

Signal

A year in rail safety
2021



FEATURING

Glenbrook Vintage
Railway's innovation
pays off

Princess Te Paea
inspires safety vision

Why clear
communication is a
life-saver

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Disclaimer

Views expressed in articles from external contributors do not necessarily reflect the view of Waka Kotahi NZ Transport Agency.

Cover photo

Spectacular view: A Glenbrook Vintage Railway train crosses the Hapuawhenua Viaduct in Tongariro National Park.
Photo: Jack Still

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ISSN 2744-3841

Waka Kotahi NZ Transport Agency

NZBN: 9429041910085

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Foreword



Kia ora koutou tatou,

Welcome to our second edition of *Signal* - a year in rail safety. The aim is to provide a snapshot of the last year in rail safety regulation, but as with any such publication, it's only as good as the quality of stories provided. I'd like to thank Glenbrook Vintage Railway, KiwiRail, Transdev NZ, City Rail Link Ltd, TrackSAFE NZ and our Waka Kotahi staff for their excellent contributions, which help to shine a light on innovations and successes within the rail industry.

I hope you enjoy looking through the statistical graphs and infographics, which provide illuminating information on subjects as diverse as how many people use rail and why, to five-year trends in rail safety.

From now on we will be publishing *Signal* online only, so we can share these stories more frequently. We welcome your feedback or comments on how we can improve access or contributions.

I joined Waka Kotahi as Senior Manager of Safer Rail five months ago, and must say it's been a busy time. A big focus has been on confirming and progressing our continuous improvement plan. Some of the key areas are:

Partnership

Something of particular interest to me is the value that effective partnership brings to system safety. In an increasingly complex world - and rail is no different - working together to identify, understand and mitigate risk is essential. For me, partnership is the people part of interoperability.

Rail holds a significant place in the hearts of many people. Investment in rail has never been as high, and interest in rail as an alternative mode of transport is growing, but it needs to be safe to be sustainable.

Waka Kotahi is uniquely placed to be a visible, active and credible regulator and I intend to take every opportunity to work with our industry and government partners to improve the safety of the system for everyone who uses it.

Investigations

In a perfect world, there wouldn't be any incidents. In reality, however, we must prepare for when parts of the system fail and an incident occurs. This involves providing a professional response to understand why and how an incident happened, who was responsible, and what the most appropriate action is to prevent further failures. Effective investigations are one of those responses.

The Safer Rail team is nearing completion of our new Rail Investigations Framework, which supports this. The framework has three main parts: triage, standard operating procedures for investigations, and decision making. With the implementation of risk-focused regulation, we anticipate we'll be able to prevent more incidents, but when something does go wrong, this framework will help ensure our investigations team is well equipped to respond.

Risk focus

A prevention mindset requires a mature understanding of risk, and we've been working on preparing ourselves for the introduction of the Regulatory Risk Tool. This will give us the information needed to deploy our resources to the right things at the right time to prevent harm across the land transport system, including rail. We hope to pilot this in the coming months and will update you on progress.

That's it for this edition - I'm hoping we can bring you *Signal* again from an online platform in the not-too-distant future so you can find out in (almost!) real time what's going on in rail. Stay safe, and feel free to get in touch if there's anything you'd like to share in *Signal*.

Ngā mihi nui,

Gini Welch

Senior Manager, Safer Rail
Te Rōpū Waeture/Regulatory Services
Waka Kotahi NZ Transport Agency

81 RAIL LICENCE HOLDERS

3



National rail & metropolitan

18



Industrial shunting

4



Infrastructure servicing

2

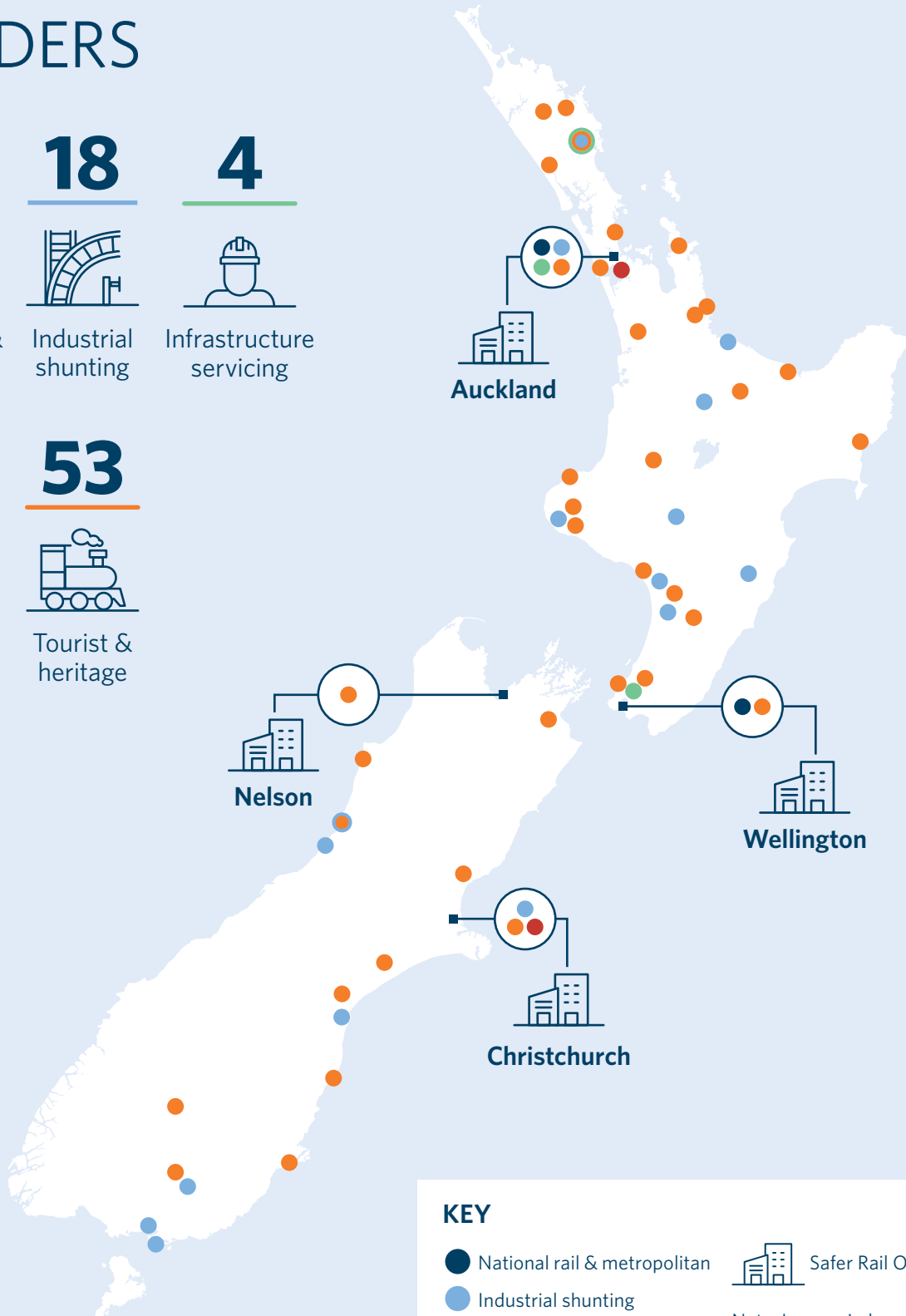


Heritage vehicle provider

53



Tourist & heritage



KEY

- National rail & metropolitan
- Industrial shunting
- Infrastructure servicing
- Heritage vehicle provider
- Tourist & heritage



Safer Rail Office

Note: Larger circles in Auckland, Nelson, Christchurch and Wellington denote multiple licence holders in close proximity

SECTORS



NATIONAL RAIL & METROPOLITAN

Operators, maintainers and access providers of freight and metropolitan services on the National Rail System



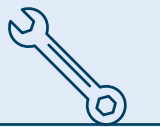
INDUSTRIAL SHUNTING

Organisations that carry out shunting activities to load and unload goods on industrial sites connected to the National Rail System



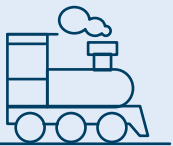
INFRASTRUCTURE SERVICING

Organisations that use private railways to service other infrastructure (eg electricity networks)



HERITAGE VEHICLE PROVIDER

Providers of rail vehicles for tourist and heritage operators

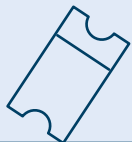


TOURIST & HERITAGE

Organisations that provide tourist or heritage rail experiences, operating on private networks or the National Rail System

RAIL WORKFORCE

Licence holders only



5192

National rail & metropolitan



470

Industrial shunting



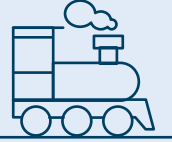
93

Infrastructure servicing



8

Heritage vehicle provider



1378

Tourist & heritage

RAIL SAFETY AT A GLANCE

RAIL SAFETY REGULATOR ACTIVITY



EDUCATION

4

Industry forums and workshops

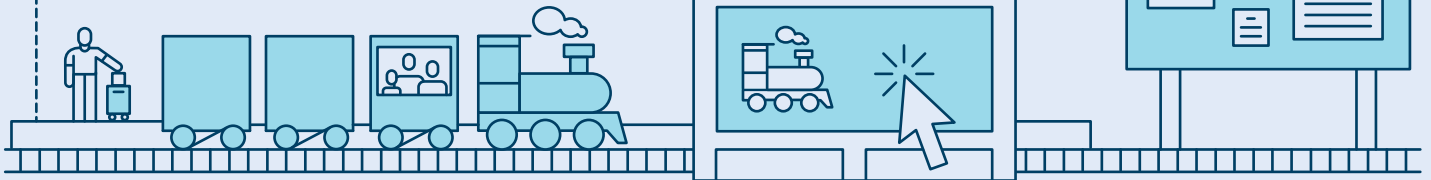
- 3 x sector forums
- 1 risk management workshop with tourist and heritage sector

5

New guidance sections on web

5

Newsletters



ENGAGEMENT

56

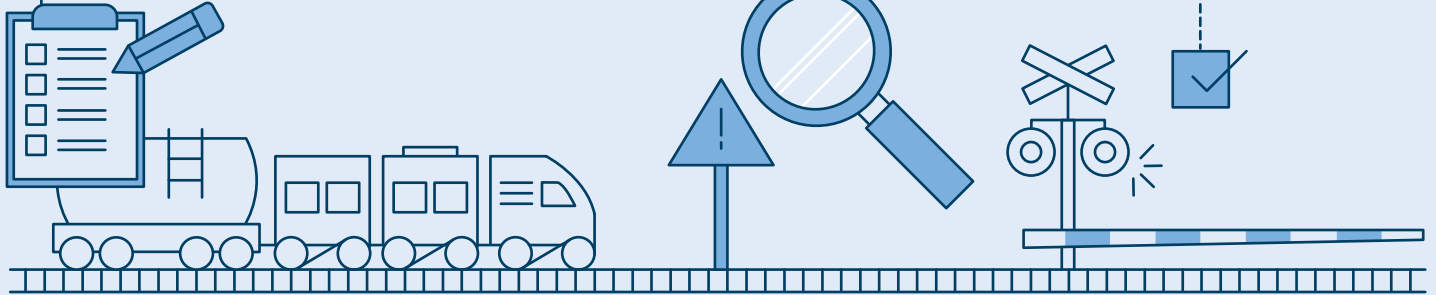
Assessments completed

15

Investigations opened

131

Assessments recommendations



ENFORCEMENT

161

Non-compliance findings

1

Mandatory safety case variations

16

Remedial actions

3

Safety improvement plan

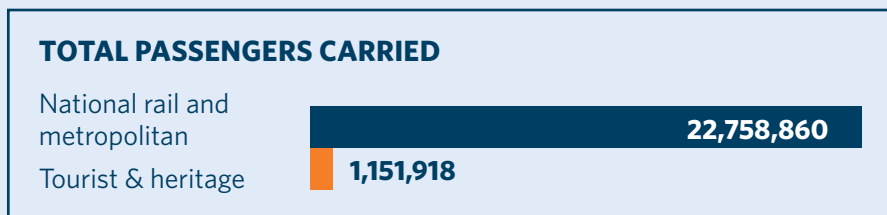
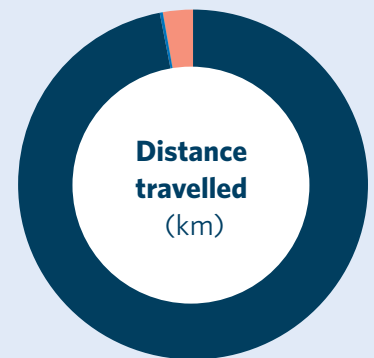
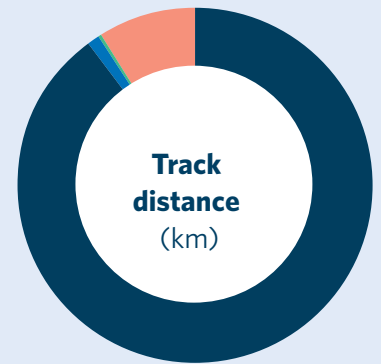
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Prosecutions



RAIL ACTIVITY

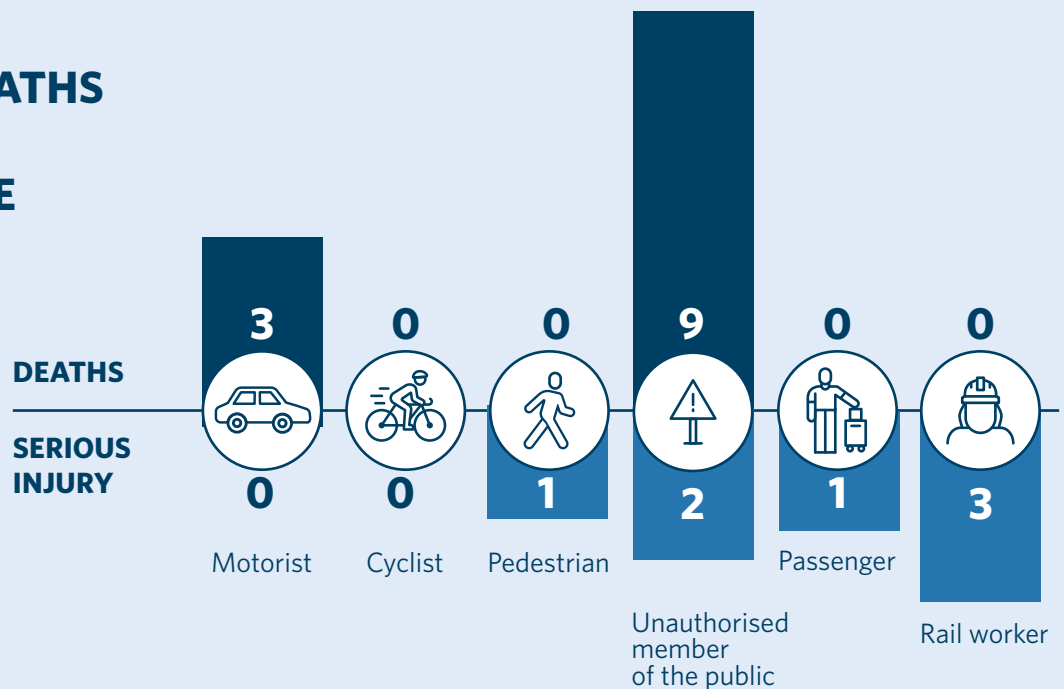
TYPE	TRACK DISTANCE	TRACK KM TRAVELLED
● National rail and metropolitan	4563.6	15,737,413
● Industrial shunting	50.45	51,247
● Infrastructure servicing	12.4	1801.8
● Tourist & heritage	446.7	432,620



2425
RAIL OCCURRENCES
 Incidents and accidents



ACCIDENTAL DEATHS AND SERIOUS INJURIES ON THE RAIL SYSTEM



Operator's innovation pays off

Contributed by Glenbrook Vintage Railway

Like many operators in the rail industry, Glenbrook Vintage Railway (GVR) was hit particularly hard by the COVID-19 pandemic.

The organisation was in a period of considerable commercial, operational and engineering growth, but COVID forced it to abandon its commercial plans and shift tack to recovery mode in the first half of 2020. To keep innovating and to retain key staff, GVR needed to diversify and be creative in generating revenue, while being nimble in responding to the disruptive effects of COVID.

This led to the company investigating running log trains from Fernleigh (a GVR site 6km from its main terminus) to the GVR/KiwiRail network connection at Glenbrook.

A local harvest manager found a big enough supply of logs to make a sustainable log transportation plan using GVR's rail network from the siding site at Fernleigh to Mt Maunganui for export.

'GVR, Waka Kotahi, harvest managers, exporters and KiwiRail worked collaboratively to set up a regular log train service of 10 wagons each service and a payload of up to 760 tonnes of logs per week,' GVR General Manager Tim Kerwin says.

'These log wagons are dropped off and picked up by KiwiRail on existing freight services on the Mission Bush branch line, transported by GVR locomotive and personnel to the Fernleigh Log Rail Exchange site for loading, then returned to Glenbrook for pick-up by KiwiRail.'

This was a departure from GVR's usual passenger train operations, so the project required innovation and proactive safety steps. That's where GVR's relationship with Waka Kotahi helped. GVR worked closely with its Waka Kotahi licence manager, Principal Rail Safety Officer Jason Lawn, to review documents, assess risk and put in place the safety case variation.

'Our collaborative relationship with Waka Kotahi contributes greatly to our ability to respond to the effects of COVID and to continue to improve our operating safety and business resilience,' Tim says.

'This exercise shows how important and beneficial it is to the operator and the rail industry in having a strong working relationship with the licence manager/regulator, and how successful it can be.'



Safe delivery: another log train on its way.



Encouraging statistics: Transdev's Wellington and Auckland passenger rail services have drastically reduced their number of near misses by putting more emphasis on driver training.

Putting a human focus on near misses

Contributed by Transdev NZ

While the New Zealand rail industry is one of the safest in the world, the threat of Signal Passed at Danger (SPAD) near misses is a critical risk for every transport operator.

Transdev's Wellington and Auckland passenger rail teams have continually evolved their safety approach and in 2020-21 recorded a record drop in SPAD incidents.

Transdev Auckland reduced incidents by 50% and Wellington, with four SPADs in 2020, reduced to only one in 2021.

Despite the complex and changing challenges faced by our drivers, including variable speed restrictions, works and extreme weather events, we put a strong focus on the human factors in driver training.

In Auckland, our team refreshed its training approach to include on-call response training and introduced a Drivers in Schools safety campaign.

They implemented an 'Additional Support' register to assist drivers who perhaps need more assistance above what is required via our Competency Management System. No driver on the register has had an operating incident since the scheme began.

Even at the peak of network disruptions in Auckland from October 2020-August 2021, the team had no SPAD incidents. The fact that we welcomed 40 new drivers to the Auckland team in 2020 and that all have remained SPAD-free is testament to a more driver-focused approach to safety.

Wellington Rail similarly refreshed its training and driver recruitment processes and formalised a Risk Triggered Commentary and Stabilised Approach Speed driving technique. This training initiative recognises the human factors in safety.

Our in-cab training sessions focus on areas such as shift preparation, avoiding distractions and train handling.

Safety Investigations were primarily about investigating human failures and while these still feature predominantly as the cause of SPADs, we have expanded our investigations to ensure all factors (eg system, organisation, environment) are considered and that recommendations are carried out.

As always, putting the focus on supporting our teams to feel confident and safe when navigating our networks is central to maintaining our rail networks.

Princess Te Puea inspires safety vision

Contributed by City Rail Link

Mahia te mahi, hei painga hei oranga mo tātou katoa.

To do the work, for the good of everyone.

As the largest transport infrastructure project underway in New Zealand, City Rail Link (CRL) in Auckland is driving improvements in health and safety for the construction sector and providing safe transport for future generations.

The CRL health and safety vision was gifted by CRL's Mana Whenua Forum. The forum includes eight iwi who have established a long-term partnership with CRL to look after Ranginui (Father Sky) and Papatūānuku (Mother Earth) and create places that reflect te ao Māori (the Māori world view). The vision is a Māori proverb credited to Princess Te Puea Hērangi.



Inspiring: Princess Te Kirihaehae Te Puea Hērangi.
Photo: Alexander Turnbull Library

She was a leader from Waikato who lived from 1883 to 1952, and whose influence crossed cultures. Princess Te Puea played a key role in improving the health and living conditions of her community. She was described as 'the greatest Māori woman of our time'.

In the CRL context, her vision challenges readers to consider who benefits from doing the work. At a personal level, it is us and those closest to us – our colleagues, families, communities. It is also the built and natural environment we work in and the people of Auckland, and their prosperous and sustainable future.

Working in partnership with mana whenua, and guided by this vision, the project identified the following core values and priority work areas, which formed the basis of the health and safety strategy:

- Establish efficient and effective means of assuring health and safety performance.
- Support and embed safe working behaviours.
- Enable continuous improvement through promoting best practice and sharing lessons learnt.
- Enhance the maturity of the management systems that contribute to all aspects of safety.
- Adopt human-centred design principles with deep empathy towards the users of the transport system, especially those who are most vulnerable.

Each priority area has several inter-dependent workstreams, and progress is reviewed regularly with mana whenua to ensure we remain on track to deliver our commitments.

CRL thanks mana whenua for their generous nature and valuable contribution to this project.



Lights, camera, action: 'Passengers' preparing to leave the train after the simulated incident.

Exercise Otira tests emergency response

Contributed by KiwiRail

As KiwiRail's core value is 'care and protect', it's important that we are prepared for any emergency situations that may come our way. In January 2021, we completed a live exercise in Otira Tunnel to test our on-ground emergency response and put our people through a life-like scenario.

Danielle Kaiwai and Glen Campbell from KiwiRail's Zero Harm Regulatory team, alongside other staff from the organisation, were instrumental in pulling the day together.

'The exercise was based around a scenario where a passenger train derails in Otira Tunnel,' says Danielle.

'We had a carriage full of staff and guests who acted as passengers, and some were given special roles to add complexity to the situation. These included argumentative passengers, someone experiencing an on-board medical event, and a severely injured Banker Locomotive Engineer on the ground in the tunnel who had to be evacuated by emergency services crew.'

The exercise involved working with several external agencies, including NZ Police, Fire and Emergency New Zealand, NZ Mines Rescue, St John New Zealand, the National Emergency Management Agency, and the Safer Rail team from Waka Kotahi.

The exercise, which followed an intensive and wide-ranging planning phase, was deemed a success and we received positive feedback from everyone who attended. It met all our objectives and we learned some lessons during the exercise that will help shape future improvements.

Mark Heissenbuttel, GM Operations South Island, says the Otira Tunnel exercise was a great example of several agencies working together.

'This was a great chance to review our safety processes within the Otira Tunnel and ensure a better understanding exists for all people who may be operating within the tunnel. The exercise was a great success and I would like to thank everyone for their efforts in making this exercise so valuable. The planning occurred over several months and was very professional.'

Work is now underway to implement the lessons from Exercise Otira and to plan the next series of exercises, which will focus on other credible scenarios as part of the wider KiwiRail National Emergency Exercise Programme.

New research gives drivers a wake-up call

Contributed by TrackSAFE

Research into 10 years' of fatal and serious injury collisions between trains and vehicles is driving a new rail safety awareness campaign called Wake Up Calls.

The study, commissioned by TrackSAFE NZ, is the first time these incidents have been collectively assessed. The research was led by engineering consultant WSP and looked into serious and fatal vehicle crashes at level crossings between 2010 and 2020. The findings were published in June 2021.

TrackSAFE Foundation Manager Megan Drayton says the campaign addresses the fact that most vehicle collisions with trains occur in the mornings, with about a third involving drivers in the farming and horticulture professions.

'The research revealed that crashes were heavily biased towards provincial and rural locations. People in rural areas often start the day early, with a lot on their mind about the day ahead. Crossing railway tracks safely may not be something they are consciously considering at that moment.

'Human factors are the reason drivers are failing to avoid a crash. All the crashes analysed in the research were a result of the driver not realising a train was coming. This safety campaign is a wake-up call for people to remember to be alert at level crossings, to always look both ways for trains and to cross with care.

'We will be sharing the findings with KiwiRail and road controlling authorities to consider possible on-road measures to help minimise the risk, including better consistency of signage across the country and increased size of advance warning signs for level crossings on high-speed roads.'

As part of the research, information was extracted from the Waka Kotahi/NZ Police Crash Analysis System, KiwiRail's incident reports and Transport Accident Investigation Commission investigations.

Since the beginning of 2010, there have been 48 recorded serious or fatal crashes involving a train and a motor vehicle and two collisions with cyclists. Of these, 20 were fatal. Crashes resulting in injuries at level crossings have trended downwards since 2010, which is heartening.



Effective campaign: new research is improving safety at level crossings.

Why clear communication is a life-saver

On 26 November 2012, bulk mineral ore train 9104 was en route from Rankin Dam, near Coober Pedy, South Australia, to Pelican Point, when it exceeded the limit of its movement authority at a crossing station known as Tarcoola. The movement of trains worked on a system known as Train Order Working, which is a similar system to the Track Warrant Control in New Zealand.

The crew of train 9104 had been issued with an authority (TA 84) to travel to Tarcoola, occupy the branch line and wait for train 1PA8 to pass (a following passenger train that was faster and had a specified timetable). They were also required to wait for an opposing train 6WP2 (a bulk freight train carrying steel) to cross from the next station, at Fergusson, towards them at Tarcoola.

Following the departure of train 1PA8 from Tarcoola into the next station at Fergusson, the crew of train 6WP2 at Fergusson were issued with an authority to travel to Tarcoola and departed as authorised.

Train 9104 was stationary at Tarcoola for more than two hours before the Network Control Officer (NCO) contacted the crew to issue authority TA94, authorising them to proceed to Fergusson.

The NCO stated that they had clearance down to Fergusson and proceeded to issue a Conditional Proceed Authority, meaning the opposing train had to clear first before the order could be acted on.

The intended message was "clearance to Fergusson after fulfilling TA 84", but the train crew took this communication to mean they now had authority to depart Tarcoola and proceed to Fergusson.

continued on next page



Close call: Tarcoola Station in South Australia.

Once they were clear of Tarcoola siding they called the NCO to say so, a step that the crew normally took, but were not required to take. The NCO recognised the error and called for both trains to stop. The trains stopped 13km apart and tragedy was avoided.

That was not so in an earlier incident at nearby Mt Christie in 1997, where two trains collided. Five crew were injured, one seriously, there was a fire and significant damage to rolling stock.

In 2020 in New Zealand, a train and hi-rail vehicle collided when the vehicle accessed the line before the opposing train had cleared the on-tracking location.

One of the identified safety factors in this incident was the misunderstanding that arose because of the communication between the parties involved about the requirements of the Track Warrant, the safe working system in use for that area.

A further incident in 2020 occurred in a signalled area when the movement of a train within a yard was authorised by the controller and was seen as an authority to depart the yard by the locomotive engineer.

The authority did not extend beyond the signal (at red) located at entry to an active operational area. The points

ahead had not been set and the intended route was occupied by other trains. The signal was subsequently passed at danger. The locomotive engineer noticed the error and stopped the train, avoiding a more serious incident.

Communication is more than an exchange of words. It requires context and understanding of the situation for the recipient to make the right decisions about what actions need to follow.

These incidents highlight that systems in transport rely on humans to perform tasks in a sequential and highly disciplined manner to ensure safe operations.

Clear, unambiguous communications concerning the tasks to be undertaken need to be explained and understood if safety is to be maintained. The messages are safety-critical and discipline in dealing with these must be practised at all times.

These actions will always be necessary to avoid what could potentially lead to a catastrophic incident as the rail industry in New Zealand becomes busier.

Engineering technology and systems are developing, but the key to continued rail safety is how we are conducting ourselves today.

Nelson Railway Society claims safety award

Nelson Railway Society won this year's Waka Kotahi NZ Transport Agency Tourist and Heritage Rail Safety Award.

The announcement was made at the Federation of Rail Organisations New Zealand (FRONZ) conference in Gisborne on Queen's Birthday Weekend.

The society impressed judges with its application of risk management in building its new track. It identified potential risks to its equipment, its members and the public, and developed a programme to address those risks as it was developing and constructing the new line.

This risk-based approach identified several areas that needed addressing, including:

- the construction of the track could cause a rail vehicle to derail or roll over
- the safety of pedestrians and cyclists using public pathways to cross railway lines, during construction and after completion
- safety hazards for the public due to an area of a public park being used for reversing, and
- safety hazards for staff during construction.

The Waka Kotahi guidelines describe risk management as 'the process for ensuring an organisation has the most appropriate safety controls in place to reduce the likelihood of a workplace hazard causing an accident or incident'.

The Nelson Railway Society demonstrated the application of the principles of risk management to a major project. In arriving at their decision, the judges considered how the organisation presented its submission in accordance with the award criteria, including:

- the quality of the research and risk assessment supporting the initiative
- the robustness and completeness of other evidence supporting the initiative
- the attention to detail with developing and implementing the initiative
- how outcomes were measured.



Feeding back to industry on level crossing incidents

As New Zealand's rail safety regulator, we see reports of near misses at level crossings frequently. These incidents take a toll on train drivers, who are often the people who report them to NZ Police. To ensure train drivers are supported and encouraged to report near misses, Waka Kotahi has partnered with KiwiRail and Police to develop a reporting process that includes the appropriate feedback loops.

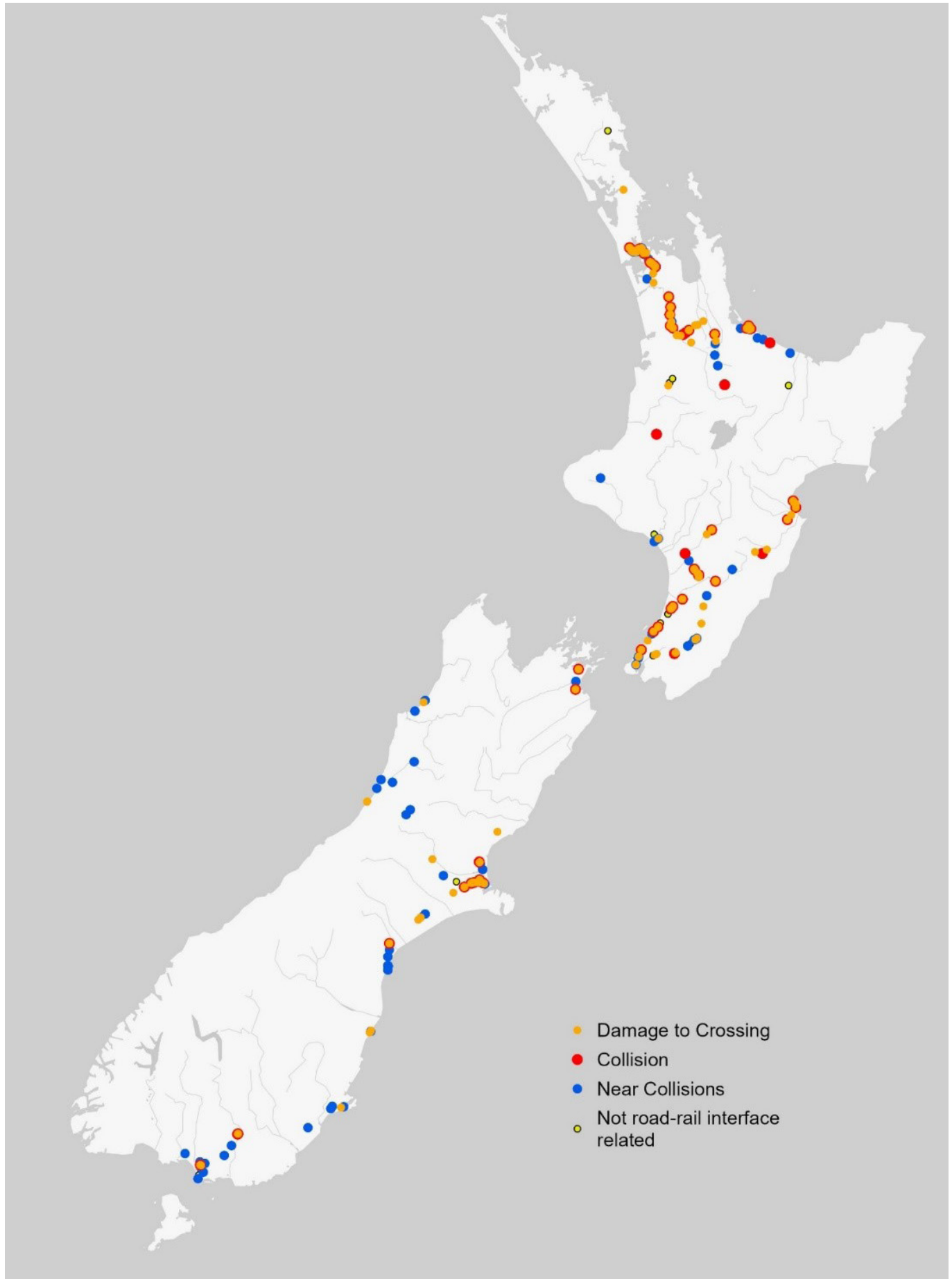
Instances where a train driver reports a near miss or poor driver behaviour to Police, with the supporting vehicle identification, are now actively pursued by Police and the outcome communicated back to the complainant and relevant agencies.

Creating an environment where incident reporting is encouraged has many benefits.

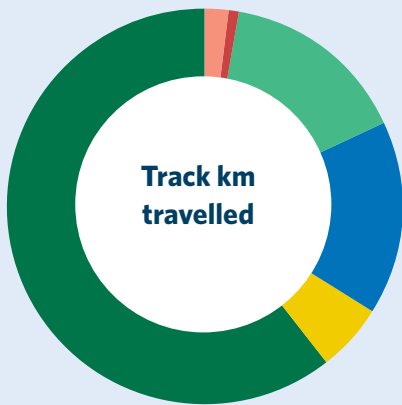
Ensuring train drivers are informed and reassured that Police have acted on their complaint helps prevent a culture of non-reporting from developing. It also provides the opportunity for Police to use the appropriate response to the offending vehicle driver. Finally, it provides Waka Kotahi with valuable data that can be used to help decide which tools from our regulatory toolkit should be used to continue to reduce risk and incidents.

This all fits with our Regulatory Strategy goals of being risk-based and intelligence-led, as a real-world regulator. Kotahitanga. Better together.

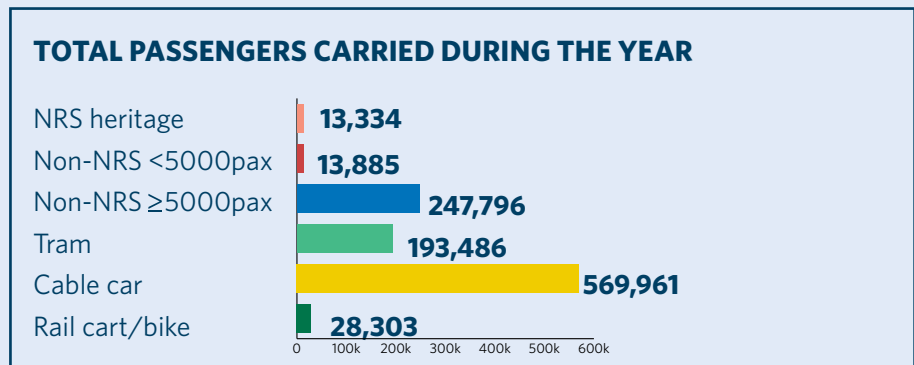
INCIDENTS AT LEVEL CROSSINGS FROM 1 JULY 2020 - 30 JUNE 2021



TOURIST & HERITAGE ACTIVITY



TYPE	TRACK DISTANCE	TRACK KM TRAVELLED
NRS heritage	68.7	6284
Non-NRS <5000pax	12.9	2745
Non-NRS ≥5000pax	61.0	45,168
Tram	6.8	46,757
Cable car	1.3	16,585
Rail cart/bike	210.4	179,052



SUB-SECTORS

NRS heritage

Organisations that provide tourist or heritage train experiences on the National Rail System as well their own rail network

Non-NRS train < 5000pax

Organisations that provide tourist or heritage train experiences off the National Rail System and carried fewer than 5000 passengers in 2019/20

Non-NRS train ≥ 5000pax

Organisations that provide tourist or heritage train experiences off the National Rail System and carried 5000 or more passengers in 2019/20

Tram

Organisations operating tram services

Cable car and funicular railway

Organisations operating funicular railways such as cable cars

Rail cart/bike

Organisations operating self-drive rail carts and rail bikes

Vehicle provider

Providers of rail vehicles for tourist and heritage operators



Helping hand: GVR offers assistance by providing industrial operator Winstone Pulp with a temporary loan locomotive.

Partnership keeps industrial rail on track

Contributed by Glenbrook Vintage Railway

One of the challenges within the New Zealand rail sector is the disparate nature of the work among separate groups, so the collaboration between a tourist and heritage operator and an industrial operator over the past year has been heartening.

Waka Kotahi Safer Rail licence managers undertook a Safety Case Variation for exchanging a shunting locomotive that needed urgent repair. The variation was to supply an industrial rail site with the same locomotive class while the original's repairs, upgrades and certification checks took place.

Normally this work is done by KiwiRail at the Hutt workshops in Wellington, but a large workload at the workshops meant it had to be completed elsewhere. Glenbrook Vintage Railway (GVR) came to the rescue, not only accepting the work to fix the Winstone Pulp locomotive, but also to complete an upgrade and supply a like-for-like locomotive to the industrial operator.

GVR General Manager Tim Kerwin is supporting Winstone Pulp by ensuring business needs are met so they're able to keep operating.

The GVR team delivered the locomotive by road and picked up Winstone Pulp's existing locomotive. The two organisations completed risk assessments and locomotive conversion training to ensure both locomotives functioned the same way.

GVR's passion to help the industry demonstrates how a rail licence holder has diversified its rail business in these challenging times and is a great example of the industry working together with guidance from Waka Kotahi.

Working in partnership

Having been together for a few years now, the National Rail Infrastructure Advisory Forum (NRIAF) has grown into a good size group of industry professionals coming together for the same purpose: to make rail safer for all users. The forum has a system-wide focus on issues facing industry.

Working together in a complex, expanding and fast-moving environment is hard because at the heart of it is a group of people who want the same thing but who don't individually hold all the levers. It takes courage to sit at the table and not have the answers, but walking through the door is the best start to working in partnership.

The group has recently been focused on a programme of work to identify areas where the greatest impacts can be made. This work has been ably stewarded by Edward Guy and Tom Lucas from Rationale. Both are passionate about safety and are really invested in the rail work.

In summary, NRIAF divided itself into six working groups to identify a common view of the problems and what opportunities exist to resolve them, and figured out that there are (unsurprisingly) a range that require short, medium and long-term attention.

The strategic level themes have been broken down into streams and work is under way to complete the multi-criteria analysis on them, which will identify what needs to happen next. We are grateful for the efforts of everyone who has participated, and would like to acknowledge workstream leads Russell McMullan from City Rail Link, Darryn Robin from KiwiRail and Jess van Slooten from Transdev Auckland.

Multi-criteria analysis is complex and takes time, but we anticipate this work will be completed before the next NRIAF meeting.

Also under the heading of "Working in partnership", the first Industrial Rail Users Forum was held in Auckland last February. The planned second meeting had to be postponed because of the impact of COVID-19. The first meeting was attended by industrial operators, KiwiRail and Waka Kotahi. This group is focused on issues facing industry.

Planning for the industry operators forum began in November 2020, when Waka Kotahi contacted some industrial operators to see if there was an appetite to start an informal network between themselves. The idea was that it would enable operators to share rail safety knowledge (practices, risks, incidents and improvement projects) and to build an effective channel for Waka Kotahi and the industrial sector to collaborate and communicate.

The forum in February was well received and it was heartening to see various areas of the rail industry collaborating so well.

There is likely to be more consultation with the rail sector in coming years as Waka Kotahi explores the development of rules and guidance. Historically, the industrial sector has not really been part of these discussions, but ideally industrial operators will eventually reach a position where they can start influencing safety expectations, rather than merely following board administrative rules.



Sharing knowledge: Participants at the Industrial Rail Users Forum.

Challenges facing railway workers

Contributed by the Transport Accident Investigation Commission



Carrying out work within the rail corridor can be a hazardous job and the risk is greater if safe working rules and procedures are not followed.

During the year to 30 June 2021, the Transport Accident Investigation Commission (TAIC) received more than 30 notifications of incidents where the safety of people working within the rail corridor was put at risk.

As at 1 June 2021, TAIC had three open inquiries into such incidents. In one, a worker was killed when his vehicle was struck by a freight train. In another, a worker was struck by a moving wagon and required hospital treatment.

So how can we improve safety for those working in the corridor?

Making clear rules

Clear rules are the basis for safe working practices. In late 2020 a recommendation was made to KiwiRail to review its rules and procedures so that appropriate guidance was given to workers – those managing the protected work area and those working within it.

Training in non-technical skills

To implement rules and procedures correctly, workers need to be proficient in 'non-technical skills'. These include communication, leadership, teamwork, decision-making, situational awareness and task management. Trains cannot stop quickly, so any breakdown in communication protocols or management of the work site can lead to unsafe situations.

Planning, risk assessments and controlling worksites

Before starting any work within the rail corridor, an assessment of the safety risks must be carried out to determine the level of safe working protections required. Before leaving the 'safe place', all workers must ensure they have received the required briefing and understand the safety risks.

The protection of people working within the rail corridor is a safety-critical process. Any confusion about the procedures or any departure from them can significantly increase the likelihood of a potentially fatal event.

Safety assessments valuable

As a part of our regulatory function, the Waka Kotahi Safer Rail Team undertakes ordinary safety assessments (OSAs) of all licensed rail participants. The frequency of the assessments and the areas assessed are determined from a risk profile on each operator. In the year to 30 June 2021, the Safer Rail Team completed 53 OSAs.

The results in the graph below represent total findings (about 300) by type (18) and participant type (5) for the 2020-21 period. Across all participant types, 70 percent of total issues identified fell under one of five finding types:

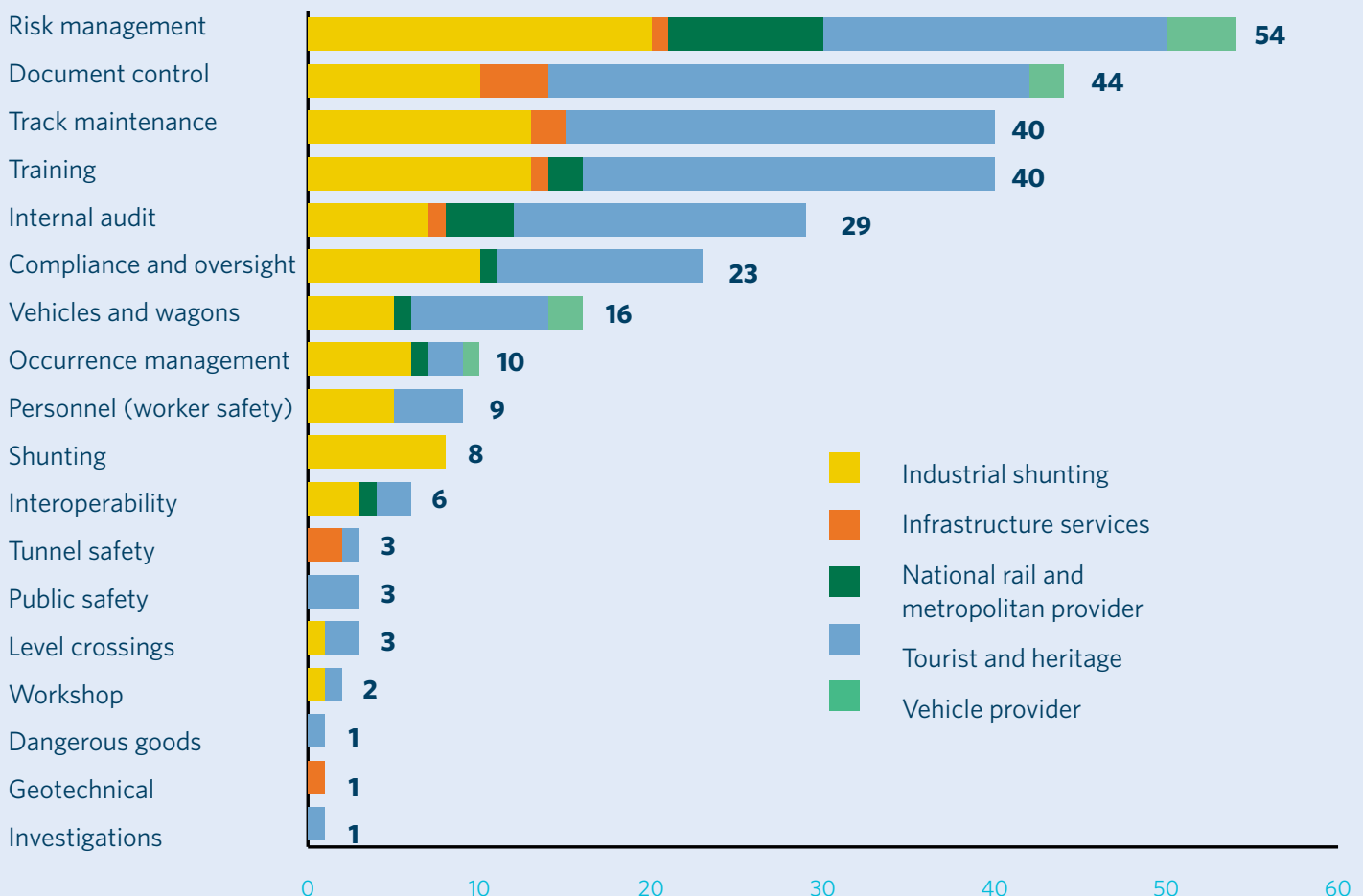
- risk management (18 percent)
- document control (15 percent)
- track maintenance (14 percent)
- training (14 percent)
- internal audit (10 percent).

Tourist and heritage and industrial shunting operations accounted for most participant findings, 52 percent and 32 percent respectively, while national rail and metropolitan providers, vehicle providers, and infrastructure service operations accounted for the remaining 16 percent.

When we identify issues with an aspect of a licence holder’s operations, we require them to address and resolve the findings raised, and provide guidance to assist them in their journey towards continuous improvement. Building and updating our guidance and resources for industry is a major focus of the Safer Rail Team.

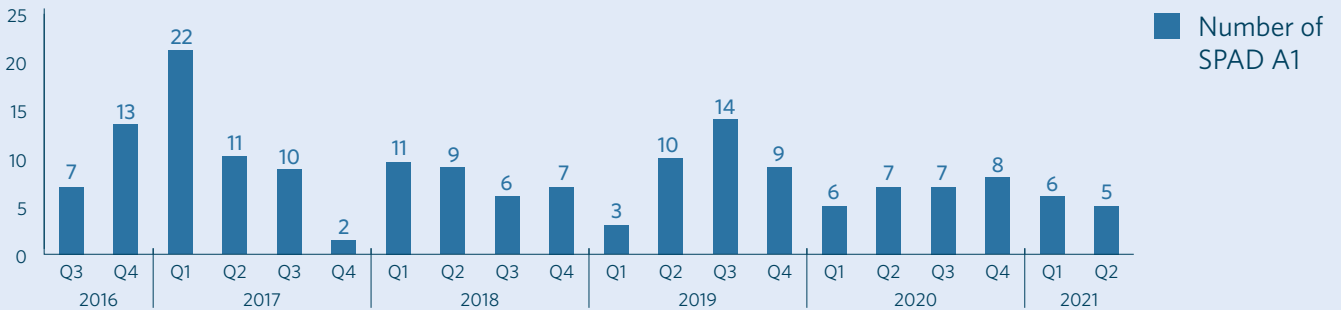
We encourage licence holders to engage with these valuable materials found at our webpage www.nzta.govt.nz/roads-and-rail/rail/

Ordinary safety assessment findings 1 July 2020 – 30 June 2021



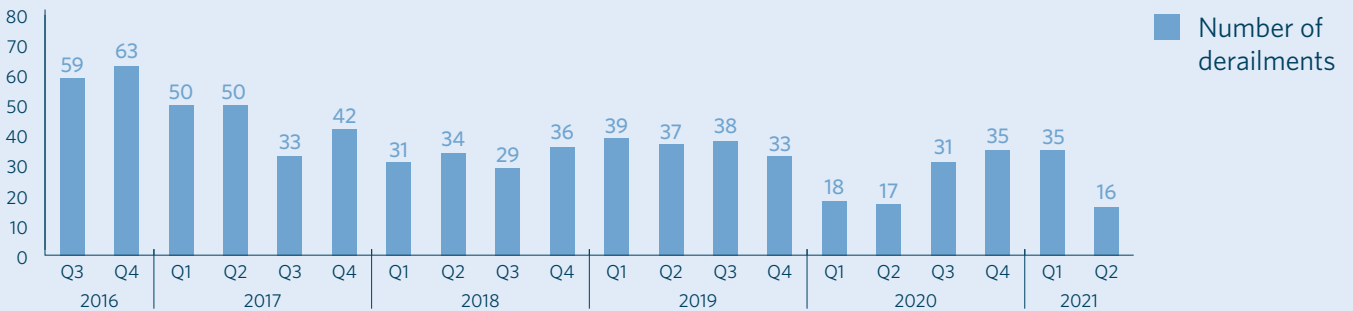
Five-year safety trends at a glance

Signal passed at danger (SPAD A1)



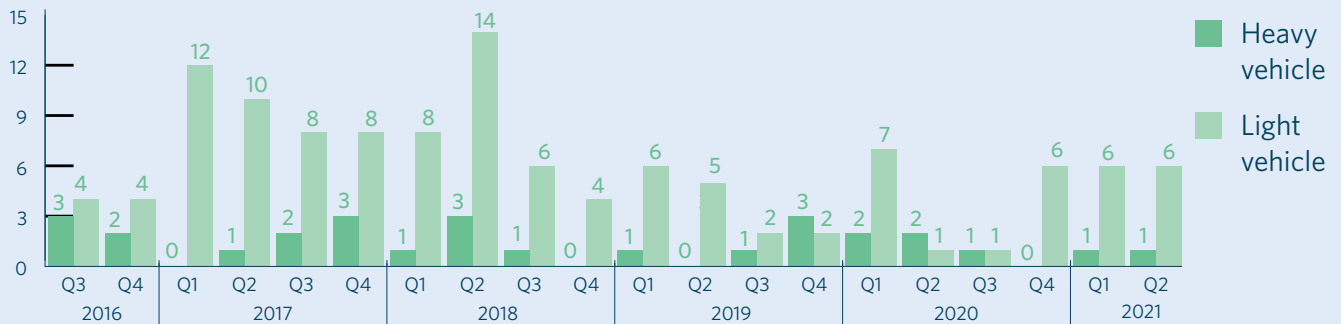
Signals passed at danger (SPAD): There were 26 SPAD A1s reported for the year ending 30 June 2021, a 30 percent decrease on the previous year.

Derailments



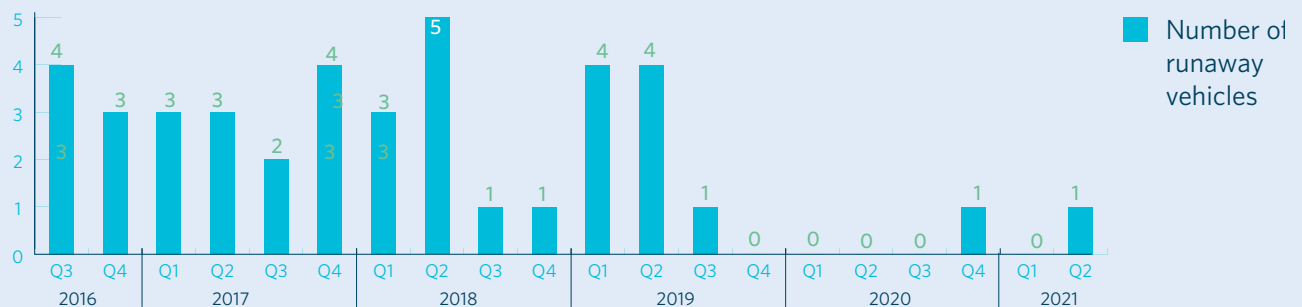
Derailments: There were 117 derailments (excluding lift-off derailments) for the year ending 30 June 2021, an increase of 10.4 percent on the previous year.

Collisions involving rolling stock and motor vehicles



Motor vehicle collisions: There were 22 collisions involving rolling stock and motor vehicles for the year ending 30 June 2021. Collisions involving heavy vehicles fell (62.5 percent), and collisions involving light vehicles rose (58.3 percent).

Runaway vehicles



Runaway vehicles: There were two incidents involving runaway vehicles for the year ending 30 June 2021, one more than the previous year.

