Te Ara Ki Te Ora – Te Rīpoata Aroturuki ā-tau 2021 | Road to Zero Annual Monitoring Report 2021

July 2022

Te Kāwanatanga o Aotearoa
New Zealand Government

Me mahi tahi tātou mō te oranga o te katoa ⌡ We work together for the wellbeing of everyone

TE MANATŪ WAKA
MINISTRY OF TRANSPORT

WAKA KOTAHI
NZ TRANSPORT AGENCY

NEW ZEALAND POLICE
Ngā Pirihimana o Aotearoa

He kupu nā te Minita | Ministerial foreword

Imagine an Aotearoa New Zealand where everyone can get where they're going safely.

Where it's safe to drive to work and home again, to go on a summer holiday roadie or visit whānau. Where it's safe to ride bikes and let tamariki walk to school. Where transport improves our health and wellbeing, creating liveable places for our communities.

This is our vision for Aotearoa New Zealand.

Our *Road to Zero* strategy is based on the belief that no-one deserves to die or be seriously injured on our roads, even when they make mistakes or are simply in the wrong place at the wrong time when a crash occurs.

Across the billions of kilometres travelled by New Zealanders every year, people will get it wrong sometimes, even those who consider themselves good drivers.

A *Safe System* approach lies at the heart of *Road to Zero*. This approach recognises that people are vulnerable, that we make mistakes, and that we need a whole of system approach to reduce the chances of crashes and mitigate the impacts of a crash when they do occur.

The *Road to Zero* action plan sets a target of achieving a 40 percent reduction in deaths and serious injuries by 2030. Achieving this target requires a concerted effort right across the country and communities to support a sustained reduction in trauma on our roads.

Road to Zero is not about any single initiative but about how we develop a *Safe System* that includes a combination of initiatives that will deliver safe vehicles, safe speeds, safe road users, effective enforcement and safe roads.

Improving road safety also improves our health and wellbeing, and supports connected, liveable places for our communities. We want people to feel safe to ride bikes and let our tamariki walk to school.

There are a lot of views about which action is the right action to take. Some people believe it's all about infrastructure. Some believe it's all about driver training and education. Some people believe it's all about speed. In reality, it's all of this and more. A safe system approach means looking at all aspects of the transport system and making evidence based interventions across a wide range of activity to make a difference.

This Road to Zero Monitoring Report looks back on 2021 and provides an update against the Road to Zero Action Plan 2020-2022. It outlines how we're progressing and how we are traveling towards achieving our goals. It also shows us where we need to further focus our efforts.

Our goal is long term, and the outcomes from the work we're doing may not be immediately evident in the short term. However, taking a systems approach and working on a portfolio of activity will help us get to our goal.

Our Government will do everything we can to reduce the number of deaths and serious injuries on our roads but this has to be a shared national effort. As a society, as communities, as families and as individuals, we need to fundamentally shift our attitudes to road safety.

By having a vision where no death or serious injury on our road is acceptable and working towards this goal with a clear plan and a hard target for 2030, we can save thousands of lives and prevent thousands of injuries, which is worth fighting for.

Hon Michael Wood
Minister of Transport

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How to navigate this document

This document consists of eight sections.

Section 1 sets out the background to the *Road to Zero* Strategy and action plan, and our monitoring framework for measuring progress.

Section 2 shows how we are tracking against our *Road to Zero* 2030 target, and breaks down the deaths and serious injuries that occurred on New Zealand's roads in 2021.

Section 3 provides a summary of progress that has been made on *Road to Zero* in 2021.

Section 6

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Section 8

Appendices

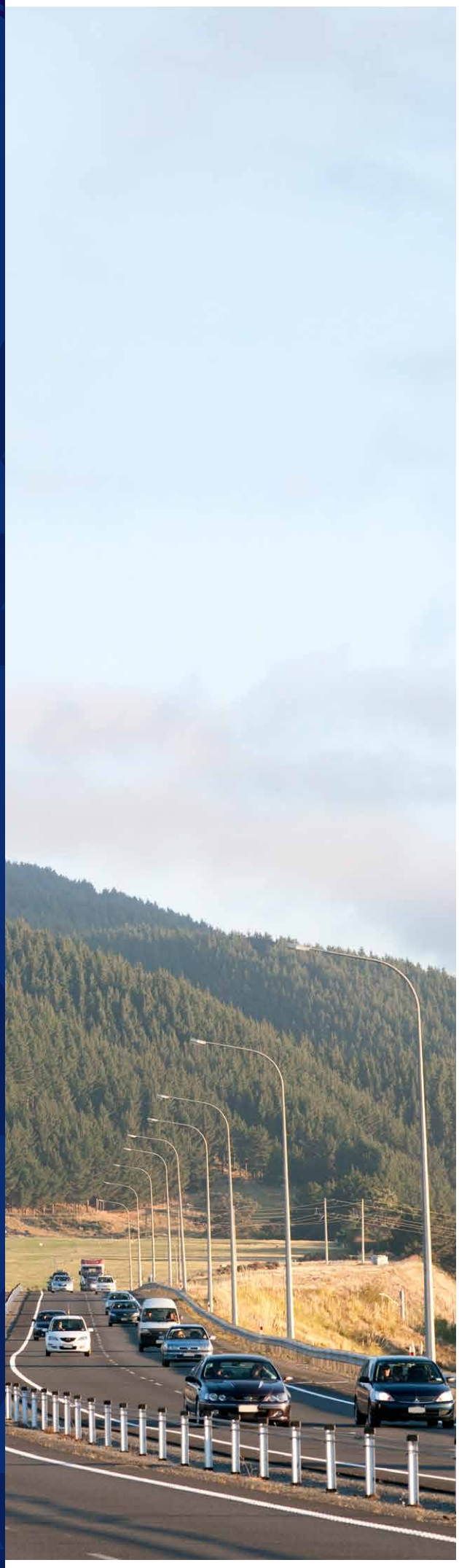
Sections 4-8 contain more detailed information on progress made on specific actions and how we're tracking against the specific safety outcomes and indicators for each of the five Focus Areas (Infrastructure and speed management, Vehicle safety, Work-related road safety, Road-user choices, and System Management).

A full list of indicators is set out in **Appendix 1**.

The number of deaths and serious injuries from each region is provided in **Appendix 2**.

Please note: The data presented in this report could differ slightly from road safety data presented elsewhere, such as in other *Road to Zero* annual monitoring reports. Much of the data provided in this report is drawn from the Waka Kotahi Crash Analysis System (CAS). Information from sources such as coroner's reports or Police traffic crash reports is sometimes supplied at a later date. As new information becomes available, CAS is subsequently updated and therefore the data may be different at a later extraction.

Section 1. Background



Road to Zero – New Zealand's road safety strategy

> When the *Road to Zero* Strategy was launched in 2019, approximately one person on average was killed every day on New Zealand roads, and another seven were seriously injured.[1]

In 2018, road deaths were the second largest cause of death from injury (after suicide) in New Zealand and more than half of major trauma injuries treated in our hospitals related to road crashes.[2] [3] The total social cost of crashes causing deaths or serious injuries in 2018 was $4.9 billion.[4] New Zealand performs very poorly compared with many OECD (Organisation for Economic Co-operation and Development) nations based on road deaths by population, by vehicle number and by kilometres travelled.[5]

To address this problem, *Road to Zero* – New Zealand's road safety strategy for 2020-2030 was published in December 2019. *Road to Zero* outlines a 10-year strategy to guide improvement in road safety in New Zealand from 2020.

Road to Zero sets out an overarching vision of a New Zealand where no one is killed or seriously injured in road crashes, with a target of 40 percent reduction in deaths and serious injuries by 2030. The vision and target are underpinned by seven principles and five Focus Areas (as set out in the diagram on page 7).

Vision

A New Zealand where no one is killed or seriously injured in road crashes

2030 Target

A 40 percent reduction in deaths and serious injuries (from 2018 levels)

Principles

- We promote good choices but plan for mistakes
- We design for human vulnerability
- We strengthen all parts of the road transport system
- We have a shared responsibility for improving road safety
- Our actions are grounded in evidence and evaluated
- Our road safety actions support health, wellbeing and liveable places
- We make safety a critical decision making priority

Focus Areas

- Infrastructure and speed
- Vehicle safety
- Work-related road safety
- Road user choices
- System management

1 Ministry of Transport (2021). Road deaths and injuries: Time series of casualty and crash categories. Wellington: Ministry of Transport. Retrieved from: https://www.transport.govt.nz/statistics-andinsights/safety-annual-statistics/sheet/road-deaths-and-injuries#element-926
2 Major Trauma National Clinical Network (2018). Annual Report 2017-2018. Wellington: Major Trauma National Clinical Network. Retrieved from: https://www.majortrauma.nz/assets/Publication-Resources/ Annual-reports/Annual-Report-2017-18.pdf
3 IPRU. (2012). Factsheet 42 – Causes of injury by age. Injury Prevention Research Unit. University of Otago. Retrieved from: https://psm-dm.otago.ac.nz/ipru/FactSheets/FactSheet42.pdf
4 Ministry of Transport (2020). Social cost of road crashes and injuries – June 2019 update. Wellington: Ministry of Transport. Retrieved from: https://www.transport.govt.nz//assets/Uploads/Report/ SocialCostof-RoadCrashesandInjuries2019.pdf
5 International Transport Forum (2020). Road safety annual report 2020. Paris: ITF OECD. Retrieved from: https://www.itf-oecd.org/sites/default/files/docs/irtad-road-safety-annual-report-2020_0.pdf

Road to Zero Action Plan 2020-2022

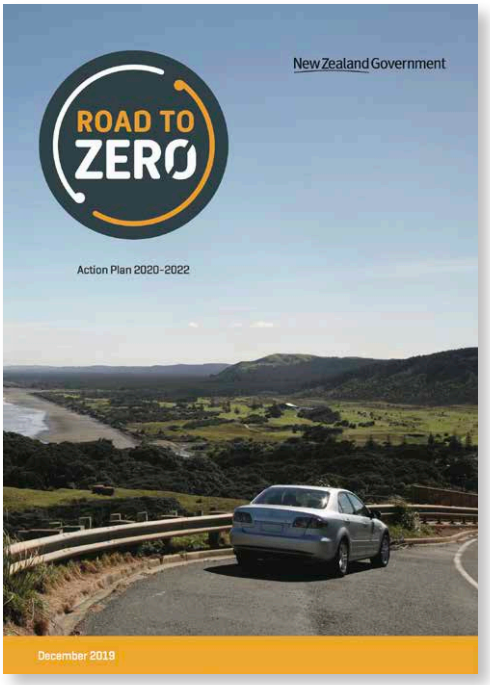
Road to Zero is supported by the Action Plan for 2020-2022.

A range of agencies are responsible for leading different actions, or the different components within individual actions, including:

- Te Manatū Waka Ministry of Transport (Te Manatū Waka), which is the steward of the transport system and the Government's principal transport adviser.
- Waka Kotahi New Zealand Transport Agency (Waka Kotahi), which is the Government's land transport delivery agency. It is a Crown entity, and its functions are set out in the Land Transport Management Act.
- the New Zealand Police, which is responsible for enforcement of both legislative and regulatory provisions relating to road traffic and transport. In addition to enforcement activity the Police also undertake preventative actions to improve road safety.

Other agencies such as the Accident Compensation Corporation (ACC), WorkSafe New Zealand and the Ministry of Business, Innovation and Employment, the Ministry of Social Development, the Ministry of Justice, the Ministry of Health and DHBs/health providers and services, as well as local government including Auckland Transport, non-government organisations, and transport industry partners, also have key roles to play.

Progress on each of the 15 actions in the Action Plan for 2020-2022 is key to laying the foundations for *Road to Zero's* 10-year change programme, with the delivery of some actions continuing over the term of the Strategy.



Action Plan 2020-2022

The 15 actions (categorised by Focus Areas) are set out below.

Focus Area	
1 **Infrastructure and speed**	1. Invest more in safety treatments and infrastructure improvements 2. Review infrastructure standards and guidelines 3. Introduce a new approach to tackling unsafe speeds (‘*Tackling Unsafe Speeds*’) 4. Enhance safety and accessibility of footpaths, bike lanes and cycleways (‘*Accessible Streets*’)
2 **Vehicle safety**	5. Raise safety standards for vehicles entering the fleet 6. Increase understanding of vehicle safety 7. Implement mandatory anti-lock braking systems (ABS) for motorcycles
3 **Work-related road safety**	8. Support best practice for work-related travel 9. Strengthen the regulation of commercial transport services
4 **Road user choices**	10. Prioritise road policing 11. Enhance drug driver testing 12. Increase access to driver licensing and training 13. Support motorcycle safety 14. Review road safety penalties
5 **System management**	15. Strengthen system leadership, support and coordination

What is the *Safe System* approach?

> The *Safe System* approach involves a holistic view of the road transport system and the interactions among road and roadside infrastructure, travel speeds, vehicles and road users.

A *Safe System* recognises that crashes are inevitable but deaths and serious injuries (DSIs) are not. Instead of simply asking: "Why did that person crash?", under a *Safe System* approach we would also ask: "Why was that person killed or seriously injured in the crash?"

The four *Safe System* principles under *Road to Zero* are shown below.

Traditional approaches to road safety assume that the root of the road safety problem is crashes. As a result, individual road users – who are often blamed for being "bad drivers", "careless cyclists", or "distracted pedestrians" – have historically been presented as the cause of the problem. However, international evidence shows that only about 30 percent of serious crashes are caused by deliberate violations and risk-taking behaviour, while the majority result from simple errors of perception or judgement by otherwise compliant people.[6]

The *Safe System* approach has been embedded into each of the five *Road to Zero* Focus Areas.

1	People make mistakes that lead to road crashes.
2	The human body has a limited physical ability to tolerate crash forces before harm occurs.
3	The responsibility for safety is shared amongst those who design, build, manage and use roads and vehicles.
4	All parts of the system must be strengthened so that, if one part fails, road users are still protected.

6 International Transport Forum, 2016.

Monitoring against the outcomes framework

> **Regular monitoring and reporting are critical to keep us on track towards our 2030 target, and provides a transparent way to assess and review progress on actions.**

Road to Zero has an outcomes framework that covers programme delivery, system performance and outcomes across all five Focus Areas. This enables us to take stock of where things are at, identify areas where more action is needed, and report publicly on our progress on an annual basis.

The annual number of deaths and serious injuries (DSIs) is reported for calendar years. This is because our overarching target on DSI reduction was set against the 2018 calendar year. Where appropriate, discussion on progress on *Road to Zero* actions has also been reported for the calendar year.

However, all other indicator data is reported by financial year (July to June) to align with the reporting time period for other monitoring reports. This means that for monitoring the progress of *Road to Zero* actions, we have used the 2018/19 financial year data as the baseline for most indicators. Where 2018/19 data is not available, we have used data from 2019/20 (or later) as the baseline.

Finally, some indicators have sub-targets associated with them. Where these exist, we have recorded them alongside 2018/19 and 2019/20 data in the relevant sections.

As noted in the Strategy:

- **Intervention indicators** measure progress of specific action plan initiatives. These will be published in each action plan to show how we intend to monitor the progress of those actions. The intervention indicators will be updated in each action plan to ensure that they stay relevant.
- **Safety performance indicators** are what we seek to improve through successful programme delivery. The safety performance indicators are enduring and will be monitored throughout the duration of the Strategy.
- **Safety outcome indicators** relate closely to the overarching goal, which is a 40 percent reduction in the number of deaths and serious injuries by 2030. Like the safety performance indicators, these indicators are enduring and will be monitored throughout the duration of the Strategy.

Programme Delivery

Intervention indicators measure progress of specific action plan initiatives.

These will be published in each action plan and will be updated in each action plan to ensure that they stay relevant.

e.g. percentage of the general public exposed to advertising and/or resources on vehicle safety ratings

System Performance

Safety performance indicators are what we seek to improve through successful delivery of programmes in each Focus Area.

The safety performance indicators are enduring and will be monitored throughout the duration of the Strategy.

e.g. percentage of the vehicle fleet with a high safety rating

Outcomes

Safety outcome indicators relate closely to the overarching 40% DSI reduction target for 2030.

Outcome indicators are enduring and will be monitored throughout the duration of the Strategy.

e.g. number of DSI crashes involving a vehicle with a low safety rating

Section 2. Deaths and serious injuries on New Zealand's roads in 2021

Target: A 40% reduction in the number of deaths and serious injuries (from 2018 levels) by 2030.

We have set a target to reduce deaths and serious injuries (DSIs) on our roads by 40 percent over the next decade. This is an intermediate target that will contribute towards achieving the *Road to Zero* vision.

This section reports on progress towards the 2030 target in the second year of the Strategy. Road deaths are defined as the instance where an injury or multiple injuries resulted in death within 30 days of a crash happening.

Road serious injuries include fractures, concussions, internal injuries, crushings, severe cuts, lacerations, severe general shock necessitating medical treatment, and any other injury requiring hospital detention or admission.

DSIs for the purposes of this report do not include deaths or serious injuries that are sustained in a crash but are not directly caused by the crash itself (for example, when the coroner determines that a driver died from a heart attack), nor do they include suicide or murder/assault. Only crashes that occurred on public roads are included, which excludes most parking lots or private driveways. Pedestrians are only included where a motor vehicle was involved.

We have set a target to reduce deaths and serious injuries (DSIs) on our roads by 40 percent over the next decade. This is an intermediate target that will contribute towards achieving the *Road to Zero* vision.

Progress in 2021

In 2021, there were 320 deaths and 2,295 serious injuries (total DSIs) on our roads (provisional figures).

While the number is still unacceptably high, this represents an 11 percent reduction from 2,979 in 2018 (see Table 1). Regional data is included in Appendix 2.

11%

Reduction in deaths and serious injuries since 2018

Table 1. Number of deaths and serious injuries, 2018-2021[7]

Year	Deaths	Serious injuries	Total DSIs	Reduction in total DSIs from the 2018 level	Standardised DSI rate	
					Per 100,000 population	Per billion vehicle-kilometres
2018	378	2,601	2,979	-	60.8	61.9
2019	348	2,520	2,868	-4%	57.6	59.8
2020	318	2,175	2,493	-16%	49.0	53.9
2021 (provisional)	**320**	**2,323**	**2,643**	**-11%**	**51.6**	**Not yet available**
2030 target	**<227**	**<1,561**	**<1,788**	**-40%**	**N/A**	**N/A**

We are on track to meet our target of a 40 percent reduction in DSIs by 2030. This is based on the latest DSI statistics, which are presented in Figure 1. In 2021 there was an 11 percent reduction in DSIs, which has fallen from the 16 percent decrease in 2020. This could be explained by the higher level of nationwide COVID-19 restrictions in 2020.

At this stage it remains difficult to assess the extent to which COVID-19 related effects have influenced DSI levels. We know that at least some of the reductions in DSIs were due to the impact of COVID-19. In 2021 COVID-19 continued to affect New Zealand's road safety performance. Temporary but recurring COVID-19 restrictions were in place

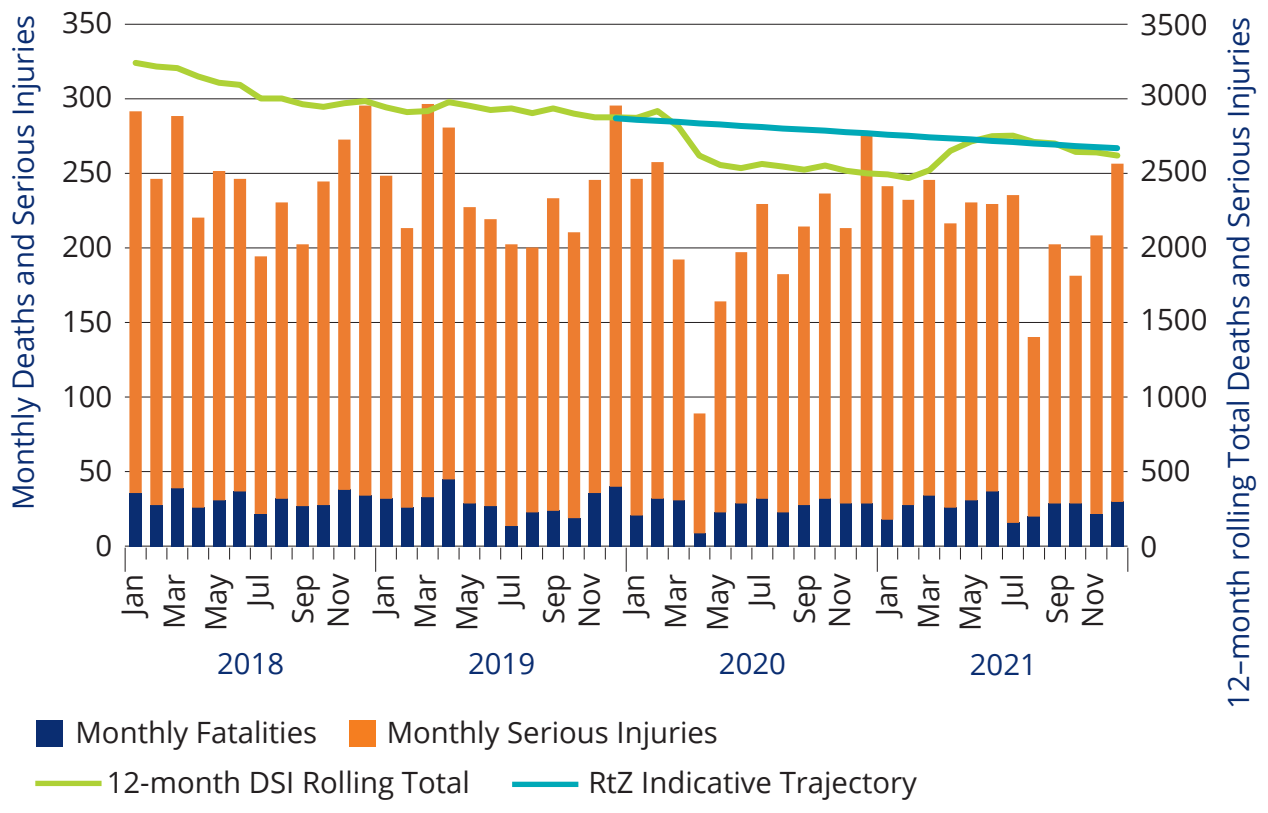
7 The numbers presented in this table are drawn from the Waka Kotahi Crash Analysis System (CAS). As new information becomes available CAS is subsequently updated and therefore the data may change at a later extraction. The numbers presented in this report could differ slightly from those presented elsewhere, such as in other *Road to Zero* annual monitoring reports.

during various periods throughout 2021. These restrictions affected population-wide travel patterns and consequently reduced the risk of crashes by causing a drop in trips taken, travel distance and road traffic.

This post-COVID-19 reduction in road fatalities is consistent with many other comparable countries, where a reduction in deaths has also been observed. National and regional health related restrictions, including direct or indirect restrictions on travel, were a likely contributor to this. While an international comparison of 2021 DSIs is not yet available, a recent report found an 8.6 percent decrease in road deaths in 2020 across 23 countries, when compared with the average for 2017-19.[8 9]

However, a regional breakdown in the report (see page 16) does show some substantial road progress in areas of the country that were less affected by COVID-19 restrictions.

Figure 1. Number of deaths and serious injuries, monthly figures and 12-month rolling total against planned trajectory



8 The 23 countries are members of the International Traffic Safety Data and Analysis Group (IRTAD). IRTAD is an organisation that aims to advance international road safety knowledge. It is managed by the OECD, and consists of more than 40 member countries, including New Zealand.

9 OECD/ITF (2021). Road Safety Annual Report 2021: The Impact of COVID-19.

Regional variation

In 2021 it was important to look at the road safety performance of different regions. COVID-19 had an uneven impact on different parts of the country. That was because the level and duration of restrictions varied between different regions, with the most affected regions in 2021 being Northland, Auckland and Waikato.

However, although all of New Zealand experienced an increase in 2021 DSIs compared to 2020, the increase was particularly high in Auckland and Northland (increasing by 9.2 percent and 14.1 percent respectively). Despite this increase, the total number of DSIs in Auckland remains below 2018 levels. This report does not contain the data and information that enables further investigation into the factors contributing to these regional differences, which may be a result of the various disruptions or restrictions resulting from the COVID-19 pandemic including those that have affected infrastructure improvements, road policing activities, and driving behaviours.

When looking at road safety performance across all New Zealand regions in 2021, we can see a large decline compared with 2018 levels in most New Zealand regions (see page 16). Several regions that were largely unaffected by COVID-19 restrictions (outside of the period from 17 August to 7 September 2021, when the whole of New Zealand was at either alert level 4 or 3) have had large reductions in DSI levels compared to 2018. Although this is encouraging – and indicates that we are on track to achieve our 2030 target – more time is needed to assess whether this represents a sustained reduction in DSIs.

When measured by DSIs per 100,000 people, there has been particularly impressive road safety performance in **Nelson** (62 percent decrease since 2018), **Marlborough** (50 percent decrease compared to 2018), Tasman (47 percent decrease compared to 2018), **Taranaki** (**28** percent decrease compared to 2018).

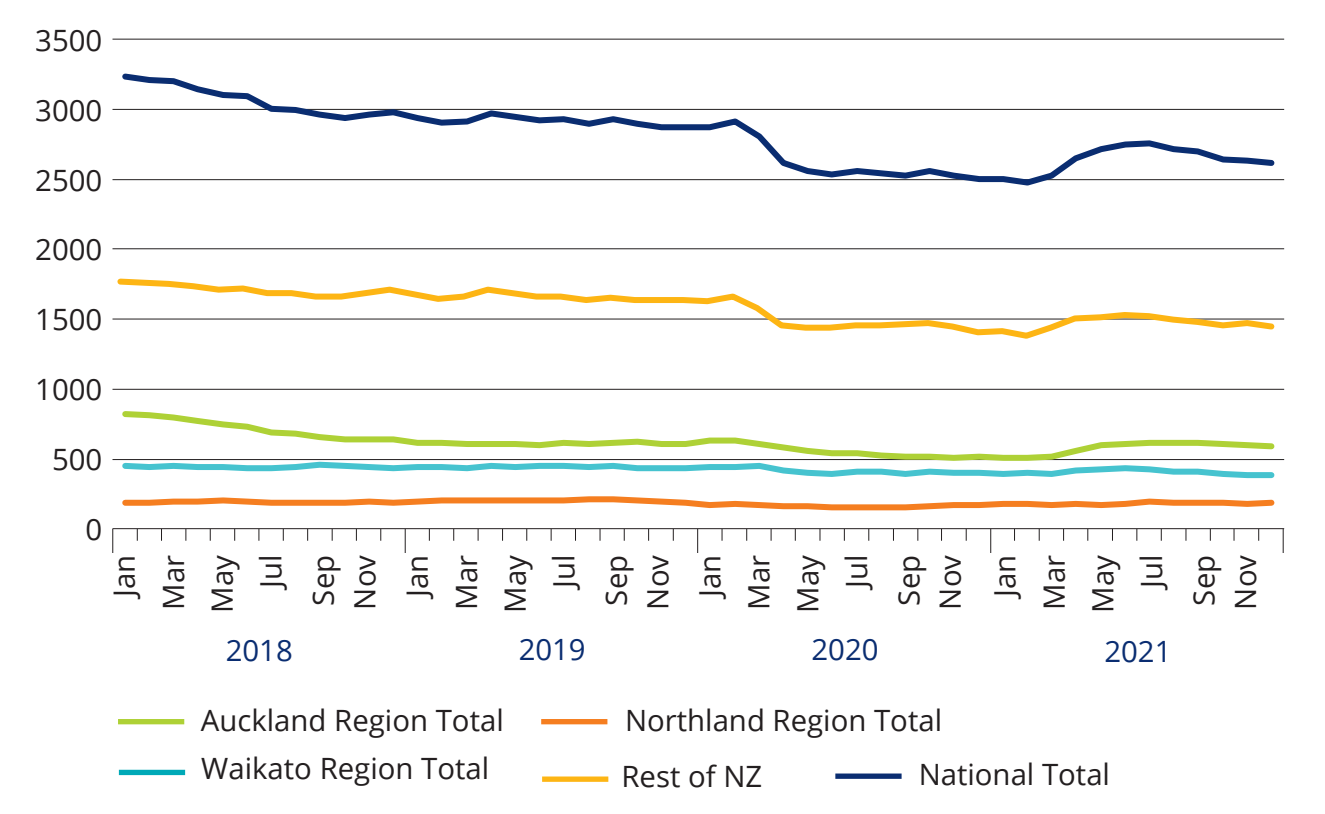
In our larger centres both **Wellington** and **Canterbury** had a 22 percent decrease on 2018 levels.

Gisborne (a 27 percent increase compared to 2018), **Manawatu-Whanganui** (a 3 percent increase compared to 2018) and **Northland** (a 5 percent decrease compared to 2018) are underperforming so far during the *Road to Zero* programme, and have experienced either only a small decline or have experienced an increase.

Table 2. Number of deaths and serious injuries in 3 regions most affected by COVID-related travel restrictions in 2021

	Total DSIs (change from previous year)			
Year	Northland	Auckland	Waikato	Rest of NZ
2018	187	643	439	1,710
2019	191 (+2.1%)	608 (-5.4%)	439 (0)	1,633 (-4.5%)
2020	173 (-9.4%)	518 (-14.8%)	406 (-7.5%)	1,405 (-14.0%)
2021 (provisional)	**189 (+9.2%)**	**591 (+14.1%)**	**386 (-4.9%)**	**1,449 (+3.1%)**

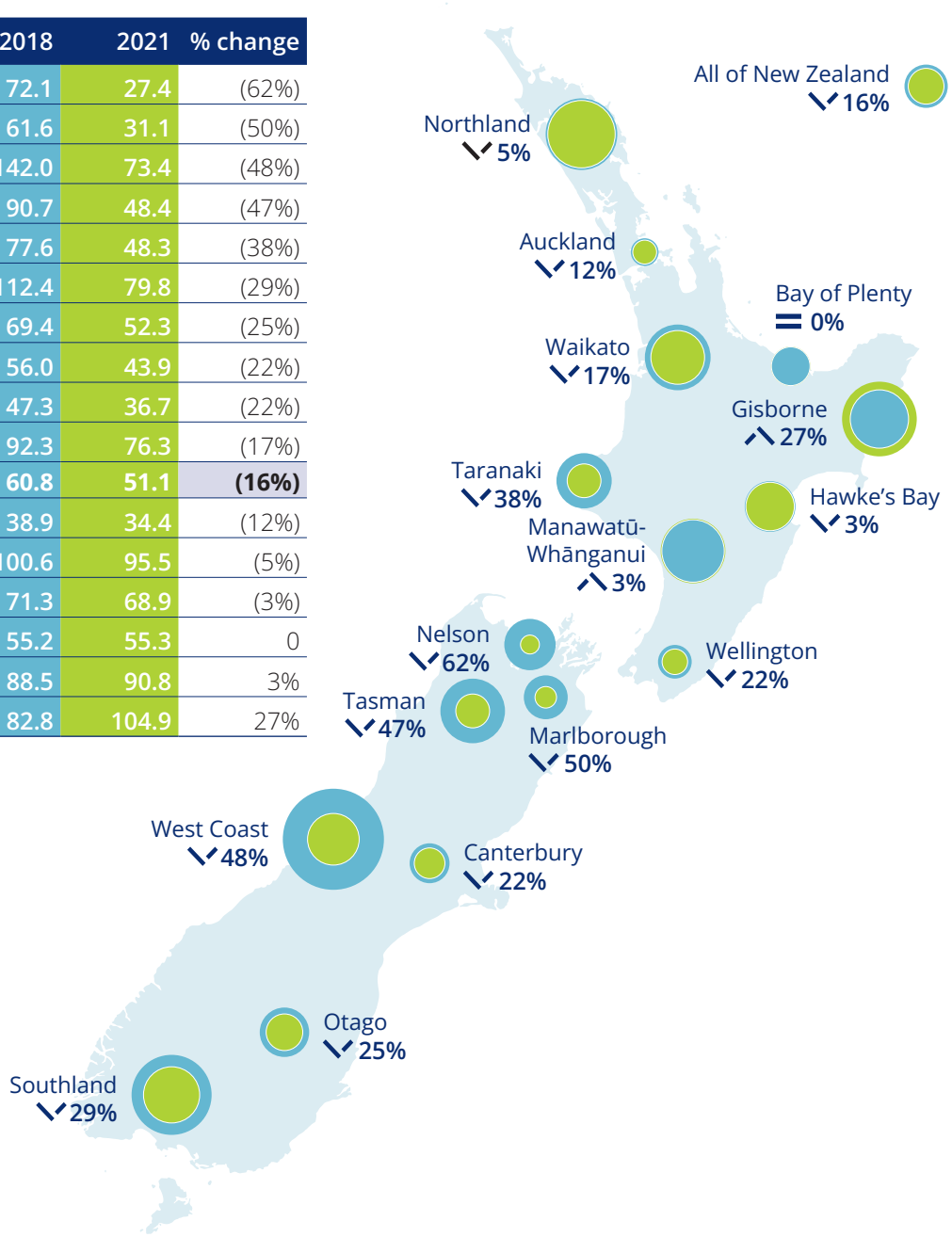
Figure 2. Number of deaths and serious injuries, 12-month rolling total, in 3 regions most affected by COVID-related travel restrictions in 2021



A breakdown of deaths and serious injuries in New Zealand for 2021

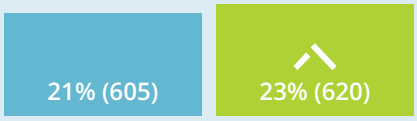
Number of deaths and serious injuries per 100,000 people by region in 2018 and 2021

Region	2018	2021	% change
Nelson	72.1	27.4	(62%)
Marlborough	61.6	31.1	(50%)
West Coast	142.0	73.4	(48%)
Tasman	90.7	48.4	(47%)
Taranaki	77.6	48.3	(38%)
Southland	112.4	79.8	(29%)
Otago	69.4	52.3	(25%)
Canterbury	56.0	43.9	(22%)
Wellington	47.3	36.7	(22%)
Waikato	92.3	76.3	(17%)
All of New Zealand	**60.8**	**51.1**	**(16%)**
Auckland	38.9	34.4	(12%)
Northland	100.6	95.5	(5%)
Hawke's Bay	71.3	68.9	(3%)
Bay of Plenty	55.2	55.3	0
Manawatū-Whānganui	88.5	90.8	3%
Gisborne	82.8	104.9	27%

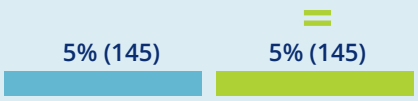


Contributing factors of all DSIs in 2018/19 compared to 2020/21

Speed (1.3.3)



Fatigue (3.3.5)

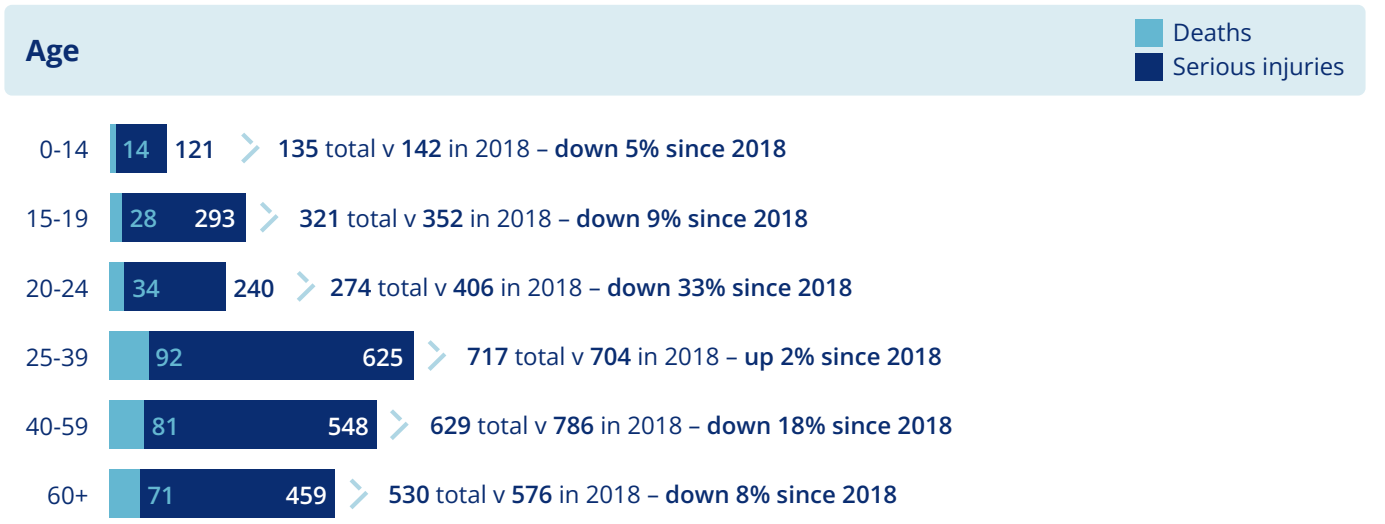


Involving alcohol/drugs (4.3.1)

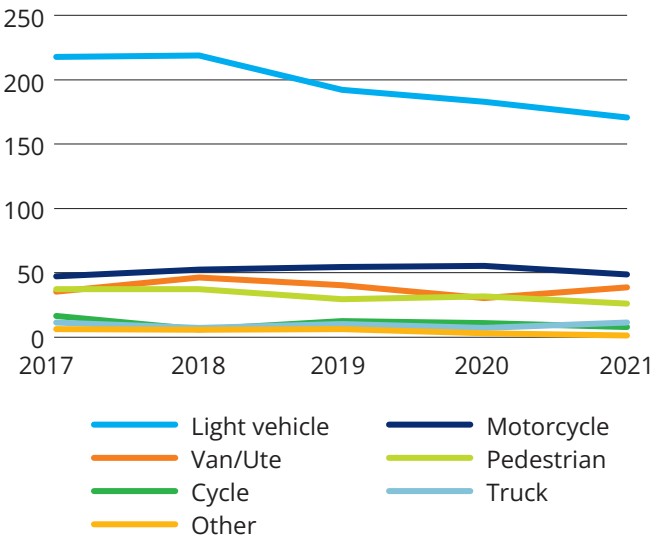
Gender

National DSI reduction = 11%

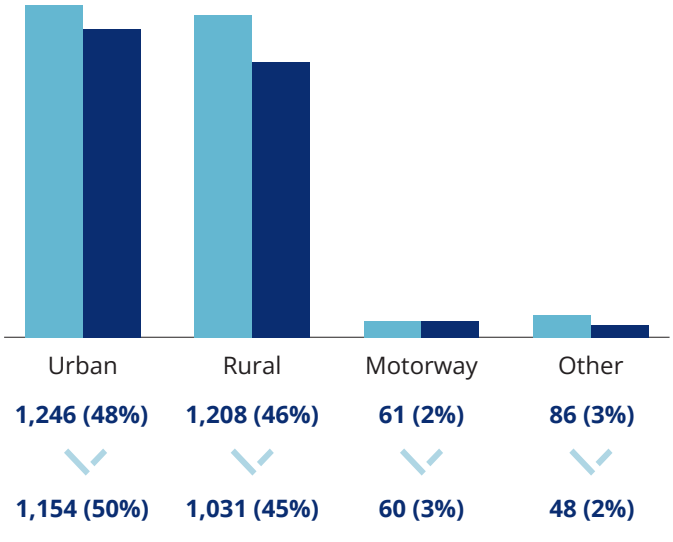
Age



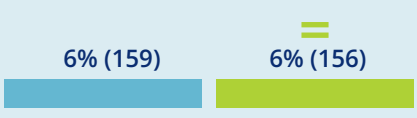
Mode
(Fatalities)



Rural/urban/motorway/other
(Serious injuries only)



Distraction **(4.3.3)**



Deaths where a restraint was not worn **(4.3.4)**

Number of unlicensed or disqualified driver DSI **(4.3.5)**

Section 3. Summary of progress on Road to Zero in 2021

Baseline assumptions (which are required to meet the 40% reduction target by 2030) on DSI reductions from *Road to Zero* actions.

Contribution towards the 2030 DSI target				
1	2	3	4	5
40-45%	25%	The actions in the *Work-Related Road Safety Focus Area* had not been fully developed during the initial *Road to Zero* modelling.	25-30%	It is not possible to model the specific effects of *System Management* on reducing DSIs. Effective System Management is an enabler of *Road to Zero* actions – it ensures the Strategy is informed by robust evidence and best practices, and that agencies are working together in pursuit of a shared goal.
1,192 total DSIs saved a year in 2030				

1 Infrastructure and speed

Action	Intervention indicator	What's happened in this space over 2021
Invest more in safety treatments and infrastructure improvements	 Kilometres of the network treated with new median barriers: 50km  Kilometres of the network treated with new *Supporting Safe System* interventions (including side barriers, rumble strips and wide centrelines): 301km  Number of intersections treated with *Primary Safe System* interventions: 71 roundabouts	The delivery of infrastructure treatments is not yet at the necessary rate. The consultancy Martin Jenkins have reviewed the Waka Kotahi infrastructure investment. Waka Kotahi will prioritise infrastructure investment and explore efficiencies to ramp-up the delivery of infrastructure treatments.
Review infrastructure standards and guidelines	 Progress around the review of infrastructure standards and guidelines: described in Section 4 of the report	This action is about embedding *Safe System* principles into New Zealand's infrastructure standards and guidelines. A number of key areas have been progressed with this action, including embedding the Standard Safety Intervention Toolkit with relevant parties, replacing the old road classification system with the improved One Network Road Classification, and developing and launching the Urban Street Guide.
Introduce a new approach to tackling unsafe speeds	 Kilometres of highest risk roads addressed through speed management: 4,478km  Mobile safety-camera deployment activity (hours): 61,199 hours	A regulatory programme to improve the way speed limits are set has been developed (see: Land Transport Rule: Setting of Speed Limits 2022), albeit this has been developed slower than the indicative timeline set out in the Action Plan 2020-22. Awaiting Cabinet approval. In the meantime, Waka Kotahi and road controlling authorities have made strong progress on implementing safer speed limits on high-risk areas of the network. Planning is underway to increase safety-camera coverage, which will be a key action in the next Action Plan.

Enhance the safety and accessibility of footpaths, bike lanes and cycleways		Implementing the *Accessible Streets* package: described in Section 4 of the report	A final package on *Accessible Streets* has been produced for Cabinet. This package has been developed behind the schedule set out in the indicative timeline from the Action Plan 2020-22, although the successful delivery of this action is not at risk. Waka Kotahi has begun planning to implement an education campaign to support the new rules.

2 Vehicle safety

Action		Intervention indicator	What's happened in this space over 2021
Raise standards for vehicles entering New Zealand		Progress around the delivery of a package of new safety standards for vehicles entering the fleet: underway in 2021/22	This action is behind the indicative schedule as set out in the Action Plan 2020-22, although significant policy progress can be expected to be made on this action over 2022. We are considering our approach to these issues and will be advising the Minister of Transport shortly on alternative ways forward.
Increase understanding of vehicle safety		N/A	During 2021 Waka Kotahi continued to work with the motor vehicle sector to ensure as many vehicles as possible display a vehicle safety rating and that these ratings are consistent, accurately applied and visible to consumers. In 2021 Waka Kotahi also made improvements to the Rightcar website, which among other things targets fleet commercial managers.
Implement anti-lock braking systems for motorcycles		Policy implemented to mandate ABS for new motorcycles over 125 cc by April 2020: done	All new and used models of imported motorcycles that come into New Zealand must have Advanced Braking Systems as of 1 November 2021.

3 Work-related road safety

Action		Intervention indicator	What's happened in this space over 2021
Strengthen commercial transport regulation		Progress around the review of logbook and work-time requirements as part of the 2019/2020 rules programme: underway in 2021/22	This action is behind the indicative schedule as set out in the Action Plan 2020-22, although significant policy progress can be expected to be made on this action over 2022.

Support best practice for work-related road safety	 Progress around private sector initiatives to establish best practice road safety standards in the supply chain: in progress Incorporate journey purpose into the Crash Analysis System: nearing completion	Substantial work has been undertaken to understand work related road safety, and to support businesses to improve their road safety practices. For example, Waka Kotahi has developed an app for fatigue management, made improvements to the Rightcar website to help in purchasing decisions of fleet managers, and improving the capture of journey purpose data.

4 Road user choices

Action	Intervention indicator	What's happened in this space over 2021
Prioritise road policing	 Number of sworn staff dedicated to road policing: 1,070  Number of breath tests conducted: 1,500,268	Road policing was severely disrupted throughout 2021. The disruption was particularly acute during periods where parts or all of the country were at COVID-19 alert levels 3 or 4. Much of the staff dedicated to road policing were abstracted to COVID-19-related duties throughout 2021. The pressure from COVID-19 related activities is expected to ease over 2022. Police have begun to make changes that will improve the quality and scale of road policing, such as introducing the *Safe Roads Control Strategy* and a road safety focussed operating model, *Safe Roads.*
Review road safety penalties	 Progress around the alignment of key road safety penalties and remedies to the appropriate framework: in progress	A policy proposal has been developed and was delivered to Cabinet in mid-2022. Final policy decisions will be made in late 2022. This work is behind the schedule set out in the indicative timeline from the Action Plan 2020-22, although the successful delivery of this action is not at risk.
Increase access to driver training and licensing	 Progress around improving access to driver training and to the licensing system: in progress	The Ministry of Social Development (MSD), Te Manatū Waka and Waka Kotahi are working together to improve access to the graduated driver licensing system (GDLS). Waka Kotahi began a review of the operation and delivery of the driver licensing system. Advice will be provided to Ministers in 2022. This work is behind the schedule set out in the indicative timeline from the Action Plan 2020-22, although the successful delivery of this action is not at risk.

Enhanced drug-driver testing	 N/A	The Land Transport (Drug Driving) Amendment Bill has passed through the House, allowing for a new roadside drug-testing regime. Police have begun planning to operationalise this regime. This work is behind the schedule set out in the indicative timeline from the Action Plan 2020-22, although the successful delivery of this action is not at risk.
Support motorcycle safety	 Number of licensed motorcyclists who have taken an approved training course: 14,292	Continued delivery of the motorcycle road safety training programme, Ride Forever, and on a second package of infrastructure safety treatments targeted at motorcyclist safety. Te Manatū Waka, Waka Kotahi, ACC and Police have commenced the motorcycle licensing review, albeit at a slower pace than the indicative timeline in the Action Plan 2020-22.

5 System management

Action	Intervention indicator	What's happened in this space over 2021
Strengthen system leadership, support and coordination • Strengthen national system leadership and coordination of road safety and support ongoing monitoring and evaluation. • Support effective regional responses. • Develop and share evidence. • Improve road safety outcomes for Māori. • Assist in public understanding. • Improve post-crash response.	 N/A	Established the *Road to Zero* governance structure and hired a programme director. Waka Kotahi continued to roll out *Safe System* training, such as the *Vision Zero* course pilot. Delivery of a national advertising campaign to build support for and understanding of *Road to Zero*.

Section 4
Focus Area 1: Infrastructure and speed management

Improve road safety in our cities and regions through infrastructure improvements and speed management.

Improving the safety of our roads is critical to reducing deaths and serious injuries (DSIs). New Zealand roads can be unforgiving, and the speed limits are not always safe for the road. Building a safe road network requires investment in infrastructure safety treatments proven to save lives, as well as ensuring that speeds across the network are safe, appropriate, and enforced effectively.

The *Speed and Infrastructure Programme* aims to create safer roads by reducing the risk of head-on and run-off-road crashes, urban and rural intersection crashes, and harm to vulnerable road users such as pedestrians and cyclists. The baseline modelling, which informed the setting of the 2030 DSI reduction target, predicted that key actions under the *Infrastructure and Speed Management Focus Area* will contribute more than 40 percent of the programme's targeted reductions in DSIs.

The *Infrastructure and Speed Management Focus Area* includes two of the most significant actions in the Road to Zero Action Plan 2020-22:

- Invest more in safety treatments and infrastructure improvements
- Introduce a new approach to tackling unsafe speeds

The other actions in this Focus Area are:

- Review infrastructure standards and guidelines
- Enhance the safety and accessibility of footpaths, bike lanes and cycleways

Progress on the overarching safety outcomes for this Focus Area, as well as each action and its relevant system performance and programme level indicators, is set out in this section.

For an explanation of the *Safe System*, see page 8.

Actions in this Focus Area and how we measure them:*

Invest more in safety treatments and infrastructure improvements

To assess how this action is tracking we measure:

- Kilometres of the network treated with new median barriers: 50km
- Kilometres of the network treated with new *Supporting Safe System* interventions (which include side barriers, and could also include other interventions such as rumble strips and wide centrelines): 301km
- Number of intersections treated with *Primary Safe System* interventions: 71 roundabouts

To track the performance of this action, we measure:

- Percentage of vehicle kilometres travelled on roads with speed limit above 80 km/h that have a median barrier: 28%
- Percentage of vehicle kilometres travelled on rural network that have a 3-star equivalent rating or better: 64%

Review infrastructure standards and guidelines

To assess how this action is tracking we measure:

- Progress around the review of infrastructure standards and guidelines: Described in this section

Introduce a new approach to tackling unsafe speeds:

To assess how this action is tracking we measure:

- Kilometres of the highest-risk roads that have had speed limit changes: 4,478km
- Mobile safety-camera deployment activity: 61,000 hours

To track the performance of this action, we measure:

- Percentage of road network where speed limits align with Safe and Appropriate Speed: 13.9%
- Percentage of the general public who understand the risk associated with driving speed: 97%
- Percentage of the general public who agree that they are likely to get caught when driving over the posted speed limit: 49%
- Percentage of the general public who agree that safety cameras are an important intervention to reduce the number of road deaths: 60%

Enhance the safety and accessibility of footpaths, bike lanes and cycleways:

To track the performance of this action, we measure:

- Perceived safety of walking/cycling

*How each indicator has changed over time is shown in this section.

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Safety outcomes

We measure the safety outcomes for this Focus Area through six indicators

Annual figures for these indicators are included in the table on page 27. Monthly figures are presented in Figure 1 (Section 2, page 13). This shows DSI trends over time, and how COVID-19 restrictions may have affected our results. There was a general downward movement in most of these indicators, suggesting that COVID-19 restrictions are unlikely to be the sole contributor to the reduction in DSIs over the preceding three years.

The 2020/21 figures presented in the table only represent the second year of *Road to Zero* interventions. As actions in this Focus Area progress – such as investing in road safety infrastructure and aligning the network with safe and appropriate speeds – the number of DSIs shown in these indicators is expected to decrease over time. The effect on DSIs will become more apparent as actions are progressively delivered.

Head-on and run-off-road DSIs: From 2018/19 to 2020/21, there has been a 5 percent decrease in the number of DSIs involving either a vehicle that has had a head-on crash, or a crash where the vehicle has run off the road. However the proportion of these DSIs from these crashes has remained roughly the same (52 percent compared to 53 percent). This indicator will be primarily affected by investments in road safety infrastructure, such as median barriers, rumble strips and side barriers.

Number of DSIs involving a crash where vehicles intersected: This indicator relates to DSIs sustained where the crash has resulted from vehicles intersecting (for example, where one vehicle hits another when merging or turning, which sometimes will be at an intersection but not always. Head-on crashes are captured by another indicator). From 2018/19 to 2020/21 there has been a 15 percent reduction in the number of DSIs that resulted from vehicles intersecting. The number of DSIs captured by this indicator dropped by a total of 77, and now makes up a smaller proportion of total DSIs, with 16 percent compared to 18 percent in 2018/19.

Number of DSIs with speed being a contributing factor: From 2018/19 to 2020/21 the number of DSIs where speed was a contributing factor increased by 15, and now make up nearly a quarter of all DSIs on New Zealand's roads. A recent study indicates that speed is likely to be an even more important factor in DSIs than previously thought (see page 35 under *Introduce a new approach to tackling unsafe speeds*).

From 2018/19 to 2020/21 the number of DSIs where speed was a contributing factor increased by 15, and now makes up nearly a quarter of all DSIs on New Zealand's roads.

Safety Outcome Indicators	2018/19 n (% of DSIs)	2019/20 n (% of DSIs)	2020/21 n (% of DSIs)
Number of head-on and run-off-road DSIs (#1.3.1)	1,504 (52%)	1,439 (57%)	1,437 (53%)
Number of DSIs involving a crash where vehicles have intersected (#1.3.2)	524 (18%)	367 (15%)	447 (16%)
Number of DSIs with speed being a contributing factor (#1.3.3)	605 (21%)	605 (24%)	620 (23%)
Number of DSIs where the speed limit does not align with the Safe and Appropriate Speed (#1.3.4)	Not available[10]	1,540 (61%)	1,575 (58%)
Number of pedestrian and cyclist DSIs (#1.3.5)[11]	514 (18%)	394 (16%)	481 (18%)
Number of ACC entitlement claims related to walking and cycling injuries (#1.3.6)[12]	1,320 cyclists and 3,067 pedestrians (4,387 total)	1,340 cyclists and 3,039 pedestrians (4,379 total)	1,338 cyclists and 3,000 pedestrians (4,338 total)

Number of DSIs where the speed limit does not align with the Safe and Appropriate Speed: The figures for this indicator were unavailable in 2018/19. However, since 2019/20 the number of DSIs where the speed limit does not align with the safe and appropriate speed increased by a total of 35. Despite this increase, as a percentage of total DSIs this indicator decreased to 58 percent, from 61 percent in 2019/20.

Number of pedestrian and cyclist DSIs: There was a 6 percent reduction from 2018/19 to 2020/21 in the number of pedestrians and cyclists killed or seriously injured where a motor vehicle has been involved.

Number of ACC claims related to walking and cycling injuries: We monitor the number of ACC entitlement claims related to walking and cycling injuries that occurred with or without the involvement of a motor vehicle. This indicator should be read together with the one above (1.3.5). Together, the two indicators provide a comprehensive understanding of safety outcomes of walking and cycling. The number of ACC claims reported for this indicator has remained roughly the same since 2018/19.

10 2018/19 Quarter 1 data is not available, and therefore, we could not calculate the annual figure for that year.
11 This indicator includes skateboards, in-line skates and wheeled pedestrians (such as wheelchairs and mobility scooters).
12 Data for this indicator is sourced from a live administrative database, and the number of claims for previous years has been re-extracted and updated in this report.

Figure 3. Number of DSIs that were head-on/run-off-road, where vehicles intersected, where speed was a contributing factor, and where the speed limit does not align with the Safe and Appropriate Speed (SaAS)

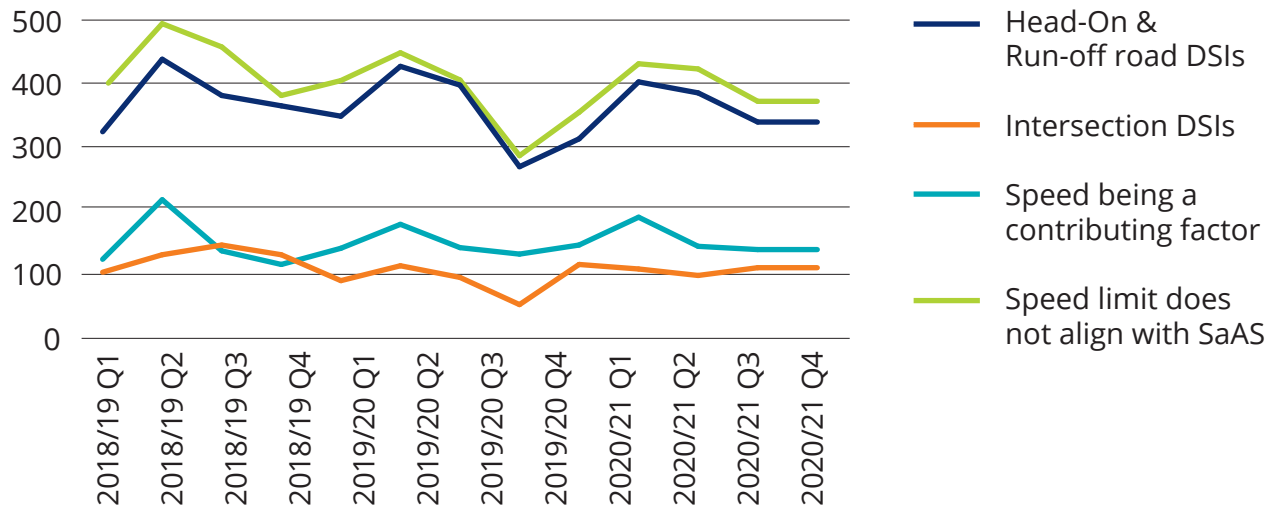
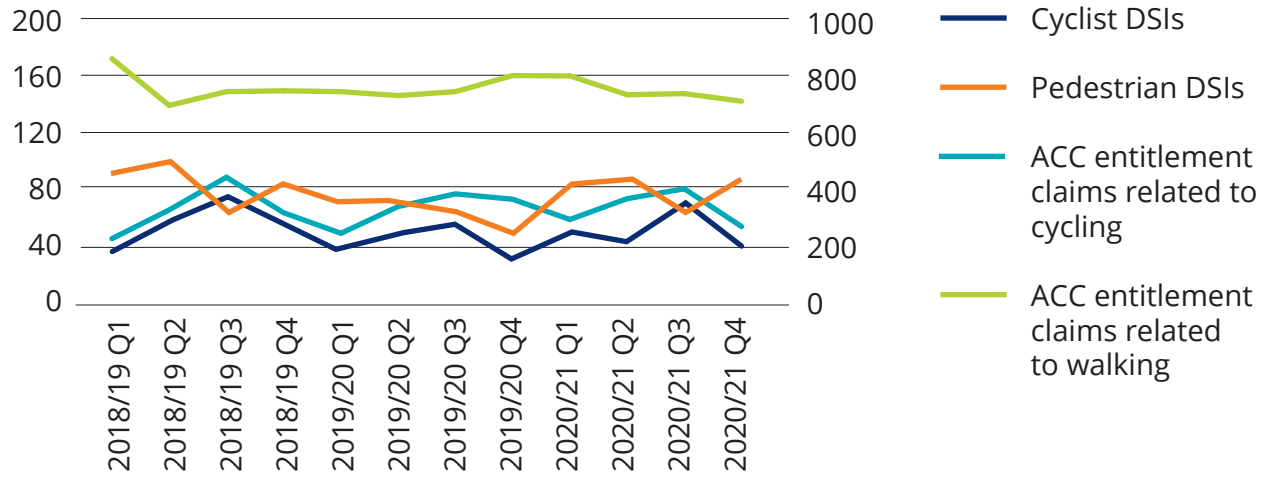


Figure 4. Number of pedestrian and cyclist DSIs and ACC entitlement claims relating to walking and cycling injuries



Progress on specific actions

Invest more in safety treatments and infrastructure improvements

	2018/19	2019/20	2020/21	Targets
Intervention Indicators				
Kilometres of the network treated with new median barriers (#1.1.1)	Not applicable	37km	13km (50km cumulative total)	400km by 2024 1,000km by 2030
Kilometres of the network treated with new *Supporting Safe System* interventions (which include side barriers, and could also include other interventions such as rumble strips and wide centrelines) (#1.1.2)	Not applicable	169km of side barriers	132km of side barriers (301km cumulative total)	1,700km by 2024 4,000km by 2030
Number of intersections treated with *Primary Safe System* treatments (#1.1.3)	Not applicable	Not available	71 roundabouts	500 by 2024 1,300 by 2030
Safety Performance Indicators[13]				
Percentage of vehicle kilometres travelled on roads with speed limit above 80km/h that have a median barrier (#1.2.1)	Not available	21.4%	28%	37% by 2024 51.8% by 2030
Percentage of vehicle kilometres travelled on rural network that have a 3-star equivalent rating or better (#1.2.2)[14]	Not available	63.6%	63.9%	70.6% by 2024 77.4% by 2030
Percentage of high-risk intersections treated with *Primary Safe System* interventions (#1.2.3)	Not available	Not available	Not available	25% by 2024 69.6% by 2030

Note: Network targets are for both State highways and local roads, but figures reported for the 2019/20 financial year are for State highways only. Local road data will be added for future reports.

13 Annual SPI figures are calculated from the nationwide MegaMaps dataset, which includes input from CoreLogic and national road asset register RAMM datasets. Figures for the year 2020/21 will include some variance due to modifications made to the input datasets and calculation methodologies.

14 We use the iRAP (international Road Assessment Programme) ratings system for this indicator. iRAP ratings are an objective measure of the level of safety which is 'built-in' to the road through more than 50 road attributes that influence risk for vehicle occupants, motorcyclists, bicyclists, and pedestrians.

The action *Invest more in safety treatments and infrastructure improvements* is focused on adding median and side barriers, rumble strips, wider centrelines, and roundabouts to New Zealand's roading network. In addition, this action is responsible for introducing safer speed limits on high-risk roads. For conciseness, this report covers the work underway to establish new speed limits under the action *Introduce a new approach to tackling unsafe speeds* (see page 35).

Road to Zero's baseline modelling indicated the following interventions would enable the Infrastructure and Speed Focus Area actions to contribute more than 40 percent towards the 2030 DSI target:

1,000 kilometres of median barriers on the network

4,000 kilometres of *Supporting Safe System* interventions, for example, side barriers

1,300 intersections treated with *Primary Safe System* interventions, for example, roundabouts

and tackling unsafe speeds on New Zealand's highest-risk roads

Improvements to roading infrastructure have significant potential to lower DSIs. By looking at the causes of road crashes we can gain some insight into how road safety infrastructure improvements can help prevent DSIs. Two-thirds of DSIs between 2011 and 2020 were caused by loss of control on a corner (29.9 per cent), head on crashes (21.6 per cent) and loss of control on a straight road (15.8 per cent). Greater use of median barriers and road engineering are important mitigations for the risks from these crash types.

To date there has been under-performance in the delivery of infrastructure improvements. By the end of the 2020/21 financial year, only 50 kilometres of median barriers had been installed on the network.

In addition, 301 kilometres of the network have been treated with new *Supporting Safe System* interventions. *Supporting Safe System* infrastructure interventions include all new infrastructure interventions on corridors except those sections identified for *Safe System Transformation* (median barriers) and speed-only interventions. *Supporting Safe System* interventions predominantly involve installing side barriers but could also include other interventions such as rumble strips and widened centrelines.

Finally, there have been 71 new roundabouts installed on intersections. Waka Kotahi is setting up systems to fully report on the number of intersections treated with *Primary Safe System* interventions. In the meantime, this report is able to measure the number of new roundabouts installed.

The *Speed and Infrastructure Programme:* Looking ahead

Latest forecasts from Waka Kotahi from November 2021 on what it can expect to deliver over the decade-long *Road to Zero* programme include approximately 587 kilometres of new median barriers on the network by 2030. The shortfall reflects the complexity in installing effective road safety infrastructure on existing corridors. The more effective road safety treatments, such as median barriers, are also more time consuming and expensive to install. Waka Kotahi continues to investigate measures to help increase this forecast towards the necessary rate.

Road to Zero provided an opportunity to set challenging goals as part of a programme of work to reduce DSIs by 2030. Striving to achieve those goals can drive significant improvements to planning, delivery and implementation processes. For example, Waka Kotahi will be implementing changes that will improve its ability to invest in and install road safety infrastructure. These changes will result in long-term improvements in road safety performance, and therefore will help provide a sustained and long-term reduction in DSIs. This benefit will extend beyond the decade-long *Road to Zero* programme.

In addition, the "joined-up" approach of *Road to Zero* also provides Waka Kotahi with an opportunity to holistically assess the programme's road safety interventions. On high-risk areas of the network where it will not be realistic to deliver meaningful infrastructure interventions by 2030, Waka Kotahi will look to improve safety on those corridors/intersections through other components of road safety. For example, although Waka Kotahi will continue to prioritise road safety infrastructure interventions, it will also continue to complement this work by aligning New Zealand's high-risk roads with safe and appropriate speed limits (see page 35, under *Introduce a new approach to tackling unsafe speeds*). This will be complemented by working with Police on key speed enforcement activities.

Work underway to improve the delivery of road safety infrastructure

In 2021 Te Manatū Waka commissioned an independent review into its road safety investment across infrastructure and road policing. The report, *Road Safety Investment and Delivery* was publicly released in early 2022. The purpose of this review was to gain a detailed understanding of how safety infrastructure investments (along with road policing activities) are prioritised, delivered and monitored.

The report found that there was a lack of alignment between the strategic direction of Waka Kotahi and decision-makers at an operational level. The review highlighted that this poor alignment has resulted in a lack of national consistency in the delivery of infrastructure improvements. The review also found that the existing prioritisation framework for assessing programmes of work within Waka Kotahi is not suitable for assessing the impacts of activities that achieve road safety outcomes. The existing framework has an emphasis on efficiency, which does not effectively capture the benefits of a road safety focussed programme.

Waka Kotahi has begun to implement changes in the way it delivers road safety infrastructure. Changes broadly relate to two areas: optimising decision-making and implementation processes and strengthening organisational and governance arrangements to ensure a greater focus on the delivery of infrastructure improvements.

Investment prioritisation: Waka Kotahi has committed to reviewing its investment prioritisation methodology. To be effective for a programme such as *Road to Zero*, investment prioritisation should accommodate the social benefits that come from improved road safety. Measures already taken by Waka Kotahi include the development of the *Standard Safety Intervention Toolkit*. The primary objective of the toolkit is to assist both Waka Kotahi and local authorities to streamline the process of investing in infrastructure improvements.

Planning efficiencies: Waka Kotahi will optimise how it prioritises road safety interventions by improving its analysis and investigation during the planning stages of infrastructure interventions. This will lead to efficiencies in how Waka Kotahi delivers infrastructure treatments. For example, more informed decisions on the benefits of *Safe System* interventions when building new infrastructure will lead to a better allocation of road safety resources.

In addition, Waka Kotahi has approved the *Road to Zero Speed and Infrastructure Business Case for Local Roads and State Highways*. This is intended to act as a single business case that will set the intervention treatment "philosophy" and the indicative level of investment for each corridor/intersection within the *Speed and Infrastructure Programme* until 2030.

Operational improvements: To ensure these changes filter through to an operational level, Waka Kotahi will strengthen the capabilities of its portfolio and programme managers. It will also work in partnership with local councils to support more aligned and coordinated delivery of road safety infrastructure treatments on local roads. Co-designing programmes with local government partners provides an opportunity to provide national-level consistency and focus.

Strengthened *Road to Zero* governance: Waka Kotahi, Te Manatū Waka and Police have established a dedicated executive-level governance structure, which will actively monitor and oversee the delivery of *Road to Zero* activities. This is discussed further on page 80, under *Focus Area 5 – System Management*.

Waka Kotahi will be implementing changes that will improve its ability to invest in and install road safety infrastructure. These changes will result in long-term improvements in road safety performance, and therefore will help provide a sustained and long-term reduction in DSIs.

Review infrastructure standards and guidelines

Intervention Indicator	2018/19	2019/20	2020/21
Progress around the review of infrastructure standards and guidelines (#1.1.4)	Not applicable	Described in the Year 1 report	Described in table on page 34

This action is about embedding *Safe System* principles into New Zealand's infrastructure standards and guidelines (see page 8, *What is the Safe System approach?*"). For example, when making improvements to intersections or road corridors, Waka Kotahi invests in road safety infrastructure improvements that retrospectively apply the *Safe System* approach to the existing network.

New Zealand's transport planners, designers and engineers should plan, design, and build infrastructure in a way that contributes towards *Safe System* outcomes. All new road infrastructure should include *Safe System* treatments in every project. This would save lives and prevent expensive retrofitting of measures after projects are completed. This is critical to achieving a step change in improving road infrastructure across the network by embedding *Safe System* principles into the transport network.

Waka Kotahi is leading a review and update of a suite of standards and guidelines to ensure they have *Safe System* principles embedded within them. The table overleaf summarises progress Waka Kotahi has made on this guidance to date. Overall, the programme has progressed as well as could be expected given the impact of COVID-19.

Case study: Championing the *Safe System* in Tasman

Tasman District Council, Nelson City Council, Waka Kotahi and the local Countdown supermarket partnered to improve the efficiency and safety of the Champion/Salisbury Road roundabout in Tasman.

With more than 17,000 vehicles passing through every day, this is the busiest roundabout in the region. Due to the high traffic demand, congestion was building during peak hours making it difficult for people walking and cycling to cross the roundabout safely.

The roundabout was upgraded with new turning lanes to cater for the increased traffic demand. Raised safety platforms were also installed at two of the four entries to mitigate any safety risks that were created with the new turning lanes. These platforms ensure people turning will be travelling at low enough speeds that if a crash was to happen, everyone involved is more likely to walk away unharmed.

This is just one example of the *Safe System* being implemented in practice on New Zealand's roading network. More case studies that highlight the infrastructure improvements that are underway can be found on the Waka Kotahi website.[15]

15 https://www.nzta.govt.nz/safety/partners/road-to-zero-resources/safe-system-case-studies/

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Action	Summary
Embed the Standard Safety Intervention Toolkit	The first edition of the toolkit was finished in 2020, supplemented by draft guidance. This guidance was circulated to key parties early in 2021. It is now available on the Waka Kotahi website.
Embed Austroads Guide Integrating Safe System with movement and place for vulnerable road users	This has been embedded in the Street Guide (see Urban Street Design Guide update for detail). Key movement and place principles have also been embedded within the new One Network Framework (see below).
Update Road Safety Audit Guidance to embed the Safe System	A draft has been completed and is currently being reviewed internally by Waka Kotahi before a final round of targeted industry feedback. Aiming for document to be finalised by 30 June 2022.
Replace the One Network Road Classification with the One Network Framework	The One Network Framework is the new national road classification system. It will be used to determine the function of our roads and streets, and inform decision making. In the context of *Road to Zero* it is an important component of the upcoming speed management guidance. The draft of the framework was completed early in 2020. Sector engagement on the framework continued throughout 2021, which included completing the design of the framework and all RCAs (local roads and State highways) have begun to map their networks to the framework.
Publish the Good Practice Guide to integrating land use and transport	The first edition of the Good Practice Guide was published in December 2019. Version 2 of the Guide is at scoping stage.
Embed the key elements of the National Policy Statement on urban development into existing planning frameworks	Work is ongoing through the Urban Growth Agenda partnerships to embed the National Policy Statement on urban development within spatial plans in Tier 1 urban areas (Auckland, Wellington, Tauranga, Christchurch, and Queenstown).
Develop and launch an Urban Street Design Guide	A pilot version was published in September 2021. Working on final version of Urban Street Design Guide.
Update the pedestrian planning and design guide	A draft update has been developed, but not yet publicly released. The aim is to complete this by June 2022.
Publish new public transport design guidelines	The initial focus was to develop guidance for six areas, including the safety of people getting to and from public transport. Some new public transport design guidance was released on the newly established Public Transport Design Guidance website[16] in early 2021. Further guidance has been drafted and is likely to be released over the course of 2022.

16 https://www.nzta.govt.nz/walking-cycling-and-public-transport/public-transport/public-transport-design-guidance

Introduce a new approach to tackling unsafe speeds

	2018/19	2019/20	2020/21	Targets
Intervention Indicator				
Kilometres of high-risk roads addressed through speed management (#1.1.5)	Not applicable	119km	4,359km (4,478km cumulative total)	3,500km by 2024 10,000 by 2030
Safety Performance Indicators				
Percentage of road network where speed limits align with Safe and Appropriate Speed (#1.2.7)[17]	Not available	9.9%	13.9%	15.5% by 2024 21.2% by 2030

Note: Additional speed-related indicators are reported under *Focus Area 4 – Road-user choices*.
Note: Network targets for intervention indicator #1.1.5 are for both State highway and local roads, but figures reported for the 2019/20 financial year are for State highways only.

Tackling Unsafe Speeds is the second major component of the *Infrastructure and Speed Management Focus Area.* This action will reduce DSIs on New Zealand's roads by:

- establishing a new regulatory framework for speed management,
- transitioning to safer speed limits around schools, and
- increasing safety-camera coverage.

In the event of a crash, regardless of its cause, the speed of impact is the most important determinant of the severity of injuries sustained and the probability of death. Evidence indicates that the more serious the crash the more likely that speed is involved. Taking a new approach to tackling unsafe speeds therefore has the potential to substantially reduce DSIs on New Zealand roads. In 2020/21 there were 1,575 DSIs – 54 percent of all DSIs – on roads where the speed limit is higher than the Safe and Appropriate Speed. There were 620 DSIs from crashes where driving too fast for the conditions was a contributing factor.

17 Annual monitoring figures are calculated from the nationwide MegaMaps dataset. It is important to note that some of the variance in this indicator is due to changes in the definition of "align", which has been revised to include speed limits that are equal to or below the SAAS.

FOCUS AREA 1

A recent study indicates that speed is likely to be an even more important factor in DSIs than the above figures indicate.[18] By combining evidence from different sources, the study has two important findings. First, that crash risk due to speeding is higher than the risk for non-speeding vehicles. Second, that there is potential under reporting of speed as a crash factor. The study estimates that speeding is involved in around 60 percent of all fatal crashes in New Zealand, and that speeds above New Zealand's assessed Safe and Appropriate Speeds are involved in around 70 percent of injury crashes.

Crash analysis is not an exact science and relies on the professional judgements of crash-responders. How that information is handled is the responsibility of the whole system. It might be possible to attribute more emphasis in crashes to speed as a contributing factor, but it would also be necessary to think about other contributing factors (which also may be subject to similar under-counting) in order to present a more complete picture. Regardless, alongside alcohol and drugs impairment, speed is considered one of the most significant contributing factors to DSIs on New Zealand's roads. Importantly, the *Road to Zero* actions reflect the significance of speed as a contributing factor. In addition, the indicators will show trends over time in the role of speed in causing DSIs.

What is a "Safe and Appropriate Speed"?

A "Safe and Appropriate Speed" is a calculated speed limit at which there is a low risk that a person in a crash will suffer serious injuries or a fatality. Road controlling authorities are encouraged by Waka Kotahi to progressively move the current speed limits on their roads to the Safe and Appropriate Speed.

The Safe and Appropriate Speed also takes into account how a section of road will be used. For example, does the road have children walking to school? Road controlling authorities would also need to consider other risks that exist on the road, for example whether it has a high number of intersections, and the design and infrastructure of the road.

Many of New Zealand's roads do not align with the Safe and Appropriate Speed. By the end of 2020/21, speed limits on 86.1 percent of New Zealand's road network were above what is safe and appropriate for the conditions. The *Road to Zero* programme with target speed limit changes will be made on the highest-risk parts of the network, so that any changes to speed limits will maximise their contribution to reducing DSIs. Speed management will also be complemented by, among other things, investing in road safety infrastructure treatments.

86.1% of New Zealand's speed limits are above what is safe and appropriate for the conditions (at the end of 2020/21)

18 Soames J. and Brodie C. (2022). Understanding the role of Speeding and Speed in Serious Crash Trauma: A Case Study of New Zealand. Journal of Road Safety 33(1). 5-25.

The work so far on tackling unsafe speeds

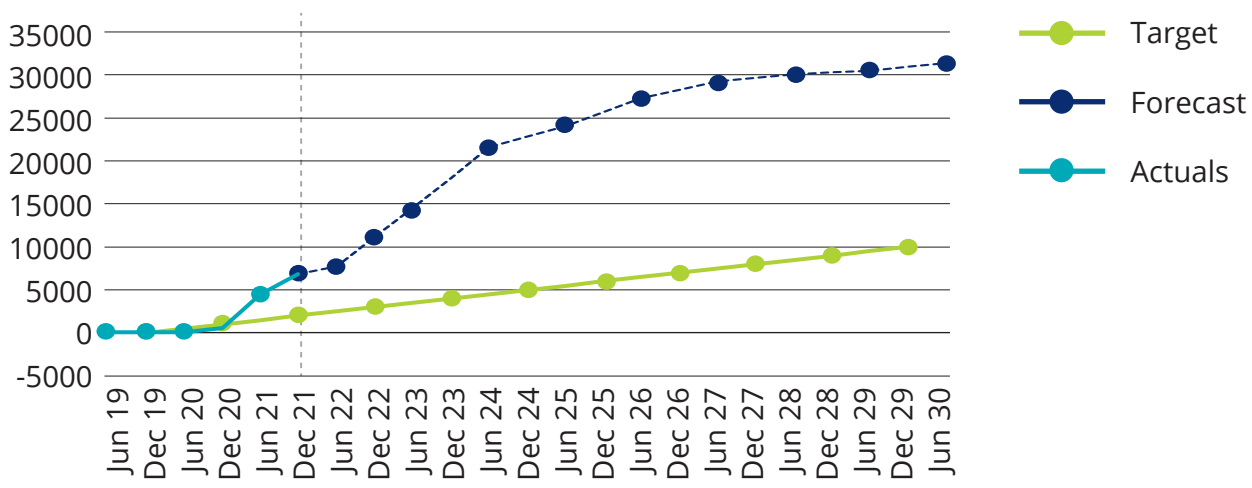
To tackle unsafe speeds, Waka Kotahi is targeting New Zealand's high-risk roads. In other words, it is targeting its speed treatment of high-risk corridors and intersections that will achieve the greatest DSIs saved and return the greatest benefits. The definition of high risk is based on DSI crash density (DSIs per kilometre), which enables Waka Kotahi to target the higher-risk roads that have a higher collective risk.

The initial target for this action was to implement safer speeds on 10,000km of high-risk roads by 2030. By the end of the 2021 calendar year the total length of network treated was 6,873km, with 671km on State highways and 6,202km on local roads.

Waka Kotahi forecasts from November 2021 indicate that this action will be able to deliver 31,359km by 2030 (see Figure 5). While this expected trajectory may be ambitious, with the help of the new Speed Rule (as described on page 39) the total is considered achievable.

Waka Kotahi launched *Safe Limits*, the road safety advertising campaign which began in November 2021. The campaign aims to increase public awareness and understanding of how setting safe speed limits plays an important part in keeping everyone safe – no matter how they travel. *Safe Limits* is a national campaign targeting all public aged 25 to 54 years and is planned to run for at least one year. This is being further supported by the *Road to Zero* public awareness campaign discussed on page 86 under the *Assist public understanding*.

Figure 5. Kilometres of the network treated though speed management interventions (actuals/forecast v baseline assumption)



Case study: State Highway 60 (Appleby Highway), Tasman

Tackling unsafe speeds is an effective way of savings lives on New Zealand's roads. This is shown in practice by the recent changes to speed limits on the section of State Highway 60 between Nelson and Blenheim, which is known as the Appleby Highway. In 2018, Waka Kotahi and Tasman District Council lowered speeds on this highway and nine neighbouring local roads to improve safety. The speed limits were reduced from 100km/h to 80km/h.

Three years on, safer speeds are saving lives. From 2008 to the end of 2018, eight people were killed and 24 were seriously injured on this stretch of road. Since the speed limit was reduced in 2018 until the end of 2021, there has been just one crash resulting in a serious injury on this highway. There have been no crashes resulting in a death since the speed limit changes in 2018.

A better approach to setting safer speed limits

The Government is tackling unsafe speeds by implementing a more efficient, consistent, and nationally and regionally coordinated regulatory process for setting speed limits. The current approach to speed management is costly and inefficient, and speed limits can be difficult and time consuming to change. New Zealand's roading network is unsafe as a result, with about 85 to 90 percent of our current speed limits being inappropriate for the conditions of our roads. In addition, because of a lack of system coordination, changes in speed limits are often not supported by appropriate infrastructure investments.

Throughout 2021 Te Manatū Waka and Waka Kotahi worked together on developing a new framework for setting speed limits. Over 2021 they finalised a package of policy proposals to address unsafe speeds. The near-final package was presented to the Minister of Transport for consideration in December 2021, with a view to Cabinet consideration by mid-2022.

In the meantime, road controlling authorities are already making progress to transition to the new speed management framework. Some are already using speed management plans under the current framework or are engaged in preparation.

The new framework will enable a more effective and consistent approach to setting speed limits. Road controlling authorities will no longer rely on complex, fragmented bylaws to set speed limits. The new speed management regime will include:

Speed management plans: Road controlling authorities will develop both territorial and regional speed management plans, which would be informed by the new Aotearoa New Zealand Speed Management Guide. Regional transport committees will encourage consistency by reviewing the speed management plans of road

controlling authorities and then consolidate those into regional speed management plans. Waka Kotahi, as the controlling authority for the nation's State highways, will also produce a speed management plan specially for State highways. Waka Kotahi will engage with regional road controlling authorities and regional transport committees on the State highway speed management plan.

The new Speed Rule: Te Manatū Waka and Waka Kotahi have also been developing the new Land Transport Rule: Setting of Speed Limits 2022 (the new Speed Rule), which will give effect to the new regulatory framework for speed management. Public consultation on the new Speed Rule occurred over April-June 2021. Te Manatū Waka and Waka Kotahi made final amendments to it over late 2021 and early 2022 to respond to consultation feedback and ensure fitness-for-purpose. The new Speed Rule was approved by Cabinet in early 2022.

Under the new Speed Rule, all speed management plans would be required to signal investment in safety infrastructure and locations for safety cameras, in addition to setting new speed limits. These plans would be developed with and by local government and bring together infrastructure and speed management planning and decision-making.

Prior to the new Speed Rule being introduced, road controlling authorities and regional transport committees have been encouraged to develop interim speed management plans. Many road controlling authorities across the country are already working to introduce safer speed limits in line with the new approach.

Te Manatū Waka aims to establish an independent Speed Management Committee. This committee would have the key role of reviewing the Waka Kotahi State highway speed management plan.

Speed around schools

Roading environments around schools are often complex and have high traffic volumes. Many children are unable to understand and manage road safety risks. There has been an average of 136 crashes a year over the last decade involving school-aged children outside schools where a child has suffered minor or serious injuries, or has been killed.[19] Such crashes are unacceptable. Implementing a system that is designed to minimise the occurrence and impact of those crashes is a crucial component of *Road to Zero*'s *Vision Zero* approach.

The Waka Kotahi guidance under the previous speed management regime was that the appropriate speed limit outside of schools was 40km/h outside of urban schools, and 60km/h outside of rural schools. However, fewer than 20 percent of New Zealand's schools actually had those speed limits in force.

In 2021 Waka Kotahi and Te Manatū Waka developed a package of advice on implementing changes to how speed is managed outside of schools. The advice has been informed by research that shows a pedestrian is four times more likely to be killed or seriously injured if struck by a vehicle at 50km/h compared to at 30km/h.[20] This package went to Cabinet in early-2022.

Improved speed management outside schools by requiring safer speed limits around schools would be enabled by the new speed management framework. The new Speed Rule (as described above) will require all road controlling authorities to transition to safer speed limits around all of New Zealand's schools by set timeframes. Under these new proposals, road controlling authorities would be required to include speed management around schools in their speed management plans.

19 Waka Kotahi – Crash Analysis System.

20 Kröyer. H. R. G., Jonsson, T., Varhelyi, A. (2014). Relative fatality risk curve to describe the effect of change in the impact speed on fatality risk of pedestrians struck by a motor vehicle. Accident Analysis and Prevention, 62, 143-152.

Increasing safety-camera coverage

	2018/19	2019/20	2020/21	Targets
Intervention Indicator				
Mobile safety-camera deployment activity (hours) (#1.1.9)	61,274 hours	62,090 hours	61,199 hours	80,000 hours a year
Safety Performance Indicators				
Percentage of the general public who understand the risk associated with driving speed (#1.2.10)[21]	Not available	97%	97%	-
Percentage of the general public who agree that they are likely to get caught when driving over the posted speed limit (#1.2.11)[22]	Not available	62%	49%	-
Percentage of the general public who agree that safety cameras are an important intervention to reduce the number of road deaths (#1.2.13)[23]	Not available	65%	60%	-

Safety cameras are an important intervention to reduce travel speed and, ultimately, to lower DSIs. Drivers are more likely to drive within speed limits when they know that there is a high risk of being detected for speeding. Extending safety camera coverage over more of the roading network will enable the new speed management regime (as described on page 38) to be effective at reducing DSIs. Safety cameras will also help lower speeds across parts of the network that have not had their speed limits lowered.

In 2020/21, a total of 61,199 hours of deployment activity was recorded by the Police. The target that had been set to increase this activity to over 80,000 hours per year by July 2021 was not reached. This number is achievable during the *Road to Zero* programme, but not with the current number of safety cameras in the fleet, nor with the numbers of trained camera operators. Further investment into increasing the fleet size and the number of camera operators will be necessary for the target to be reached.

To help measure the effect that safety cameras have in deterring speeding, Waka Kotahi surveys the public on whether they think that they are likely to get caught when driving over the posted speed (see indicator #1.2.11). This measure declined in 2020/21, from 62 percent in 2019/20 to 49 percent, illustrating that more needs to be done to increase the coverage of safety cameras to deter drivers.

21 % of adults who agree that the higher the speed you are travelling, the more serious the injuries you would receive in a crash.
22 % of adults who agree that they are likely to get a ticket when exceeding 110km/h past a police officer.
23 % of adults who agree that using safety cameras helps lower the road toll.

What Police and Waka Kotahi are doing to increase safety-camera coverage

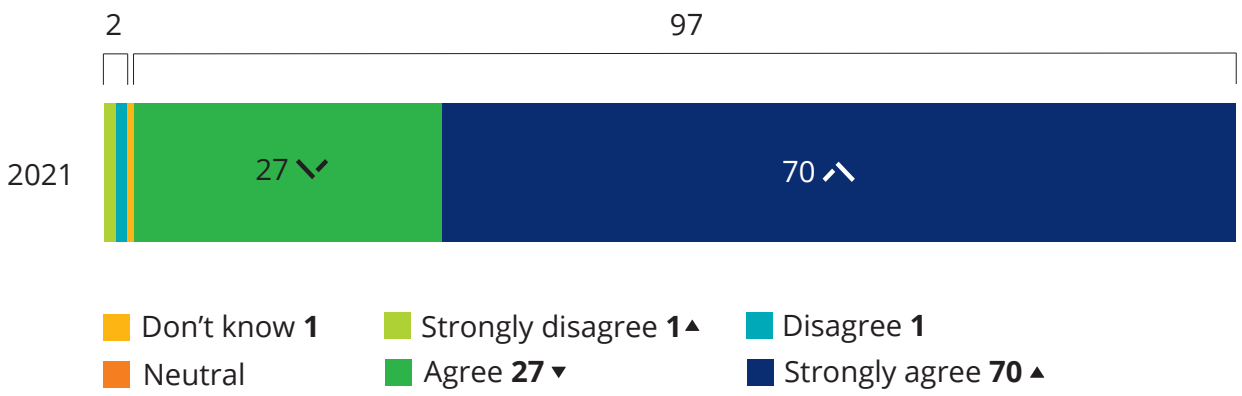
The target of 80,000 deployment hours can be achieved by increasing the resources dedicated to safety cameras. Camera breakdowns and lack of spare parts for cameras no longer in production have had a marked impact on the ability to deploy cameras for the required hours.

The *Mobile Camera Replacement Programme* is a Police-led programme conducted in consultation with Waka Kotahi. The programme will increase mobile safety-camera deployment by replacing older, less reliable mobile cameras with 45 new mobile cameras. The first five new cameras were available from April 2022 and the remaining 40 cameras deployed by mid-2022. The new cameras will break down less than the existing fleet, and be easier and quicker to repair. They will also be better at identifying the specific vehicles that are speeding.

Alongside the replacement programme, Waka Kotahi and Police have also been progressing the delivery of the new safety camera and infringement processing operating model. This includes transferring the ownership and operation of safety cameras from Police to Waka Kotahi. Police will still be responsible for officer-issued infringements. Waka Kotahi will be ready to commence the camera transition from about mid-2023, to be completed during the first half of the 2024 calendar year.

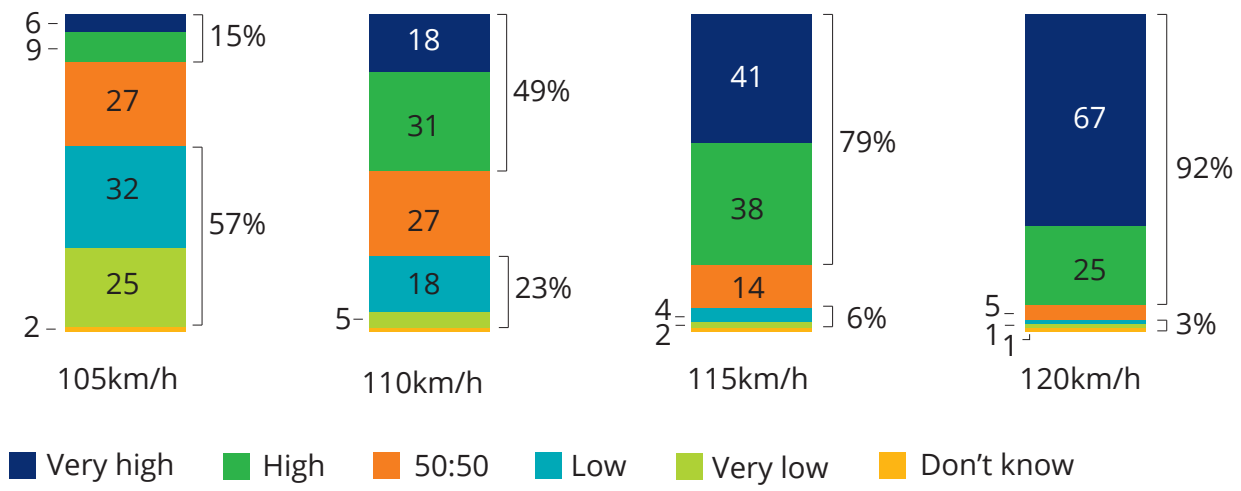
An independent quality assurance review in September 2021 concluded that Waka Kotahi has made significant progress with its programme for the safety-camera system. *Road to Zero* partnership agencies expect that the improvements described above will help expand the current level of safety-camera deployment from mid-2022. Planning work is underway to develop a safety camera programme, through both fixed and mobile safety cameras, to reduce DSIs at a similar level to *Road to Zero*'s baseline assumptions.

Figure 6. Level of agreement or disagreement with a statement relating to understanding of risk associated with driving speed



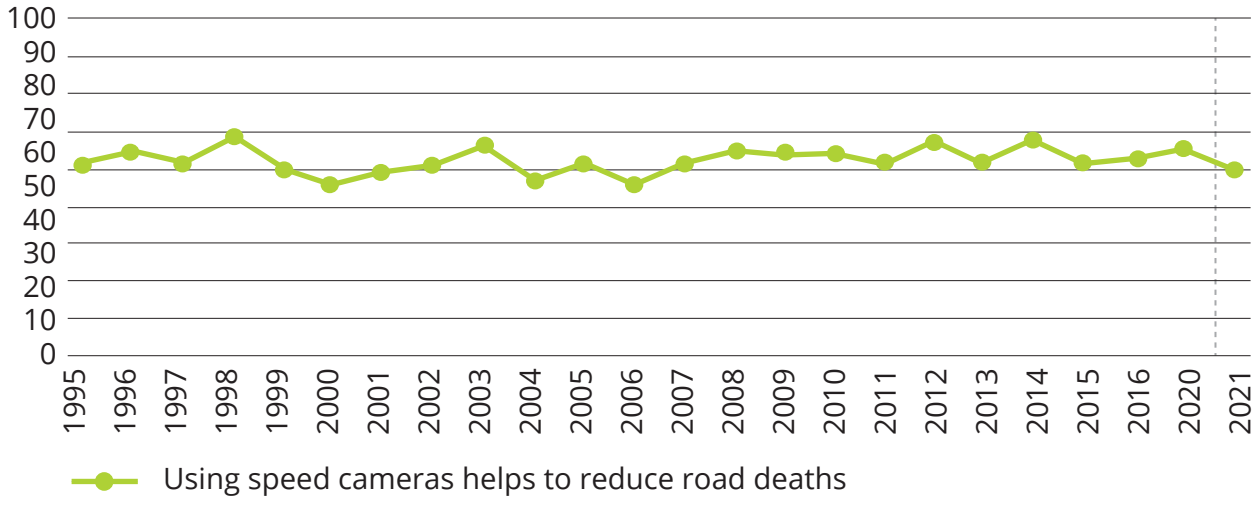
Source: KANTAR (2021). *Public Attitudes to Road Safety.* Prepared for Waka Kotahi.

Figure 7. Perceived chance of getting a speeding ticket on the open road if driving past a police officer at various speeds



Source: KANTAR (2021). *Public Attitudes to Road Safety*. Prepared for Waka Kotahi.

Figure 8. Level of agreement that safety cameras are an important intervention to reduce the number of road deaths



Source: KANTAR (2021). *Public Attitudes to Road Safety*. Prepared for Waka Kotahi.

Enhance the safety and accessibility of footpaths, bikes lanes and cycleways

		2018/19	2019/20	2020/21
Safety Performance Indicators				
Perceived safety of walking (#1.2.6a)	Urban roads	Not available	90%	Not available
	Urban centres		89%	
	Rural roads		47%	
	Around schools		87%	
Perceived safety of cycling (#1.2.6b)	Urban roads	Not available	69%	63%
	Urban centres		65%	65%
	Rural roads		38%	33%
	Around schools		77%	68%

Accessible Streets is a package of rule changes designed to increase the safety and accessibility of our footpaths, shared paths, cycle paths, cycle lanes and roads. By increasing the visibility and priority of path users, the rule changes aim to support the uptake of active modes of transport. The new rules would help to make our footpaths and cycle lanes safer and more accessible for all New Zealanders, whilst also improving our cities by supporting liveable and vibrant urban environments.

The proposed rules also respond to the increasing use of different transport devices on our paths and roadways, in particular the growth of "micro-mobility" devices such as e-scooters. These devices can play an important role in providing more choices for users of the transport system whilst at the same time helping to reduce emissions and congestion. However, because the devices are used in contested space on footpaths and roads, if not used safely they can pose risks to users of the transport system – not just to the people who use these devices but also to other users of the transport system, in particular pedestrians who may be vulnerable because of their age or a disability.

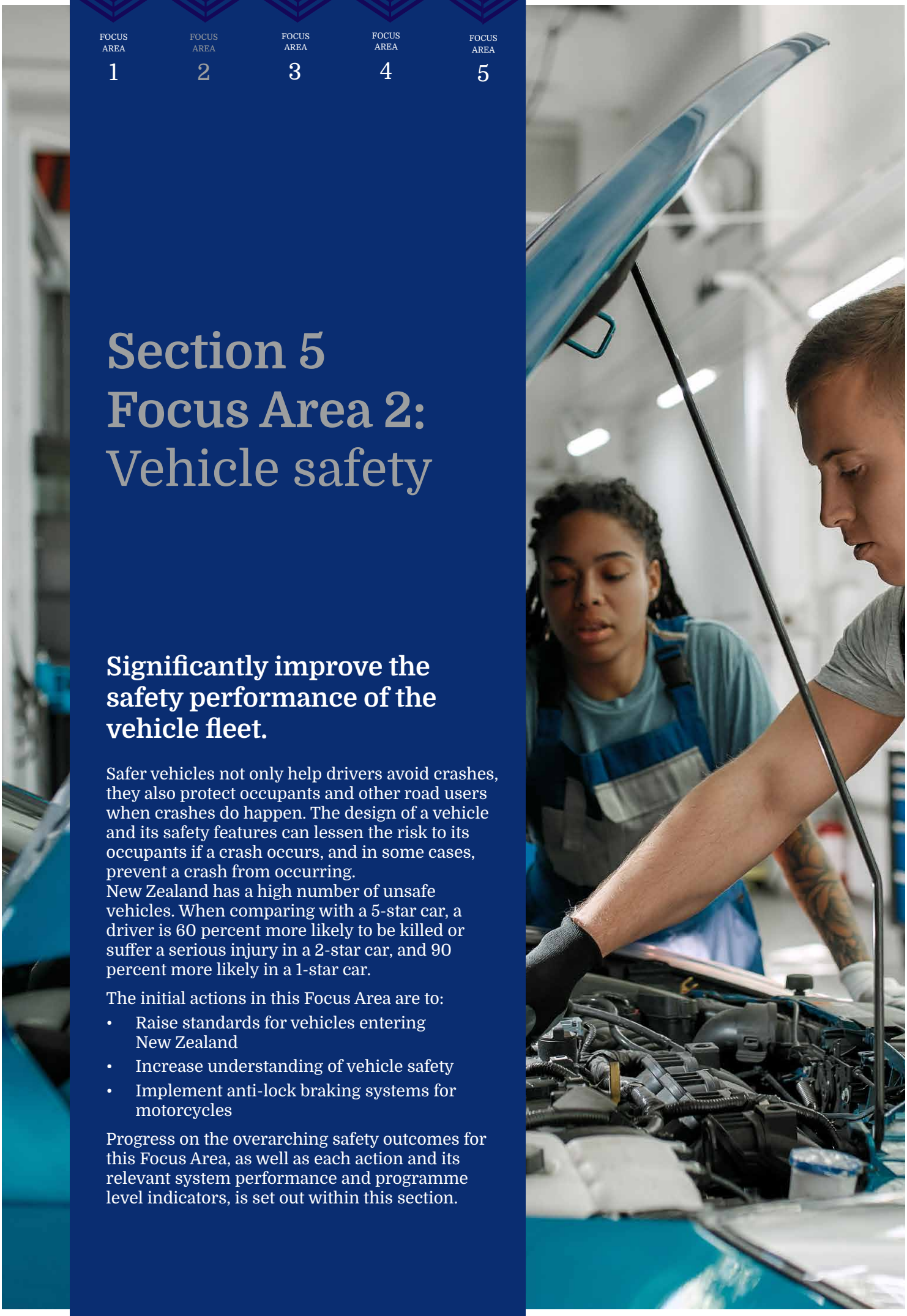
Accessible Streets would create a national framework for where and how devices can be used. Alongside the national approach, the framework would also enable local authorities to vary from the default setting to suit local conditions.

The next steps for *Accessible Streets*

Te Manatū Waka and Waka Kotahi officials have been preparing advice for Cabinet on the final package. As a part of this process officials have consulted the public and received 1,800 submissions. The submissions will be analysed and will inform the final design of *Accessible Streets*. Cabinet is expected to make decisions on the package in 2022. Once the package has been approved, Waka Kotahi will lead the development and delivery of an education campaign to support the implementation of the new rules.

Road to Zero annual monitoring reports will use the perceived safety of cycling indicator (1.2.6b) to monitor the effectiveness of *Accessible Streets*. From 2021/22 we will also monitor the perceived safety of walking (indicator #1.2.6a). We will also monitor the number of pedestrian and cyclist DSIs (1.3.5) and the number of ACC entitlement claims related to walking and cycling injuries (1.3.6).

Section 5 Focus Area 2: Vehicle safety



Significantly improve the safety performance of the vehicle fleet.

Safer vehicles not only help drivers avoid crashes, they also protect occupants and other road users when crashes do happen. The design of a vehicle and its safety features can lessen the risk to its occupants if a crash occurs, and in some cases, prevent a crash from occurring.
New Zealand has a high number of unsafe vehicles. When comparing with a 5-star car, a driver is 60 percent more likely to be killed or suffer a serious injury in a 2-star car, and 90 percent more likely in a 1-star car.

The initial actions in this Focus Area are to:

- Raise standards for vehicles entering New Zealand
- Increase understanding of vehicle safety
- Implement anti-lock braking systems for motorcycles

Progress on the overarching safety outcomes for this Focus Area, as well as each action and its relevant system performance and programme level indicators, is set out within this section.

Actions in this Focus Area and how we measure them:*

Raise standards for vehicles entering New Zealand

To assess how this action is tracking we measure:

- Progress around the delivery of a package of new safety standards for vehicles entering the fleet: Begun in 2021/22 and currently underway

To track the performance of this action, we measure:

- Percentage of the vehicle fleet with a high safety rating: 32.2%

Increase understanding of vehicle safety

To track the performance of this action, we measure:

- Percentage of drivers who know the star safety rating of their car: 51%
- Percentage of drivers who think it is important for their car to have a high safety rating: 75%

Implement anti-lock braking systems for motorcycles:

To track the performance of this action, we measure:

- Policy implemented to mandate ABS for new motorcycles over 125 cc by April 2020: Done

*How each indicator has changed over time is shown in this section.

Safety outcomes

Three safety outcomes are tracked in this Focus Area

Annual figures for the 2018/19 and 2019/20 financial years are included in the table below. Quarterly figures are presented in Figures 10 and 11 to illustrate how we are tracking in these outcome indicators, and how COVID-19 restrictions may have affected our results.

Safety Outcome Indicators	2018/19 n (% of DSIs)	2019/20 n (% of DSIs)	2020/21 n (% of DSIs)
Number of DSIs involving a vehicle with a low safety rating[24] (#2.3.1)	827 (28%)	745 (29%)	862 (32%)
Number of motorcyclist DSIs (#2.3.2)	511 (18%)	490 (19%)	533 (20%)
Number of ACC entitlement claims related to motorcycling injuries (#2.3.3)	1,272 (-)	1,054 (-)	1,120 (-)

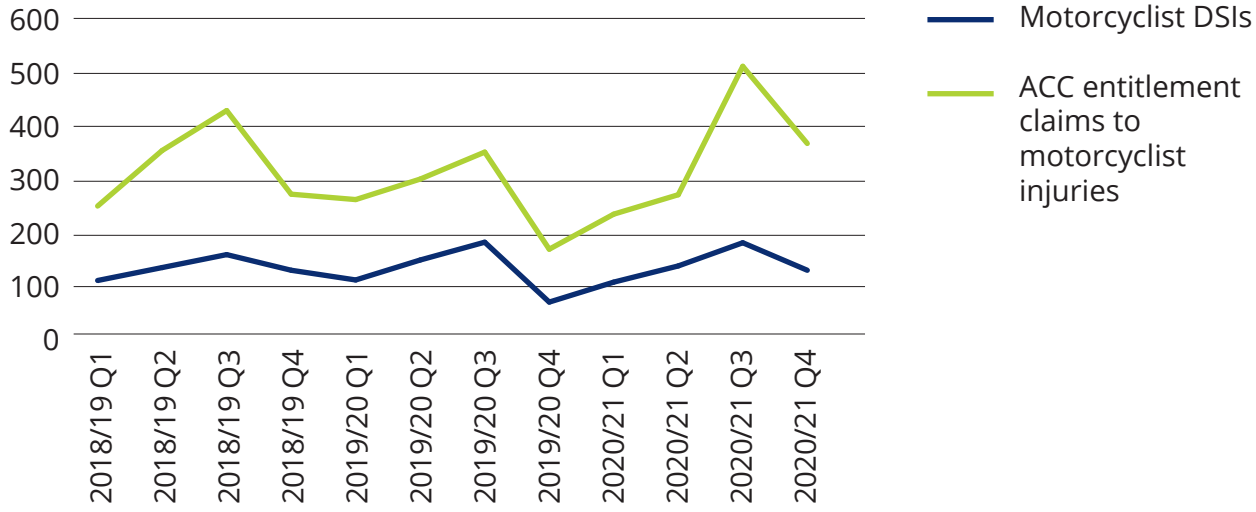
There has been a 4 percent increase in the number of deaths and serious injuries (DSIs) involving a vehicle with a low safety rating since 2018/19. This is despite overall DSIs actually dropping from 2018/19. Of all the road DSIs in 2020/21, 32 percent were attributable to crashes involving low-safety rated vehicles. Te Manatū Waka, working alongside Waka Kotahi, is in the process of developing the *Road to Zero* action that will affect this outcome (see page 48, *Raise standards for vehicles entering New Zealand*). Once this action is fully developed and implemented, we expect that the number of DSIs for this indicator will decrease as the safety profile of New Zealand's vehicle fleet is raised.

The number of motorcyclist DSIs and the number of ACC entitlement claims related to motorcycling injuries followed a seasonal pattern, with a higher number of incidents recorded at Q2 in both years (between October and December). **When comparing the annual total between the 2018/19 and 2020/21 financial years, there was a four percent increase in DSIs.** However, between the 2018/19 and 2020/21 financial years, there was a 12 percent reduction in ACC entitlement claims.

24 Defined as deaths and serious injuries sustained by users of low safety rated light vehicles (a 1-star, 2-star or 3-star vehicle based on the 2018 Crash Worthiness Rating Band Range). Vehicles are rated as at December 2018 in order to determine what increase, if any, there has been in the number of DSIs in low safety rated vehicles.

Figure 10. Number of DSIs involving a vehicle with a low safety rating (Defined as 1- and 2-star safety rated light passenger vehicles)

Figure 11. Number of motorcyclist DSIs and ACC entitlement claims related to motorcycling injuries



FOCUS AREA 2

Progress on specific actions

Raise standards for vehicles entering New Zealand

	2018/19	2019/20	2020/21
Intervention Indicators			
Progress around the delivery of a package of new safety standards for vehicles entering the fleet (#2.1.1)	Not applicable	Re-phased to begin in 2021/22	Re-phased to begin in 2021/22
Safety Performance Indicators			
Percentage of the vehicle fleet with a high safety rating (#2.2.1)	32.7%	33.7%	32.2%

This action seeks to improve the safety of imported vehicles entering the light-vehicle fleet. About one in four used-vehicle imports have a safety rating of 1 or 2-stars. The low crashworthiness of the New Zealand light-vehicle fleet imposes disproportionate, substantial, and ultimately avoidable costs.

The Government has committed to raise the safety performance of vehicles entering the New Zealand fleet. The Government can do this by mandating that vehicle imports – whether new or used vehicles – are fitted with certain technologies that improve safety for drivers, passengers or other users of the transport network. While standards are slowly improving over time, mandating certain technologies in the near future will help to ensure that New Zealanders benefit from safety gains sooner.

In late 2021 Te Manatū Waka and Waka Kotahi, working alongside sector and industry organisations, began initial scoping of this work to improve the safety standards of vehicles entering New Zealand. We are considering our approach to these issues and will be advising the Minister of Transport shortly on alternative ways forward. We expect to make good progress in the coming financial year that will support improvements in the safety of the vehicle fleet.

> The low crashworthiness of the New Zealand light-vehicle fleet imposes disproportionate, substantial, and ultimately avoidable costs.

Increase understanding of vehicle safety

	2018/19	2019/20	2020/21
Safety Performance Indicators			
Percentage of drivers who know the star safety rating of their car (#2.2.2)	Not available	42%	51%
Percentage of drivers who think it is important for their car to have a high safety rating (#2.2.3) (see Figure 12)	Not available	74%	75%

Many people are unaware of the unnecessary risk they place themselves in by driving a low safety-rated vehicle. The safety of light vehicles on our roads varies significantly. It is therefore important that New Zealanders understand the risks of low safety-rated vehicles before purchasing a car.

During 2021 Waka Kotahi undertook research and analysis that revealed that the proliferation of low safety-rated vehicles is not directly linked to socio-economic factors. In fact a large portion of low safety-rated vehicles are registered in areas across the deprivation spectrum. Further research has also shown that safe vehicles are somewhat affordable in most vehicle categories. This evidence base sits behind the ongoing campaign by Waka Kotahi to increase public understanding around the importance of making safe vehicle purchasing choices for themselves, their family or their business.

During 2021 Waka Kotahi continued to work with the motor vehicle sector (including marketplaces, insurers, vehicle inspectors, automotive media and car dealers) to ensure as many vehicles as possible display a vehicle safety rating and that these ratings are consistent, accurately applied and visible to consumers. The aim is to educate vehicle buyers, at all points of contact along their purchasing journey, that a vehicle's safety rating should be a critical consideration when purchasing a vehicle.

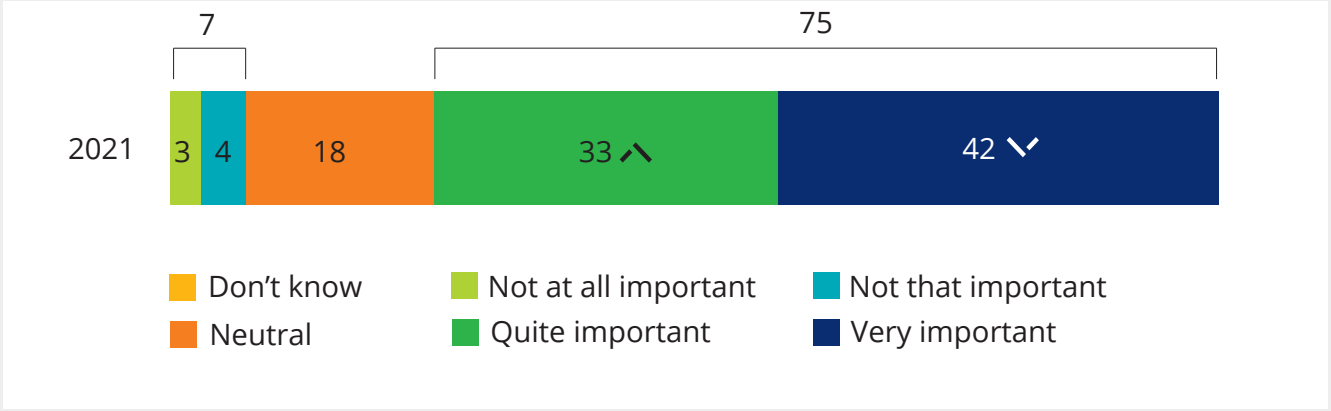
In 2021 Waka Kotahi also made improvements to the Rightcar website. Rightcar is a Waka Kotahi website that provides an easy search function for people to know the safety rating of cars in New Zealand. Someone could search for the rating of their own car or the rating of a car they are considering purchasing. In 2021 Waka Kotahi released a new page dedicated to commercial fleets. This provides a tool for fleet managers and health and safety practitioners to use the Rightcar website to understand the safety profile of their commercial fleets.

For the 2019/20 financial year, 42 percent of drivers in New Zealand said that they knew the star safety rating of their vehicle. This rose to 51 percent during 2021, while the percentage of people stating it is important for their car to have a high safety rating remained unchanged at around 75 per cent.

Drivers in New Zealand saying that they know the star safety rating of their vehicle:

42% 2019/2020 > 51% 2021

Figure 12. Perceived importance of having a car with a high star safety rating



Source: KANTAR (2021). *Public Attitudes to Road Safety.* Prepared for Waka Kotahi.

> The safety of light vehicles on our roads varies significantly. It is therefore important that New Zealanders understand the risks of low-safety vehicles before purchasing a car.

Implement anti-lock braking systems for motorcycles

	2018/19	2019/20	2020/21
Safety Performance Indicators			
Policy implemented to mandate ABS for new motorcycles over 125 cc by April 2020 (#2.1.3)	Not applicable	Complete	Complete

This action involves implementing the regulatory changes mandating anti-lock braking systems (ABS) for motorcycles, which were introduced in 2019.

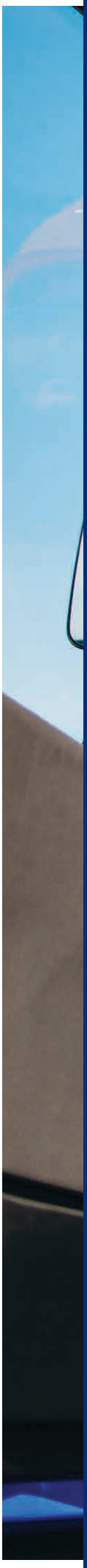
ABS is a safety anti-skid braking system which operates by preventing the wheels from locking up during braking. An extensive body of international research confirms that fitting ABS on motorcycles can prevent injuries by around 30 percent. No other motorcycle-related technology is available that can deliver such large gains in rider safety.

In 2019, the Government introduced rule changes to mandate anti-lock braking systems for motorcycles, with strong support and uptake from motorcyclists and the sector.

From 1 April 2020, new-model motorcycles have been required to be fitted with ABS or a combined braking system (CBS). Te Manatū Waka has not received any feedback suggesting industry has struggled to adapt to the new requirements.

All existing-model new motorcycles and all used motorcycles entering the fleet have been required to be fitted with ABS or CBS since 1 November 2021.

Section 6 Focus Area 3: Work-related road safety



Ensure that businesses and other organisations treat road safety as a critical health and safety issue.

Road safety is a critical health and safety at work issue – studies suggest that around 25 percent of road fatalities involve a person driving for work. An Otago University study found that:

- 23 percent of all road fatalities involve a crash where someone is working, and
- 29 percent of all road fatalities involve someone who is working or commuting.[25]

The initial actions in this Focus Area are:

- Strengthen commercial transport regulation
- Support best practice for work-related road safety

Progress on the overarching safety outcomes for this Focus Area, as well as each action and its relevant system performance and programme level indicators, is set out within this section.

25 2019; Work Related Fatal Injury Study, Work-related Road Traffic Fatalities 1999-2014; https://psm-dm.otago.ac.nz/ipru/FactSheets/FactSheet44.pdf

Actions in this Focus Area and how we measure them:*

Strengthen commercial transport regulation

To assess how this action is tracking we measure:

- Progress around the review of logbook and work-time requirements as part of the 2019/2020 rules programme: Begun in 2021/22 and currently underway

Support best practice for work-related road safety

To assess how this action is tracking we measure:

- Progress around private sector initiatives to establish best practice road safety standards in the supply chain: Underway
- Incorporate journey purpose into the CAS: Nearing completion

*How each indicator has changed over time is shown within this section.

Safety outcomes

Six safety indicators have been identified as important to track progress in this Focus Area

However, given the data limitations in the area of work-related road safety, only two out of six outcome indicators could be reported on this year: *Number of DSIs involving a heavy vehicle* and *Number of DSIs with fatigue being a contributing factor*.

We expect to begin reporting on the other indicators in the 2022 monitoring report. Waka Kotahi will commission a study that will improve our understanding of why road users undertake a journey. The results of this study will improve the understanding Waka Kotahi has of work-related light vehicle crashes, which will enable more targeted road safety interventions in this area.

Annual figures for 2018/19 to 2020/21 are included in the table below. Quarterly figures are presented in Figure 13 to illustrate how we are tracking against these outcome indicators, and how COVID-19 restrictions may have affected our results.

Safety Outcome Indicators	2018/19 n (% of DSIs)	2019/20 n (% of DSIs)	2020/21 n (% of DSIs)
Number of DSIs involving a heavy vehicle (#3.3.3)[26]	360 (12%)	264 (10%)	295 (11%)
Number of DSIs with fatigue being a contributing factor (#3.3.5)	145 (5%)	156 (6%)	141 (5%)

In 2020/21 there were 295 DSIs involving a heavy vehicle, which was 11 percent of all road DSIs. This percentage has remained roughly the same over the *Road to Zero* programme so far, although the number of DSIs involving a heavy vehicle has decreased by 65 over this period. Please note that this indicator measures all DSIs from crashes where a heavy vehicle was involved. This figure therefore includes DSIs of pedestrians and occupants of light vehicles involved in these crashes. The contributing factors to these DSIs are not necessarily related to the driver of the heavy vehicle.

The number of DSIs with fatigue being a contributing factor remained steady between 2018/19 and 2020/21, falling by 4. We measure the role of fatigue in contributing to DSIs for all vehicle types because we know that the majority of these DSIs come from work-related travel. Without improving how we capture data on journey purpose we cannot yet identify DSIs that resulted from work-related travel accurately enough to measure. Therefore, Waka Kotahi is leading a project to better capture journey purpose data in our crash statistics (see page 58 under the action *Support best practice for work-related road safety*).

26 Please note, this measure now includes "buses" under the definition of a "heavy vehicle". Therefore, the total number of DSIs for this indicator will be higher than in the 2020 report. This also applies to Figure 13.

Figure 13. Number of DSIs involving a heavy vehicle and the number of DSIs involving all vehicle types with fatigue being a contributing factor

Progress on specific actions

Strengthen commercial transport regulation

	2018/19	2019/20	2020/21
Intervention Indicators			
Progress around the review of logbook and work-time requirements as part of the 2019/2020 rules programme (#3.1.2)	Not applicable	Re-phased to begin in 2021/22	Re-phased to begin in 2021/22

There are opportunities to strengthen our current regulatory settings for work-related driving. Our regulatory framework needs to incentivise the right behaviours in commercial transport, apply obligations at the right level, and ensure we can enforce these obligations in a responsive and risk-based manner.

Two key elements to this work include:

- reviewing logbook and work-time requirements under the Land Transport Act 1998, and
- reviewing the roles and powers of regulators (including considering designating Waka Kotahi to take on functions from the Health and Safety at Work Act 2015 (HSWA)).

The Government is considering whether to mandate the use of e-RUC (electronic-road-user charges) devices in the commercial heavy transport sector. Te Manatū Waka is conducting a review of the road-user charges system and will provide advice to the Government later in 2022. As part of its review into the RUC system, Te Manatū Waka has released the discussion document *Driving Change: Reviewing the Road User Charges System*. There are a wide range of policy and legislative issues that would require further assessment before considering mandating e-RUC devices.

The review will consider the use of e-RUC devices, which enable road-user charges to be paid automatically through electronic, in-vehicle devices. Mandating e-RUC devices could provide an opportunity to in turn mandate the use of electronic logbooks in the sector. Electronic logbooks can be used to monitor driving hours and other worktime requirements, and in some cases speed. Current regulations are intended to prevent commercial drivers from driving more than 13 hours in a 24-hour period, or 70 hours in single work week. Drivers are mandated to record their hours of work in a logbook. However, much of the sector still uses paper-based logbooks to record driving hours. This makes the regulatory standards difficult to enforce as the current regime is dependent on driver self-reporting.

Te Manatū Waka recognises that more effectively managing the working hours of commercial drivers could also provide important road safety benefits. Ensuring that businesses and drivers comply with their road safety requirements has the potential to substantially reduce harm on New Zealand's roads, both for the drivers of heavy commercial vehicles and for other road users.

Work also continued over 2021 on designating Waka Kotahi to take on HSWA functions. HSWA provides a critical lever to influence how businesses think about road safety. Businesses have a duty to ensure the health and safety of their workers under HSWA. In taking on HSWA functions, Waka Kotahi would have an effective lever to improve road safety in the commercial transport sector.

To date, work has been focussed on assessing the scope of the Waka Kotahi potential HSWA designation, with a view to ultimately presenting a series of options and analysis on the merits of various scopes to the Minister of Transport. This work should be finalised by the end of 2022.

DSIs involving a heavy vehicle in 2020/21: **295 / 11%**

FOCUS AREA 3

Support best practice for work-related road safety

	2018/19	2019/20	2020/21
Intervention Indicators			
Progress around private sector initiatives to establish best practice road safety standards in the supply chain (#3.1.1)	Not applicable	In progress	In progress
Incorporate journey purpose into the CAS (#3.1.3)	Not applicable	In progress	Nearing completion

Waka Kotahi (and other organisations, including WorkSafe) is engaged in a programme of work to understand, implement, and support best practice in work-related road safety:

Supply-chain pressures: WorkSafe undertook research to better understand the harm around work-related road safety from supply-chain pressures. Recommendations coming out of this research are currently being considered by government agencies and industry. This work is focused on gaining better insights into supply-chain pressures. It is also focussed on improving tools for WorkSafe that would enable them to target areas of risk in the supply chain through regulatory interventions.

Journey purpose data: Waka Kotahi and Police have continued the process of transferring journey purpose data from Police's Traffic Crash Report system to the Waka Kotahi Crash Analysis System. This process is in its final stages and is due to be completed early in 2022. Data regarding journey purpose can be used to understand what activity was occurring at the time of a vehicle crash, whether people were travelling to work, working, or travelling from work. The understanding Waka Kotahi has of the nature and scale of work-related incidents will be strengthened by improving its access to this information. This will in turn be used to inform its prevention and enforcement activity.

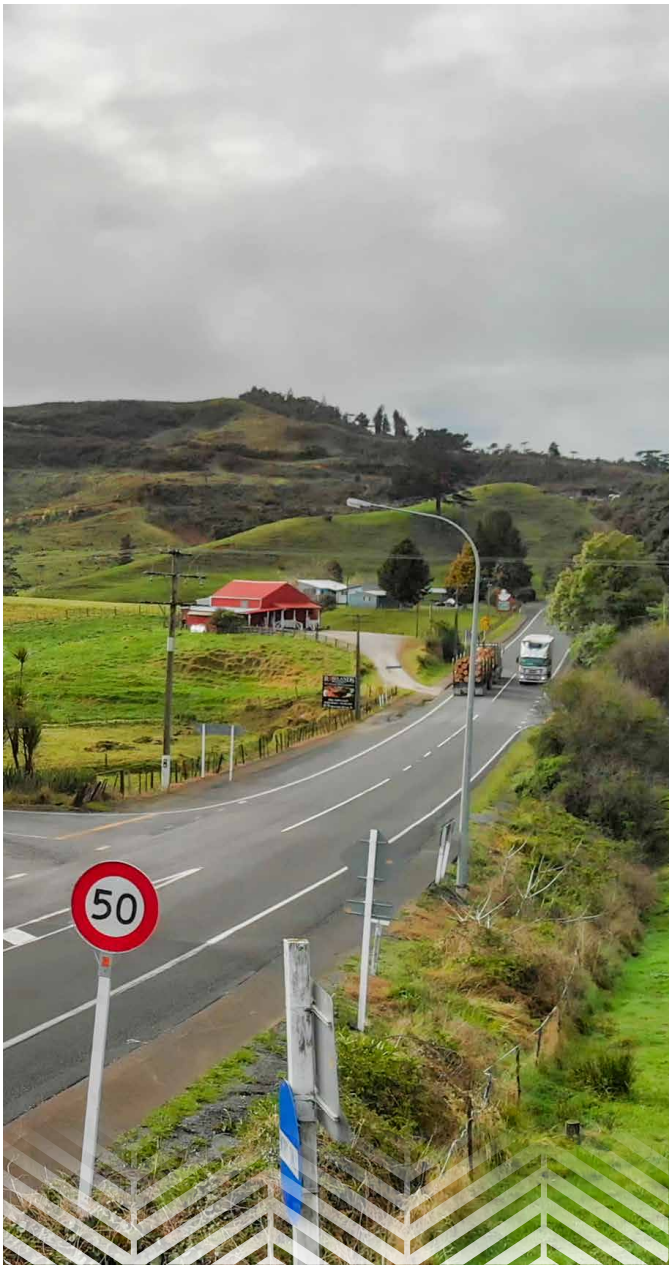
There is currently a lack of accurate information – especially regarding commercial light vehicle crashes – as to what was occurring at the time of a crash. This is because of the difficulty in establishing the commercial status of light vehicles such as vans, cars, motorbikes, scooters and cycles. Work-related road crashes in comparable overseas jurisdictions usually account for 30 to 50 percent of road deaths. This is higher than New Zealand's figure of approximately 25 percent. It is therefore possible that the seriousness of this issue has been undercounted.

The gig economy: Waka Kotahi has also begun a research piece on the gig economy to get a better understanding of the road safety issues associated with it. Overseas gig economy work, and road safety is an emergent issue in cities like Sydney and London and this research seeks to provide a better understanding of what this looks like in New Zealand.

Commercial fleets: Waka Kotahi has released a new fleet page and tool for fleet managers and health and safety practitioners on the Rightcar website.[27] The tool enables companies to assess the safety and environmental profile of up to 5,000 light vehicles in their fleet by downloading the relevant information on them. Knowing what safety and environmental features their fleet has can help businesses make better procurement decisions around the next vehicles they purchase.

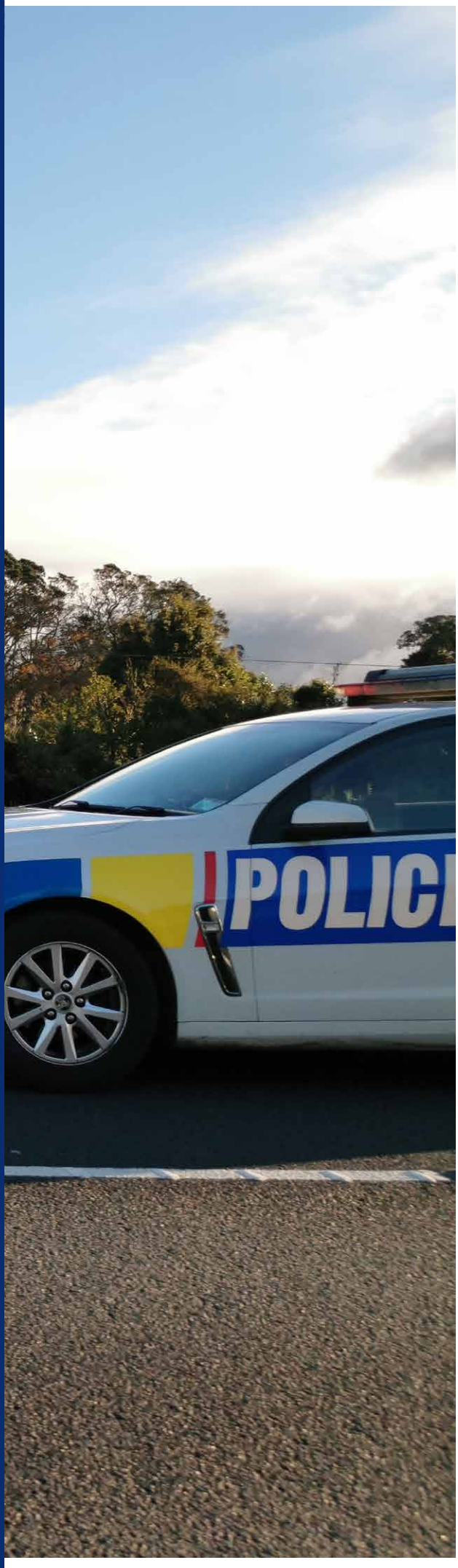
Often a business may allow its staff to use their personal vehicles for work purposes. In these circumstances a business could use the tool to assess the safety profiles of its employees' vehicles. This would enable that business to then assess the risk of its employees using their own vehicles.

Fatigue management: Waka Kotahi has also launched an app for companies to help with fatigue management. It allows staff to self-assess their fatigue before and after a shift and gives them prompts on how to manage it. Additionally, it provides anonymised data to the employer so they can better understand what workplace factors could be adding to fatigue. This app has only recently been launched, and future *Road to Zero* monitoring reports will be able to provide more information on the app's uptake.



27 You can view this information on the Rightcar website's fleet information page: https://www.rightcar.govt.nz/fleet.

Section 7 Focus Area 4: Road-user choices



Encourage safer choices and safer behaviour on our roads.

Road users have a vital role to play in keeping themselves and other road users safe. Road to Zero's *Safe System* approach recognises that efforts to reduce DSIs should not be focussed solely on the choices of road-users. However, dangerous behaviours continue to be a major factor contributing to deaths and serious injuries. This Focus Area includes actions to shift public attitudes, behaviour and understanding of road safety, and ensure that we deliver effective enforcement targeted towards risk.

The initial actions in this Focus Area are:

- Prioritise road policing
- Review road safety penalties
- Increase access to driver training and licensing
- Enhanced drug-driver testing
- Support motorcycle safety

Please note that enhanced speed management – such as increased enforcement through safety cameras, or setting safer speed limits – is addressed under *Focus Area 1 – Infrastructure and Speed Management*, see page 24.

Progress on the overarching safety outcomes for this Focus Area, as well as each action and its relevant system performance and programme level indicators, is set out within this section.

Actions in this Focus Area and how we measure them:*

Prioritise road policing

To assess how this action is tracking we measure:

- Number of sworn staff dedicated to road policing: 1,070 approximately
- Number of breath tests conducted: 1.5 million
- Number of Police operations targeting restraints, impairment, distraction and speed: 12

Review road safety penalties

To assess how this action is tracking we measure:

- Progress around the alignment of key road safety penalties and remedies to the appropriate framework: Underway

Increase access to driver training and licensing

To assess how this action is tracking, we measure:

- Progress around improving access to driver training and to the licensing system: Underway

To track the performance of this action, we measure:

- Number of driver licences issued per stage of licence: Full: 65,980, Restricted: 73,725, Learner: 84,922
- Proportion of learner drivers who have progressed to restricted: 33%
- Proportion of restricted drivers who have progressed to full: 30%
- Number of adults and students attending cycle skills training courses: 49,000
- Number of ACC claims DRIVE trained drivers make compared to untrained drivers: 3.1 per 1,000 versus 3.9 per 1,000

Enhanced drug-driver testing

To track the performance of this action, we measure:

- Percentage of drivers impaired by drugs: 5%

Support motorcycle safety

To assess how this action is tracking, we measure:

- Number of licensed motorcyclists that have taken an approved training course: 5,000

To track the performance of this action, we measure:

- Number of ACC claims trained motorcycle riders make compared to untrained riders: 1.3 per 1,000 versus 2.7

*How each indicator has changed over time is shown in this section.

FOCUS AREA 4

Safety outcomes

We measure the safety outcomes for this focus area through six indicators

Annual figures for the 2018/19 to 2020/21 years are included in the table below. Quarterly figures are presented in Figures 14 to 16 to illustrate how we are tracking against these outcome indicators, and how COVID-19 restrictions may have impacted on our results.

The 2020/21 figures presented in the table only represent the second year of *Road to Zero* interventions. As actions in this Focus Area progress – such as prioritising road policing and enhancing drug-driver testing – the number of deaths and serious injuries (DSIs) shown in these indicators is expected to decrease over time.

Safety Outcome Indicators	2018/19 n (% of DSIs)	2019/20 n (% of DSIs)	2020/21 n (% of DSIs)
Number of DSIs involving alcohol and/or drugs (#4.3.1)	490 (17%)	429 (17%)	379 (14%)
Number of DSIs with fatigue being a contributing factor (#4.3.2)	Reported in Section 6		
Number of DSIs with distraction being a contributing factor (#4.3.3)	159 (6%)	149 (6%)	156 (6%)
Number of vehicle occupant deaths where restraints were not worn (#4.3.4)	40 (12% of all road deaths)	46 (15% of all road deaths)	56 (16% of all road deaths)
Number of unlicensed or disqualified driver DSIs (#4.3.5)	83 (3%)	75 (3%)	99 (4%)
Number of DSI crashes where a restricted licence was held at the time of a crash (#4.3.6)	≤12 months: 85 >12 months: 240	≤12 months: 82 >12 months: 207	≤12 months: 81 >12 months: 219

Number of DSIs involving alcohol and/or drugs: There was a 23 percent reduction in the number of DSIs involving alcohol and/or drugs from 2018/19 to 2020/21. This reduction is encouraging, although we would need to see this sustained over a number of years before we could draw any firm conclusions.

As illustrated in Figure 17 on page 67, the percentage of drivers self-reporting that they were impaired by alcohol has decreased substantially since the mid-1990s. In particular, the percentage declined substantially from 2016 to 2020, going from 20 percent to 10 percent. The reduction in the number of DSIs involving alcohol and/or drugs could reflect a wider societal shift away from drink-driving habits. Also of relevance is the reduction in the legal blood/alcohol limit. In 2014 this limit was lowered from 400 micrograms of alcohol per litre of breath to 250. This could also have been a factor in the reduction in the number of DSIs involving intoxicating substances.

Although the number of overall DSIs involving alcohol and/or drugs has decreased, this largely reflects a substantial decrease in the number of serious injuries. Despite this overall reduction in DSIs involving alcohol and/or drugs, the number of road deaths involving alcohol and/or drugs has actually steadily increased since 2013, from 73 deaths to 151 in 2020. The proportion of road deaths involving alcohol and/or drugs has also increased in recent years. **In 2020, deaths involving alcohol and/or drugs accounted for 47 percent of all road deaths, compared to a low of 29 percent in 2014**. By comparison, serious injuries involving alcohol and/or drugs only account for 12 percent of all road serious injuries, which has also decreased in recent years. In summary, less people are getting negatively affected by crashes involving alcohol and/or drugs, but people who are in a crash where a driver is impaired from alcohol and/drugs are more likely to be killed.

Number of DSIs with fatigue being a contributing factor: We report on this indicator under *Focus Area 3 – Work-related road safety.*

Number of DSIs with distraction being a contributing factor: The number of DSIs with distraction being a contributing factor remained roughly the same as in 2018/19, decreasing by 3.

Number of vehicle occupant deaths where restraints were not worn: The number of deaths where restraints were not worn by people in a vehicle at the time of the crash has increased by 16 since 2018/19 to 166 deaths. As of 2020/21, 16 percent of all the deaths on New Zealand roads were people who were not wearing a seatbelt. **As a percentage of total road deaths, this indicator has increased steadily since 2018/19, when 12 percent of road deaths had not worn a seatbelt.** There is a strong relationship between alcohol impairment and road deaths involving someone not wearing a seatbelt. Studies have shown that drink drivers are substantially less likely to wear a seatbelt.[28] [29] This highlights the benefits to road safety outcomes that can come from taking an all-of-system approach such the *Road to Zero* programme.

Number of unlicensed or disqualified driver DSIs: There were 99 DSIs in 2020/21 of drivers who were unlicensed or disqualified. This indicator has increased by 19 percent since 2018/19.

Number of DSI crashes where a restricted licence was held at the time of a crash: There were 81 DSI crashes where a restricted licence was held by a driver for less than 12 months, and 219 crashes where a restricted licence was held for more than 12 months.

28 Foss, R. D., Beirness, D. J., & Sprattler, K. (1994). Seat belt use among drinking drivers in Minnesota. American Journal of Public Health, 84(11), 1732–1737. https://doi.org/10.2105/AJPH.84.11.1732

29 Valen, A., Bogstrand, S. T., Vindenes, V., Frost, J., Larsson, M., Holtan, A., & Gjerde, H. (2019). Driver-related risk factors of fatal road traffic crashes associated with alcohol or drug impairment. Accident Analysis & Prevention, 131, 191–199. https://doi.org/10.1016/j.aap.2019.06.014

Figure 14. Number of DSIs involving alcohol and/or drugs and those with distraction being a contributing factor

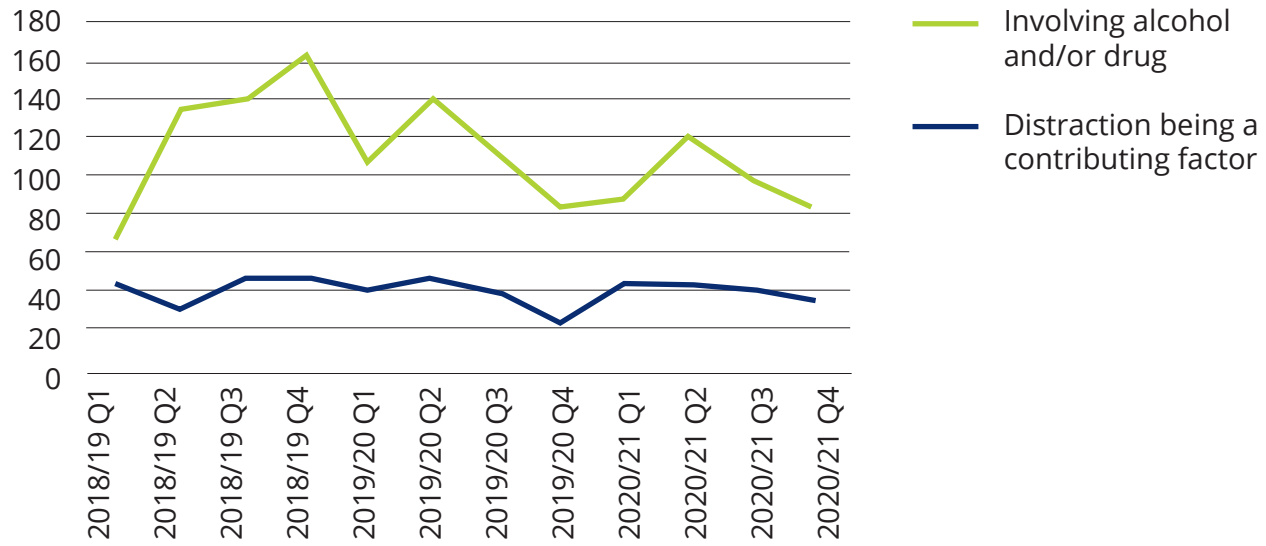
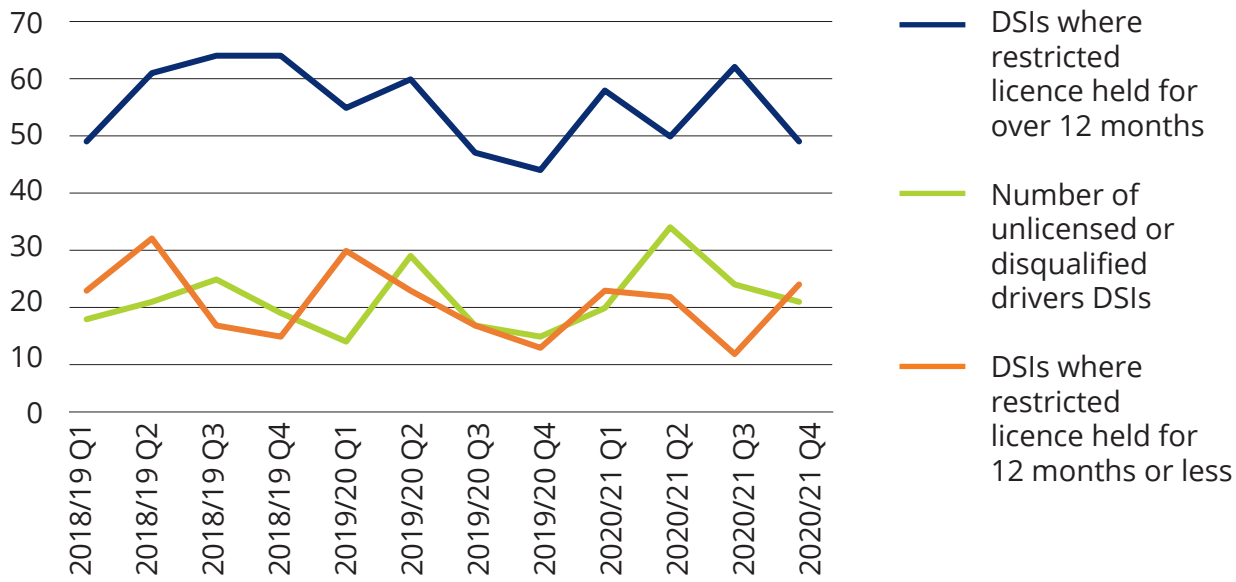


Figure 15. Number of vehicle occupant deaths where restraints were not worn

Figure 16. Number of unlicensed/disqualified driver DSIs and 'novice' driver DSIs



FOCUS AREA 4

	Behaviour	2018/19	2019/20	2020/21
Safety Performance Indicators				
Percentage of drivers impaired by alcohol (#4.2.1)[30]	N/A	Not available	12%	12%
Percentage of drivers using handheld mobile phones while driving (#4.2.3)[31]	N/A	Not available	16%	20%
Percentage of car occupants using a seatbelt or child restraint (#4.2.4)[32]	N/A	Not available	83%	85%
Percentage of the general public who agree that they are likely to get caught for undertaking risky behaviours (#4.2.5)[33]	Drink driving	Not available	42%	37%
	Speeding		40%	45%
	Breaking a traffic law other than drink-driving or speeding		32%	32%
	Not wearing a seatbelt		32%	34%
	Mobile-phone use		17%	16%
	Average		**32%**	**33%**

30 % of drivers who say they have driven at least once during the past 12 months while slightly intoxicated. This indicator relies on self-report surveys.
31 % of drivers say they have used a mobile phone while driving in the last month. This indicator relies on self-report surveys.
32 % of drivers say that last time they drove with the youngest child they drive regularly with, the child was in a baby seat, child seat or booster seat. This indicator relies on self-report surveys.
33 KANTAR (2021). Public Attitudes to Road Safety. Prepared for Waka Kotahi.

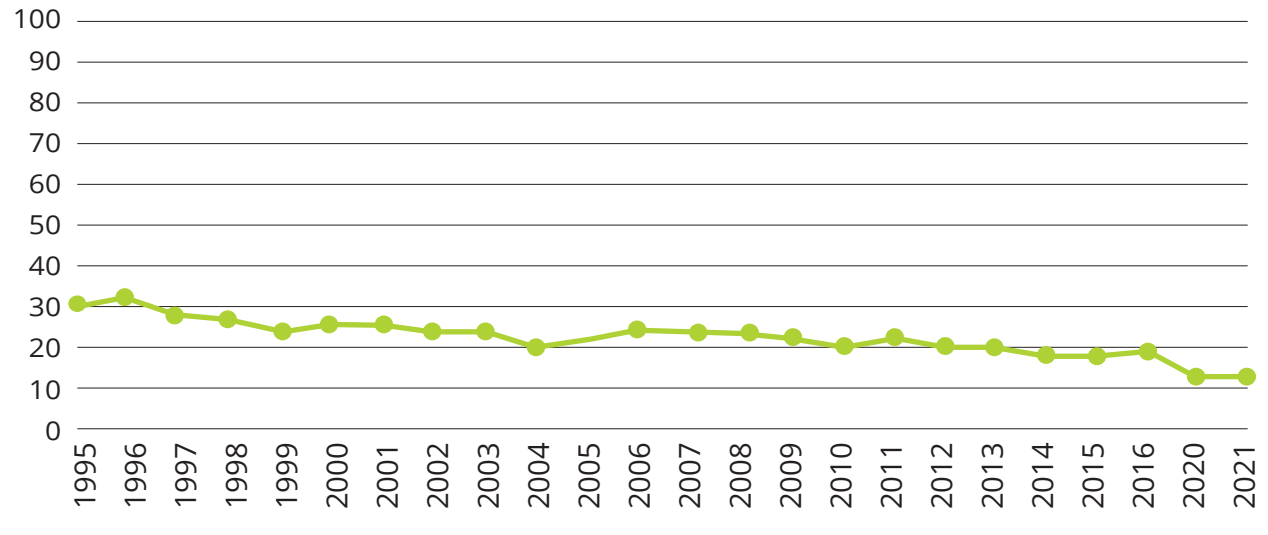
To directly measure the success of the actions in this Focus Area, we also use four indicators to track the collective impact of those actions. These indicators assess self-reported prevalence of various risky behaviours that are associated with DSIs, and the perceived likelihood of being caught for undertaking such behaviours.

In the 2020/21 financial year, 12 percent of drivers reported that they have driven at least once in the previous 12 months while they were slightly intoxicated (the same as in 2019/20). While this is still a notable proportion, there has been a consistent decrease since the 1990s (see Figure 17).

Using a mobile phone while driving continues to be an issue, with 20 percent of drivers reporting that they have done so in the last month (an increase from 16 percent in 2019/20).

When asked about their perceived likelihood of being caught for undertaking various risky behaviours, the proportion of those who answered 'likely' (averaged across various risky behaviours) was 33 percent. The perception of getting caught remained relatively consistent compared to 2019/20, increasing slightly from 32 percent. However, the perception of getting caught for drink driving decreased by 5 percent, whilst the perception of getting caught for speeding increased by 5 percent.

Figure 17. Percentage of drivers impaired by alcohol (self-report)



Source: KANTAR (2021). *Public Attitudes to Road Safety*. Prepared for Waka Kotahi.

FOCUS AREA 4

Progress on specific actions

Prioritise road policing

	2018/19	2019/20	2020/21	Targets
Intervention Indicators				
Number of sworn staff dedicated to road policing (#4.1.1)[34]	Q1 – 1,054 Q2 – 1,062 Q3 – 1,060 Q4 – 1,053	Q1 – 1,073 Q2 – 1,066 Q3 – 1,068 Q4 – 1,068	Q1 – 1,069 Q2 – 1,058 Q3 – 1,078 Q4 – 1,074	1,070 (ongoing)
Number of breath tests conducted (#4.1.2)	1,270,648	1,647,543	1,500,268	3 million a year from 2020/21
Number of Police operations targeting restraints, impairment, distraction and speed (#4.1.3)	12	12	12	Under development

Effective road policing is a key component of the *Road to Zero* programme. Many of the actions across the programme – such as *Tackling unsafe speeds* or *Enhanced drug-driver testing* – are dependent on effective road policing for them to achieve their full contribution towards the 2030 DSI target.

Road policing activities, such as directed patrols or specific road policing operations, raise the level of general deterrence for road users. General deterrence is achieved when drivers understand that there is a high chance of getting caught for offending anywhere and at anytime. If drivers know there is a high risk of being detected for offending, this leads to greater levels of compliance and improved safety outcomes.

Road policing is focussed on offences that cause the most trauma on the network: restraints, impairment, distractions and speed (RIDS).

Road policing was disrupted in 2021 and some initial targets were not met

Road policing was severely disrupted throughout 2021. The disruption was particularly acute during periods where parts or all of the country were at COVID-19 alert levels 3 or 4. Although the number of sworn staff dedicated to road policing remained consistent to earlier years (see indicator #4.1.3, below), in 2020/21 this indicator did not accurately reflect the true number of staff that were dedicated to road safety. A substantial number of frontline staff from across the Police, including road-policing staff, were re-deployed to COVID-19 related activities. These activities included operating regional border checkpoints (predominantly around the Auckland region), providing security at MIQ facilities, and increased community policing to ensure compliance with health orders.

34 This represents the number of sworn staff as of the last day of each quarter.

As the nature of the Government's COVID-19 response changes, a move away from lockdowns could lessen the demand for Police resources. Despite that, COVID-19 will likely continue to affect Police operations. For example, COVID-19 is expected to increase rates of absenteeism as highly transmissible variants become embedded in the community.

Police work on tackling "RIDS" offences: There were a total of 1,500,268 breath tests conducted in 2020/21. The target of 3 million tests a year was not met, and there was a decrease in the number of breath tests conducted in 2020/21 when compared with the previous year.

The reduction in activity was partly due to the significant impact of New Zealand's COVID-19 response. Breath testing operations during a pandemic necessitated a time-consuming equipment cleaning regime, which was required to ensure the virus was not transmitted during these operations. Despite these challenges, the number of excess alcohol offences remains broadly similar to the number of offences immediately prior to the pandemic. However, we recognise that the rate of testing has decreased substantially from heights reached in 2013.

Police have been successfully prosecuting more drug impaired drivers than in previous years. We expect this number to increase as legislative changes in the form of the Land Transport (Drug Driving) Amendment Bill – giving Police improved drug testing powers – come into effect (see page 76 under *Enhanced drug driver testing*). In 2021 Police were planning how to operationalise the changes to the drug impairment testing regime.

Safety-camera deployment remained consistent in 2020/21, at 61,199 hours. The RSPP target is to achieve 80,000 hours of safety-camera deployment, and this target was not met. Police and Waka Kotahi are engaged in upgrading and growing the safety-camera fleet. For the purposes of this report, we cover safety-camera deployment under *Focus Area 1 – Infrastructure and speed management* (see page 40 under *Increasing safety-camera coverage*).

Levels of speed enforcement by Police have increased substantially since 2018. This has been reflected in an increase in proceedings taken for speed related enforcement. In 2020/21, Police took 326,808 proceedings for speeding infringements, increasing by 33 percent since 2018/19.

The number of distraction offences detected has more than doubled: from just over 20,000 a year in 2017/18, to just under 44,000 in 2020/21. This reflects the Government's focus on reducing hand-held mobile phone use whilst driving. Distraction can be difficult to quantify as a contributing factor in road deaths and serious injuries, but research indicates that it is a cause in approximately 10 percent of crash fatalities.

The number of restraints (seatbelts) offences decreased from 2019/2020 but remains in line with historical averages.

Distraction offences per year

20,000 2017/18 > 44,000 2020/21

FOCUS AREA 4

Police have continued to engage positively with high-risk drivers: High-risk drivers include unlicensed and disqualified drivers, frequent or severe alcohol and speeding offenders, fleeing drivers, and drivers involved in illegal street racing. Police identify and engage with large numbers of high-risk drivers from these categories on a regular basis. For example, during 2020/21 proceedings for illegal street racing involved:

- 1,055 prosecutions,
- 59 infringement notices issued,
- 6 referrals to Te Pae Oranga Iwi Community Panels, and
- 119 referrals to Youth Aid.

Proceedings for failing to stop for Police involved:

- 2,595 prosecutions,
- 25 referrals to Te Pae Oranga Iwi Community Panels, and
- 179 referrals to Youth Aid.

Police strongly support programmes aimed at supporting high-risk drivers, such as *The Right Track – Te Ara Tutuki Pai* and the *Alcohol Impairment Education Programme*, alongside other contributing agencies. These programmes work with repeat driving offenders to assist them to change their behaviour and make better choices. Police are often joint or sole facilitators of the courses.

Police also support or refer high-risk drivers through other relevant programmes that have the potential to reduce anti-social behaviours (such as drug use), which in turn supports positive road safety outcomes). These programmes include Higher Ground, CADS (Community Alcohol and Drugs Services), Altered High (the youth version of CADS) and the Salvation Army's Bridge Programme.

Over 2020/21 Police referred 5,821 unlicensed drivers into the graduated driver licensing system (GDLS). Police referrals were done by using the new AWHI tool (see case study). Police also work with 11 iwi-affiliated service providers as part of the He Tangata GDLS programme (see page 74 under *Increase access to driver training and licensing*).

Case study: AWHI (He Waka Eke Noa National Rollout project)

AWHI is an interactive app used by Police in 10 of the country's 12 Police districts, which is accessed through Police mobile phones. Through AWHI, police officers can connect people in need with local community services, or to support through Work and Income services. Since January 2018 there have been more than 34,163 referrals to community-based service providers.

AWHI relates to road safety as it can be used by Police to refer high-risk, unlicensed drivers to GDLS-aligned programmes. Police have used this tool to refer 5,757 unlicensed drivers into GDLS programmes over the 2021 calendar year.

AWHI is consistent with Police's *Prevention First* operating model. *Prevention First* requires Police to promote efforts to prevent offending by fostering community partnerships and support. Fostering stronger relationships between staff on the frontline and community service providers improves the support networks in New Zealand's communities. The AWHI project has been shown to provide high benefits for road safety, individual wellbeing, and trust and confidence in Police. He Waka Eke Noa also contributes to a reduction in pressure on the Justice sector. If a driver gets stopped without a licence (for example) they could still receive an infringement, but they are also referred into a recognised driver licence programme. Once they are participating in the programme, the infringement is withdrawn. This helps prevent the accumulation of fines that can ultimately become crippling and are often swapped for imprisonment or some other similar punishment.

Work underway to improve road policing

Under performance on road policing is a significant challenge. There are longstanding issues that have prevented the Police from achieving an adequate level of general deterrence. Although there have been disruptions to road policing activity, we recognise that levels of road policing may not have been sufficient to reach the targets noted above even without the disruptions of COVID-19. Achieving our road policing targets will not be possible without some fundamental changes to Police road safety strategy and operations.

Police have, therefore, in partnership with Waka Kotahi and Te Manatū Waka, begun to develop and implement changes that will improve the quality and scale of road policing in New Zealand. Much of this wok was underway in 2021 and will continue throughout 2022.

As a part of this process, Te Manatū Waka commissioned an independent review into road safety investment across infrastructure and road policing. The report, *Road Safety Investment and Delivery* was publicly released in early 2022. The purpose of this review was to gain a detailed understanding of how road policing activities (along with safety infrastructure investments) are prioritised, delivered and monitored.

The challenge for Police is to ensure commitment across districts to improve operational performance. This means district leadership ensuring that road policing staff are able to be deployed primarily to road policy activities and not pulled away to other non-road safety related activities.

All Police operational matters are guided by the organisation's national operating model, *Prevention First*, which has a strong focus on crime. Road policing has often suffered due to the competing priorities for the allocation of Police resources. For example, the review found that up to 30 percent of road safety police at any given time are assigned to functions other than road policing.

To address these problems, Police have focussed on adopting a nationwide strategy and operating model for road policing, which would also incorporate a more structured, formal approach to deploying resources towards road policing:

The Safe Roads Control Strategy: In November 2021, Police launched the Safe Roads Control Strategy (the Control Strategy). The Control Strategy provides an overarching road policing framework to achieve the goal of safer roads through preventing DSIs, and defines how key business units within Police will contribute to road safety outcomes. The Control Strategy sets out a framework that defines the roles and responsibilities at National and District levels and sets out the relevant associated actions and measures.

Police have established the necessary governance and evaluation arrangements that will help ensure the Control Strategy is successfully implemented.

A road safety focussed operating model: Police are developing the *New Zealand Police Safe Roads* operating model, which will be an operating model that specifically focuses on road safety. The *Safe Roads* operating model will ensure that operational decision-making supports road policing activities. We expect that the new operating model will help Police at district and area levels ensure that sufficient focus and resources are consistently given to road policing.

The Safe Roads operating model is expected to be completed by mid-2022.

30%

of road safety police are assigned to functions other than road policing at any given time

FOCUS AREA 4

A more structured and formal approach to deploying road policing resources: Although Police do report on their allocation of time and resources to road policing, Police are looking to improve how they can use the reported information. By doing so, Police would be able to accurately assess where road policing resources should be deployed, or to develop approaches to optimising road policing deployment.

To gain a better understanding of how road policing resources should be deployed, a new deployment tool, the *Tāmaki Makaurau Dashboard*, is being piloted in Auckland. The dashboard will help Police gain a better understanding of how they should deploy road policing resources across Tāmaki Makaurau. The dashboard will enable Police to analyse their enforcement and prevention actions and compare it with crash data across Auckland. This will allow a technology-driven, real-time model for road policing deployment.

Case study: *Operation Deterrence*

Operation Deterrence was a whole-of-police operation to raise deterrence across the road network by increasing road safety activity, including high-visibility checkpoints and mobile patrols. It was designed to encourage district leadership teams to apply the principles of general deterrence when considering deployment options.

The operation was a six-month national road safety operation that commenced on 1 July 2021. Because *Operation Deterrence* took place largely over the final quarter of 2021, it was heavily disrupted by the redeployment of police resources to the COVID-19 response. Police failed to achieve the operation's RSPP-aligned national targets.

However, despite the disruptions to staffing and capability there were some significant regional successes. For example, the Waikato Police District was able to meet several targets, and largely performed well despite staff abstractions to the COVID-19 response.

The Waikato District performed above the target for:

- speed offences being identified in the <11km/hr excess range (reaching 28 percent in some months) for the entire six-month duration of *Operation Deterrence*.
- mobile safety-camera deployment hours in five out of the six months of *Operation Deterrence*.
- restraint and mobile phone offence detection in three out of the six months of *Operation Deterrence*.

The success of the Waikato Police District shows the road safety benefits that can come from a focussed and dedicated approach to road policing. The Waikato Police District was able to reach targets because the district's leadership team adopted an "all-of-Police" approach to the operation. All workgroups in the district were allocated a portion of the responsibility for achieving RSPP targets, and they were given clearly defined goals. The success of the Waikato District was also achieved by the leadership making effective deployment decisions, for example by deploying road policing resources to locations such as high-risk rural roads.

Review road safety penalties

Intervention Indicator	2018/19	2019/20	2020/21
Progress around the alignment of key road safety penalties and remedies to the appropriate framework (#4.1.6)	Not applicable	Re-phased to begin in 2020/21	In progress

To help make New Zealand's road safety penalties more effective, Te Manatū Waka is leading a review of the road safety penalties regime. The need for a review arose because many of New Zealand's current road safety penalties may be too low to deter undesirable behaviour, do not align with the level of risk of the offending and, in some cases, are not effective in changing driver behaviour. The aim is to ensure that New Zealand's road safety penalties encourage positive behaviour change and that, where needed, we provide support to drivers to help them comply with the road rules.

Penalties are most effective when they are combined with other interventions to increase risk awareness and improve road-user behaviour. These interventions include targeted education, engagement, and effective enforcement that increases the probability and perception that risky behaviour will be caught. Any changes to New Zealand's road safety penalties framework should work in conjunction with other *Road to Zero* actions, such as higher levels of road policing, or greater levels of safety-camera deployment.

Initial scoping was undertaken in early 2020, but policy work paused when policy and legal resource was diverted to the initial and subsequent COVID-19 response. Over 2021 Te Manatū Waka provided briefings to the Minister of Transport on a number of proposals aimed at targeting high-risk behaviours and improving equity within the penalties system. Te Manatū Waka has also engaged with a range of stakeholders on this work including the Police, Waka Kotahi, the Ministry of Justice, Te Puni Kōkiri, the Ministry for Pacific Peoples, the Ministry of Social Development, and the NZ Automobile Association. Te Manatū Waka now intends to develop a public discussion document that will go to Cabinet for consideration in 2022.

Te Manatū Waka will also explore possible alternative enforcement pathways to support equitable outcomes. This will enable a penalties regime that will leverage the contribution penalties can make to improving road safety outcomes, while reducing the potential for increased hardship and further non-compliance.

In the interim, the Government has acted by increasing the infringement fee for using a mobile phone while driving from $80 to $150. This was done in advance of the wider review in order to address a known risk in a shorter timeframe.

FOCUS AREA 4

Increase access to driver training and licensing

	2018/19	2019/20	2020/21
Intervention Indicator			
Progress around improving access to driver training and to the licensing system (#4.1.8)	Not applicable	In progress	In progress
Safety Performance Indicators			
Number of driver licences issued per stage of licence (#4.2.7)	Full: 57,286 Restricted: 62,314 Learner: 71,934 Total: 191,534	Full: 55,714 Restricted: 58,129 Learner: 67,274 Total: 181,117	Full: 65,980 Restricted: 73,725 Learner: 84,922 Total: 224,627
Proportion of learner drivers who have progressed to restricted (#4.2.8)	27%	26%	33%
Proportion of restricted drivers who have progressed to full (#4.2.9)	26%	25%	30%
Number of adults and students attending cycle skills training courses (#5.2.6)	Not available	32,410 (including 1,485 adults and 30,925 students)	49,181 (including 2725 adults and 46,456 students)
Number of ACC claims DRIVE trained drivers make compared to untrained drivers (#4.2.6b)	4.00 per 1,000 trained drivers vs 4.80 per 1,000 untrained drivers (standardised rate)	1.80 per 1,000 trained drivers vs 2.99 per 1,000 untrained drivers (standardised rate)	3.1 per 1,000 trained drivers vs 3.9 per 1,000 untrained drivers (standardised rate)

This action seeks to make the graduated driver licensing system (GDLS) more accessible to New Zealanders. The Government recognises that to be effective, the GDLS needs to be both safety-focussed and accessible. Creating a GDLS that provides more equitable access would enable currently disadvantaged people to gain improved access to the employment, wellbeing and safety outcomes that come from holding a driver licence.

Our current GDLS relies on informal support while learning to drive. Some learner drivers – particularly those from disadvantaged communities – do not have access to a suitable supervisor, vehicle, funds to pay for lessons or tests, or they face other barriers. Drivers who face these barriers feel locked out of the driver licensing system. Some will continue to drive despite being unlicensed or inappropriately licensed.

We know that this affects road safety outcomes as drivers who do not progress through the driver licensing system have a higher risk of being in a crash than those who do. To help show this, we measure the number of ACC claims DRIVE (an approved training course) trained drivers make compared to untrained drivers (see above, indicator #4.2.6b).

The Ministry of Social Development (MSD), Te Manatū Waka and Waka Kotahi are working together to improve access to the GDLS by addressing the disproportionate effects of barriers to the GDLS on certain communities. In 2021, officials from MSD undertook a stocktake of current driver licensing programmes and identified over 300 initiatives providing or funding various types of driver training. The stocktake also identified significant regional gaps and inconsistencies in coverage. In addition, many providers of driver training rely on short-term funding, which has resulted in a high degree of turnover in the sector. MSD identified that there could be considerable benefit in stabilising and supporting this driver training sector.

Te Manatū Waka also began a regulatory review of the licensing system in 2021. The review aims to ensure the regulatory settings for the driver licensing system are fit for purpose in improving safety outcomes without creating unnecessary barriers to entry and progression through the system. Te Manatū Waka will provide advice to the relevant Ministers in mid-2022.

Towards the end of 2021, Waka Kotahi began a review of the operation and delivery of the driver licensing system. Advice will be provided to Ministers in 2022 on possible operational and delivery improvements that can be made to the system.

To help measure this action, we look at the number of driver licences issued per stage of licence (indicator #4.2.7), and the proportion of learner and restricted drivers who have progressed through the GDLS.

It is also important that all road users have access to effective safety-focussed training. Waka Kotahi has developed a national cycling education system called BikeReady, in partnership with local governments. The system intends to ensure all cycling education aligns with best practice standards and guidelines, and provide a monitoring and evaluation framework so we can assess how effective the system is at improving safety and encouraging more people to ride. In the 2020/21 financial year, 49,181 people had attended cycle skills training courses; this included 2,725 adults and 46,456 students. This was a large increase on the numbers who attended a course in 2019/20. However, the number of attendees in 2020/21 could be inflated by pent-up demand in 2020/21 caused by COVID-19 restrictions in 2019/20.

> Creating a graduated driver licensing system that enables more equitable access would allow currently disadvantaged people to gain improved access to the employment, wellbeing and safety outcomes that come from holding a driver licence.

Case study: He Tāngata

He Tāngata is a driving programme co-designed by Police and Iwi Service providers to assist whānau in feeling confident to progress towards their Driver's License. He Tāngata has been operating since July 2018 and has had some great success. Police report that 1,800 people have taken part in the driving programme, with a pass rate of 81 percent.

An independent evaluation of He Tāngata identified the following key outcomes for participants:[35]

- 27 percent of participants reported an improvement in their employment status after the Programme.
- There was a 53 percent reduction in demerits (through infringements referred to court unpaid) between 2014/15 and 2019/20.
- Driver licence infringements reduced by 50 percent between 2018/19 and 2019/20.
- Infringements reduced across all categories with an average 75 percent reduction overall.
- Indicative data suggests an overall 81 percent theory-test pass rate (which is substantially higher than the national average).
- 70 percent of participants surveyed reported increased trust and confidence in the Police.

Enhanced drug-driver testing.

	2018/19	2019/20	2020/21
Safety Performance Indicator			
Percentage of drivers impaired by drugs (#4.2.2) (See Figure 18 on page 78)	Not available	9%	5%[36]

Too many New Zealanders are driving after taking recreational drugs, or prescription drugs that impair driving. This results in an unacceptable level of harm on our roads due to drug-impaired driving. While drunk-driving rates have decreased substantially since the 1990s (see figure 17), rates of drug-impaired driving have increased, particularly in recent years. Provisional data from the Waka Kotahi Crash Analysis System shows that 101 people were killed in 2020 in crashes where a driver had consumed impairing drugs (including lawfully prescribed drugs) before driving.[37] In comparison, 79 people were killed in crashes where a driver was above the legal limit for alcohol in their system.

35 KPMG, (2021). He Tāngata Graduated Driver Licence Programme Evaluation: New Zealand Police.
36 % of drivers who say they have driven when they felt affected by a prescription, pharmacy or other drug.
37 Despite this, it is difficult to draw firm conclusions on whether the presence of drugs in someone's blood stream had contributed to a crash. For some drugs, such as cannabis, the presence of THC is a contributing factor in only about a third of crashes involving a driver who had tested positive.

The current approach to enforcement is not as effective as it could be at deterring this high-risk behaviour. As a result, only 26 percent of drivers think they are likely to be caught if driving while impaired by drugs. This is particularly low compared to the level of deterrence that has been achieved with drunk driving, where the same study found that 60 percent of drivers believe they will be caught if driving while impaired by alcohol.

Testing for drug-impaired driving currently requires a driver to undertake a behavioural test (known as a compulsory impairment test, or a CIT). CITs are time consuming for police officers conducting road-side checks. Police data shows that in 2020 there were 750 drug-related offences and 585 in 2021. By improving the testing regime for drug driving, enforcement levels should rise, and with that, so should the level of deterrence for drug-impaired driving.

The Land Transport (Drug Driving) Amendment Bill aims to improve the Police's ability to test for qualifying drugs

To address this issue, the Land Transport (Drug Driving) Amendment Bill was introduced to the House in July 2020. The Drug Driving Bill will establish a new random roadside oral-fluid testing (OFT) regime. The oral-fluid test is expected to detect the most prevalent legal and illicit drugs used by New Zealand drivers: THC (the psycho-active ingredient in cannabis), methamphetamine, benzodiazepines (sedatives), MDMA, opiates (for example, morphine) and cocaine.

With the new OFT regime Police will be able to achieve greater efficiency with testing for drugs, with a similar efficiency to the process for testing for alcohol. Under the OFT regime, a police officer would be able to stop any driver of a motor vehicle and administer a roadside oral fluid test. This would be consistent with the existing approach to drink-driving enforcement.

The Drug Driving Bill has now gone through a select committee process, where the Transport and Infrastructure Committee considered the Bill and reported back to the House on 17 June 2021. The Bill is expected to complete the legislative process and receive the Royal assent in 2022.

Police have begun planning for the implementation of the new drug testing regime

The Government is intending to fund the scaled delivery of testing over a three-year period, with funding for 33,000 OFTs in the first year of enforcement, 50,000 in the second year and 66,000 in the third year. Funding will be made available through the Safety Partnership Programme component of the NLTF. There is a risk that OFT deployment could come at a cost of a reduction in other road safety enforcement activity, and so dedicated funding for additional police resourcing will be required.

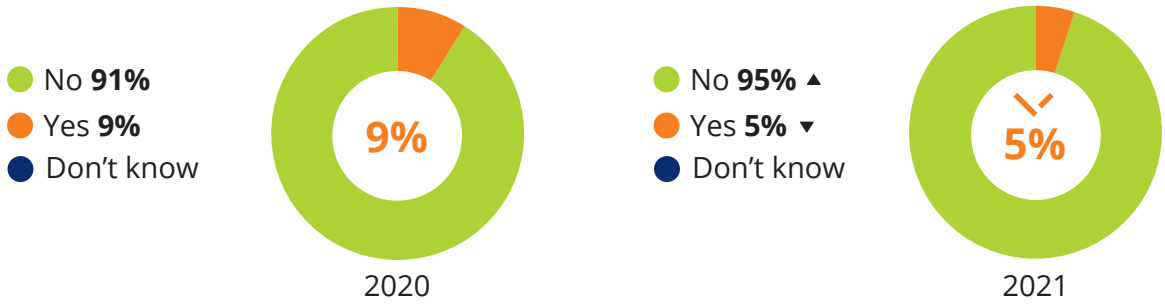
Delivery of appropriate devices will be dependent on the procurement process.

101

people killed in 2020 in crashes where a driver had consumed impairing drugs

FOCUS AREA 4

Figure 18. Percentage of drivers impaired by drugs (self-report)



Source: KANTAR (2021). *Public Attitudes to Road Safety*. Prepared for Waka Kotahi.

Support motorcycle safety

	2018/19	2019/20	2020/21
Intervention Indicator			
Number and percentage of licensed motorcyclists who have taken an approved training course (#4.1.7)	4,818 new and unique riders (8% of licensed motorcyclists)	4,469 new and unique riders (8% of licensed motorcyclists)	5,005 new and unique riders (8% of licensed motorcyclists)
Safety Performance Indicator			
Number of ACC claims trained motorcycle riders make compared to untrained riders (#4.2.6a)	4.42 per 1,000 trained riders vs 18.82 per 1,000 untrained riders (standardised rate)	1.51 per 1,000 trained riders vs 3.89 per 1,000 untrained riders (standardised rate)	1.3 per 1,000 trained riders vs 2.7 per 1,000 untrained riders (standardised rate)

Motorcyclists are particularly vulnerable road users and are substantially overrepresented in deaths and serious injuries. Motorcycling remains the single riskiest transport mode, with the risk of being killed or seriously injured 21 times higher for a motorcyclist than a car driver over the same distance travelled. In 2021 there were 48 motorcyclist deaths, out of a total of 320 deaths for the year.

This action aims to improve the licensing pathway for motorcyclists, incentivise motorcycle skills training through courses, and increase road safety treatments for motorcyclists on the highest risk routes.

Motorcycle training: The skills training component of this action is being delivered through training programmes such as Ride Forever, which is funded by ACC. Ride Forever is available to motorcycle and scooter riders. Because of ACC funding, the courses are relatively inexpensive for riders, costing between $20 and $50 for full-day courses.

To help incentivise these training courses, ACC ran a pilot where it offered riders $200 cash-back on their annual motorcycle registration if they undertook a Ride Forever course between June 2019 and July 2021. This pilot had an uptake of 654 riders registering for the cashback offer in the first year and a further 728 riders in the second year of the offer. Approval has been provided to re-run the programme given the positive influence on the uptake of experienced riders.

To increase awareness of the Ride Forever programme, ACC has continued to engage with the riding community via events such as Shiny Side Up, NZ Motorcycle show and the Burt Munro Challenge. ACC will continue to target hard-to-reach riders (especially in rural, younger and Māori communities who are overrepresented in crash statistics).

ACC is funding this course because it provides substantial benefits to road safety for motorcyclists. Motorcyclists who have not taken an approved training course are much more likely to be killed or seriously injured on New Zealand's roads. An analysis that compared the number of ACC claims made by trained versus untrained riders for the 2019/20 financial year demonstrated the effectiveness of Ride Forever in reducing the likelihood of crashes. This analysis found that there were 1.3 ACC claims per 1,000 trained riders compared to 2.7 per 1,000 untrained riders. In 2018/19 the effect was even more pronounced, with 4.42 ACC claims per 1,000 trained riders compared to 18.82 per 1,000 untrained.

This action will therefore result in progressively greater benefits as more and more of New Zealand's motorcyclists attend these training courses – going back to 2018/19, about 8 percent of New Zealand's motorcyclists have taken a training course each year (or a total pf 14,292 new and unique riders). As a result, the number of motorcyclists killed or seriously injured on our roads is decreasing progressively.

Motorcycle licensing: Te Manatū Waka, Waka Kotahi, ACC and NZ Police have commenced the motorcycle licensing review. This review will explore the licensing pathway for motorcyclists to ensure it adequately prepares them for the risks they face on New Zealand's roads. The review will specifically consider whether competency-based training assessments should be mandated or play a larger role within the motorcycle licensing system. The review will also look to examples of what the motorcycle licensing system looks like in other jurisdictions and consider whether there are safety improvements that can be made in New Zealand.

The intention is to have consulted on any potential changes to the motorcycle licensing system by the end of 2022.

Following the review of motorcycle training we will consider broader motorcycle safety interventions that could be made to improve safety outcomes for motorcyclists.

Infrastructure treatments: In 2014 ACC approved a $15 million motorcycle road safety engineering programme over a ten-year period. Interventions to improve motorcycle safety under this programme include improved curve warning signage, improved edge-line or centreline painted markings, removing roadside hazards and installing road-side barriers. We do not have data on the DSI reductions on the routes treated through the first package of safety treatments. However, we expect, based on the results of Australian projects focussing on similar road environments and intervention types, that completed routes will have a reduction in motorcycle casualty crashes within the region of 24 to 54 percent.

The first package of safety treatments on 24 of the highest risk routes was completed in December 2019. In 2021 ACC and Waka Kotahi worked together on a second package of safety treatments targeted at motorcyclists. The second package currently includes 26 stretches of road with different scopes and options available. The second package is expected to be completed by 2025.

Section 8
Focus Area 5: System management

New Zealand's road safety management system reflects international best practice.

Effective system management is needed to implement the changes that the *Road to Zero* strategy requires. Evidence from other jurisdictions highlights the importance of strong leadership, accountability for results and coordinated action across government agencies.

Effective system management can bring several benefits to road safety programmes such as *Road to Zero*. One of those benefits is that, if it's done properly, system management enables the programme's road safety interventions to complement each other, so that the overall effect of those interventions is greater than the sum of the parts.

Effective system management also ensures that *Road to Zero's* implementation continues to be informed by a robust evidence base and safety-focussed decision-making that reflects *Vision Zero* and *Safe System* best practices. Effective system management ensures that implementation of Road to Zero actions are measured, tracked, and evaluated.

Finally, system management is also about building public understanding and support for *Road to Zero's* actions.

The initial action in this Focus Area is:

- Strengthen system leadership, support and coordination

Within this initial action, there are a number of sub-actions:

- Strengthen national system leadership and coordination of road safety and support ongoing monitoring and evaluation
- Support effective regional responses
- Develop in-depth crash investigations
- Improve road safety outcomes with Māori
- Assist public understanding
- Improve post-crash response

Progress on these sub-actions, and their relevant system performance and programme level indicators, is set out in within this section.

Actions in this Focus Area

Strengthen system leadership, support and coordination

Sub-actions in this Focus Area and how we measure them:*

Strengthen national system leadership and coordination of road safety and support ongoing monitoring and evaluation

To assess how this sub-action is tracking we measure:

- Percentage of indicators that can be measured, tracked and reported annually: 78%

Support effective regional responses (*Road to Zero* Collaboration Project)

To assess how this sub-action is tracking we measure:

- Number of people in the sector who have completed approved *Safe System* training: 755

To track the performance of this sub-action, we measure:

- Percentage of sector satisfied with their access to information relevant to road safety decision making
- Percentage of local government satisfied with support they received from central government transport agencies

Improve road safety outcomes with Māori

To assess how this sub-action is tracking, we measure:

- Progress around the development and delivery of a road safety programme that demonstrates the principles of Tikanga Māori: Described in this section

Assist public understanding

To assess how this sub-action is tracking, we measure:

- Percentage of road safety advertising campaigns that meet or exceed their agreed success criteria: 85%

To track the performance of this sub-action, we measure:

- Percentage of the general public who understand and support the *Vision Zero* approach: 47%
- Percentage of the general public who show acceptance of road safety interventions: 75%

Improve post-crash response

Develop in-depth crash investigations

Progress on these actions are noted in the commentary.

*How each indicator has changed over time is shown in this section.

FOCUS AREA 5

Progress on specific sub-actions

Strengthen national system leadership and coordination of road safety and support ongoing monitoring and evaluation

Safety Performance Indicator	2018/19	2019/20	2020/21
Percentage of indicators that can be measured, tracked and reported annually (#5.2.5)	Not applicable	75%	78%

In 2021 Te Manatū Waka, Waka Kotahi and Police established a strengthened governance structure to oversee the delivery of *Road to Zero*. Cross-agency national-level governance is required to drive stronger alignment, coordination and delivery across partner organisations.

The programme's governance arrangements have been informed by lessons from the review of Safer Journeys, as well as recent reviews of the governance arrangements in Australia for similar programmes and international best practice set by the World Bank.

Road to Zero governance has been improved by:

The Ministerial Oversight Group and the Chief Executives Group: The two governance groups provide accountability at close to the highest level in Government. The Ministerial Oversight Group consists of the Ministers of Transport, Police, Social Development, ACC, Workplace Relations and Safety, and Justice. The Chief Executive Group includes the chief executives of the *Road to Zero* partner agencies: Te Manatū Waka, Waka Kotahi, the New Zealand Police, WorkSafe and ACC.

Initial work to establish these groups took place near the end of 2021. Both groups met for the first time in early 2022 and will continue to meet quarterly. They receive up-to-date reporting on the progress of *Road to Zero*'s interventions, as well as updates on the high-level progress of the Strategy. They also receive briefings from independent road safety experts.

This governance structure enables the groups to:

- set the *Road to Zero's* strategic direction and priorities in advancing national road safety priorities,
- shape, influence and drive the delivery of policy reform to advance road safety performance, and
- enable coordination across portfolios to support the delivery of *Road to Zero* priorities. This includes managing trade-offs of issues across related portfolios.

A *Road to Zero* programme director: The *Road to Zero* programme director was appointed in 2021 to provide cross-system leadership and agency integration for the delivery of *Road to Zero*.

Strengthened reporting: *Road to Zero* reporting now provides regular monitoring of programme performance in delivering on *Road to Zero* actions. It will provide greater visibility of risks, insights and opportunities, and will enable targeted interventions across the entire programme to ensure *Road to Zero* is kept on track to meet its 2030 target.

Te Manatū Waka and Waka Kotahi play a lead role in developing and implementing a robust monitoring mechanism, including production of an annual monitoring report, to keep track of progress.

Some indicators in *Road to Zero* have been refined for better alignment to the overarching outcomes and/or actions. Some indicators have been on hold or have been removed entirely due to data constraints. Appendix 1 shows the indicator framework for the *Road to Zero* programme in its entirety. Where indicators have been paused or removed Appendix 1 includes an explanation.

Te Manatū Waka will be providing quarterly updates to the public on key indicators from 2022 onwards.

At Year 2, we are able to report on 78 percent of the indicators and we will continue to build on this.

Support effective regional responses (*Road to Zero* Collaboration Project)

	2018/19	2019/20	2020/21
Intervention Indicators			
Number of people in the sector who have completed approved *Safe System* training (#5.1.3)	Not available	722	755
Outcomes Indicators			
Percentage of sector satisfied with their access to information relevant to road safety decision making (#5.3.1)	Not available	46%	48%
Percentage of local government satisfied with support they received from central government transport agencies (#5.3.2)	Not available	55%	46%

A *Road to Zero* Collaboration project team has been formed by Waka Kotahi to support effective regional implementation of the programme. The project team has advanced several initiatives aimed at strengthening regional implementation of *Road to Zero*. The overall objectives of the Collaboration Project are to identify and respond to key regional capability and capacity gaps.

As a part of improving *Road to Zero*'s regional response, Waka Kotahi has strengthened its *Road to Zero* public and stakeholder communication and engagement. Everyone in New Zealand has a part to play in supporting *Road to Zero*, which is why communications and engagement resources have been developed to support effective road safety conversations and storytelling.

These resources include case studies, videos, success stories, graphics, and key messages for *Road to Zero*, *Vision Zero* and *Safe System*. A bi-monthly *Road to Zero* newsletter has also been established to provide regular updates to stakeholders and partners on topical issues in road safety in Aotearoa.

To further support effective regional responses, the Regional Road Safety Dashboard has also been developed and will be launched for external use in mid-2022. This will provide the road safety partners of Waka Kotahi with all the road safety data and evidence, promotion messaging, and capability building material.

Case Study: Vision Zero course pilot

Building understanding and capability of *Vision Zero* and the *Safe System* approach are key to the success of *Road to Zero*. In June 2021, Waka Kotahi ran the first *Vision Zero* Foundations Course pilot in Christchurch. It covered the importance of *Vision Zero*, the *Safe System* principles in action, and how to influence different people to achieve road safety outcomes.

The course brought together 50 people from across 12 organisations to inspire each other and learn more about *Vision Zero*. The course participants also helped test and refine the introductory *Vision Zero* online module[38] which recently launched on the Waka Kotahi website. The foundations course is being improved based on participant feedback and will be rolled out more widely across New Zealand.

Develop in-depth crash investigations

Waka Kotahi is leading development of a pilot programme for in-depth investigations of fatal and serious crashes, building on the information available from existing Serious Crash Reports prepared by Police. Considerable development work has been undertaken to build an in-depth crash investigation process that ensures the desired information is collected, while at the same time not overburdening participants.

The pilot was soft launched in October 2021 for Auckland, Otago and Waikato. The initial few weeks were used to complete a quick test of the data capture and analysis process. The final stage of this programme is to develop a process that is easily workable yet produces valuable and meaningful information to inform future safety improvement initiatives.

38 https://nzta.govt.nz/learning-modules/road-to-zero/index.html

Improve road safety outcomes with Māori

	2018/19	2019/20	2020/21
Intervention Indicators			
Progress around the development and delivery of a road safety programme that demonstrates the principles of Tikanga Māori (#5.1.4)	Not applicable	Described in the 2020 monitoring report	Described below

Māori are at greater risk when travelling on our roads than the rest of the population. For example, Māori make up about 15 percent of the population, but some data suggests about 31 percent of people killed and 30 percent of people seriously injured in road crashes in 2018 (where ethnicity was known) were Māori.

This could be due to a number of contributing factors. For example, Māori are a younger population. Because younger drivers of all ethnicities are exposed to more risk on our roads, this factor would disproportionately affect Māori. We also know that some of New Zealand's more dangerous roads are in rural regions that have high Māori populations, such as Northland and Gisborne (see page 16).

The Crown has an obligation under the Treaty of Waitangi to actively protect Māori. Waka Kotahi and Police are seeking to provide safety and protection to Māori from being victims of road trauma. They are working to improve understanding of road safety outcomes for Māori. They will partner with Māori and support them to design and implement (where appropriate) meaningful activities to improve the safety and wellbeing of Māori communities.

This programme is being delivered in three phases:

Phase 1: To better understand and improve road safety outcomes for Māori by analysing existing research, data and information. This phase was completed with the publication of He Pūrongo Whakahaumaru Huarahi Mō Ngā Iwi Māori (Māori road safety outcomes report) in July 2021, a joint effort between Waka Kotahi and Police. The findings provide a baseline to track progress against our aim to improve road safety outcomes for Māori.

Phase 2: To engage and build relationships with Māori to better understand context, undertake further research, co-design road safety initiatives where appropriate, and partner with Māori to support them to design and implement their own road safety initiatives. Throughout 2022, Waka Kotahi, Police and Te Manatū Waka will continue to engage and partner with Iwi Māori and central and local government stakeholders. The aims are to build relationships, identify, prioritise, and undertake further analysis and research as required. They will begin to co-design Māori-centric *Safe System* interventions to address Māori-specific issues. The agencies will begin this mahi in one or more of the regions identified in He Pūrongo, where Māori are most overrepresented in the statistics for road-related deaths and serious injuries.

Phase 3: To support delivery of interventions. As the relationships develop and strengthen, Waka Kotahi, Police and other government agencies will continue to partner with Iwi Māori to co-design and support delivery of culturally relevant interventions guided by tikanga Māori values and principles.

FOCUS AREA 5

Assist public understanding

	2018/19	2019/20	2020/21
Intervention Indicators			
Percentage of road safety advertising campaigns that meet or exceed their agreed success criteria (#5.1.5)	87%	90%	85%
Safety Performance Indicators			
Percentage of the general public who understand and support the *Vision Zero* approach (#5.2.1)[39, 40]	Not applicable	44%	47%
Percentage of the general public who show acceptance of road safety interventions (#5.2.2).[41, 42] Acceptance of specific interventions is listed below:			
Increased use of median barriers	Not available	69%	70%
More 30km/h urban centre speed limits		58%	64%
Lower speed limits around schools		58%	74%
Using speed cameras is effective		65%	Measured every two years
Raised safety standards for light vehicles		61%	58%
Prioritise road policing		32%	Measured every two years
Enhanced roadside drug testing		80%	78%
Higher fines for mobile phone use when driving		80%	78%

Waka Kotahi is leading the development and delivery of a marketing, communications and engagement programme to improve public awareness and understanding of *Road to Zero*. The aim is to increase the public's buy-in to the *Road to Zero* Strategy, and the Vison Zero approach. This is designed to build the social licence needed to implement the necessary *Road to Zero* interventions.

Waka Kotahi appointed a creative agency to develop and deliver a new public awareness campaign. Waka Kotahi launched the first phase of

39 % of adults who think that the acceptable number of deaths from road crashes is zero.
40 KANTAR (2021). Public Attitudes to Road Safety. Prepared for Waka Kotahi.
41 % of adults who support or agree with the following interventions: enhanced roadside drug testing, increased use of wire rope median barriers, raised safety standards for light vehicles, more 30km/h urban centre speed limits, higher fines for mobile phone use when driving, more safety cameras, lower speed limits around schools and prioritised road policing.
42 KANTAR (2021). Public Attitudes to Road Safety. Prepared for Waka Kotahi.

a new public awareness campaign for *Road to Zero* in February 2022. This was the start of a 10-year programme of work. The campaign includes nationwide promotional activities across TV, social media, radio, online audio visual, cinema, digital, outdoor, print and media partnerships. Other *Road to Zero* partners and key stakeholders including local government are supporting the campaign.

Over 2021 the *National Road Safety Advertising Programme* continued to develop advertising and behavioural change initiatives such as a new speed campaign – Safe Limits, which started in November 2021. Safe Limits focuses on raising awareness of the importance of setting safe speeds, a key component of the *Speed and Infrastructure Programme* (see above under Focus Area 1 – Infrastructure and Speed Management).

Work also began on an external nation-wide survey programme to gauge the public's understanding of *Road to Zero* and measure the social licence programme's progress over the next 10 years.

In 2021, 47 percent of the general public thought that the acceptable number of deaths from road crashes is zero, which is considered to be a proxy measure of public support for the Vison Zero approach. This is only a slight increase from 2019/20, but we expect this to increase further as our communications strategy is implemented. The level of public acceptance for different road safety interventions varied, with a weighted average of 75 percent.

Improve post-crash response

Effective post-crash response relies on effective collaboration between several government agencies. A working group made up of representatives of all agencies involved in the post-crash response has been set up. The purpose of this project is to ascertain the most effective structure for developing an inter-agency post-crash response.

The project will be implemented in early 2022. Once the inter-agency post- crash response project has been developed, Waka Kotahi will lead a national working party of stakeholder representatives to develop strategic plans to meet the success measures and targets.

In addition, in 2021 Waka Kotahi has been involved in improving the training of staff involved in pre-hospital care and transport. About 50 percent of major trauma in New Zealand comes from road crashes. For trauma patients, the transition of care from pre-hospital to the emergency department requires precise and rapid reaction by clinical teams who can make the difference between survival or death. The courses aim to improve communication and processes for teams that do not work together on a day-to-day basis yet are expected to function together in an emergency. The successful transfer of patients from pre-hospital care to an emergency department can often make the difference between life and death.

Training for emergency department trauma teams was developed in 2018/9, and its success meant that in 2020 Waka Kotahi and the DHBs jointly funded an initiative which allowed that training to be offered to all trauma hospitals. The national rollout has proceeded well, especially considering the impacts of COVID-19 on the health system.

The training uses life-like mannequins and scenarios such as a child injured on bicycle, a motorcyclist with a major degloving injury, and a person trapped in a car with serious chest injuries. The courses identify practical steps for improving the process of care, communication between clinicians, and logistics, in the immediate care of these patients in the emergency department.

By mid-2021, 358 clinical staff had received this training across 13 hospitals, and more sessions are planned. Waka Kotahi has committed further funding to extend the training programme once the initial rollout has been completed.

APPENDIX 1

Appendix 1. Full list of indicators

Please note that the above report only includes the indicators that we have been able to report on so far during the *Road to Zero* programme. Below is a table showing the full list of indicators, including those we have not yet been able to report on, which were initially developed to measure progress on the *Road to Zero*.

Some of the indicators that we have not been able to report on will be removed from the framework entirely. For the indicators we have not yet reported on, but intend to report on in future monitoring reports, we will be progressing further work on how to **define** or **measure** them.

Indicator	Available in Year 2 reporting	Comments
1.1.1 Kilometres of the network treated with new median barriers	✓	
1.1.2 Kilometres of the network treated with new *Supporting Safe System* interventions (which include side barriers, and could also include other interventions such as rumble strips and wide centrelines) (#1.1.2)	✓	**Refined** to be consistent with operational practice in target setting and intervention decisions. (previously '*kilometres of the network treated with side barriers*' and '*kilometres of the network treated with new rumble strips*') Further **refined** in Year 2 reporting to reflect the nature of "Supporting *Safe System*" interventions. (previously '*Kilometres of the network treated with new Supporting Safe System interventions (including side barriers, rumble strips and wide centrelines)*'
Number of intersections treated with *Primary Safe System* treatments (#1.1.3)	✓	**Further work** required to operationally define this indicator.
1.1.4 Progress around the review of infrastructure standards and guidelines	✓	
1.1.5 Kilometres of high-risk roads addressed through speed management	✓	**Refined** to a better metric to measure overall progress as the top 10% high risk roads are identified/updated every 3 years. (previously '*percentage of highest risk roads addressed through speed management*')
1.1.6 Percentage of rural schools with 60km/h speed limits or lower	✗	**Awaiting** information on school speed limits (permanent and variable) to be available through the National Speed Limits Register from 2022. We should be able to report on these indicators for the 2022 Year 3 report.
1.1.7 Percentage of urban schools with 30-40km/h speed limits	✗	**Awaiting** information on school speed limits (permanent and variable) to be available through the National Speed Limits Register from 2022. We should be able to report on these indicators for the 2022 Year 3 report.
1.1.8 Percentage of road safety advertising campaigns that meet or exceed their agreed success criteria	✓	**Combined** with #4.1.5 to increase sample size, and reported under 'System Management' #5.1.5.
1.1.9 Mobile safety-camera deployment activity (hours)	✓	

Indicator	Available in Year 2 reporting	Comments
1.1.10 Number of police operations targeting speed, restraints impairment and distraction offences	✓	**Combined** with #4.1.3 as breakdown by operation focus is not available. (previously '*Number of police operations targeting speed*')
1.2.1 Percentage of VKT on roads with speed limit above 80km/h that have a median barrier	✓	
1.2.2 Percentage of VKT on rural network that have a 3-star equivalent rating or better	✓	
1.2.3 Percentage of high-risk intersections treated with *Primary Safe System* interventions	✓	**Refined** to enable more reliable recording of *Safe System* interventions. (previously *Number of high risk intersections treated to operate within Safe System limits*)
1.2.4 Network kilometres of roads adapted for safe pedestrian and cyclist use	✗	**Further work** required to define and measure. The indicator will likely be refined in 2022 and available for 2022 Year 3 reporting.
1.2.5 Network kilometres of roads with motorcycling safety treatment	✗	**Further work** required to define and measure.
1.2.6 Perceived safety of walking and cycling (by rural, urban, urban centres and around schools)	✗	The survey was disrupted in 2021 due to the effects of COVID-19 restrictions. Because of these disruptions, we were not able to report on #1.2.6a (walking). We were, however, able to report on #1.2.6b, which relates to cycling.
1.2.7 Percentage of road network where speed limits align with Safe and Appropriate Speed	✓	
1.2.8 Percentage of traffic travelling within speed limits (by rural, urban and urban centres)	✗	**Awaiting** development of speed surveys to measure. Planned for 2022 for Year 3 reporting.
1.2.9 Mean speed of vehicles (by rural, urban and urban centres)	✗	**Awaiting** development of speed surveys to measure. Planned for 2022 for Year 3 reporting.
1.2.10 Percentage of the general public who understand the risk associated with driving speed	✓	
1.2.11 Percentage of the general public who agree that they are likely to get caught when driving over the posted speed limit	✓	
1.2.12 Percentage of road network covered by automated safety cameras	✗	**Further work** required in 2022 to define.
1.2.13 Percentage of the general public who agree that safety cameras are an important intervention to reduce the number of road deaths	✓	
- Percentage of road network where speed limits align with *Safe System* -	✗	**Removed** as it is conceptually similar to #1.2.7.
1.3.1 Number of head-on and run-off-road DSIs	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of head-on and run-off-road DSI crashes*')
1.3.2 Number of DSIs involving a crash where vehicles have intersected	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of intersection DSI crashes*')

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Indicator	Available in Year 2 reporting	Comments
1.3.3 Number of DSIs with speed being a contributing factor	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of DSI crashes with speed being a contributing factor*')
1.3.4 Number of DSIs where the speed limit does not align with the Safe and Appropriate Speed	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction, and aligns indicator to the Focus Area on infrastructure and speed. (previously '*number of DSI crashes where the speed limit does not align with the Safe System*')
1.3.5 Number of pedestrian and cyclist DSIs	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction, and operationally define vulnerable road user. (previously '*number of DSI crashes involve a vulnerable road user*')
1.3.6 Number of ACC entitlement claims related to walking and cycling injuries	✓	
2.1.1 Progress around the delivery of a package of new safety standards for vehicles entering the fleet	✓	
2.1.2 Percentage of the general public exposed to advertising and/or resources on vehicle safety ratings	✗	**Removed** from the framework. Indicators #2.2.2 and #2.2.3 will be our key indicators to measure the success of public awareness campaigns.
2.1.3 Policy implemented to mandate ABS for new motorcycles over 125 cc by April 2020	✓	
2.2.1 Percentage of the vehicle fleet with a high safety rating	✓	
2.2.2 Percentage of drivers who know the star safety rating of their car	✓	**Refined** to clarify population of interest and metric. (previously '*percentage of the general public understand vehicle safety information*')
2.2.3 Percentage of drivers who think it is important for their car to have a high safety rating	✓	**Refined** to clarify population of interest. (previously '*percentage of the general public who agree that it is important to have a vehicle that has a high safety rating*')
2.2.4 Percentage of motorcycles over 125 cc fitted with ABS	✗	**Removed** from the framework. Although all motorcycle imports will be fitted with ABS from 2022, we cannot measure how many of the current fleet have ABS.
2.3.1 Number of DSIs involving a vehicle with a low safety rating	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of DSI crashes involving a vehicle with a low safety rates*')
2.3.2 Number of motorcyclist DSIs	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of DSI crashes involving motorcycling*')
2.3.3 Number of ACC entitlement claims related to motorcycling injuries	✓	
3.1.1 Progress around private sector initiatives to establish best practice road safety standards in the supply chain	✓	

Indicator	Available in Year 2 reporting	Comments
3.1.2 Progress around the review of logbook and work-time requirements as part of the 2019/2020 rules programme	✓	
3.1.3 Incorporate journey purpose into the Crash Analysis System (CAS)	✓	
3.2.1 Number of organisations with health and safety plans in place that recognise road safety as a critical health and safety issue	✗	**Further work** required in 2022 to define and measure.
3.2.2 Percentage of sector satisfied with their access to relevant data on road safety for work-related travel	✗	**Further work** required in 2022 to define and measure.
3.3.1 Number of DSIs involving a person travelling to/from work	✗	**Refined** to be consistent with the overarching target that focuses on DSI reduction, and **work underway** to have the information available for reporting. (previously '*Number of DSI crashes involving a person travelling to/from work*')
3.3.2 Number of DSIs involving a person travelling as part of work	✗	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of DSI crashes involving a person travelling as part of work*') This indicator relates to the **work underway** to capture journey purpose data. It should be available for the 2022 Year 3 report once that work is finalised.
3.3.3 Number of DSIs involving a heavy vehicle	✓	**Refined** to be consistent with the target that focuses on DSIs. (previously '*number of DSI crashes involving a heavy vehicle*')
3.3.4 Number of DSIs at a roadworks site	✗	**Refined** to be consistent with the overarching target that focuses on DSI reduction. Further work required to operationally define the indicator. (previously '*number of DSI crashes at roadworks sites*')
3.3.5 Number of DSIs with fatigue being a contributing factor	✓	**Refined** to be consistent with the overarching target that focuses on DSI reduction. (previously '*number of DSI crashes with fatigue being a contributing factor*')
3.3.6 Percentage of work-related fatalities and serious injuries involving motor vehicles	✗	This indicator relates to the **work underway** to capture journey purpose data. It should be available for the 2022 Year 3 report once that work is finalised.
4.1.1 Number of sworn staff dedicated to road policing	✓	
4.1.2 Number of breath tests conducted	✓	
4.1.3 Number of Police operations targeting speed, restraints, impairment and distraction offences	✓	**Combined** with #1.1.11 as breakdown by operation focus is not available. (previously '*Number of Police operations targeting restraints, impairment and distraction offences*')
4.1.4 Number of Offender Management Plans in place for high risk drivers	✗	**Further work** required to improve the reporting of this indicator. For the Year 1 and Year 2 reports we could only report on theoretical figures.
4.1.5 Percentage of road safety advertising campaigns that meet or exceed their agreed success criteria	✓	**Combined** with #1.1.10 to increase sample size, and reported under 'System Management' #5.1.5.

APPENDIX 1

Indicator	Available in Year 2 reporting	Comments
4.1.6 Progress around the alignment of key road safety penalties and remedies to the appropriate framework	✓	
4.1.7 Number and percentage of licensed motorcyclists who have taken an approved training course	✓	
4.1.8 Progress around improving access to driver training and to the licensing system	✓	
4.2.1 Percentage of drivers impaired by alcohol	✓	Currently using self-reporting surveys. **Work underway** to introduce surveys based on observed behaviour, which should be available for Year 3 reporting, subject to funding.
4.2.2 Percentage of drivers impaired by drugs	✓	Currently using self-reporting surveys. **Work underway** to introduce surveys based on observed behaviour, which should be available for Year 3 reporting, subject to funding.
4.2.3 Percentage of drivers using handheld mobile phones while driving	✓	Currently using self-reporting surveys. **Work underway** to introduce surveys based on observed behaviour, which should be available for Year 3 reporting, subject to funding.
4.2.4 Percentage of car occupants using a seatbelt or child restraint	✓	Currently using self-reporting surveys. **Work underway** to introduce surveys based on observed behaviour, which should be available for Year 3 reporting, subject to funding.
4.2.5 Percentage of the general public who agree that they are likely to get caught for undertaking risky behaviours	✓	
4.2.6a Number of ACC claims trained motorcycle riders make compared to untrained riders	✓	**Refined** to clarify metric. (previously '*Involvement in a motorcycling crash following participation in an approved motorcycling training course*')
4.2.6b Number of ACC claims DRIVE trained drivers make compared to untrained drivers	✓	New indicator.
4.2.7 Number of driver licences issued per stage of licence	✓	
4.2.8 Proportion of learner drivers who have progressed to restricted	✓	
4.2.9 Proportion of restricted drivers who have progressed to full	✓	
4.3.1 Number of DSIs involving alcohol and/or drugs	✓	**Refined** to be consistent with the target that focuses on DSIs. (previously '*Number of DSIs crashes involving alcohol and/or drugs*')
4.3.2 Number of DSIs with fatigue being a contributing factor	✓	**Refined** to be consistent with the target that focuses on DSIs. (previously '*Number of DSIs crashes with fatigue being a contributing factor*')
4.3.3 Number of DSIs with distraction being a contributing factor	✓	**Refined** to be consistent with the target that focuses on DSIs. (previously '*Number of DSIs crashes with distraction with a contributing factor*')
4.3.4 Number of vehicle occupant deaths where restraints were not worn	✓	
4.3.5 Number of unlicensed or disqualified drivers DSIs	✓	**Refined** to be consistent with the target that focuses on DSIs. (previously '*Number of unlicensed or disqualified drivers involving in a DSI crash*').

Indicator	Available in Year 2 reporting	Comments
4.3.6 Number of DSI crashes where a restricted licence was held at the time of a crash	✓	**Refined** to be consistent with the target that focuses on DSIs. (previously '*Number of 'novice' drivers involved in a DSI crash*').
5.1.1 Percentage of the general public who were exposed to messages on *Vision Zero*	✗	**Further work** is required to determine whether we are able capture the relevant data. However, this indicator could be **removed** from the framework, and indicators #2.2.2 and #2.2.3 will be our key indicators to measure the success of public awareness campaigns.
5.1.2 Percentage of the general public who were exposed to messages on effectiveness of road safety interventions	✗	**Further work** is required to determine whether we are able capture the relevant data. However, this indicator could be **removed** from the framework, and indicators #2.2.2 and #2.2.3 will be our key indicators to measure the success of public awareness campaigns.
5.1.3 Number of people in the sector who have completed an approved *Safe System* training course	✓	
5.1.4 Progress around the development and delivery of a road safety programme that demonstrates the principles of Tikanga Māori	✓	
5.1.5 Percentage of road safety advertising campaigns that meet or exceed their agreed success criteria	✓	
5.1.6 Percentage of the general public who were exposed to messages on effectiveness of road safety interventions	✗	**Removed** as it is the same as #5.1.2.
5.2.1 Percentage of the general public who understand and support the *Vision Zero* approach	✓	
5.2.2 Percentage of the general public who show acceptance of road safety interventions	✓	
5.2.3 Percentage of people who have completed an approved *Safe System* training course that showed improved understanding of the *Safe System*	✗	**Further work** required to develop a follow-up survey for course attendees. It should be available for the 2022 Year 3 report once that work is finalised.
5.2.4 Percentage of road infrastructure projects that have been subject to a Road Safety Audit and/or Safe System Assessment	✗	**Further work** planned for 2022 to develop this indicator.
5.2.5 Percentage of indicators that can be measured, tracked and reported	✓	
5.2.6 Number of adults and students attending cycle skills training courses	✓	**New** indicator added to address a gap in the outcomes framework.
5.3.1 Percentage of sector satisfied with their access to information relevant to road safety decision making	✓	
5.3.2 Percentage of local government satisfied with support they received from central government transport agencies	✓	

APPENDIX 2

Appendix 2. Number of deaths and serious injuries by region

Regions		2017	2018	2019	2020	2021
Auckland Region	Deaths	64	54	40	37	59
	Serious injuries	764	589	568	484	532
	Total DSIs	**828**	**643**	**608**	**518**	**591**
Bay of Plenty Region	Deaths	24	34	40	28	35
	Serious injuries	155	143	207	146	155
	Total DSIs	**179**	**177**	**247**	**175**	**190**
Canterbury Region	Deaths	55	53	52	32	49
	Serious injuries	352	296	317	222	236
	Total DSIs	**407**	**349**	**369**	**254**	**285**
Gisborne Region	Deaths	7	5	4	9	6
	Serious injuries	35	36	46	45	48
	Total DSIs	**42**	**41**	**50**	**56**	**54**
Hawke's Bay Region	Deaths	18	14	19	22	9
	Serious injuries	105	109	94	111	116
	Total DSIs	**123**	**123**	**113**	**134**	**125**
Manawatu-Whanganui Region	Deaths	31	45	22	31	30
	Serious injuries	178	174	178	161	203
	Total DSIs	**209**	**219**	**200**	**192**	**233**
Marlborough Region	Deaths	6	3	3	6	3
	Serious injuries	31	27	19	35	13
	Total DSIs	**37**	**30**	**22**	**41**	**16**
Nelson Region	Deaths	0	3	3	5	0
	Serious injuries	30	35	20	20	15
	Total DSIs	**30**	**38**	**23**	**24**	**15**
Northland Region	Deaths	41	34	28	27	33
	Serious injuries	153	153	163	144	156
	Total DSIs	**194**	**187**	**191**	**173**	**189**

Regions		2017	2018	2019	2020	2021
Otago Region	Deaths	17	10	16	25	14
	Serious injuries	174	153	139	101	115
	Total DSIs	**191**	**163**	**155**	**127**	**129**
Southland Region	Deaths	13	12	8	13	5
	Serious injuries	73	101	73	66	77
	Total DSIs	**86**	**113**	**81**	**79**	**82**
Taranaki Region	Deaths	4	17	15	12	2
	Serious injuries	77	77	91	77	59
	Total DSIs	**81**	**94**	**106**	**89**	**61**
Tasman Region	Deaths	9	5	6	2	1
	Serious injuries	47	44	32	24	27
	Total DSIs	**56**	**49**	**38**	**27**	**28**
Waikato Region	Deaths	64	68	78	54	51
	Serious injuries	398	371	361	350	335
	Total DSIs	**462**	**439**	**439**	**406**	**386**
Wellington Region	Deaths	14	13	11	13	20
	Serious injuries	237	236	175	148	181
	Total DSIs	**251**	**249**	**186**	**161**	**201**
West Coast Region	Deaths	11	6	3	2	3
	Serious injuries	44	40	22	31	21
	Total DSIs	**55**	**46**	**25**	**33**	**24**
Unknown *No information recorded on the region where DSI occurred.*	Deaths	0	2	3	2	0
	Serious injuries	9	17	15	11	6
	Total DSIs	**9**	**19**	**18**	**13**	**6**
National total	Deaths	378	378	348	318	320
	Serious injuries	2,862	2,601	2,520	2,176	2,295
	Total DSIs	**3,240**	**2,979**	**2,871**	**2,502**	**2,615**


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Ngā Uara Te Manatū Waka
Te Manatū Waka Values

WHAKAPAKARI
IMPROVING OUTCOMES

AKO
CAPABILITY DEVELOPMENT

MAHI TAHI
WORKING TOGETHER

RANGATIRATANGA
EMPOWERING
AND LEADING

KAITIAKITANGA
GUARDIANSHIP AND
PROTECTION

WHANAUNGATANGA
COLLABORATION
AND UNITY

MANAAKITANGA
CARING FOR AND
VALUING OTHERS

TE MANATŪ WAKA
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