding.
- Do not stop on the tracks.

### IF PLANNING TO STOP AT HIGHWAY-RAILWAY CROSSINGS

- Check for traffic behind you while stopping gradually.
- Slow down by shifting to a lower gear (manual transmission) and test your brakes.
- Turn on four-way flashers; leave on until following traffic has safely stopped.
- Stop no closer than five metres and no farther than 15 metres from the nearest rail.
- To better hear the train, roll down the window, turn off audio equipment and fans.
- While stopped, look carefully in each direction for approaching trains, moving head and eyes to see around obstructions such as mirrors and windshield pillars.
- When waiting for the train to pass, put on your emergency brakes so you won't move onto the track.
- To prevent stalling on the tracks, never change gears while crossing.

### PENALTIES

Highway Traffic Acts across Canada clearly set out penalties for truck drivers that commit infractions at highway-railway crossings. These include:

- Fines.
- License downgrade or suspension.
- Driver record which could result in higher insurance cost, loss of employment or being screened out of other job opportunities.
- Penalties vary depending on the offence and the province in which the infraction occurs.





For employees of a transport fleet:

- The motor carrier's safety profile will also be affected.
- The motor carrier's safety profile can be used by each provincial jurisdiction to assess a fleet's overall safety performance.
- A lower rating could translate into loss of business.

If you're traveling in the United States:

- Penalties for infractions at rail crossings are treated very seriously.
- You could be suspended from driving for a period of time.

## OTHER CONSIDERATIONS

### *POLICE OFFICER OR FLAG PERSON AT CROSSING*

If a police officer or properly identified railway flag person is at the crossing:

- Obey directions.
- Remember that you are still responsible for your personal safety.
- Confirm that it is safe to cross the tracks by looking and listening for the approach of a train.

### *VIEW OF TRACKS AT CROSSINGS*

Plan your route so it provides adequate sight distance at highway-railway crossings.

- Only cross the tracks if you can see far enough down the track to ensure that no trains are approaching.
- Be especially careful at crossings without gates, flashing lights or bell(s).

- Always look and listen to be sure it is safe to proceed—even if there are active warning signals, and they do not indicate a train is approaching.

### *VEHICLE SIZE AND CLEARANCE*

#### *IF IT WON'T FIT, DON'T COMMIT!*

- Know the length of your truck and the amount of space available on the far side of the highway-railway crossings on your route.
- When approaching a crossing with a signal or STOP sign on the opposite side, pay attention to the amount of available room.
- Be certain your truck has enough space to completely clear the railway tracks on the other side.
- Remember that the train will be at least a metre wider than the rails on both sides.

### *OVERHANG*

- Know the length of your vehicle and allow for overhang.
- Pay particular attention if you are hauling a bulky product like logs or steel.
- Trains also extend over the rails at least one metre.
- If you're driving a big rig, remember your trailer—your wheels may have crossed the track but your trailer might be hanging over.

### *TRUCKS HANDLING DANGEROUS GOODS*

In some provinces, as in the United States, placarded vehicles must STOP AT ALL rail crossings.

- The only exception is crossings located on major highways, such as the Trans Canada Highway.



*Laws and regulations governing truck drivers at highway-railway crossings may vary in each province. Be aware of your provincial legislation to ensure that you are in compliance at all times. Also, know that local law and company policy may require further action.*

## REPORTING HAZARDS

Report any conditions at highway-railway crossings that may be dangerous to highway or rail traffic.

- Call the railway emergency number, generally posted prominently at crossings, often on either crossing posts, behind a crossing sign or on a signal box.
- If this number cannot be located immediately, call 911 or the local emergency number.

## CROSSBUCK SAFETY DRILL

- 1** Approach the crossing with care and attention.
- 2** Turn off the radio and fans.
- 3** Open the window.
- 4** Listen for the train.
- 5** Look both ways, up and down the tracks, for an approaching train.

Remember, trains can come from either direction.





# TRAIN FACTS

- A train traveling at 90 km/h covers a distance of 25 metres a second. (Give an example by identifying 25 metres.)
- The train is a metre wider on each side of the rails.
- Trains cannot stop quickly. An average freight train of 100 railcars, weighing approximately 8,000 tonnes and traveling 100 km/h, can take up to two kilometres to stop, after an emergency brake application.
- Passenger trains, either light rail or intercity, cannot stop quickly. Some passenger trains can travel up to 160 km/h. In an emergency, it can take as much as 1.6 kilometres to stop.
- When stopped at the crossing, as you look down the tracks, you may experience an optical illusion. The train may appear to be farther away and traveling slowly. The reality is the train can be much closer and going quite fast. Don't misjudge a train's speed and distance. When in doubt, WAIT for the train to pass.

# HIGHWAY-RAILWAY CROSSING FACTS

- 1** Nearly 70 people are killed or seriously injured in approximately 250 highway-railway crossing collisions annually.\*
- 2** On average, over the past five years, there have been 29 vehicle-train fatalities each year.
- 3** A motorist is 40 times more likely to die in a collision with a train than in a collision involving another motor vehicle.
- 4** In most years, more people die in collisions with trains than in commercial airline crashes.\*
- 5** Approximately 50 percent of collisions at public highway-railway crossings occur where active warning devices have been installed.
- 6** There are approximately 20,000 public and 17,000 private highway-railway crossings in Canada.
- 7** The majority of vehicle-train collisions occur when the train is traveling less than 50 km/h.

**SOURCES:** Operation Lifesaver, Transport Canada, Transportation Safety Board of Canada.

\* Based on Transportation Safety Board of Canada data.

For updates, check the Transportation Safety Board of Canada website: [www.tsb.gc.ca](http://www.tsb.gc.ca).

# SAFETY QUIZ ANSWER KEY

- 1** b) 250
- 2** c) 29
- 3** b) Yield.
- 4** d) Approximately 2 kilometres or the equivalent of about 18 football fields.
- 5** a) At least 14 seconds to clear a single track and more than 15 seconds to clear a double track.
- 6** c) Know your truck length. Never assume your truck will fit. Wait until you can completely clear the crossing without stopping.
- 7** b) An optical illusion makes the train appear to be farther away and moving slower than it actually is.
- 8** d) Slow down, look and listen for a train and be prepared to stop.
- 9** c) Almost half of all highway-railway crossing collisions occur where there are active warning devices (gates, flashing lights, bell).
- 10** d) Keep going. Do not get trapped!
- 11** d) Get out immediately. Many railway companies post their emergency numbers prominently at crossings. If this cannot be located immediately, call 911 or the local emergency number.
- 12** **True.** In some Provinces, trucks carrying dangerous goods must stop at highway-railway crossings.
- 13** **True.** A crossbuck is the most common warning device at highway-railway crossings.
- 14** **True.** Always be prepared to stop for an oncoming train. Any time is train time.
- 15** **True.** A STOP sign before a highway-railway crossing requires a full stop, as it does at any highway intersection.
- 16** **True.** The number posted below a crossbuck indicates the number of tracks at that crossing, and tells drivers to beware of trains approaching from either direction.
- 17** **True.** Lowered gates and flashing lights mean you should not proceed. Even if a train has just passed, another could be approaching. Never go around lowered gates: It is extremely dangerous and it is against the law.
- 18** **True.** At a crossing with more than one set of tracks, there is always the possibility of another train approaching from either direction.
- 19** **False.** Get out of the truck immediately and move to a point at least 30 metres away from the track and the vehicle. Contact the railway. Many railway companies post their emergency numbers prominently at crossings. If this cannot be located immediately, call 911 or the local emergency number...FAST!
- 20** **False.** Trains cannot stop quickly even after emergency brakes are applied.
- 21** **True.** This applies in some Provinces.
- 22** **True.**
- 23** **False.** There is no way to know if the signals are malfunctioning. If it appears they are not working, contact the railway. Many railway companies post their emergency numbers prominently at crossings. If this cannot be located immediately, call 911 or the local emergency number. Wait for assistance or find another route.
- 24** **True.** Collisions between vehicles and trains can be prevented.





---

# MORE INFORMATION

For more information, visit the Operation Lifesaver website at [www.operationlifesaver.ca](http://www.operationlifesaver.ca), or contact us at:

**Operation Lifesaver**

99 Bank Street, Suite 901

Ottawa, Ontario K1P 6B9

Phone: 613-564-8100

Fax: 613-567-6726

Email: [admin@operationlifesaver.ca](mailto:admin@operationlifesaver.ca)

This document may be reproduced without modification or alteration.

© 2011 Operation Lifesaver

All Rights Reserved.





**OPERATION  
LIFESAVER**

A Partnership in Public-Rail Safety