

Ministry of Transport

Road Safety Strategy – Speed Reference Group Outcomes Report

March 2019

PURPOSE

This report provides a preliminary summary of the outcomes from the Speed Road Safety Strategy reference group (the group) process. It sets out:

- the key themes that emerged from the group's discussions
- the key challenges, strategic priorities and potential approaches identified by the group (including areas of agreement and contention).

CONTEXT

The Ministry of Transport is leading the development of a new road safety strategy and action plan

The Government has agreed to the development of a new road safety strategy for New Zealand, replacing the current Safer Journeys strategy, which ends in 2020. It will outline the steps New Zealand will take to meaningfully reduce deaths and serious injuries over the coming decade.

As part of the development of the strategy, the Ministry of Transport is investigating adopting the 'Vision Zero' approach to road safety thinking. This would set a long-term objective of eliminating deaths and serious injuries on our roads.

Reference groups were established to provide early input on the strategy and action plan

Intent and scope of reference groups

Five reference groups were established to discuss key road safety issues, and identify priorities and potential interventions. The purpose of the groups was to:

- provide key stakeholders with an opportunity to influence the development of the strategy at a relatively early stage and provide buy-in and support for the process
- build a better shared understanding of the challenges and opportunities for the new strategy.

The reference groups were not asked to reach a common position, or required to endorse recommendations or reports given we were trying to understand and highlight the variety of views.

Each group focused on one of the following broad areas:

- Speed
- Infrastructure, design and planning
- Vehicles, vehicle standards and certification
- Road user behaviour
- Vehicles as a workplace.

All reference groups considered a range of cross-cutting factors including the safety of vulnerable users, equity, technology, and rural and urban perspectives. They also considered links to broader health harms and social impacts.

The Speed reference group examined road safety issues associated with speed

Scope

The group considered the following issues relating to speed:

- the contribution of speed to Vision Zero
- options to simplify the speed limit setting process
- outcomes and ambition for speed management
- appropriate speeds for environments with active users, such as pedestrians and cyclists, including around schools
- how speed management can contribute to safety, health, economic and environmental outcomes approaches to improving speed compliance, including use of the safety camera network, incentives and in-vehicle technologies
- the importance of engineering and the roading environment to speed management
- public engagement on speed.

The group also considered a range of cross-cutting factors including the safety of vulnerable users, equity, technology, and rural and urban perspectives. They also considered links to broader health harms and social impacts and well as health and environment co-benefits.

Membership and process

The group consisted of representatives from across central and local government, key stakeholders in the transport sector, and road safety experts and advocates. **Appendix A** shows the members of this group, as well as the other reference groups.

The group was supported by:

- Chair: Kirstie Hewlett, Ministry of Transport
- Advisers from the Ministry of Transport, Accident Compensation Corporation (ACC) and the NZ Transport Agency (NZTA)
- Expert adviser: Dr Hamish Mackie, Mackie Research.

The group held four half-day meetings between September and November 2018. The first meeting included a facilitated workshop to identify the opportunities and challenges that the group wanted to focus on in subsequent sessions.

CURRENT STATE

Evidence on the risks and harms in this area

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.

Speed continues to be a major contributing factor to deaths and serious injuries on New Zealand roads. According to Police reports, in 2016, travelling too fast for the conditions was the second highest contributing factor to fatal and serious injury crashes in New Zealand. However, most of New Zealand's roads are posted either at 100 km/h or 50 km/h, irrespective of how risky they are. This means that describing crashes as 'too fast for the conditions' does not paint the full picture.

Over 50 percent of all crashes occurred on roads where the speed limit is not safe and appropriate to reflect the function safety and use of the road. According to the NZTA's analysis, 87 percent of New Zealand's roads do not have a safe and appropriate speed limit. The majority of the misalignment of speed limits is on rural roads without median protection that are not safe at 100 km/h and on residential streets that are not safe at 50 km/h.

Table 1: Proportion of the network where the posted speed limit does not match the safe and appropriate speed, by road classification

Land Use	National Strategic (High Volume)	National Strategic	Regional Strategic	Arterial	Primary Collector	Secondary Collector	Access	Grand Total
Rural	72.8%	57.3%	81.7%	76.6%	85.3%	90.3%	98.8%	93.4%
Urban	54.3%	59.4%	38.9%	23.1%	39.2%	87.2%	79.0%	68.6%
All	68.1%	57.6%	72.3%	53.8%	73.1%	89.5%	94.9%	87.7%

Half of all injury crashes occurred on roads where the posted speed limit was higher than the safe and appropriate speed. Many people travel too fast for the conditions because the posted speed limit does not reflect the level of risk.

Table 2: Proportion of injury crashes in relation to whether the safe and appropriate travel speed is lower than, greater than or the same as the posted speed limit

	Proportion of Injury Crashes	Proportion by Network Length
Safe and appropriate travel speed is lower than the posted speed limit	50.7%	86.3%
Safe and appropriate travel speed is the same than the posted speed limit	45.7%	12.3%
Safe and appropriate travel speed is higher than the posted speed limit	3.6%	1.4%

The main speed-related risks on the road network – open roads versus urban roads

Open roads	Urban roads
<ul style="list-style-type: none"> • Operate at high speeds • Many have 1-2 star safety rating with 100 km/h speed limit • Impact speeds are higher so crashes more likely to be serious • Many New Zealand roads and roadsides are unprotected so there is a high risk of head-on or run-off road crashes. There is also less reaction time and stopping distance at higher speeds • Pedestrian and cyclist crashes more likely to be fatal • Motorcyclist crashes are more likely to be fatal • Many rural schools are located on open roads 	<ul style="list-style-type: none"> • Intersection crashes • High active mode use, including children and elderly on roads with a 50 km/h speed limit or higher • High interaction with land use (link and place), e.g. CBDs, residential streets, mixed-use arterials • High travel speeds do not provide for safe, equitable, liveable and accessible cities, where walking and cycling is safe and attractive

There is also insufficient resourcing in the system to support road controlling authorities (RCAs) to deliver on the current expectations in the Government Policy Statement on Land Transport – to address the highest risk parts of the network, both in terms of reviewing speed limits and engineering improvements.

Speed management is broader than simply reducing speed limits

There are several weaknesses in the way the current evidence base for speed is understood. As noted above, impact speed is the single biggest determinant in the outcome of a crash. However, current crash reporting relies on a subjective judgement made at the roadside by Police. The actual safe speed for a particular road is not always well understood. It is therefore likely that the current crash statistics underrepresents the importance of speed.

Speed management is widely perceived as meaning lower speed limits. This tends to receive a negative response, often from small but vocal parts of communities or road users. There also tends to be a focus on the potential impact on an individual’s travel time from a particular speed limit change. However, the impact on travel time is often overstated. In general, road users don’t consistently travel at the speed limit across an entire journey, so the impact on their travel time from a speed limit reduction is often less than is realised.

Speed management is much broader than speed limit changes, and includes engineering roads to be safe at current travel speeds. It also includes other engineering changes to roads, which can naturally calm traffic and reduce travel speeds. This is done by making a road feel like a slower, more self-explaining speed environment. This has been seen in a number of places where different street layouts have been trialled in New Zealand, most notably the Te Ara Mua Future Streets Project in Mangere, Auckland.

There is also limited appreciation of the broader benefits of speed management. Safer speeds, particularly in urban environments, encourage more walking and cycling (which have health and well-being benefits) and improve the accessibility and liveability of cities. Slower speeds and shifting

to active modes of travel can also have environmental benefits, including from better fuel efficiency and lower emissions.

The evidence base for pedestrians' fatality risk at different impact speeds is unclear

There were questions raised about some of the data being referred to by central and local government regarding pedestrians' fatality risk at different impact speeds. There is considerable variability between the results of studies that have investigated pedestrians' fatality risk this.

The Ministry of Transport is working jointly with the NZ Automobile Association, the NZTA and Auckland Transport to review the evidence base behind this data to ensure central and local government are presenting the most accurate and robust evidence available.

Current approach to speed management in New Zealand

The current speed management approach was introduced in 2017, with the new Land Transport Rule: Setting of Speed Limits 2017. The Rule represents a different approach to speed management and setting speed limits compared to the previous Land Transport Rule: Setting of Speed Limits 2003. It incorporates a strengthened risk-based approach to reviewing speed limits, including taking into account the One Network Road Classification and data to assess on-road risk.

The new Rule establishes a new speed-setting mechanism that is focused on assisting RCAs to set safe and appropriate speed limits, in particular in areas where there are high-benefit opportunities.

The Rule supports the implementation of a new Speed Management Guide that was developed by the NZTA, in close consultation with the NZ Automobile Association and local government. The Speed Management Guide is backed up with a geospatial mapping tool, which the NZTA uses to calculate safe and appropriate travel speeds for all New Zealand roads. The Rule requires the NZTA to provide this information to RCAs to support them to undertake speed management projects within their area.

The Government Policy Statement on Land Transport 2018/19–2027/28 sets a direction for the NZTA and other RCAs to accelerate the implementation of the new Speed Management Guide. It outlines an expectation that RCAs address the top 10 percent of the network which will result in the greatest reduction in deaths and serious injuries as quickly as possible.

Future trends

Growth

New Zealand's population is predicted to continue to grow over the next decade and with it the demand for travel. Vehicles kilometres travelled (VKT) is also expected to continue to grow. Both of these factors are important indicators of exposure to risk. The geography of urban growth will also influence VKT growth. Smarter growth and intensification will reduce the need for private motor vehicle trips, while sprawl will likely increase demand.

Travel patterns

Travel patterns are predicted to change with a shift to public transport, walking, cycling, ride-sharing and emerging mobility devices such as e-scooters, particularly in urban areas where 86 percent of New Zealand's population lives. However, different travel patterns are less likely to occur in rural areas, as the use of private motor vehicles is usually the only realistic option and often the only option for people (particularly for those who are less mobile or who are travelling long distances).

Technology

In-vehicle safety technologies are advancing at an increasing pace. A number of these technologies are available now and can be retrofitted or used in older vehicles, for example cell-phone-based intelligent speed assistance apps.

FEEDBACK FOR THE STRATEGY

Level of ambition required

The Ministry of Transport provided the group with information on Vision Zero, outlining how the approach was developed, what its fundamental principles are and how it has been successfully applied in other jurisdictions.

Many members suggested that Vision Zero is the only ethically acceptable approach to road safety. However, some noted that while it is an alluring concept in theory, in practice it will be difficult to achieve, and that it might not be well understood (i.e. that it is not a target but an ethical approach to safety). A key theme was the need to clearly articulate what we mean by Vision Zero and how a Vision Zero approach would differ in practice to our current road safety approach.

Priority issues for the new strategy

Establishing new ambitious outcomes and measures for speed management changes

- There was a collective ambition and a sense of urgency to ensure safe speeds on the network, and for Vision Zero. There was also support for measures that hold government and RCAs to account for implementing changes. However, there were different views on the scale and pace of change that was appropriate or achievable, and opinions on specific targets and performance measures for setting out levels of ambition varied.
- There was general agreement on the need to address the highest risk parts of the network, where the greatest potential road safety improvements lie. However, there were views that the current focus on high-risk roads needed to be extended to consider more of a network approach (i.e. not focusing just on high-risk roads, but also the roads that feed into them to manage safety effectively), which might require looking at speed adjustments for an area. Views were mixed on how to achieve this, how quickly, and how to factor in community views on speed limits. In addition, there was agreement that the level of ambition needed to be backed by sufficient resourcing, both for community engagement and for infrastructure

treatments. It was noted that addressing the top 10 percent highest risk roads would be unachievable for many RCAs in the current three-year national land transport programme, especially given RCAs' limited resources and the current process for speed adjustments.

- There was significant overall ambition in the group for implementing speed management changes using a scientific approach which learns from other jurisdictions and builds on our current risk-assessment methods. However, views around the scale and pace of change that is appropriate and achievable differed within the group.
- There was consensus that the new strategy and first action plan should have clear, justifiable and ambitious outcomes and measures in relation to speed management. The group's view was that the outcomes should also show how reductions in speed also contribute to broader community liveability, health, economic and environmental objectives.
- There was broad acknowledgment of the need to ensure there is sufficient resourcing to support speed management changes. Some members were of the view that speed limits across the country should be reduced until such a time that appropriate speed management interventions can be implemented.
- There also needs to be stronger leadership by all parts of Government (Ministers, central government agencies and local government) around speed management. Members emphasised the importance of bringing the public along, which will involve ensuring powerful, emotive and consistent public messaging across Government and local Government in relation to speed.
- There were numerous suggestions from the group regarding how we can measure how successful the new strategy is. There was broad agreement that 'success' should be measured by a reduction in deaths and serious injuries (including associated social costs) and greater health benefits for people.
- Some other key suggestions on how to measure success are noted below:
 - a certain percentage reduction in deaths and serious injuries by a particular date or year – interim targets can also be used to track progress towards this goal
 - a certain percentage of roads have safe and appropriate speeds by a certain date – this should be reinforced by the public understanding of why certain speed limits are appropriate for certain environments.
 - a measurable increase in the amount of public support for speed limit reductions.
 - performance measures which would hold the NZTA and other RCAs accountable for speed management changes.

Establishing a new approach to speed management

- There was a wide range of views on the potential options for changing the current regulatory framework. While there were no simple agreed solutions, it was generally acknowledged that the speed limit setting process and priorities for speed management need to be substantially reset.
- The group agreed any solutions should include the following key components:
 - address confusion and inconsistency of application of bylaw requirements, the Land Transport Rule: Setting of Speed Limits 2017, and Speed Management Guide
 - encourage greater accountability, transparency, and consistency around decision making and also more transparency around local and national speed management plans
 - enable more effective regional approaches
 - come with sufficient funding and resources to support implementation of speed management changes, both undertaking speed limit reviews as well as making engineering and other physical changes to the road
 - encourage an evidence-based approach that supports public understanding and engagement
 - involve the RCAs' local knowledge to support effective implementation and engineering of roads
 - provide more efficient ways of undertaking change that still engages with communities and other road users.

Improve active road user safety by reducing speed limits around schools, CBDs and town centres

- Overall there was broad support for prioritising speed limit changes to schools and urban centres both for safety and access, particularly as these changes are likely to meet with less public resistance and thus support changing the public discussion on speed.
- There was broad support for 30-40 km/h speed limits outside urban schools. However, there was no consensus about whether a 30 or 40 km/h speed limit was more appropriate, or whether permanent or variable speed limits were more suitable. Some members were supportive of the application of 40 km/h speed limits outside urban schools with the discretion to use variable 30 km/h speed limits in peak times. There was also support for permanent 30-40 km/h speed limits in CBDs and town centres where there are high numbers of interactions between road users. There were questions about how to implement these changes, including whether addressing roads outside schools and in CBDs and town centres should be prioritised over addressing the highest risk roads within a region.
- There was also considerable support for lower variable speed limits outside rural schools during times when children are travelling to and from school. There were concerns that if lower permanent speed limits were implemented outside rural schools, sudden reductions from 100 km/h to 80, 60 or 40 km/h would lead to people travelling at a variety of speeds and cause greater safety issues. Some members highlighted the importance of providing

infrastructure investment so schools do not open out on to busy roads. Other members were of the view that it was more important to focus on changing the culture of how people drive around schools. Some thought this could be achieved through consistent speed limits outside all schools, whether urban or rural, and ensuring that roads outside are 'self-explaining'. There were also suggestions that higher penalties should apply to drivers exceeding the speed limit outside urban and rural schools.

A new approach to the safety camera network and other compliance mechanisms

- The use of safety cameras has seen significant reductions in deaths and injuries in other jurisdictions. In New Zealand there has been minimal use of cameras and problems with back office processing capability. Increasing the use of cameras as part of a suite of tools for speed management was considered a key priority for any safety strategy.
- There was broad in-principle support for shifting to the Swedish approach to safety cameras, which has resulted (in Sweden) in significant reductions in death and serious injury, greater public acceptance of cameras, less back office processing and less impact on the justice pipeline. However, some members raised questions about how this would be implemented in practice, especially as it would involve significant investment in the safety camera network and processing.
 - The Swedish approach recognises that on a large portion of the network, average travel speeds exceed the speed limit which the roads are designed for. The Swedish approach assumes that road safety is an important priority for most road users, and that inattention and a lack of information regarding the risks of speeding are the main reasons why some motorists exceed the speed limit. Under the Swedish approach, safety cameras are well sign-posted, there is advance warning, and they are used more in rural areas (but also in urban areas). Communication/advertising is focused on explaining the purpose of the cameras and how they work.
 - There is significantly greater coverage of the road network in terms of the number of cameras in operation, but cameras are only switched on a proportion of the time. As drivers are given greater warning of where cameras are, penalties are higher if people are caught. However, the numbers of people caught are smaller than other countries where the approach taken is that people can get caught anytime anywhere. In Sweden the road administration body (equivalent to the NZTA), rather than the Police, operates the safety camera network. This facilitates greater alignment between infrastructure planning and improvements and the placement of the safety camera network.
- There were also some questions about whether some elements of the Victorian approach to safety cameras should be maintained or introduced. One element includes maintaining the policy that the owner of the vehicle is assumed to be liable for infringements (as opposed to the driver of the vehicle), with the owner having the option of being able to transfer liability to the driver of the vehicle. It was noted that issuing camera notices to the owner, with them being able to transfer liability to the driver, is a more cost and resource effective mechanism to issue camera notices than trying to identify the driver first. It also informs the vehicle

owners of how their vehicles are being driven, providing the vehicle owners an opportunity to manage the associated risks that they would otherwise not be aware of.

- There was support from the group for exploring increased use of other technologies, such as average speed cameras and red light cameras. Some members also thought considering elements from other jurisdictions' approaches to safety cameras would be beneficial, rather than limiting it to just consideration of the Swedish and Victorian approaches.
- There was support for getting a better understanding of the demographic that is currently receiving the majority of speed-related infringement offences in New Zealand. There were mixed views around applying demerit points to safety camera offences. Some members were concerned that the absence of demerit points may limit the ability to influence motorists' compliance with speed limits.
- The group noted that the process of notifying drivers that they have been caught exceeding the speed limit needs to be quicker. There was also some support for recycling revenue from safety camera infringements into road safety improvements, but others were cautious about the perceived or real incentives this could create around revenue gathering. Views were mixed about introducing higher infringement fees for speed-related offences.

Use of in-vehicle technologies and incentive-based schemes

- The group discussed the potential benefits of in-vehicle technologies to support speed compliance. There was significant discussion and support for the potential benefits of intelligent speed assistance (ISA), both advisory and active ISA. It was suggested that greater priority be given to increasing the uptake of advisory ISA among the general population and to consider mandatory speed limiters for the heavy vehicle fleet or high-end/recidivist offenders.
- The group also discussed the potential of incentive-based schemes to improve speed compliance and improve road safety. The group generally thought that incentive schemes have potential, while highlighting the importance of targeting the right techniques to the right target markets. These programmes were generally regarded as having most potential at a local, small-scale level. There was also support for in-vehicle technologies and incentive schemes to be applied in conjunction with interventions aimed at improving driver education.
- The *Vehicles, Vehicle Standards and Certification reference group* also discussed the use of in-vehicle technologies. This group was generally supportive of introducing new mandatory safety standards, including ISA, to the new vehicle fleet. This group also discussed how to undertake safety retrofits for the existing vehicle fleet, and the group would like to see consideration of the use of telematics to manage speed. In this context, the group was more supportive of incentivising rather than mandating changes, and focusing on the heavy vehicle fleet which they felt was more viable. This group also discussed some of the challenges associated with the use of telematics, in particular a company's capability to store and manage telematics data, as well as how to manage privacy and employment related matters.

- Some members were of the view that the safety features of vehicles in the fleet should be considered when discussing unsafe speeds. Of those vehicles in the light vehicle fleet that have a safety rating, around 45 percent consists of one- and two-star vehicles, with around two-thirds of deaths and serious injuries on the road occurring to occupants of one or two star vehicles (this increases to about 81 percent for young drivers). Four- and five-star modern vehicles are being designed to protect occupants in a head-on crash at speeds of up to a maximum of 70 km/h (when crashing into a vehicle of equivalent mass). This aligns with the International Transport Forum's recommendation that 70 km/h is an appropriate speed limit on roads without median barriers (where there is a high risk of head-on collisions).
- In-vehicle technologies, such as telematics, were also discussed in detail in the *Vehicles As A Workplace reference group*. This group discussed the opportunities for businesses to take leadership on changes to road safety, particularly given their health and safety obligations, including managing speed in vehicle fleets. There was some discussion of how commercial factors can promote speeding in some instances. There was also discussion of how the regulatory system could encourage or mandate improved safety practices, such as the increased use of telematics systems to manage matters, such as speed incidents.

Engagement

- The group considered that speed often becomes a politicised topic, with a loud vocal minority around changes having significant impact on the ability to make change. However, it was important to work with communities to engage around changes and the need for reductions. Members acknowledged the tension between building acceptance and making necessary changes without public support. There was also recognition that cross-agency collaboration would be more effective if outcomes were shared.
- The current public dialogue around speed is overly focused on potential impacts on travel times, which are often overstated. Speed changes, particularly in urban environments, also contribute to broader community liveability, health, economic and environmental outcomes as well as encouraging a shift to more active travel.
- There is also potential to take advantage of developing technologies to incentivise speed compliance, including in-vehicle technology. It is important that these technologies are seen as helping the driver and incentivising good behaviour, which helps to change the focus of the conversation on speed.
- In relation to the speed reference group's discussion about incentivising good behaviour, the *Road User Behaviour reference group* discussed different mechanisms to influence road user behaviour, including enforcement approaches and penalties and demerit points. Changing our penalties and enforcement approach has clear linkages to speed management, and the group considered speed alongside other risk behaviours when looking at whether penalties reflect the road safety risks of particular offences. This group

also discussed alternative resolutions for recidivist offenders, which could equally be applicable to speed management.

- There was a suggestion that the public should be better educated and made more aware of the effect speed has in relation to crash risk. Ways to do this could be to include appropriate material in the Road Code, when people take a defensive driving course, or through community-based schemes.
- Changing the approach to the use of safety cameras was seen as an important part of building public acceptance and understanding of enforcement, in particular that their placement and signage is seen as fair, and targeted to risk.

Managing speed as a system

- Members noted a clear need to develop a more holistic approach to speed management, which considered speed limits, engineering changes, and technology (in particular the use of safety cameras). There was strong support for developing a better understanding of how to manage speed using low-cost engineering changes, particularly in urban environments.
- There was a suggestion that all speed limits should be variable and take into account local conditions (i.e. traffic volumes and the weather). This could ensure that speed limits are appropriate for the conditions, which will likely increase compliance levels. However, it was noted that this proposal would be expensive to implement across the network.
- There was support for the need to ensure mechanisms to influence behaviour changes (e.g. penalties, signage such as speed activated warning signs, communication strategies etc.) are considered in conjunction with investing in safety camera technology, to help encourage motorists to comply with speed limits.
- The *Infrastructure, Design And Planning reference group* also recognised the importance of the correct infrastructure and design to support speed management in urban and rural roading environments. There was unanimous support in this group for considering speed limits and engineering changes in tandem. This includes how changes to road design, signage and surrounding environments can support lower speeds and improve driver compliance, as well as supporting higher speed environments on strategic routes. This group also discussed assessing speed limits with regard to particular road users (i.e. in low speed urban environments pedestrians and cyclists would be given greater priority).

Potential approaches and initiatives for consideration

The group discussed a wide range of potential interventions to respond to the above priorities. There was a clear need to make progress on managing speed as a system in order to make a difference to New Zealand's road safety outcomes, including ensuring we are considering how speed limits, engineering changes and the use of technology, including the approach to safety cameras, work together to manage speed effectively.

The following were discussed with the group as potential key early initiatives to include in the Tackling Unsafe Speeds programme:

- Developing new clear, justifiable and ambitious outcomes and measures in relation to speed management, which will make a significant contribution to safety as well as community liveability, health, economic and environmental objectives. This new approach will take a holistic system-based approach to managing speed.
- Establishing a new regulatory approach to speed limit setting, which could consider regional and national speed management plans or policies.
- Reviewing speed limits around schools and in urban areas to support both safety and access, and help “open the door” to speed management changes in communities.
- Revising funding in the Government Policy Statement for Land Transport for speed management initiatives to ensure there is sufficient funding to support investment in priority speed management initiatives.
- Exploring the adoption of the Swedish approach to safety cameras; considering the pros and cons of owner vs. driver liability for infringements; and exploring the potential for instant notification of ticketing and use of other technologies.

The Tackling Unsafe Speeds programme is being progressed as a priority alongside the development of the new road safety strategy. Other initiatives that were considered for inclusion in the strategy and action plan were:

- Reviewing whether demerit points should be applied to safety cameras, as well as higher monetary penalties, as part of a broader review of land transport offences and penalties.
- Exploring opportunities to maximise the potential of in-vehicle ISA technology, including incentive-based and mandatory schemes (potentially for the heavy vehicle fleet or recidivist offenders).
- Community-based incentive schemes to encourage speed compliance, potentially through recycling safety camera revenue. However, it was acknowledged that if not done properly this could create perverse incentives so it needed to be considered carefully.

Three particular areas for further research to inform early actions were also discussed:

- Reviewing the evidence base for crash survivability of pedestrians when hit at certain speeds.
- Developing a greater understanding of who is currently receiving safety camera infringements (whether it is recidivist or one-time offenders).

- Investigating recidivism rates for speed offences and identifying what might help to change patterns of repeated risky behaviours.

Appendix A: Membership of Reference Groups

Focus area	Speed	Infrastructure, design and planning	Vehicles, vehicle standards and certification	Road user behaviour	Vehicles as a workplace
Chair	Kirstie Hewlett, MoT	Harry Wilson, NZTA	Brent Johnston, MoT	Sandra Venables, Police	Robert Brodnax, NZTA
Advisers	MoT, NZTA, ACC	Auckland Transport, NZTA, MoT, ACC	MoT, NZTA	MoT, Police	MBIE, WorkSafe, MoT, NZTA
Expert Advisers	Dr Hamish Mackie	Dr Simon Kingham	Dr Kim Dirks	Dr Samuel Charlton	Dr Felicity Lamm
Other members	<ul style="list-style-type: none"> • Police • Ministry of Education • Auckland Transport • Hamilton City Council • Christchurch City Council • Automobile Association • Road Transport Forum • NZ School Speeds • Cycling Action Network • Rural Women NZ • NZ Institute of Driver Educators • Living Streets Aotearoa • Sport New Zealand • ACC • Transportation Group New Zealand • Students Against Dangerous Driving 	<ul style="list-style-type: none"> • Police • Ministry of Health • Wellington City Council • Dunedin City Council • Timaru District Council • Automobile Association • Living Streets Aotearoa • Disabled Persons Assembly • Greater Auckland • New Zealand Planning Institute • Bike Auckland • Road Transport Forum • Civil Contractors NZ • Generation Zero • Transportation Group New Zealand 	<ul style="list-style-type: none"> • Police • ACC • Ministry of Business, Innovation and Employment • Ministry of Health • NZTA • Automobile Association • IAG Insurance • Brake • Motor Trade Association • Motor Industry Association • VIA • Motorcycle Safety Advisory Council • Bus and Coach • Uber • Vehicle Inspection NZ • Institute of Road Transport Engineers 	<ul style="list-style-type: none"> • Police • NZTA • ACC • Ministry of Education • Ministry of Justice • Auckland Transport • Waikato Regional Council • Safe and Sustainable Transport Association • Motorcycle Safety Advisory Council • Automobile Association • Health Promotion Agency • Plunket • Brake • NZ Institute of Driver Educators • Cycling Action Network • Rental Vehicle Association • Disabled Persons Assembly • Living Streets Aotearoa 	<ul style="list-style-type: none"> • Police • WorkSafe • NZTA • Ministry of Business, Innovation and Employment • Automobile Association • Road Transport Forum • Bus and Coach • Business NZ • Business Leaders' Health and Safety Forum • FIRST Union • NZ Professional Firefighters Union • NZ Tramways & Public Transport Employees Union • E Tu • IAG Insurance • Taxi Federation • Uber • ERoad