

ACRS Submission on Setting of Speed Limits Rule 2024



To:

Te Manatū Waka, Ministry of Transport

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Introduction

The Australasian College of Road Safety is the region's peak membership association for road safety with a vision of eliminating death and serious injury on the road. Our members include experts from all areas of road safety including policy makers, health and transport professionals, academics, community organisations, researchers, federal, state and local government agencies, private companies and members of the public. The purpose of the College is to support our members in their efforts to eliminate serious road trauma through knowledge sharing, professional development, networking and advocacy. Our objectives include the promotion of road safety as a critical organisational objective within government, business and the community; the promotion and advocacy of policies and practices that support harm elimination; the improvement of relative safety outcomes for vulnerable demographic and user groups within the community; the promotion of post-crash policies and practices; and the promotion of a collegiate climate amongst all those with responsibilities for and working in road safety.

The College believes that we should prevent all fatal and serious injuries on our roads; the road traffic system must be made safe for all road users; system designers should aim to prevent human error and mitigate its consequences; life and health are not exchangeable for other benefits in society; and that all College policy positions must be evidence based.

The consultation document notes that the draft Land Transport Rule: Setting of Speed Limits 2024 will replace the Land Transport Rule: Setting of Speed Limits 2022. The rule sets out criteria, requirements and procedures to be followed by road controlling authorities (RCAs) when reviewing and setting speed limits for roads within their respective jurisdictions.

When making the rules, the Minister must have regard to several matters including:(1)

- The level of risk existing to land transport safety in general in New Zealand, and
- The need to maintain and improve land transport safety and security

The draft includes the following proposals:

1. Requires RCAs to undertake cost benefit analysis when consulting on proposed speed limit changes
2. Requires RCAs to undertake genuine consultation and increases transparency of decisions in response to feedback received
3. Requires variable speed limits outside school gate during school travel periods
4. Introduces a Ministerial Speed Objective which will set out the Government's expectations for speed management
5. A schedule of speed limits classifications for each road type
6. Updates the Director's criteria for assessing speed management plans for certification
7. Certain speed limits reduced since 1 January 2020 will be reversed by 1 July 2025 for:
 - a. Local streets with widespread 30 km/h speed limits surrounding a school
 - b. Arterial roads (urban connectors)
 - c. Rural state highways (interregional connectors)

ACRS response to the Consultation Draft

Overall

Speed limits stir many opinions and many worry that they'll be slowed down or lose productivity with lower speed limits. In fact, where lower speed limits have been implemented, overall travel times usually stay about the same.(2) This is because most people are already travelling slower due to traffic, intersections or cornering, and the lower speed limit just gives a clearer message to those driving too fast for the conditions.

Road crashes cost the country in productivity, approximately \$10-11b per year (or 4% of GDP).(3) One of the worst things we can do for productivity is kill and serious harm our young people who have a lifetime of societal contribution and productivity ahead of them – road crashes are a leading cause of death of New Zealand's young people.(4)

The Australasian College of Road Safety has surveyed its membership and reviewed the proposed Land Transport Rule: Setting of Speed Limits 2024 against its 2023 policy position on speed management. This policy position statement is attached in Appendix 2.

The speed limit rule, as proposed, does not represent peer reviewed evidence and the global position on speed management, nor address how this will contribute to road safety advancement. The government coalition agreements require decisions to be "evidence based" (Section 15 F of NZ First Agreement)(5) and only "Reverse Speed Limit reductions where it is safe to do so" (Act Coalition Agreement)(6), and yet this is missing from the draft Rule. The proposed speed rule is contrary to the UN General Assembly resolution GA/12432, in which New Zealand committed to implement a safe system approach to set safe adequate speed limits.(7)

Proposal 1 – require cost benefit analysis for speed limit changes

Strongly oppose

The proposed cost benefit ratio methodology is not an appropriate way to assess the benefits and costs of speed limits. The simplified methodology does not align with industry best practice and can lead to inaccurate representations of the scheme. Important metrics for economic evaluation are ignored including vehicle operating costs and vehicle emission costs.

Furthermore, a site-by-site analysis of benefits and costs will not only be expensive, but short-term statistical variances may incorrectly demonstrate the long-term benefits of speed management. It will likely lead to inconsistencies on the road network as various interpretations are used, only frustrating motorists.

The economic advantage of speed management is already proven at the programme level. Meta-analysis studies of speed limit programmes have shown significant safety benefits of speed reductions(8-11). Previous speed limit changes have shown only minor increases in travel time, while there have been improvements in fuel savings, vehicle maintenance costs and other environmental benefits.(12, 13)

Recommendation: That the benefit cost requirement be removed. Failing that, allow for the benefit cost methodology, using Monetised Benefits and Costs Manual,(14) to be undertaken at a programme level, and possibly a national level.

Proposal 2 – Strengthen consultation requirements

Partially support

Strong consultation is important to ensure that our road users understand the reason for speed limit changes and have the opportunity to comment on the changes. However, the provisions in the rule are based on a site-by-site consultation methodology. It is important that a network wide approach is taken to ensure there is harmonisation of speed limits across the network. Because motorists drive between suburbs and cities, consistency is needed to embed expectations and correct behaviour. Local consultation should be used to ensure that the planned speed limits make sense in specific contexts.

Recommendation: Clarify that network wide consultation can be carried out under the rule.

Proposal 3 – Require variable speed limits outside school gates

Strongly oppose

Focussing on vulnerable road users is important, and it is appropriate that speed limits are set around schools to enable safe travel. However, the current rule does not allow for speed limits to be set for maintaining safe journeys to and from schools. Many crashes around schools (up to 85%) occur outside of the proposed variable speed limit times.(15)

The rule does not enable schools flexibility to set when the variable speed limits are enacted. As an example, schools, under Traffic Note 47, can set the variable school speeds in force for ten minutes at high use times outside of peak periods. This gives schools flexibility to safely carry out non routine operations, e.g. walk to neighbouring school for Kapa Haka.

The proposal limits the distance from the school gate in which a school can impose school safe speed limits. Safe travel to school does not stop at the school gate, or immediate surrounds. Local authorities should be given the flexibility to utilise speed management, as part of a suite of tools, to ensure safe travel to schools.

Permanent Speed Limits are a more effective method for reducing harm around schools. A 2022 study in Auckland found that permanent speed limits prevent six times more deaths and serious injuries than variable speed limits do. This is despite only requiring an average 14 second increase in average trip time.(15) However, as per the Australasian College of Road Safety policy, speed limits should reflect the road environment.

Recommendation: Revert back to providing guidance, rather than strict requirements, for the application of appropriate speed limits for school journeys.

Proposal 4 – Introduce a Ministerial Speed Objective

Oppose

There is insufficient detail about how the Ministerial Speed Objective will be derived or the implications for RCAs. The ACRS' position is that speed management should be led from an evidence-based approach, rather than a political one. There should also be a robust process by which the evidence informs the setting of speed limits, which is important as it cannot be expected that a minister will have the expertise to direct such operational and technical application.

Recommendation: That speed limit setting be led from an evidence-based perspective and is applied only through a robust process with the appropriate checks and approvals.

Proposal 5 – Changes to speed limits classifications

Strongly oppose

The proposal does not allow local communities and local RCAs the ability to implement survivable speeds that are appropriate for the conditions. For example, Urban Streets classification represent a large variety of streets with varying movement and place functions. The proposal does not separate Local Streets, Activity Streets, Main Streets and City Hubs as defined in the One Network Framework (ONF).⁽¹⁶⁾ There will always be outliers which also do not fit within the ONF. While a national level framework including survivable speeds that make sense in different contexts the local RCA is best placed to ensure that application of an evidence based and national framework is being applied appropriately to set speed limits for the function of the road. With this in mind, the Urban Streets requires more variation in speed limit range, including survivable speeds such as 30km/h that make sense in the right locations such as town centres and schools.

Recommendation: The speed limit rule should not restrict speed limits to classifications, rather the speed limit guide should give RCAs advice on setting speed limits.

Proposal 6 – Update the Director's criteria for assessing speed management plans for certification

Neither Support nor Oppose

The Director's criteria are contingent on the other commentary above. Provided the cost benefit requirement is removed as requested, then a Director's approval should have no bearing on the overall safety impact.

Proposal 7 – Reverse recent speed limit reductions

Strongly oppose

Reversing speed limits will dramatically increase risk to road users.(17) International Meta Studies have shown that for every 1% increase in mean speed, there is a 4% increase in fatality risk.(11) The previous speed limit reductions have shown, overall, a reduction in death and serious injuries on New Zealand roads (see Appendix 1). Global evidence, including a recent high-quality review of 30km/r speed limits in Europe,(18) consistently shows a 30-40% reduction in injuries. Reversing these speed limits will likely increase trauma by a similar magnitude.

The current speed limits have been consulted on and gained community buy in. Indeed, several were driven by community requests. The Government campaigned on only reversing speed limits “where it is safe to do so”. The rule does not consider the individual safety aspects of reversal of roads and is therefore outside the government’s own election promises and coalition agreement (see overall comment).

Politicising speed limits, and their reversals, leads to inappropriate and shifting outcomes for road users. It is important that speed limits are set using international, peer reviewed evidence based on the Organisation for Economic Co-operation and Development (OECD) 8 step process outlines in the ACRS speed management policy position statement (Appendix 2).

We would suggest that further effort is needed to improve how speed limits and applied in various contexts, but in a way that continues to improve the process, not reverse it.

Recommendation: Remove the reversal of recent speed limits.

Speed Management Committee

Neither support nor oppose

Expert support at a national level is important, but there is limited clarity on the roles and responsibilities of the speed management committee.

Recommendation: That the Ministry of Transport provide clarity on the roles, function and expertise of the Speed Management Committee. This is to ensure that an evidential and robust process, around the application of speed management, is carried out.

Regional speed management plans

Support

Regional speed management plans are an important mechanism to ensure that the alignment of speed limit changes is considered across boundaries and to support less established local authorities.

Recommendation: Continue with regional speed management plans.

Higher speed limits on certain roads

Strongly oppose

A meta-analysis of research conducted by Elvik, Christensen and Amundsen (2004) looked at the relationship between travel speeds and casualty rates.(19) Analysis covered 98 separate studies, conducted between 1966 and 2004, across 20 countries, on both rural and urban roads and with speed limits ranging from about 25km/h to 120 km/h. It confirmed the 'Power Model' that was originally developed by Nilsson (1981, 2004) showing that the change in all injury crashes with change in speed. For every 5 percent increase in average speed, there is a 20% increase in fatal crash risk. Recent studies continue to support these findings.(20, 21) Raising to 120 km/r, even on five-star roads, would present an unacceptable safety risk.

Motorcycle Lane Filtering/Splitting Speed

Motorcycling is a very high-risk activity in New Zealand. A recent Massey University study found that the risk of motorcycle fatality is 100x the risk of a vehicle occupant when you consider the time spend travelling.(22) Overseas jurisdictions, particularly in Australia, manage the risk of lane filtering/splitting through a 30 km/r speed limit for filtering/splitting.

Recommendation: Set a new speed limits for motorcycle lane filtering/splitting of 30 km/h.

Exceptions Tables

The Australasian College of Road Safety supports the need for lower speed limits to address high risk crash sites. This includes the need for lower speed limits on unsealed roads and intersection speed zones. There are more than 30,000 km of unsealed roads in New Zealand, representing approximately one third of the road network by length. The majority of unsealed roads have the default rural speed limit of 100 km/h. The Australasian College of Road Safety believes there is a significant opportunity to implement safer speeds on unsealed roads by introducing a default speed limit on unsealed roads of 60km/h. Default speed limits on unsealed roads have already been introduced in Tasmania. An additional benefit of introducing a lower default speed limit would be significant cost savings for local government, as there would be no requirement to install speed limit signs when implementing the proposed Rule.

However, there are some specific changes that we would like to see addressed. These are that tortuous roads are not necessarily hilly roads and that the safe and appropriate speed by urban streets should include 30 km/h (as the survivable speed).

Recommendation: Change Speed Limit for Number 14, Urban Streets, to 30 to 40 km/h. Secondly, include Tortuous in the Class of Road name for item 17.

Conclusion and Recommendations

The ACRS is concerned that several key aspects of the proposed rule will lead to increased deaths and serious injuries on New Zealand roads, and not deliver any economic or productivity benefits. We recommend:

- Benefit cost requirement be removed or allow for the methodology, using Monetised Benefits and Costs Manual, to be undertaken at a programme level and possibly a national level;
- Clarify that network wide consultation can be carried out under the rule;
- Revert back to providing guidance, rather than strict requirements, for the application of appropriate speed limits for school journeys;
- That speed limit setting be led from an evidence-based perspective and is applied only through a robust process with the appropriate checks and approvals;
- The speed limit rule should not restrict speed limits to classifications, rather the speed limit guide should give RCAs advice on setting speed limits;
- Remove the reversal of recent speed limits;
- That the Ministry of Transport provide clarity on the roles, function and expertise of the Speed Management Committee;
- Continue with regional speed management plans;
- Set a new speed limit for motorcycle lane filtering/splitting of 30km/h; and
- Change speed limit for Number 14, Urban Streets, to 30 to 40km/h and include Tortuous in the Class of Road name for item 17.

The ACRS appreciates the opportunity to comment on the proposed changes, and contribute to improved road safety in New Zealand. Please do not hesitate to contact us if you need any further information.



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Appendix 1: Road safety outcomes from speed limit changes in New Zealand

This provides a brief overview of some evaluations of recent speed limit changes across New Zealand, with changes in crashes or deaths and serious injuries (DSI). Further information is available upon request.

Road/area	Speed limit changed	Evaluation period	Comparison area	Result
Auckland rural, 800km	June 2020	2 years	Untreated sites	26.39% reduction in DSI
Mt Maunganui, 7km of streets	30km/h zone Aug 2011	5 years	Adjacent unchanged area	21% reduction in crashes
SH2 Maramarua, 25km between SH1 and SH25	90km/h Dec 2011	5 years	SH2 east	36.1% reduction in DSI
SH2 Karangahake Gorge, 9km	80km/h Nov 2005	5 years	Nearby section of SH25	35% reduction in DSI
SH58 Paremata, 4km around Pauatahanui Harbour	80km/h 2005-6	5 years	Adjacent section of SH58	48.8% reduction in DSI
Hastings rural, 75km	80km/h Jan 2014	3 years	Unchanged 100km/h sites	32% reduction in injury crashes
Wellington suburban, 10-15km	30km/h 2010-2016	3 years	Unchanged surrounding areas	38% reduction in injury crashes
SH60, 9km section west of SH6 to Maiseys Road	80km/h Dec 2018	5 years	Adjacent section of SH60 to Motueka	73.3% reduction in DSI
SH6, Blenheim to Nelson	60-90km/r Dec 2020	5 years	SH6 south of Wakefield to SH63	78.7% reduction in DSI
Christchurch CBD, 10km	30 km/h March 2016	5 years	Unchanged CBD areas	48.1% reduction in injury crashes
Christchurch suburban - Addington West, Papanui, Sumner	30-40km/r 2018-19	3-4 years	Adjacent unchanged sites	59.1% reduction in injury crashes
SH75 Christchurch to Akaroa	60-80km/h Sept 2022	3 years	SH73 West Melton-Bealey River	20.5% reduction in DSI

Appendix 2: ACRS Speed Management Policy Position Statement

ACRS Policy Position Statement

Speed Management

Summary

Speed management is a critical component of eliminating fatal and serious injuries on our roads. The objective of this Policy Position Statement is to describe a more holistic framework for speed management. Speed management is best achieved through a comprehensive scope such as the 8-step approach to speed management policy put forward by the OECD and European Ministers of Transport. The principal tenets of this approach are that: the nature and function of roads and speed limits must be consistent. This means that as far as possible roads should be designed to explain the safe and appropriate speed to road users and make the safe speed in that location more obvious and intuitive to drivers; speed limits and enforcement should be credible and realistic to drivers and other road users.

Key policy positions

1. Apply the comprehensive 8-step OECD/European approach to speed management policy.
2. Design traffic environments based on the nature and function of roads that are credible and plausible to road users, then set speed limits appropriate to this section of road.
3. Use traffic calming and infrastructure changes to achieve lower speeds where road functions include movement of a mixture of motorised (drivers/riders) and non-motorised (pedestrians, bicyclists) road users and to moderate speeds on high-speed roads.
4. Make sure that road users know the speed limit and understand why this limit is applied.
5. Ensure speed limits are credible and believable in terms of the traffic environments in which they are applied, and enforcement of speed limits is led by general deterrence strategies.
6. Accelerate the adoption of vehicle technology with demonstrated effectiveness for reducing excessive speeds and crash risk.
7. Evaluate speed mitigation and enforcement strategies using valid and reliable speed measurement before and after their introduction and publish the results.

This policy position statement was developed by ACRS members including: Prof Ann Williamson, Gregory Casey, Dr Brett Hughes, Dr Lori Mooren, Kathryn Collier, Ray Metcalfe, Gary McDonald, Joel Tucker, Eric Chalmers, Priyank Trivedi, Ali Zayerzadeh, Philip Devon, Ian Faulks, and Herman Lule.

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Policy problem

Excessive vehicle speed is a major cause of casualty crashes. Excessive travel speeds (speeding) can be defined in two ways:

- Speeds that exceed legally permitted maximum limits, and
- Speeds that are unsafe for the road and traffic conditions but are within the speed limit.

There is good evidence that driving at high speeds increases the likelihood of more severe crashes and probably increases the risk of crashes.(1) Speeding is a major factor contributing to pedestrian, cyclist and motorcyclist crashes.(2-4) Poor speed management has contributed to the existing and unacceptably high road trauma results in Australia and New Zealand. Good speed management is needed to achieve our ambitious 2030 targets in both countries and is essential for our ultimate vision of eliminating fatal and serious injury on the road. The Global road safety performance targets set by the UN to underpin the Decade of Action for Road Safety 2021-2030 aim for halving the proportion of vehicles travelling over the posted speed limit and a reduction in speed related injuries and fatalities.(5)

There are three main problem areas for speed management. First, high speed roads where, if a crash occurs, impact speeds will invariably result in the most serious casualty outcomes. Second, multipurpose roads where potentially high-speed vehicles encounter more vulnerable non-motorised road users such as pedestrians and bicyclists. Third, motor vehicles being driven/ridden too fast for the conditions.

Much road safety engineering activity has focused on retrofitting high speed roads while retaining existing speed limits. Further, policy attention has focused on reducing speed limits as a response to persistent infrastructure safety issues, although the actual volume of speed limit reductions is extremely low. The greatest amount of policy attention and safety activity has focused on compliance with speed limits through enforcement and penalties for non-compliant motor vehicle drivers/riders.(6, 7) Enforcement is the last line of defence in speed management, but faces entrenched perceptions of revenue raising, and an enforcement-dominated speed management strategy is unlikely to help reach societal safety goals. A wider range of approaches to speed management exist which should be adopted including, in priority order: design and management of safe infrastructure; vehicle technologies to support safe use of the road; safe and appropriate speed limits; police enforcement of speed limits; and community engagement.(8)

Principles underpinning ACRS position

- It is never acceptable that people are killed or seriously injured in the road traffic system.
- The road traffic system must be made safe for all road users.
- The unacceptability of fatal and serious injuries means that safety and health are more important outcomes of the road traffic system than efficiency or cost.
- Safe and legal speeds should be obvious to drivers/riders to reduce speed management errors.
- Speed limits should be set to match the road function, characteristics and design.
- Speed management strategies should be comprehensive in scope and not rely primarily on setting and enforcing speed limits.

Evidence base

Management of speeding involves two elements. Safe speeds that limit the likelihood of crashes and survivable speeds where the human threshold for sustaining serious or fatal injuries is not exceeded.(9) Speeding involves travelling at above the sign-posted speed limit, or faster than is appropriate for the conditions. The safe speed will vary according to factors such as the type and function of the road, weather conditions, light and visibility, type of vehicle driven and traffic including problems like large differentials in traffic flow. Higher speeds increase both the severity of a crash and probably the likelihood of crashing, and relatively small changes in travel speeds can result in substantial changes in death or serious injury in crashes.(10) The higher the speed, the greater the stopping distance, therefore the greater the chance of a crash, and the greater the kinetic energy which must be absorbed, resulting in a greater chance of serious or fatal injuries.(11) For example, for head on crashes, the risk of fatality increases substantially after 70km/hr and the risk of serious injuries increases from as low as 30 km/hr, and for pedestrian crashes, the risk of fatality increases substantially from around 37 km/hr and of serious injury from around 30km/hr.(12, 13) There are also wider negative impacts such as increased traffic noise, air pollution and fuel consumption.(14) However, roads can be designed to naturally or inherently encourage travel at safe speeds.(15)

While some may see speed management as a trade-off between mobility and safety, safety must always be the priority and primary focus.(16) An innovative and comprehensive approach for addressing the problem of speeding was put forward in a 2005 report for the Organisation for Economic Co-operation and Development (OECD) and European Transport Ministers.(14) It builds on ideas from the Dutch Sustainable Safety approach to speed management(17) which consider the two important components of safe speeds: the nature and function of the road and driver behaviour. The approach brings the two components together by ensuring that the design of the road network and road infrastructure is easy to understand and is predictable so for drivers, safe behaviour is intuitive and the most natural behaviour, and vehicles are easy and predictable to use. Appropriate design of the road system and vehicles makes them more usable by drivers and reduces the likelihood of error as well as its consequences.(18, 19) The approach includes the importance of adequately educating and informing road users and, where still necessary, applying rules and enforcement.

For speed management, this approach incorporates the concepts of self-explaining roads which through their design, immediately produce safe behaviour from road users that is consistent with safe speed at that location.(20) The Sustainable Safety approach also highlights the importance of setting speed limits that are credible and plausible to road users in order to enhance compliance.

The strategy proposes a set of eight interrelated steps, which include:

1. Determine the function of the road including the types of road users allowed. This includes road functions such as free flow roads where the purpose is efficient throughput of long-distance traffic and non-motorised traffic is not allowed, distributor roads where the purpose is to allow drivers to enter and exit urban or rural areas from free flow roads and non-motorised traffic may be located, and access roads which allow access to properties along the road and are most complex as they incorporate multiple intersections and different types of road users. The Movement and Place approach is also relevant here.(21)
2. Determine the safe and appropriate speed for road lengths and intersections. This is based on an evaluation of the road function, characteristics, and design. Where the road section has combined functions, the safe speed should apply to the lowest function (access).
3. Set a speed limit that reflects the safe and appropriate speed that is credible in terms of the nature and function of the traffic environment at that location. Since the intention of speed limits is to

advise drivers/riders on safe and appropriate speeds, it is essential that the limits set in a particular context are plausible to drivers/riders. Where this is not the case, changes should be made to the characteristics of the road context, or to the speed limit including through variable speed limit approaches, or both.

4. Apply road engineering measures where low speeds are crucial for safety. This applies especially where motorised and non-motorised road users coincide. Maintaining low speeds is difficult for drivers especially where the characteristics of the road indicate higher speeds. To achieve low speeds, traffic calming engineering solutions are essential, so the road environment becomes self-explaining or intuitive to road users and any posted speed limits are credible and plausible to road users.
5. Make sure people know the speed limit in force. Knowledge of the speed limit is a prerequisite for compliance so information on the limit must be available to drivers/riders through consistent signage and road marking. New technologies can also display the applicable speed limit to the driver within the vehicle.
6. Inform and educate drivers about speed and speed management. To complement all preceding steps, road users should be provided information about speed and speeding and the rationale for the system of speed limits.
7. Police enforcement to control the speeder. Speeding by some individuals may still occur in some contexts, especially high-speed roads, so enforcement will still be needed to manage these sources of speeding. The need for enforcement however should be reduced if the preceding steps are implemented.
8. Incorporate vehicle technologies where appropriate and available. New technologies that assist drivers to manage speed to safe levels should be encouraged and implemented as they become available. These include providing access to accurate and reliable speed limit information to the public and Intelligent Speed Adaptation technologies.

This 8-step approach is ambitious, but its evidence-base justifies the effort required to implement it, especially in the light of the high cost to the community of speeding-related fatalities and injury. Well-established road systems such as we have in Australia and New Zealand, already incorporate several of the elements of this approach, but mostly from the enforcement end of the spectrum – the importance of matching road function and design and speed limits for example is often missing. Australia and New Zealand have many roads that have a mix of functions such as access and distributor or free flow roads which creates considerable complexity. Where this occurs, design interventions and speed limits should respond to the lower-level function (e.g., access).

The Australasian College of Road Safety recognises that simply relying on enforcement of lower speed limits is not likely to achieve our ultimate elimination goal. A much more systemic response is required. The College has advocated mandating intelligent speed adaptation in new vehicles to support driver compliance. The College has also advocated for publication of infrastructure safety star ratings which can be expected to promote better community understanding of safety issues (including speed management) and better and more infrastructure safety investment. This investment is critical to better speed management, has been demonstrated to be cost-effective, and needs to focus on both reducing human error and increasing crash survivability.

Drivers find it difficult to manage conflicting information about apparent road function and legal speed. (15, 20) Temporary requirements for lower speeds on these roads such as for road works must be well signposted to inform and provide drivers enough time to slow down.

When speeding behaviours are unintentional, such as when speed limits and road function do not match, or road signage is limited or difficult to see amongst other roadside clutter, an appropriate response should focus on improvements to the system design.

Speed enforcement strategies should follow well-understood behavioural principles: enforcement penalties should be proportional to the risk imposed by the offence; and penalties should be imposed at, or close in time, to the offence.(22-24)

Narrow speed management strategies that emphasise speed limits, for example, or do not address road design inadequacies, or inhibit effective enforcement, can reduce credibility, negatively impact on the overall public acceptance of road safety measures, and weaken the credibility of overall road safety policies. The OECD report drew attention to the need to avoid such outcomes by working successively through each of the steps in implementing the suggested speed management.

Recommended policy actions

1. Implement a comprehensive and holistic approach to speed management to match road function and intuitive and credible speed limits to manage speed.
2. The eight steps approach recommended by the OECD/ECMT report should be used for speed management in all new road developments.
3. In any reviews of existing roads, the eight steps approach should be used to set credible speed limits and identify where road engineering solutions are needed to achieve sustainable safety.
4. Rolling ten-year investment strategies should be developed which specify the activity and resources needed to match road infrastructure design and function to credible speeds for people to use safely.
5. Regulatory impact statements should be conducted on lowering default urban and rural speed limits and conducted in a manner which recognises the significant change leadership task required in speed management.
6. Regulations should match European vehicle safety standards which are requiring application of evidence based intelligent speed adaptation technology which restricts vehicle speed to legal limits.
7. Promote improved road user understanding of the effects of speeding and the reasons for safe speeds.

ACRS actions

1. Advocate for the recommended policy actions.
2. Advocate for a more comprehensive approach to speed management that is based on the eight steps approach recommended by the OECD and European Ministers of Transport.
3. Encourage adoption of policies on speed management that:
 - a. ensure consistency between the characteristics and function of the road and the speed limit applied, and
 - b. include speed limits and enforcement that are credible and plausible to road users.
4. In the context of the first two actions, promote education for road users that explains the effects of speeding and the reasons for speed limits and enforcement.

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