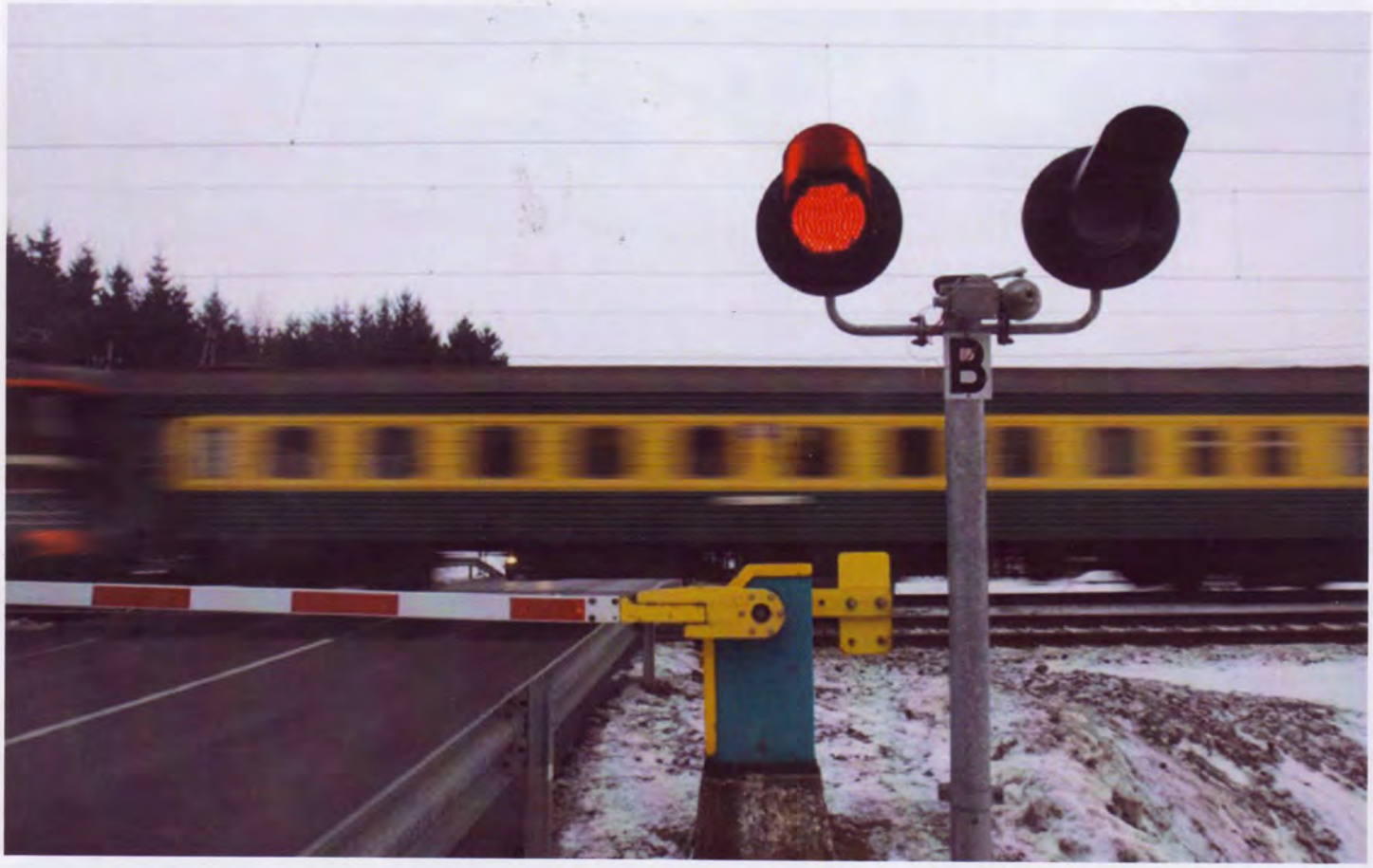
Road Safety and Rail Crossings/ Level Crossings



Railway level crossing

The term level crossing (also called a railroad crossing, road through railroad, railway crossing, train crossing or grade crossing) is a crossing on one level ("at-grade intersection") — without recourse to a bridge or tunnel — of a railway line by a road, path, or another railroad.

In many countries, level crossings on less important roads and railway lines are often "open" or "uncontrolled", sometimes with warning lights or bells to warn of approaching trains. In South Africa there are farm crossings, National-,Provincial- Municipal- Road and private road crossings.

There are still over 7500 level crossings in South Africa today. Together, they represent a significant safety hazard to both road and rail users. In 2008 we had 13 fatalities in 129 incidents at level crossings under Transnet contol. Traffic control for road users varies from 'passive' signage to 'active' protection, which is a combination of warning lights or lights and boom gates. Train drivers also warn road users of oncoming trains by blowing the train horn at whistle boards. This is sometimes very annoying to life living in the vicinity.

Whilst infrastructure improvements will continue to reduce risk at railway crossings, drivers, riders and pedestrians are encouraged to be careful, aware and to obey the road rules each time they encounter a railway/level crossing. The new AARTO penalty system in South Africa also has higher penalties at level crossings. An understanding of the way level crossings operate could save your life some day. The danger is particularly acute when travelling on an unfamiliar route.

Road users must follow road rules and signs and pay attention to the road environment when approaching rail crossings. International police statistics show that up to 95 per cent of crashes at railway crossings are caused by driver error. This is largely attributable to inattention, driver distraction, risk taking ,and disobeying an lack of knowledge of the road rules and sometimes suicide. In almost every case that the motorist failed to stop and give way to the train

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at the level crossing and that there was little the train driver could do to prevent the collision or minimise its effects. Our train drivers is at every incident heavily traumatised since they are helpless and is pleading that motorists is taking double care when crossing the rails.

Most crashes involved cars, four-wheel drives, vans and utilities and a study shows that the driver's failure to take sufficient care or action was the major cause.

- More than 80 percent were during daylight, in fine weather and on a straight road; (In South Africa is the highest accident rate at 19:00 and there is normally a corelation between road accidents and level crossing accidents)
- Two-thirds were in country areas; (South African hot spots is in the Rustenburg and Witbank area.)
- Forty-four per cent happened at crossings without an electronic warning system such as flashing lights and/or boom gates; (South Africa has very few fitted with flashing warning lights and less with booms.)
- More than half occurred where there was a warning system - including 10 per cent where there were boom gates;
- Two-thirds of the drivers, motor cyclists were hit by the front of the train, not running into the side of it; and,
- Heavy trucks were involved in about 15 per cent of fatal rail crossing crashes.
- (Because of the few level crossing deaths as compared to road deaths it is difficult to obtain money for building bridges to eliminate level crossings, but because of the severity of the incidents they are all extensively reported in the media.)

Understanding the dangers of level crossings

To cross a railway line or lines with moving trains isn't complicated. It is a matter of knowing the rules and obeying them to ensure that you arrive at your destination safely.

Why do levels crossings pose a significant risk?

- Freight trains do not travel on a predictable schedule; schedules for these trains change. Passenger trains have a more fixed schedule.
- You should always expect a train at every level crossing.
- Trains can move in either direction at any time. If there are more than one line there may be an oncoming train on the other line
- Trains aren't required to slow down at crossings and their speed can often be difficult to gauge. If some of the very long trains are going to move slower, road users will have to wait longer. Impatient road users will then be tempted to skip before the slower moving train.
- To gauge the speed of an oncoming train is often very difficult, the brain has to deduce the speed with the increase in size of the front of the train. An approaching train will always be closer and moving faster than you think.
- It is also normal for the stress level to increase, especially for inexperienced drivers and chances to have gear shift problems on is larger
- Modern trains are quieter than ever, with no telltale "clackety-clack." Make sure you can hear the sounds of oncoming trains. Using ear phones, loud music and screaming children make crossing the railway line more dangerously.
- Trains have the right of way 100% of the time — over ambulances, fire engines, cars, the police and pedestrians.
- Trains take a long time to stop - even when the train driver slams on the brakes, a loaded train can take more than a kilometre and a half to stop. [1.5km]
- From their driving seat, train drivers cannot see clearly to the left or to the right of the tracks on which their train is travelling. Although they also cannot see people or objects that are on the tracks directly in front of the train there is nothing else that they can do other than to blow the horn and apply the emergency brakes that will take the train one and half kilometre to stop.
- You can never assume that, because one train has passed, all rail tracks are clear. Another train may be approaching from the opposite

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direction.

- A train may extend a metre or more outside the steel rail, which makes the safety zone for pedestrians well beyond the rails themselves. A safe clearance of 5 metre is prescribed.
- Trains can't swerve to avoid you and given the weight of a train, the chances of you surviving a crash are poor as air bags will not be able to save you when you are involved in a collision with a train.

Safety advice for motorists:

- Road users must follow road rules and signs and pay attention to the road environment when approaching rail crossings.
- Always remember that where there's a crossing, there's danger.
- Not all railway crossings have boom gates and the most do not have flashing lights.
- When you see a sign indicating a crossing - slow down, look and listen and be prepared to stop at the yield sign but stop at the stop sign. The flashing lights is there to warn you of oncoming trains and failing to stop under this circumstance is a very dangerous act.
- Slow down so that you can stop if necessary. You'll add hardly any time to your journey, but it may save you and someone else's life.
- Don't be fooled by an optical illusion - trains in the distance are often closer and travelling faster than they appear.
- Never enter a level crossing if red lights are flashing. Wait for the lights to stop flashing before driving across railway tracks
- Do not cross the track until you are sure the train or trains have passed - If there are signals, wait until they stop flashing and, if the crossing has a barrier, wait until it rises before you cross.
- If you decide to zig zag through the barriers it is an extremely dangerous act. Never drive around, under or through a railway gate while it is down or is being lowered or raised.
- Never race a train to the crossing — even if you tie, you will lose!
- If a train is coming, stop at least five metres from the nearest rail or gate Never stop on the tracks. Also ensure that the back of your vehicle is 5 meters clear of the track.
- Accelerate swiftly till you reach the railway lines and drive over the railway lines. Avoid shifting gears on a railway crossing.
- Never queue on a railway crossing - if you have stopped on a crossing and a train is approaching, immediately drive off the track or get out of your car and move clear
- A common mistake is stopping on the tracks while waiting for traffic ahead of you to proceed. Not only do you risk a collision with a train, but your vehicle could be struck by the barrier arms if they're activated. If you are caught between closed barriers it is better to drive through that being crushed by a train. (This practise was decided upon at the 10th International Symposium on Level crossings.)
- To avoid these situations, stop well behind the barriers and wait until you have enough room to clear the tracks completely.
- Do not get trapped on the tracks. Only proceed through a level crossing if you are sure you can completely clear the crossing without stopping. Remember, the train is a metre wider than the racks on both sides.
- If you get trapped on a crossing or your vehicle failed, immediately get everyone out of the vehicle and move quickly from the track to a safe location. It will not help to stand on the rails and wave for the train to stop. It can't.
- Move quickly away in the direction the train is coming from. If you run in the same direction the train is travelling, when the train hits your car you could be injured by flying debris and burnt by the burning fuel.
- If stuck on the rail call your local law enforcementagency for assistance Some crossings have railway emergency numbers prominently displayed or phone 0801112239 indicating the road between which towns, the level crossing number or the nearest mast pole number on electrified lines .
- At a multiple track crossing

Driver checking on Rail Level Crossing

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waiting for a train to pass, watch out for a second train on the other tracks, approaching in either direction.

- Remember that regardless of what you drive, in a collision with a train, the train will always win.

Safety advice for pedestrians:

- Pedestrians, cyclists and users of other wheeled mobility devices must obey railway crossing laws just as motorists. The only place you may cross is at an authorized and properly marked railway crossing preferably use the footbridge if it is in the vicinity.
- Most of the time when a child does get hit it's because they weren't paying enough attention.
- Children must be taught that trains can't stop quickly. They need to adopt the steps of 'Stop, look, listen and think' when at a pedestrian level crossing.
- Children should always be supervised around public transport. Hold the hand of children up to five years old when crossing rail lines.
- Observe and obey all warning signs and signals.
- Never walk down a train track; it's illegal and it's dangerous. By the time a locomotive driver can see a trespasser or a vehicle on the tracks, it is too late.
- The tracks is the railway servitude in which the rails are.
- Railway tracks, overhead wires, yards, wagons and equipment are private property and trespassers are subject to arrest and fine.
- Railway tracks should not be used as a short cut or a walking trail.
- Trains overhang the rails by a metre in both directions and loose straps hanging from rail cars may extend even further. If you are in the right-of-way next to the rails, you can be hit by the train. Keep a 5 metre safe distance from the rails.
- Do not cross the tracks immediately after a train passes. A second train might come on the other line and your view may be blocked by the first. Trains can come from either direction. Wait until you can see clearly around the first train in both directions.
- Look both ways when approaching the track(s) - Never try to beat an approaching train.
- If you're a pedestrian, avoid stepping onto the rail while crossing, as it can be slippery.
- When cycling, always cross the tracks at right angles to the rails.
- Wheelchairs, prams and strollers should always cross the tracks at right angles to the rail so that the wheels don't get trapped.
- Bikes, rollerblades, skates or skateboards must be walked or carried on station platforms, on the ramps leading up to platforms, through pedestrian mazes, while

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crossing rail lines, in overpasses or underpasses

- Best advice - Look in both directions - Listen carefully for a train coming - Stop if necessary -If there's no train, cross straight to the other side of the track.
- The train drivers always get stressed when people are not paying attention to oncoming trains. Communicate with the driver that you are aware of the train with a thumbs up sign and wave him a goodbye when he passes you safely, it will make your day.
- If a train is coming, wait for it to pass, and then stop, look, listen and think again before crossing. - Another train may be coming.
- Never jump fences, gates or barriers at crossings.
- Never force barriers open except in case of an emergency.
- Be careful with carbon fibre fishing rods near electrified lines. Always carry the rods horizontally.
- Do not climb on the electrification structures or over the sides of footbridges. Always keep a distance of 3 meters away from the electrical wires.
- Don't hunt, fish or bungee jump from railroad bridges and sidewalks. There is only enough clearance on the tracks for a train to pass
- Do not attempt to hop aboard railroad wagons, locomotives or equipment at any time. A slip of the foot can cost you a limb or your life.
- Do not walk, run, cycle or operate all terrain vehicles (ATVs) on railroad tracks or rights-of-way or through tunnels.

Safety advice for heavy truck drivers at rail/ level crossings:

International data indicates that heavy trucks are involved in about 15% of fatal rail crossing crashes. There are important safety tips for our heavy truck drivers about general awareness of their vehicles and the procedure to approach and cross the level crossings:

Know your truck and be aware of:

- Know the length of your vehicle and load overhang in relation to space available to safely clear a crossing on the other side.
- The length of your truck and trailer Its important for getting through the crossing - do not block the adjacent streets if you are going to wait for a train to cross.
- The time it takes for you to bring your truck and trailers to a stop if you need to and the time it will take to clear the crossing with the truck and the trailer .
- Check if the height of the truck is clear from the height gauge. If it is not clear do not proceed across a level crossing.

This is to avoid touching the high voltage electrical overhead wires.

- Be aware of the load on your truck. Trucks carrying heavy loads may take more time to clear the tracks than you anticipated.

Approaching and crossing level crossings:

- Remember that trains always have the right of way - Use your experience to protect yourself at railway crossings.
- Some crossings have warning lights and some with boom gates. Others have a stop or yield sign.
- Prepare early; make sure you give your truck enough time to pull up.
- Be extra vigilant at night as judging the speed and distance of the train can be extremely difficult.
- Test the brakes and note the traffic behind.
- To hear the sounds of trains and their warning whistles better, roll down the window; turn off audio equipment and fans. Also ensure that passengers keep quiet and assist looking out for trains.

- Obey the signage instructions provided at the level crossing.
- Look out for short-stacking - This is when your truck hangs over the crossing because there is not enough space ahead - Make sure your path is clear before you start to cross. You don't want to realise you are stuck halfway.
- Be familiar with railway crossings on your route - Avoid crossings where low-slung units can get stuck on raised crossings.
- Use emergency brakes and flashers whilst waiting at the level crossing.
- Vehicles with dangerous goods are instructed to stop at all level crossings even if it has a yield sign only.
- Check for problems with visibility Some conditions makes it harder to check for trains at crossings. In summer when the vegetation has grown it is more difficult to observe trains than in winter. During rain there are no windscreen wipers on the side windows turn them slightly down and observe better. You and your co driver.
- Don't gamble at s-bend roads, in glare or when roadside objects obscure your view. Slow down and make sure you are safe to cross.
- If the sun is rising or setting over the railway line it will be difficult to see trains. Make double sure.
- Use a gear which will let you cross the tracks without shifting.
- If you have to open and close gates, do not park on the railway line to open the second gate.
- Check the flashing lights (if installed) one final time before proceeding.
- If the level crossing lights begin to flash after starting the truck, keep going, it is safer to continue forward than to reverse.
- Do not attempt to cross the tracks unless you can see far enough down the track to ensure that no trains are approaching.
- If you see a train approaching, you must stop - Never make the judgement call of your speed and the distance/speed of the train.