

Safer Journeys

Action Plan 2016-2020



SAFE ROADS AND ROADSIDES



SAFE SPEEDS



SAFE VEHICLES



SAFE ROAD USE





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Foreword



This is the third and final action plan for Safer Journeys, New Zealand's road safety strategy to 2020.

The road toll today is significantly lower than when the strategy was launched in 2010. We've seen positive change through targeted campaigns and legislative measures, and collaborative partnerships across the sector that create the environment for new and powerful initiatives.

However, there are still too many people dying or seriously injured on our roads, and it is concerning that deaths and serious injuries have increased in recent years. The National Road Safety Committee recognises that, in order to make an impact, this Action Plan needs to reflect the principles of a Safe System: people make mistakes, people are vulnerable, we need to share responsibility, and we need to strengthen all parts of the system.

The actions contained here are less specific than previous action plans, but more transformational in their ambition. We are starting to see significant gains from initiatives started since 2010. The Third Action Plan consolidates these gains. It focuses attention on the areas of greatest concern, and presents opportunities for current and emerging technologies to

help us address these concerns. The new actions complement the initiatives already under way, and I envisage they will markedly reduce the rate of deaths and serious injuries on our roads.

I am proud of what we have achieved so far with the longer term trend realising the vision of Safer Journeys, and the focus and commitment among road safety partners and communities to see better outcomes on our roads. The success of this Action Plan relies on road safety partners, industry, and the community working effectively together. Together, we can achieve a safer road system, increasingly free of deaths and serious injuries.

A handwritten signature in black ink that reads "Martin Matthews".

Martin Matthews
Convenor of the National Road Safety Committee

Introduction



Safer Journeys is New Zealand’s road safety strategy for 2010 to 2020. It establishes a vision of “a safe road system increasingly free of death and serious injury”.

Developed in 2010, Safer Journeys creates a framework for how road safety is managed across all parts of the road system: roads and roadsides, speed, safe vehicles, and road use. Priority is placed on areas with the most potential to reduce death and serious injury.

The Safer Journeys strategy is based on the Safe System. This approach aims for a more forgiving road system that takes human fallibility and vulnerability into account. Under a Safe System we design the whole transport system to protect people from death and serious injury.

This is the third and final Action Plan for the Safer Journeys Strategy 2010–2020.

Significant progress has been made under the previous two Action Plans, particularly in improving the safety of young drivers, and reducing impaired driving. Many of the initiatives will continue: they have become a core part of the policies and decision making of various agencies.

However there still remains a number of areas where progress towards a safe road system would benefit from more momentum. The Action Plan 2016–2020 is designed to renew focus on these areas.

In particular, this Action Plan’s focus is to:

- Enable smart and safe choices on the road
- Make motorcycling safer
- Ensure roads and roadsides support safer travel
- Encourage safe vehicles.

Each of these four new actions is expected in the long term to significantly reduce the numbers of people dying and suffering serious injuries on our roads.

The actions focus extra effort where existing or planned work:

- does not adequately address the level of risk (including for motorcycling, urban road safety, and vulnerable users) or
- does not take advantage of emerging safety opportunities (such as safer choices and safer vehicles).

Figure 1: The Safe System



The Safe System

The Safer Journeys strategy applies the Safe System approach.

The Safe System looks beyond the road user and examines the entire road system to improve safety by creating safer roads and roadsides, safer speeds, safer vehicles and safer road use.

To protect people from death or serious injury, the Safe System's objectives are to:

- make the road transport system more forgiving to allow for human error
- reduce the forces that injure people in a crash to a level the human body can tolerate without serious injury
- minimise the level of unsafe road user behaviour.

The Safe System is underpinned by four principles noted on the opposite page.





People make mistakes

Occasionally we make mistakes and poor decisions that affect us and other road users—sometimes with life-changing consequences. Mistakes, which can be reduced but not entirely eliminated, include slips and lapses in attention, and skill and performance deficits. Poor decisions include impairment by drugs and alcohol or fatigue, speeding, and not wearing seatbelts or helmets.

People are vulnerable

When a crash occurs, the human body has limited ability to withstand crash forces. The Safe System response is to design the system to be more forgiving in a crash through technologies and approaches that reduce or absorb crash forces.

Shared responsibility

System designers and people who use the roads share responsibility for creating a safer road system where crash forces do not result in death or serious injury. Responsibility for what happens in a crash reflects the relationship between:

- road users
- transport system designers
- those whose decisions influence how people behave and
- how well the system protects road users.

Strengthening all parts of the system

Roads and roadsides, speeds, vehicles, and the use of the road are inter-related. We must strengthen all parts so that if one part of the system is weakened or fails, the other parts can compensate to prevent death or serious injury.

The emphasis is placed on deaths and serious injuries, as the types of crashes causing death and serious injury are the same or very similar. Many serious injuries cause lifelong debilitating physical and mental effects, with ongoing costs and trauma for individuals, families and communities.

Achievements since the launch of Safer Journeys in 2010

We have made significant achievements since 2010 through initiatives identified in the Action Plans. Many of the initiatives have become a core part of the policies and decision making of various agencies, and recognised by the public as a necessary contributor to road safety.

Safe Speeds

- Public campaigns to raise awareness of why speed matters (eg “Mistakes”, “Flying objects”)
- Developed and progressed the Speed Management Programme
- Progressive roll-out of Safety Camera Programme (eg red lights, speed)
- Speed Demonstration Projects
- Introduced vehicle and weather activated speed limit signage.

Safe Road Use

- Introduced a power-to-weight restriction for novice motorcycle riders
- Introduced competency based motorcycle licence testing
- Implemented an alcohol interlock programme
- Raised the minimum driving age to 16 years of age, and strengthened the driver licensing test
- Implemented a zero Blood Alcohol Concentration for drivers under 20 years of age
- Lowered the Blood Alcohol Concentration to 0.05 for drivers over 20 years of age
- Increased child restraint use for children up to 7 years of age
- Raised awareness of the risks posed by drug driving
- Increased community responsibility for reducing drink driving (“Legend”)
- Produced road safety resources that support the school curriculum
- Continued to promote and increase the numbers of motorcyclists trained through ACC’s Ride Forever programme.





Safe System Approach

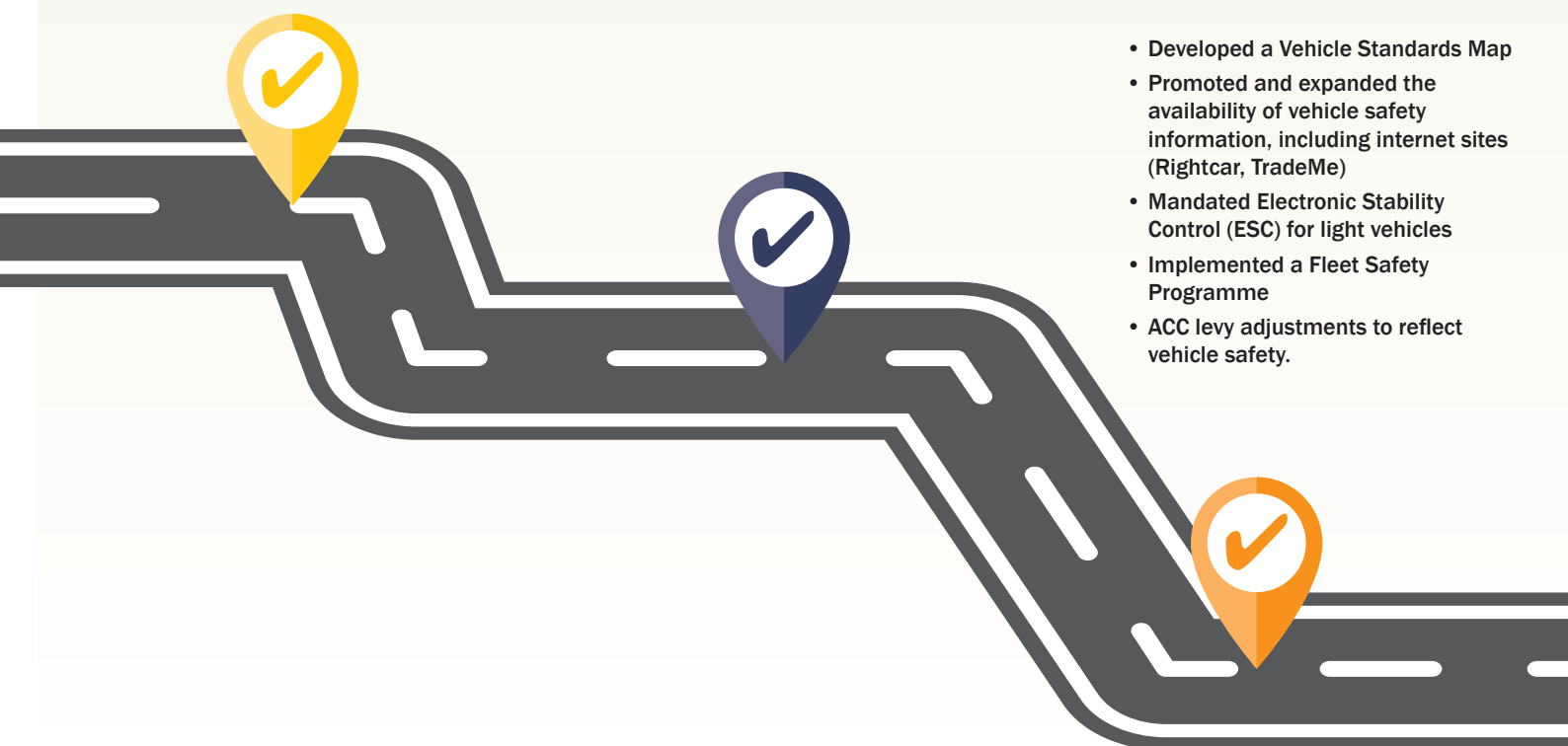
- Promoted the Safe System through facilitated workshops, developed the Safe System video, and providing training in how to apply the Safe System
- Introduced the Safer Journeys Signature Programme, which included:
 - > Visiting drivers project (lower South Island)
 - > Future streets – walking and cycling (Mangere)
 - > Young Driver Signature Project
 - > Rural road safety (Eastern Bay of Plenty)
- Commenced implementation of Cycle Safety Panel recommendations.

Safe Roads and Roadsides

- Developed and used guides for:
 - > High-Risk Intersections and High Risk Rural Roads,
 - > Safer Journeys for Motorcycling and the related Making Roads Motorcycle Friendly guides,
 - > Safer Journeys for Rural Schools
- Identified and treated high risk intersections
- Implemented changes to the ‘give way rule’
- Designing the Roads of National Significance to a 4-star level of safety
- Implemented rumble strip and median barriers programmes on high risk roads
- Development and roll out of Urban KiwiRAP
- Implemented motorcycle safety improvements in the Southern Coromandel Loop.

Safe Vehicles

- Developed a Vehicle Standards Map
- Promoted and expanded the availability of vehicle safety information, including internet sites (Rightcar, TradeMe)
- Mandated Electronic Stability Control (ESC) for light vehicles
- Implemented a Fleet Safety Programme
- ACC levy adjustments to reflect vehicle safety.

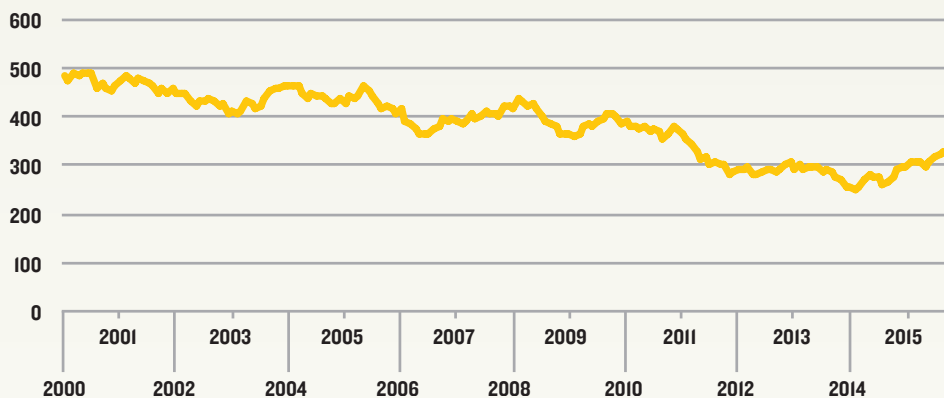


How we are doing so far

Progress on Safer Journeys and creating a Safe System

Progress in reducing deaths and serious injuries overall has been positive since Safer Journeys was introduced. Even so, the rate of decline has plateaued for serious injuries, while deaths have increased for two years in a row.

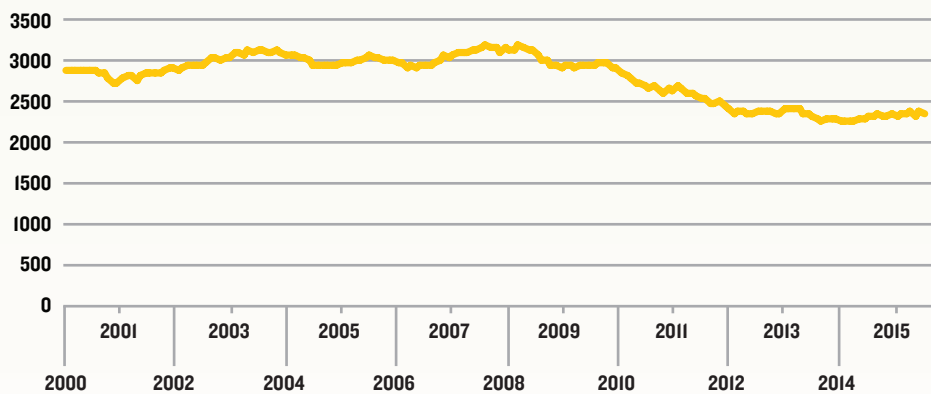
Figure 2: NZ road deaths, 2000–2015



Source: Ministry of Transport



Figure 3: NZ serious road injuries, 2000–2015



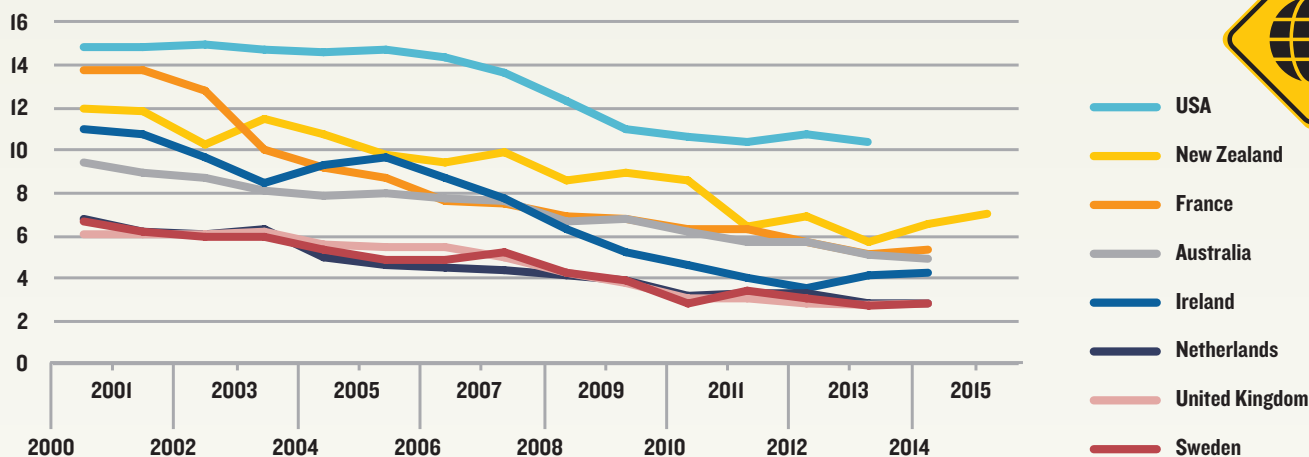
Source: Ministry of Transport



Road deaths per 100,000 population reduced from 8.6 in 2010 to 5.8 in 2013. But this has since risen to 6.5 per 100,000 population in 2014 and 7.0 in 2015.



Figure 4: Road deaths per 100,000 population in seven countries



Source: Ministry of Transport

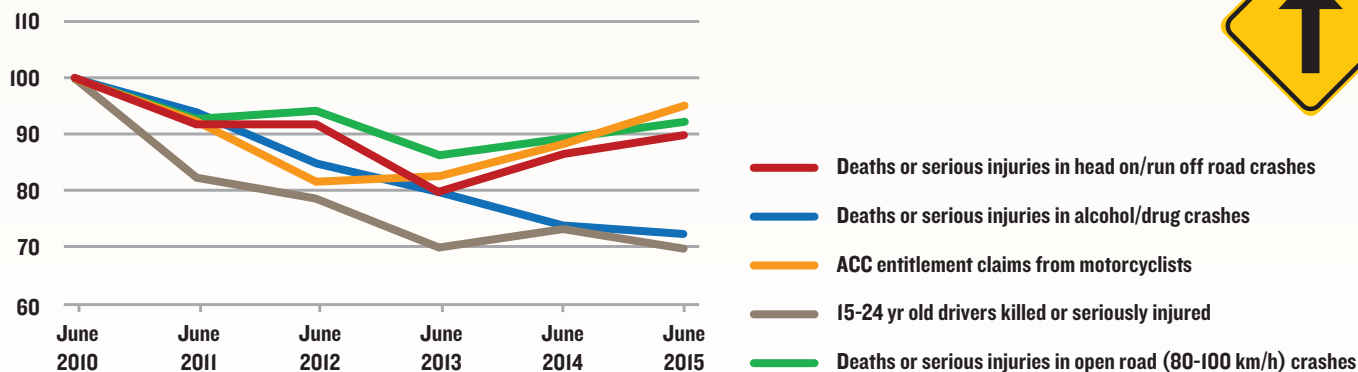
More vehicles, increased travel, and population increases all contribute to a greater overall exposure to risk. The trend is projected to continue increasing, so reducing deaths and serious injuries requires extra and more effective effort, and a willingness to explore new approaches.

Actions taken under the areas of high concern in Safer Journeys have reduced deaths and serious injuries, particularly those related to alcohol and the safety of young people.

Recent legislative changes are expected to lock in the improvements already made. High-risk behaviour and extreme non-compliance are less of an issue than in 2010, and compliance rates have improved for speed and alcohol since 2010. Even so, repeat offenders continue to make poor choices and continue to be over-represented in the justice system. Also, while most drivers wear a seatbelt and cyclists wear a helmet, people who decide to not wear them figure highly in fatal crashes.

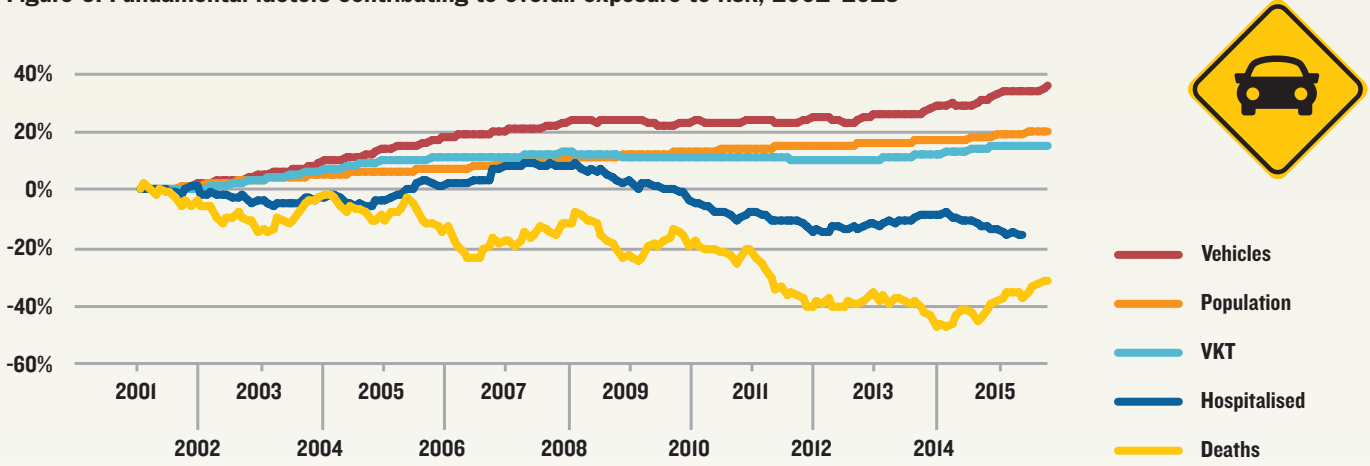
In 2015, 92 people who died on New Zealand roads were not wearing a safety restraint. It is estimated that more than half would have likely survived had they worn a seatbelt (a 60 percent increased survival rate for those sitting in the front; 44 percent for rear seat passengers).

Figure 5: Areas of high concern (percentage reduction/increase since 2010) per 100,000



Source: NZ Transport Agency

Figure 6: Fundamental factors contributing to overall exposure to risk, 2001–2015



Note: VKT means vehicle kilometres travelled
 Source: Ministry of Transport

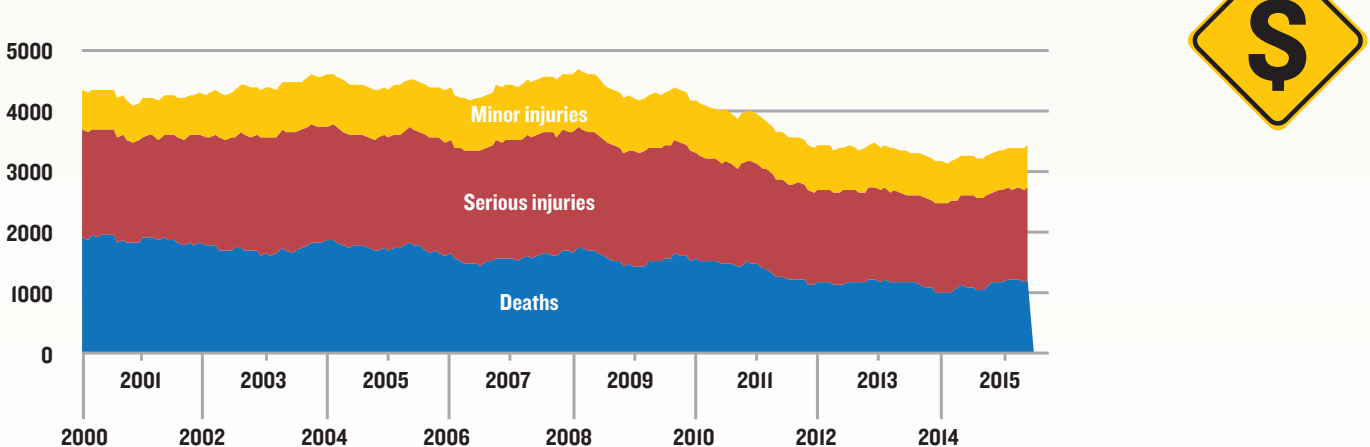
Significant safety improvements are still possible. With increasing vehicle kilometres travelled, it is hard to sustain the positive outcomes from early improvements in roads and roadsides and safer speeds. This is reflected in increases in head-on crashes and run-off-road crashes. The story is similar for vulnerable road users, with pedestrians and cyclists comprising about 15 percent of deaths and serious injuries, and outcomes worsening for motorcyclists.

Social cost

The social cost of a road crash resulting in injury includes loss of life quality, loss of productivity, medical costs, legal costs, and vehicle damage costs. Road crashes impose intangible, financial and economic costs to society.

Between 2010 and 2015, 1,834 people died on New Zealand roads, at a social cost of \$7.3 billion, and over 12,550 were seriously injured. The combined social cost of deaths and serious injuries was about \$16.4 billion.

Figure 7: Social cost of minor injuries, serious injuries, and deaths (cost in \$millions as at June 2014)



Source: Ministry of Transport, Social cost of road crashes and injuries 2014 update, December 2014.

Core Road Safety Activity 2016–2020



Delivering road safety in New Zealand involves a range of participants: private and public organisations, communities, and interest groups.

Government-led activities are progressed through the National Land Transport Programme, the Road Policing Programme and Accident Compensation Corporation (ACC)'s injury prevention activities. The Safer Journeys Action Plan is part of a larger body of work that supports the creation of a Safe System.

The four new actions identified in this Action Plan build on core road safety work already under way that will continue and evolve over the next five years. This work considers learnings and innovations from the 2013-2015 Signature Programme and previous Action Plans. It uses data and evidence to embed the Safe System.

Below we discuss the initiatives under way that are focused on improving roads and roadsides, managing speed, making vehicles safer, and making road users safer.

Improving roads and roadsides

New Zealand will invest significantly to make roads and roadsides safer across the network over the period of this Action Plan, to improve the safety of the highest-risk roads and intersections. For example, an initial investment of \$400 million by 2021 in more than 20 projects through the Safe Roads Alliance will include installing more median barriers and rumble strips, and intersection improvements. These safety projects are projected to prevent 1,500 deaths and serious injuries over six years.

The Roads of National Significance will be nearly complete by 2020. These high-volume roads will be designed and built to a minimum KiwiRAP¹ 4-star level of safety. Once complete, demand will reduce on some higher risk roads that currently have a 2-star or 3-star safety level.

Roads and roadsides improvements to improve safety for visiting drivers will continue, building on 275km of rumble strips, 850km of network with directional arrows and 135km of 'no passing' lines recently installed in the South Island.

Road safety innovations, such as Rural Intersection Activated Warning Signs (RIAWS), and weather-activated signs will also continue to be installed.

Work to improve urban roads and roadsides will include better integration of transport safety into urban design and planning, especially for vulnerable road users and older road users, and better integration between road and rail to reduce the risk of death or injury at railway crossings.

Speed management

In the 2013-2015 Safer Journeys Action Plan, the focus for speed management was on achieving greater consistency, better targeting to risk, and growing community understanding of the role of speed in crashes. This direction will continue over the next three years. New national guidelines ensure that speeds and speed limits are appropriate to the function of the road, and risks are obvious to drivers. NZ Police and Road Controlling Authorities (RCAs) will use tools to identify areas of highest risk in relation to speed to target resources to where the road safety benefits are highest. Awareness and education campaigns will continue to make drivers and communities aware that "all roads are not equal", and will help people to better 'read' and consider the risks in relation to speed.

Vehicles

Education and advertising will continue to raise awareness and build consumer demand for the features that would make the most impact now on lifting the level of vehicle safety in New Zealand. Such features include electronic stability control and side-curtain airbags.

Existing activity includes providing information on safety features on internet sites and at the point of sale to influence buying decisions, and encouraging safer vehicles through the ACC Motor Vehicle Levy regime.

The vehicle standards map identifies promising new vehicle standards and technologies for policy consideration. The map will be maintained and updated as new technologies become available.

The focus on safer vehicles is lifted significantly in this plan, for light vehicles, heavy vehicles and motorcycles.

Road use

Initiatives to make road users safer cover a wide range of people who use our roads.

Young drivers and young riders

Novice drivers and riders have a high error rate in the 2–3 years it takes them to master the complexities of driving. Since 2010 we have made excellent progress in improving the safety of young drivers. Work will continue to give novice drivers and young motorcyclists the right experience and competent skills needed to drive and ride safely, and protect them when errors occur.

¹ The New Zealand Road Assessment Programme, KiwiRAP, analyses the road safety of the State Highway network. It is a partnership between the NZ Automobile Association, the NZ Transport Agency, Ministry of Transport, ACC and NZ Police.

One way to achieve this is to increase the participation and progression of people through the driver licensing system. We will continue to encourage disadvantaged drivers to improve their driving skills and complete their full licence requirements. Some initiatives are progressing through the Auckland Co-Design Lab's² driver licensing proposals. These proposals include:

- a more flexible licensing system
- improving the reach and appeal of existing education and information programmes
- extending the Young Driver Signature Project³
- continuing community-led initiatives such as mentoring.

NZ Police will continue to ensure that all young people who are stopped by them are informed about the various stages of driver licensing, from unlicensed through to full licence, and are driving within their licence conditions. Where they are not, NZ Police will explore broader compliance options for young drivers to keep them progressing through the driver licensing system. Young drivers and their families will also be encouraged to make smarter choices in the selection of safer vehicles. The aim is to help drivers and their families make smarter choices so that their inexperience, lack of skill, or unsafe vehicle does not cost lives.

Visiting drivers

The Visiting Drivers project will continue to improve road safety for, and of, visiting drivers, while maintaining New Zealand's reputation as an attractive and safe destination for tourists. The project's initiatives cover roads and roadsides, speed, vehicles and road use. The project aims to reach visitors at each stage of their holiday—when they plan and book, while they are in-bound, when they arrive in New Zealand, and when they start using our roads. The initial focus is Otago, Southland and the West Coast, but many of the initiatives will benefit all visitors to New Zealand as well as other road users. The most successful local initiatives will be rolled out nationwide.

Motorcycles

Since 2012, ACC has invested heavily in subsidised training for riders of mopeds, scooters, and motorcycles. Its Ride Forever programme supports competency-based licensing for motorcycling. From a 2012 target of 1,000 places a year, ACC has expanded the programme to 5,000 places a year. In 2015, three further expert training providers joined the programme, providing more coverage, more options, and more availability across New Zealand. ACC continues to focus on expanding the reach and quality of this programme as part of a shared motorcycle safety strategy with the Motorcycle Safety Advisory Council (MSAC).

From 2017, testing for motorcycle licences will align with the competency-based licensing system.

Planned roads and roadsides improvements include:

- completion of the Northern Coromandel motorcycling loop
- installing under-run barriers on high-risk motorcycle routes (like those installed on the Coromandel demonstration projects)
- trialling innovative perceptual cues for safer motorcycling to nudge safer riding.

We will also update the Safer Journeys for Motorcycling guide to emphasise urban motorcycling safety and prioritising motorcycling routes.

Cycling and pedestrian safety

The NZ Transport Agency and its partners will continue to deliver the Cycle Safety Action Plan through the National Cycling Programme—Making Cycling Safer and More Attractive.

Actions include:

- co-investing more than \$350 million in urban cycling infrastructure
- improving cycling design guidance
- encouraging local authorities to plan and deliver safer urban cycling networks
- considering changes to the road rules to help make cycling safer
- encouraging all road users to share the road
- undertaking investigations and research recommended by the Cycling Safety Panel.

The sector will increasingly take an integrated approach to cycling, by encouraging local delivery of cycling infrastructure through active engagement with the community, alongside education programmes. The aim is to change attitudes and perceptions towards cycling, so people better understand the broader social benefits of 'bike-friendly' towns and cities, the positive impacts of more people cycling, and sharing the road to improve cycling safety.

Short-term solutions to improve pedestrian safety include better roads and roadsides and smarter choices (both actions in this plan); better enforcement; and through better urban speed management.

Longer-term solutions include better and more collaborative integration of the needs of pedestrians into urban planning and design, and ensuring that urban development takes pedestrian safety into account (for example near schools, retirement villages, shopping centres, hospitals and public transport).

² The Auckland Co-Design Lab is an initiative to explore the case for change using collective impact, co-design and other innovative approaches to complex social issues. The Lab is funded by the Treasury, and is co-located with the co-sponsor—Auckland Council's Southern Initiative team in Manukau.

³ The Young Driver Signature Project is a partnership between ACC and the NZ Transport Agency that focuses on creating an environment to support a young person to get their full driver's licence.



Workplace safety

Recognising that many vehicles are also workplaces, we will continue to improve workplace fleet safety including expanding the Fleet Safety and Fleet Saver programmes, and working with transport operators to improve operator safety, increasingly through technology and partnerships with industry outside the traditional areas. For example, ACC, supported by WorkSafe NZ and the NZ Transport Agency, will lead the development of a national fleet safety partnership programme co-designed with industry. The programme will put in place further safety initiatives for light vehicles and heavy vehicles.

High risk drivers

A safe road system requires drivers and riders to take responsibility and to comply with the rules. People who are not responsible and do not comply put all road users at risk. Enforcement will continue to set the expectation that everyone must comply with the road rules.

Extreme rule violations by high risk driving and repeat offenders are both highly correlated with fatal crashes. NZ Police will continue to target high-risk drivers, through road safety risk profiles and high risk driver profiling, and expand the use of proven and efficient technologies.

Impaired driving/riding (alcohol, drugs, fatigue and distraction)

Impairment caused by fatigue, alcohol, or drugs (both legal and illegal), compromises judgment and slows reaction abilities. Alcohol use is also correlated with serious crashes where restraints have not been worn. The NZ Transport Agency will continue to educate the public on the broader risks of impairment, working with drivers and their trusted influencers (such as general practitioners, pharmacists, NZ Police, heavy transport operators, school educators and student peers), and with the commercial sector.

The Ministry of Transport will continue to investigate the impact of impairment, particularly on those who deliberately drive impaired. The Ministry will work with New Zealand Police and the New Zealand Transport Agency on measures to reduce the impacts of drug and alcohol impaired driving.

Enforcement, education and advertising will also continue to make people more aware of the dangers of distraction (particularly texting and using social media while on the road), of fatigue, and of drug and alcohol impaired driving.

The smart and safe choices action in this plan will explore the potential for technology to complement existing activity to support safer choices.



Action 1: Enable smart and safe choices

Purpose To create an environment where technology enables smart and safe choices, resulting in fewer deaths and serious injuries for all road users.

Objective To reduce unintended errors and increase compliance by making real-time information and feedback more available, and make more use of technology and information systems.

Specific Actions

- Engage with the public on the value of new safety technologies and encourage them to adopt those technologies voluntarily.
- Pilot in-vehicle technologies that offer better real-time information to road users about road risk, speed limits and current road conditions.

Responsibility for specific actions:

Ministry of Transport

Enabler Actions

- Enable and encourage more use of safety technology, and ready accessibility of data and information to road users to support them to make smarter choices. This initiative builds on the sector's Intelligent Transport Systems Action Plan, that includes:
 - > a business case during 2016–2017 for a national speed limit database or equivalent to ensure speed and road risk information is timely and accurate
 - > a review of legislation by the end of 2016 to identify unnecessary barriers to the continued deployment of ITS technologies, which may include accessing safety data or information safely on mobile devices in vehicles.
- Encourage industry innovation in road safety technology and train people how to use technology.
- Increase use of technologies to support road user education and training, in and out of the vehicle.
- Develop an automated compliance strategy by the end of 2017 to take advantage of 21st century compliance technology.

Enabler actions delivered through:

Ministry of Transport, NZ Transport Agency, ACC, NZ Police, RCAs, motor vehicle industry

Success Measures

Demonstrating the actions are meeting their objectives

- Road safety applications available on smartphones (or equivalent) are linked to network information systems.



Most road users comply with the road rules, and their occasional mistakes are unintended. Other road users sometimes lapse into unsafe and uncompliant behaviour believing that the extra risk to themselves is low. Yet increased risk to them, coupled with the large numbers of other road users, leads to a higher collective risk for everyone on the road. This occasionally non-compliant group of road users needs timely reminders and good “decision support” to stay within the law.

Behavioural science research has shown that the right influences and the right information can help a road user make smart and safe decisions about how they drive and behave on the road. The road user will ideally get these influences and information at the right time. Safer choices can also be encouraged by reducing surprises and unexpected incidents, or giving people a few more seconds and better information to react in risky situations, or where road conditions are changing.

What's the gap

Today's technology has become an integral part of how we go about our lives. It offers new opportunities for road users to get instant, accurate feedback and information about their environment and road risk. Technology, in particular intelligent transport systems, has the potential to positively impact on road safety outcomes in the future.

Technology solutions include the latest GPS-enabled information and communications systems⁴ through smartphones. Technology solutions have wider application across the entire road safety system (roads and roadsides, vehicles, road use, and speed).

Examples include:

- electronic feedback signs, and electronic enforcement at the roadside
- in-vehicle messaging systems (eg, about changed speed limits or appropriate speed for road conditions, incidents, or increased road risk on the road ahead)
- bluetooth-type communication with vehicles, especially in areas where mobile phone coverage is absent or unreliable
- use of voluntary interlocks by the commercial sector
- in-vehicle technology that supports young drivers to be safe drivers
- sensors to detect fatigue and impaired driving
- black box systems in vehicles that provide feedback to fleet owners
- smart devices as a way to provide education to, and engage with, novice drivers and riders
- better information about road and traffic conditions, so road users can make smarter and safer mode or route choices.

The safety opportunities that current technology offers are not being sufficiently realised.

Some driver information and feedback systems in vehicles are not installed in models imported into New Zealand because they are not specified by importers, and some equipment does not work on New Zealand's available radio frequencies.

Some available technologies are not valued or used because road users do not know they exist, or lack training or confidence. For example, drivers might turn off a vehicle's Electronic Stability Control (ESC) because it makes the vehicle behave differently.

Systemic barriers make it hard to provide accurate real-time information about road risks and speed limits. For example, the transport sector's Intelligent Transport Systems Action Plan noted the lack of a speed limit map as one barrier.

Road Controlling Authorities (RCAs) may lack investment capital to increase their use of technology for road safety.

Coordination and integration in implementing innovative technologies, to ensure heavy vehicles comply with road rules, could be enhanced. For example, intelligent weighing systems, primarily used for charging purposes, could be used to more proactively manage overloading, and leveraged for enforcement purposes.

Actions and implementation

The action to enable smart and safe choices on the road aims to reduce unintended errors and to increase compliance through increased use of technology and information systems. Many of these technologies are emerging. It is proposed to increase the scale of their use to benefit all road users, and also to fill a gap between education and enforcement targeted at those who deliberately choose not to comply.

More people own smartphones or other mobile devices than own a new vehicle or motorcycle. In the next five years, smartphones provide the best opportunity to provide real-time safety information to road users. This assumes that smartphone applications can continue to access up-to-date and accurate data. It also assumes that a person can access relevant safety information legally and safely while driving, riding or walking (eg, through visual or audible alerts).

A key component in how the action is implemented will be to develop partnerships and cooperative relationships with the private sector. The supporting actions will encourage the support of the motor vehicle industry to import technology enhanced/enabled vehicles, and to take responsibility to improve awareness of road safety features through sales and promotion.

Solutions may need to be geared to the end user, so different solutions are likely for different drivers (such as older drivers, young drivers, visiting drivers, and commercial drivers). This action will consider safety applications for all modes of travel, including driving, motorcycling, cycling and walking.

⁴ These are information and communication systems that use the space-based Global Positioning System to provide navigational data (such as location, time and weather conditions) to a driver.



Action 2: Make motorcycling safer

Purpose	To improve road safety outcomes for motorcycling.	
Objective	To provide a safe environment for motorcycling, educate and inform motorcyclists, and leverage emerging technology to reduce the severity of motorcycling injuries.	
Specific Actions	<ul style="list-style-type: none"> • Improve awareness of the benefits of Anti-lock Braking Systems (ABS), and vehicle safety features including conspicuity. • Investigate mandating ABS on all new motorcycles over 125cc (excluding off-road motorcycles). 	<p>Responsibility for specific actions:</p> <p>ACC</p> <p>Ministry of Transport</p>
Enabler Actions	<ul style="list-style-type: none"> • Encourage better consumer choice for protective equipment that reduces injury severity when crashes occur. • Integrate concepts from the Making Roads Motorcycle Friendly guide into Safer Journeys for Motorcycling by December 2016. Encourage RCAs to follow the guidance, and ensure motorcycle safety is better reflected in transport plans and activity management plans. • Make motorcyclists and moped riders more aware of the risks of motorcycling, appropriate behaviour and providing training opportunities. • Continue to work with existing riders to incentivise them to develop their motorcycling skills. • Investigate whether current motorcycle licensing systems are fit for purpose when balanced against the true level of risk and cost to the community. • Develop programmes that make all road users more aware of motorcycle use on our roads. 	<p>Enabler actions delivered through:</p> <p>ACC, Motorcycle Safety Advisory Council, NZ Transport Agency, NZ Police, Ministry of Transport, RCAs, Regional Councils, motorcycle safety groups and safety training providers</p>
Success Measures Demonstrating the actions are meeting their objectives	<ul style="list-style-type: none"> • The treatments recommended in the Safer Journeys for Motorcycling guide are increasingly applied to high-risk motorcycling routes. • Increased consumer awareness of ABS benefits. • Increased percentage of ABS is recorded in motorcycle fleet. • Reduced number of motorcyclist deaths and serious injuries. • Reduced severity of injuries (as measured by ACC claims data). 	



Safer Journeys recognises that people are susceptible to making mistakes, and are vulnerable when they occur. Motorcycles lack the protective features of other light vehicles, making motorcyclists vulnerable on the road. Of the areas of concern identified in Safer Journeys, motorcycling has not shown the improvements made in other areas. Motorcyclists make up a higher percentage of all crash casualties, and so make up a disproportionate share of ongoing health costs and trauma.

Deaths and serious injuries involving motorcyclists increased from 2005-2008. Progress on improving motorcycling safety has been minimal since 2010, and the number of deaths and serious injuries has risen since 2013. Deaths and injuries to motorcycle users over the last 15 years has mirrored the size of the motorcycle fleet. As ownership has increased with the popularity of recreational motorcycling, so too have deaths and serious injuries. These statistics, and the level of vulnerability of motorcyclists, show the need for a Safe System response.

Existing and emerging vehicle technologies offer the greatest potential for improving safety. For example, ABS on motorcycles could reduce the fatality risk by about 30 percent. Yet some new motorcycles do not have ABS fitted as a standard feature in New Zealand, even though the equivalent models for some overseas markets do have ABS.

Protective and more visible equipment for motorcyclists (such as rider-worn airbag technologies) also offer promising benefits.

Actions and implementation

This action plan aims to create a safer road system for motorcyclists, with a particular focus on:

- increasing rider awareness
- skill
- voluntary uptake of modern, potentially lifesaving technologies (such as ABS and related stability technologies)
- improved protective clothing (such as safer helmets) and clothing fitted with technology (such as airbag systems).

Educating and training motorcyclists is also a focus, recognising the risk for moped riders and returning riders who do not currently need to build their skills and improve competency through the licensing process. The intention is to work with these groups so they voluntarily take up training that could potentially save their lives.



Action 3: Ensure roads and roadsides support safer travel

Purpose To create safer roads and roadsides to reduce the likelihood of crashes, and to minimise the trauma when crashes occur.

Objective Reducing risk on New Zealand’s highest risk roads will see fewer deaths and serious injuries, particularly those:

- on urban arterial roads
- related to head on, run off-road crashes and intersection crashes
- related to vulnerable road users
- related to crashes on the open road.

Specific Actions

- Develop and implement a national programme of safety improvements on specified highest risk local urban arterials that focuses on all modes and on vulnerable road users. The Programme will be developed by 2017, and implemented during the 2018–2021 National Land Transport Programme (NLTP)—or earlier where possible.
- Develop and implement a national programme of lower cost safety improvements such as rumble strips, wide centrelines and paint treatments on high-risk local rural roads. The Programme will be developed by 2017, and implemented during the 2018–2021 NLTP— or earlier where possible.

Responsibility for specific actions:

NZ Transport Agency, in conjunction with local government

Enabler Actions

- Continue to implement the State Highway road safety improvement programme, which targets key risks on State Highway urban arterials and rural roads.
- Extend the coverage of risk-mapping tools, such as the high risk curves-mapping tool developed by SignatureNet and Urban KiwiRAP.
- Increase the provision of sensor warning signs and ensure new infrastructure is designed to provide for future technology to encourage safer driving.
- Review regulation relating to roads and roadsides to ensure it provides the flexibility to support the uptake of roadside technology and the Safe System.

Enabler actions delivered through:

NZ Transport Agency, ACC, RCAs, Trafanz, RCA Forum, NZ Police, Ministry of Transport, KiwiRail, road designers

Success Measures Reduce from current levels:

Demonstrating the actions are meeting their objectives

- run off-road and head-on deaths and serious injuries on rural roads
- deaths and serious injuries of vulnerable road users
- deaths and serious injuries at intersections.



Safer roads and roadsides is an area of high concern in Safer Journeys because unforgiving roads and roadsides contribute significantly to road trauma, especially head on crashes, run off-road crashes and intersection crashes. While roads and roadsides can be engineered to prevent or forgive mistakes and encourage safer use, the high cost of treatments means they can only be applied on the highest volume high risk roads.

Good progress during 2013–2015 helped to identify the highest-risk State Highways and planned investment of more than \$400 million through the State Highway Roads and Roadsides Business Case 2015–2025 will help make them more forgiving.

Two areas still require a concerted plan to focus on residual risks: urban arterial roads; and a proportion of lower volume but still high risk rural roads.

What's the gap

While urban roads account for 22.8 percent of the national network length, and the speeds are generally much lower than on open roads, they account for 68 percent of traffic volumes and approximately 40 percent of deaths and serious injuries. Risk is highest on particular urban arterial routes, and these are often where the risks to cyclists, pedestrians and motorcyclists are concentrated. Urbanisation, motorcycling, walking and

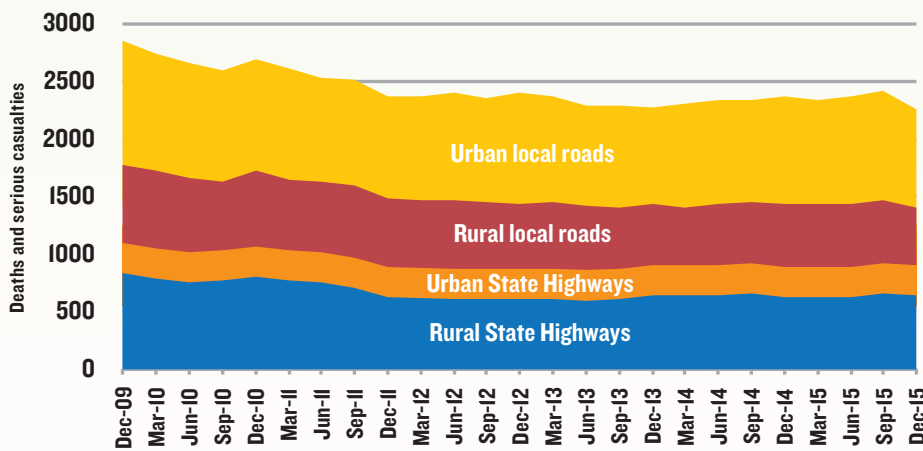
cycling are all increasing, and a focus on urban arterials provides an opportunity to address both current and future risk.

- Between 2010 and 2014, 46 percent of fatal and serious crashes in urban areas occurred at urban intersections, while 55 percent of those crashes involved vulnerable users.
- Between 2010 and 2014, 1,108 pedestrians, 730 cyclists and 1,010 motorcyclists were killed or seriously injured on urban roads:
 - > 20 percent of these urban pedestrian deaths and serious injuries occurred on just 42 roads
 - > 20 percent of these urban cyclist deaths and serious injuries occurred on just 37 roads
 - > 20 percent of these urban motorcyclist deaths and serious injuries occurred on just 56 roads.⁵
- Nearly two-thirds (64 percent) of all motorcycle injury crashes and 45 percent of deaths and serious injuries occur on urban roads.

Urban KiwiRAP has identified the arterials that pose the highest risk, and those areas where vulnerable users are most likely to crash. However, there is not yet any national approach to address the level of risk in a systematic way. Local government is responsible for about 94 percent of urban roads, and achieving consistent and timely progress is more complex than on the State Highway network.

⁵ Source: Crash Analysis System.

Figure 8: Road user deaths and serious casualties on highways and local roads, 2010–2015



Source: NZ Transport Agency

Actions and implementation

To ensure roads and roadsides support safer travel, we propose a partnership between local government, the NZ Transport Agency, NZ Police, and relevant partners such as the RCA forum and Trafinz⁶. The partnership would develop a national Safe System programme and business case to reduce deaths and serious injuries on urban arterial routes. The interventions should proactively:

- identify and target significant risk, particularly to vulnerable users (pedestrians, cyclists, and motorcyclists) on urban roads
- prevent road safety trauma across all modes of travel
- support the recommendations of the Cycling Safety Panel
- seek to improve identified high-risk intersections (many on urban arterial routes), including several high-risk railway crossings.

The approach goes beyond engineering: safety improvements on urban roads need to be integrated with local road safety education and awareness, and enforcement. The programme would include any relevant intervention like:

- transport planning
- operating improvements
- roadside interventions to change road user behaviour, such as Intersection Activate Warning Signs (IAWS)
- automated compliance technology, including red light cameras at intersections.

Rural local roads

There is a second residual issue on a proportion of rural roads that have been identified as high risk, but due to lower or seasonal volumes do not qualify for significant infrastructure investment.

Low-cost treatments can have strong safety benefits on high-risk roads: New Zealand experience to date has been that wider painted medians have resulted in a reduction in head-on crashes of more than 40 percent where installed. Rumble strips have reduced deaths and serious injuries by 30 percent where installed.

Work is already underway to prioritise these minor safety works on the State Highway network. Through the partnership model noted above, it is proposed that this approach be extended across the entire network.

The proposal is to increase the coverage of low cost safety improvements (such as rumble strips and wider centrelines) in use. We will achieve this by better national targeting of investment in these treatments on the highest-risk routes. This programme may also include improvements to unsealed roads where the safety risk is considered significant.

⁶ The New Zealand Local Authority Traffic Institute (TRAFINZ) represents local authority views on road safety and traffic management in New Zealand, and comprises councillors, practitioners, and NZ Police.



Action 4: Encourage safe vehicles

Purpose	To improve the safety of the New Zealand vehicle fleet.
Objective	To maximise the benefit that New Zealand receives from increasing levels of international vehicle safety, including new vehicle safety technology.
Specific Actions	<p>Undertake initial investigation by December 2017 on the value of mandating the following safety standards or technology for vehicles entering the fleet:</p> <ul style="list-style-type: none"> • Electronic Stability Control (ESC) for heavy vehicles • under-run protection on heavy vehicles • Anti-lock Braking System (ABS) for heavy vehicles and motorcycles (linked to Action 2) • side protection standards • side-curtain airbags for light used vehicles • Autonomous Emergency Braking (AEB) for all vehicles except motorcycles.
	<p>Responsibility for specific actions:</p> <p>Ministry of Transport</p>
Enabler Actions	<ul style="list-style-type: none"> • Improve the availability and quality of vehicle safety information to consumers, and encourage vehicle buyers (particularly young and new drivers) to buy and maintain the safest vehicle they can. • Assist vehicle dealers to publicise safety information at point of sale; for example, by re-designing the consumer information notice (CIN) that dealers provide to give consumers better safety guidance. • Work with fleet buyers, importers, and operators to encourage and incentivise safer vehicle purchasing decisions. • Investigate the earlier adoption of international vehicle safety standards. • Set up the technology platform for future uptake of vehicle-to-vehicle communication, and vehicle-to-road communication.
	<p>Enabler actions delivered through:</p> <p>Ministry of Transport, NZ Transport Agency, NZ Police, ACC, EECA (Energy Efficiency & Conservation Authority), MBIE (Ministry of Business, Innovation and Employment), MSAC, light and heavy vehicle importers and fleet operators, the motor vehicle industry</p>
Success Measures	Increased percentage of new vehicles sold with an ANCAP or equivalent 5-star safety rating. ⁶
Demonstrating the actions are meeting their objectives	<p>Increase in the extent that people and businesses consider safety features when buying vehicles, to test if the information at the point of sale is making a difference.</p> <p>Increased percentage of the total fleet with ESC.</p> <p>Reduced deaths and serious injuries involving heavy vehicles.</p>

⁶ The Australasian New Car Assessment Program (ANCAP) is one of Australasia's leading independent vehicle safety advocate programmes. ANCAP's safety rating programme gives road users transparent information on how different vehicle models respond to the most common types of serious crashes. The rating is based in part on a vehicle's level of protection to its occupants and a vehicle's capability to avoid collisions.

Vehicle technology—including vehicle design and construction, and the equipment fitted—contributes to a Safe System by preventing or reducing the effects of human error, and by reducing the harm to people involved in a crash.

New vehicles have become safer over time as manufacturers have designed structures that better absorb crash forces. Particular technologies, such as seatbelts, laminated windscreens, front and side-curtain airbags and ESC have also contributed to increased vehicle safety. Other features, such as under-run protection on heavy vehicles, protect other road users to some degree from increased risk in a crash involving a heavy vehicle.

Other vehicle systems encourage safer use, such as audible restraint reminders. As vehicles with this feature become more widely available, deaths and serious injuries associated with failure to wear restraints should reduce.

In modern vehicles, the driver's actions are increasingly mediated by computers that directly control the vehicle's subsystems and by sensors that monitor how the vehicle behaves. This has enabled a new wave of safety technologies that promise benefits comparable to the technologies noted in the previous paragraphs. The cost of these can be low if installed at the point of manufacture. These newly available technologies include adaptive cruise control, lane departure avoidance, ABS and traction control for motorcycles, and autonomous emergency braking (AEB).

We can also look forward to vehicles soon being connected by flows of information that will further assist drivers and allow the vehicles themselves to automatically avoid collisions. In fact, we are entering a golden age of vehicle safety technology where quite dramatic reductions in deaths and injury are possible.

These safety technologies need to be increasingly seen as standard safety features in all models, provided at the cheapest possible cost.

What's the gap?

New Zealand imports vehicles that are generally specified for larger overseas markets. This means that we have access to new technologies at about the same time as other markets. We also benefit from regulation in other jurisdictions that requires vehicles be fitted with specific safety equipment. However, because some of the vehicles we import are from countries with lower regulatory and consumer demands, our uptake of lifesaving new technologies is slower than it could be. For example, even though side-curtain airbags were introduced in 2005, and they reduce deaths and serious injuries from side impact crashes (10 percent of deaths and serious injuries for light vehicle occupants are from side-impact crashes), less than half of the light vehicle fleet currently has side-curtain airbags installed.

Land Transport Rules take account of United Nations regulations for new vehicles. Used imported vehicles will mean a greater delay in benefiting from new technology than we would prefer. This may have made sense when vehicle markets were more strongly tied to particular centres of production. But modern vehicle markets source products from all over the world, and manufacturers produce for the world market, so a lack of demand can negatively influence manufacturer supply.

There is an opportunity to accelerate business, consumer and community awareness and understanding of the benefits of vehicle safety technologies, and to raise demand for safer vehicles so that buying the safest vehicle available is a prime criterion in the purchase decision. Consumers are already provided with energy efficiency information at the point of sale, however vehicle safety information is not as universally and consistently captured and available to the consumer, or to government agencies to allow uptake to be measured.

Many new imported light vehicles are company fleet vehicles that soon end up in the general fleet. The commercial light vehicle fleet is estimated to comprise 400,000 light vehicles at any one time. Currently, multiple standards and systems, independently developed, aim to influence the safety of commercial vehicles, both heavy and light. They include Fleet Saver, Fleet Safety, the Operator Rating System, ACC's Vehicle Risk Rating system, ISO standards, and workplace risk rating systems, as well as complementary environmental standards.

Government and private sector procurement principles and policies can also influence commercial fleet purchase decisions. There is an opportunity to link these systems better, to provide more consistent messaging and focus for fleet buyers and operators, and even to reduce any cost burden associated with safer vehicles.



Actions and implementation

This action aims to ensure that we maximise the benefit from the uptake of existing and future vehicle safety technologies into the New Zealand fleet. The ANCAP star rating system, or equivalent, recognises this, and to achieve a 5-star rating a new vehicle must meet the newest safety standards. For this reason, the proportion of new 5-star vehicles sold with this rating or with the equivalent features is a good barometer of the extent to which innovative safety technologies are being adopted.

We have an opportunity to realise the benefits of other jurisdictions introducing higher standards, and propose investigating earlier adoption of higher standards for new vehicles.

An enabler action will be to lift the level of information provided to fleet buyers, importers and operators, working co-operatively with them to make vehicle purchasing and maintenance choices based on road safety, that can also be integrated into and support workplace safety.

A number of mechanisms can be employed; for example, to ensure government procurement principles and policies support the purchase of safer fleet vehicles for government and businesses contracting to government, or to link vehicle fleet safety scoring (and training in the use of safety technologies) into workplace risk assessments. These objectives and mechanisms could be linked to broader government policy for energy efficient vehicles and electric vehicles

Ideally, vehicle safety information would also be captured at time of entry into the fleet. This would support providing better and consistent information to consumers at point of sale.

Recognising that many new imported company fleet vehicles end up in the general fleet, we intend to engage with price-sensitive fleet purchasers to encourage a strong emphasis on safety.

A particular feature of the New Zealand fleet is that about half the vehicles entering the country are used vehicles imported from Japan. This means that we replenish our fleet with vehicles that may not have the same level of safety as new cars. Imported used vehicles from Japan do not have the latest features, although many are very well specified. When useful new technologies are available in the Japanese used market, we will consider encouraging or requiring Japanese manufacturers to install and use those technologies while maintaining the supply of good, well-priced vehicles.

The numbers of new heavy vehicles entering the fleet has risen rapidly since 2014–2015 and this level of uptake is projected to continue. As heavy vehicles are in the fleet for some years, and ESC is now widely available, the time has come to investigate making its use compulsory.

An illustration of a road winding through a landscape with green hills and trees under a yellow sky. A white signpost stands on the left side of the road, with several white and red striped markers along the road's edge. The signpost has a blue rectangular sign at the top and four yellow arrow-shaped signs pointing to the right, stacked vertically.

SAFE ROAD SYSTEM

SAFE ROADS AND ROADSIDES

SAFE SPEEDS

SAFE VEHICLES

SAFE ROAD USE