



8 August 2014

Rail Safety Week 2014 - 11-17 August

Background information

Safety at level crossings depends on several factors, including the behaviour of people using them, and is the combined responsibility of the road user, KiwiRail and the roading authority. Recent collisions at crossings which have half-arm barriers installed in addition to flashing lights and bells remind us that no amount of sophisticated warning equipment can fully compensate for risk taking.

KiwiRail is actively involved in partnering with roading authorities to investigate and implement safety improvements in a number of areas including the provision of new or upgraded automatic warning devices, eliminating or relocating crossings.

Collisions

2014 year to date - 15 collisions, with five fatalities in four separate incidents.

2013 - there were 18 collisions at level crossings, with three fatalities.

Trespassers

This year so far there have been five collisions with trespassers, one fatal, the other 4 resulted in injuries. There have been 65 near collisions reported this year to date.

Level Crossings

- There are 1,330 public road level crossings and 110 stand-alone public pedestrian level crossings on KiwiRail’s rail network.
- *Of the public road level crossings:*
 - 278 (21 per cent) are protected by half-arm barrier, plus flashing lights and bells
 - 423 (32 per cent) are protected by flashing lights and bells
 - the remaining 47 per cent are protected by a give way or a stop sign.

Over the last 10 years:

About 12 per cent of collisions occurred where half-arm barriers plus flashing lights and bells are installed; 37 per cent occurred where flashing lights and bells were installed. The remaining occurred at crossings protected by stop or give way signs.

Near collisions

Reported train-road near collisions over the last five years - actual incidence is likely to be much higher.

2009-2013

Northern Region	220
Central Region	152
Southern Region	201
Total across NZ	573

2014 Year to Date

Northern Region	28
Central Region	14
Southern Region	29
Total across NZ	71

A TrackSAFE study in 2010 found that in an 18 month period around 37 percent of near collisions recorded occurred at crossings with barrier arms. While 76% were at crossings with either flashing lights and bells or barrier arms.

In 2013 KiwiRail recorded 107 near collisions nationwide with vehicles at level crossings. Of these 43 percent happened at crossings with flashing lights and bells, and 40 percent with barrier arms. The remaining 16 percent of near collisions occurred at crossings with either a give way or stop sign.

In 2012 of the 154 near collisions reported by locomotive engineers – of these 83 per cent were at crossings with flashing lights and bells/ barrier arms.



Virtual train simulator

How Kiwirail assesses level crossing protection levels:

KiwiRail assess appropriate protection levels at various sites by using the Australian Level Crossing Assessment Model (ALCAM) which evaluates risk, identifies where safety improvements can be made, and emphasises prevention.

Each crossing is surveyed to record site conditions including view lines, signage, road markings, number of operational rail tracks, train and vehicle speeds.

The following factors are also considered:

- Collision and near collision history
- Engineering experience (both road and rail)
- Local knowledge of driver or pedestrian behaviour
- Social and economic assessment
- Standards and international best practice.

The ALCAM data provides KiwiRail with guidance in identifying site-specific risks, in prioritising its level crossing major upgrade programme. Applying ALCAM and taking into consideration the above factors ensures the system is fair across KiwiRail's network.

How upgrades occur:

KiwiRail operates a priority list that determines which level crossings are to be upgraded. Those identified by ALCAM as high risk, or require improvement under KiwiRail's engineering guidelines, are upgraded first.

There are currently 63 road crossings and 110 pedestrian crossings on KiwiRail's priority list for a protection upgrade.

KiwiRail aims to carry out eight major upgrades at public level crossings annually.

What upgrading means:

Upgrading protection might mean installing flashing lights and bells at a crossing with 'Stop' or 'Give Way' signs, or it may include installing barrier arms at a crossing that already has lights and bells.

Costs:

Typical costs of installing automatic alarm systems for level crossings are:

- Flashing lights and bells - \$120,000+GST
- Half arm barriers and flashing lights and bells - \$200,000 +GST
- Road overbridge to replace level crossing - \$5 million.

Level crossings upgraded nationally during 2013/14:

- Creyke Rd, Darfield – flashing lights and bells
- Lagmhor Rd, Ashburton – half arm barriers
- Tokomaru Rd, Horowhenua - flashing lights and bells

- Kamo Rd, Whangarei – half arm barriers
- Vickerman St – Blenheim – flashing lights and bells
- SH 67, Westport – flashing lights and bells
- Lake Brunner Rd, Jacksons – flashing lights and bells.

THE VIRTUAL REALITY TRAIN EXPERIENCE

As part of Rail Safety Week 2014 (11-17 August), KiwiRail and TrackSAFE NZ are giving Kiwis the chance to test their train driving skills using virtual reality technology.

Events are being held around the country featuring an interactive train simulator. Participants will don Oculus Rift Headsets to see exactly what it takes to drive and stop a locomotive.

About the virtual reality train experience

- The experience at the events will see people donning Oculus Rift virtual reality head sets.
- The stereoscopic head-mounted hardware has 1280x720 pixel resolution to create the virtual experience.
- These are still in final development stage and are not yet commercially available to the public
- The company was purchased by Facebook earlier this year for US\$2 billion

Test your skills at one of our events at the following locations and be in to WIN a TranzAlpine Rail Experience.

Tuesday 12th August

Wellington Railway Station
Midday - 6.30pm

Wednesday 13th August

Auckland: Downtown Shopping centre
7am - 6pm

Saturday 16th August

Auckland: Sylvia Park Mall
9.00am - 5pm

Masterton: Queen St
(next to Paper Plus)
9.30am - 4pm

Christchurch: Northlands Mall
9.00am - 5pm

Sunday 17th August

Auckland: Sylvia Park Mall
9.00am - 5pm

Wellington: North City Plaza
10am - 5pm

Christchurch: Northlands Mall
10am - 5pm