ACRS Submission on Transport and Infrastructure Net Zero Consultation Roadmap

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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 information notes that the Australian government has committed to developing a Transport and Infrastructure Net Zero Roadmap and Action Plan in 2 stages. The current consultation addresses the first stage, setting out the potential pathways for transport and transport infrastructure to contribute to net zero by 2050. The government actions and policies will be developed in a second stage.

In this submission, ACRS has not commented on the proposed pathways for rail, maritime or aviation. We have reviewed the Roadmap with a focus on:

- The benefits and disbenefits to road safety that would accompany implementation of the Roadmap;
- Co-benefits between the decarbonisation and greenhouse gases (GHG) emission reductions agenda and the road safety agenda, and other vital economic and health agenda.

This submission was written by ACRS members including Soames Job and Narelle Haworth.

ACRS response to the Terms of Consultation Draft

Current and future climate change will have increasing adverse health impacts including the reduction in road safety. As one of the key contributors to GHG, the transport system must adapt to address climate change and road trauma. Both are preventable and can be addressed by improving the design and management of the transport system. The transport system is more than just motor vehicles. Active travel modes and sustainable mobility options such as public transport must be prioritised to decarbonise the transport system and benefit road safety.

Coverage of Safety in the Consultation Roadmap

The Consultation Roadmap includes some valuable points about road safety including:

- "Decreasing our reliance on road freight would have potential decongestion and safety benefits, in addition to a reduction in emissions". Modal shift away from road transport has clear road safety value, and ACRS commends this being recognised.
- "Safer Freight Vehicles package includes increasing the overall width limit for new trucks that are fitted with a number of safety features". Where this leads to the generation of fewer trips, there are likely to be deliver benefits. However, two further considerations are needed. Firstly, greater efficiency for road freight transport makes the model shift to rail less likely. Secondly, fewer trips may improve safety if this exposure reduction is not countered by safety issues that may accompany wider and heavier vehicles and the infrastructure changes needed to accommodate them. The challenges of added weight combined with the huge numbers of legacy wooden and other bridges with limited load capacity is a strong reason for a shift to rail. It would be helpful if the Commonwealth included extra explicit incentives for this shift in part based on the added costs of road freight travel which the community and governments pay, currently leaving these as external costs to the road freight industry. Evidence on road travel costs is provided below in this submission.
- "Australia's urban supply chains can struggle with congestion, which hinders access to markets and causes productivity losses". The draft notes that incentives and targets to encourage the shift from road to rail will be offered. ACRS recommends further detail is provided on what these incentives would be. The potential for new, more sustainable vehicles for urban freight also needs to be considered and encouraged, e.g., electric trucks and e-cargo bikes.

Some parts of the Consultation Roadmap can be strengthened in relation road safety, including:

- "The government is currently working with the states and territories to remove regulatory barriers (width and mass limits) to support Euro VI (fuel) standards. Introducing Euro VI will mean manufacturers must add the advanced safety and fuel-saving technologies to Australian models that other countries already have". This action relies on heavy vehicle manufacturers. In addition, the Government can take a lead role through the use of updated Australian Design Rules required to achieve this.
- "The main barriers to active and public transport adoption are linked to safety, accessibility, comfort, geography and population density. Inadequate and poorly maintained infrastructure, as well as poor integration between transport modes, hampers the safety and accessibility of public transport". Additional, not just better maintained, infrastructure such as better speed control for safe crossings, more safe crossing locations, and effectively separated and protected bicycle lanes and footpaths are required. In addition, selection of safer speed limits and better management of existing infrastructure hardware such as traffic signals to provide better priority and greater safety to active and public transport will provide safety and mobility benefits for these users. The ACRS recommends these two aspects are included in the Roadmap.
- "We need to acknowledge that decades of past planning decisions, along with geography, weather and accessibility will be significant barriers in large parts of the country (to uptake of active and public transport). Behaviour change is also difficult for governments to bring about, especially when seeking to overcome concerns around safety and comfort…Regional roads may feel less safe for bike riders and pedestrians due to higher speeds and limited dedicated infrastructure". It is not only a perception of being less safe that is a barrier to active travel, but actual safety is inadequate in most

urban settings in Australia. High urban speed limits and a lack of pedestrian and cyclist infrastructure lead directly to increased risk for active travel. Dedicated safety infrastructure improves both perceived and actual risk and encourages active travel participation and improves overall safety for all types of road user(1). It should also be recognised that regional roads need to be managed differently when they pass through small townships to better allow local people to walk or travel by bicycle.

- The Consultation Roadmap uses the term 'accident' in many places. The Roadmap should use the term 'crash' to align with accepted language in the road safety field, reflected in the National Road Safety Strategy 2021-2030(2). The term 'accident' suggests that little can be done to prevent these events which, in reality, have multiple causes and therefore multiple possible prevention interventions.
- The Consultation Roadmap refers to the Australian Design Rule (ADR) 80/04 for the uptake of Euro IV heavy vehicles which will reduce noxious emissions from trucks (such as oxides of nitrogen and particulates). Australia lags behind the European Union which has adopted the safest vehicle standards in the world, some of which, such as Intelligent Speed Assistance, would also reduce climate emissions.
- The Consultation Roadmap notes "The government could play an advocacy role to deliver public awareness campaigns to promote active transport and highlight the benefits of shifting to active and public transport. This could include educational programs that provide information on responsible e-scooter use, bike education and training, traffic safety, and pedestrian/bike rider rights". Educational programs are unlikely to deliver effective, sustainable and scalable shifts in active and public transport use. Firstly, e-scooters are not active transport and do not provide health benefits, but rather are an alternative form of motorised transport. Secondly, public awareness and education programs in road safety have been demonstrated to have limited effectiveness in changing behaviour in a sustainable way. On the other hand, the prioritisation of active transport through the provision of dedicated, safe and separated infrastructure for pedestrians and cyclists, combined with the provision of safe, affordable, reliable and accessible public transport are measures proven to be effective in promoting and increasing public and active transport.(3, 4)

Co-benefits of addressing climate change and road safety

The ACRS Policy Position Statement on Climate Change and Road Safety(5) recommends:

- Governments should implement the recommendations of the Intergovernmental Panel on Climate Change
- Governments immediately invest in public transport, active travel, and sustainable freight options, and disincentivise personal fossil fuel-based transport
- Implementation of 30 km/h speed limits for residential areas and access roads to public transport
- Governments should limit urban sprawl
- Governments should upgrade current infrastructure to prioritise public transport/active travel
- New road infrastructure projects must explicitly consider and reduce environmental impacts and increase safety
- Governments invest in developing infrastructure resilience against extreme weather events
- Governments limit the number of vehicles on the road
- The use of sustainable and recycled materials should be prioritised for all road and transport infrastructure projects

- The private sector should be appropriately taxed according to their contribution to the social and economic costs of emissions
- The private and public sector should encourage sustainable transport for work-related travel and commuting
- Community organisations should advocate to governments for climate adaptation initiatives and take responsibility for their contributions to climate change
- Individuals need to prioritise public transport and active travel options over private fossil fuel-based transport

More information about the linkages between climate change and road safety is contained in the policy statement (Appendix A).

Decarbonisation, GHG reductions and multiple co-benefits through speed management

The Roadmap can be significantly strengthened and the decarbonisation agenda greatly advanced through effective speed management in the road transport system. The management of speed influences GHG emissions from motorised traffic but this is not discussed in the Consultation Roadmap. Lower vehicle speeds have the potential to deliver a wide range of co-benefits including reduced deaths and serious injuries from crashes, reduced noise pollution and associated health consequences, reducing air pollution and associated health consequences, and improving social and economic equity. While the Consultation Roadmap recognises side effects of proposed actions, co-benefits are not considered which would:

- reduce GHGs more effectively and more immediately than other proposed interventions;
- improve multiple other agenda;
- increase the efficacy of actions to deliver interim targets prior to phasing out of internal combustion engines; and
- provide a stronger case for the required actions, by accounting for ancillary benefits.

A commitment from the Commonwealth Government to work with and incentivise states and territories to lower speed limits and travel speeds will generate substantial benefits in improving actual safety while also reducing GHG and improving health and social outcomes.

GHG and air pollution reductions from lower speeds

Transport is a major and growing source of GHG emissions in Australia,(6, 7) and thus the focus on it is well justified. Improved management of travel speeds presents a significant opportunity to reduce GHG from road transport and can be expected to facilitate a modal shift away from private motor vehicles by improving the relative safety of active transport.

Evidence demonstrates that lower speeds generally reduce both air pollution and GHG emissions from road transport.(8, 9) This occurs primarily because there is more aerodynamic drag on the vehicle at higher speeds and thus more fuel burning (which emits GHG and other pollutants) is required to overcome this drag at higher speeds. For example, one study found that a 10mph speed limit increase on some US highways led to a 3-4mph increase in travel speed, and emission concentrations increased by 14-24% for carbon monoxide, 8-15% for nitrogen oxides, and 1-11% for ozone.(10)

In urban environments travel often involves stopping or slowing for intersections, stop signs, lights, slowing for turns, giving way to traffic and pedestrians, as well as slowing or stopping for other vehicles which are turning or stopping. Congestion adds to the stop-start nature of traffic. When maximum speeds are higher, there is more acceleration and more braking between these stopping or slowing events. Increases in acceleration and deceleration (as well as higher speeds) induce another mechanism of air pollution – particulate emissions from the increase frictions of tyres with roads and of brake pads. Due to changes in the efficiency of combustion and reduce tyre and brake wear at low speeds, changes in air pollution are not the same across different air pollutants. Analysis shows that lowering urban speeds from 30mph to 20mph (32v km/h) substantially reduces particulate pollution though it increases nitrogen dioxide. However, this still yields a substantial saving of lives lost due to air pollution-induced health harm overall because particulate emissions are more strongly related to health harm than nitrogen dioxide.(11)

Higher travel speeds result in more GHG being emitted by motor vehicles. Even reductions in speed limits from 50km/h to 30km/h in stop-start urban traffic reduce GHG by reducing acceleration and deceleration.(8) Significantly lower rural road, highway and motorway speeds than current speed limits in Australia will provide reduced GHG emissions.(12, 13) For example, one study found that the ideal speed for minimum fuel consumption (and thus emissions) on motorways was around 75 km/h,(14) well below prevailing motorway speed limits all over the world, including in Australia.

Lower speeds reduce air pollution and associated health effects and deaths. The World Health Organization (WHO) assesses air pollution as the largest environmental health problem on earth.(15) Air pollution generates a huge burden of deaths, disease, and disability globally,(16) killing over 7 million people each year.(17) Increased speed limits in the USA were found to increase air pollution which led to 9% higher foetal death rates around the affected freeways.(10) Other studies also find significant effects of carbon monoxide and particulate pollution on infant mortality(18, 19) with each 10 percent reduction in total suspended particulates resulting in a 3.5 percent decline in the infant mortality rate at the county level.(20) A study in Australia found that even low levels of ambient air pollution were associated with significant adverse foetal outcomes including growth restriction.(21)

Road transport is responsible for 50% of air pollution deaths in Europe,(22) and a recent study of the road transport in Melbourne confirmed a substantial role of road transport in the production of air pollution.(23)

Climate change also harms health, yet this receives minimal attention in the Roadmap, which only notes: “Actions to decarbonise can also support liveability, health and other outcomes”. The evidence unambiguously indicates that any policy (including lower speeds) which reduces air pollution and GHG will save lives and improve health, even if existing levels are within guidelines. Local studies confirm that these patterns apply in Australia. The evidence of health effects deserves more attention, as part of the case for decarbonisation.

Crash and trauma reductions from lower speeds

The evidence for road safety benefits from lower speeds is unanimous and well known, as shown by many peer-reviewed meta-analyses and literature reviews. The most credible global organisations identify this fundamental value of lower speed, including the World Bank, the WHO, the International Red Cross, the Organisation for Economic Cooperation and Development (OECD), and the Cochrane Library, and in Australia and New Zealand – Austroads and the ACRs. Thus, the evidence is only briefly referenced here.

Speed is fundamental to the risk of a crash as well as crash severity due to the basic physical laws of transfer of kinetic energy.(24) The evidence demonstrates with certainty the importance of speed to road crash trauma and deaths, through many types of evaluation, which are briefly noted below.

- Increases in travel speed are directly associated with increases in fatal and serious crash risk. For example, small changes in speed having dramatic impacts on average fatal occurrence – each 1% decrease in speed yields approximately a 4% decrease in fatal crashes.(25) More recent re-analyses validate these critical influences of speed on safety.(26-28)
- Increases in impact speed generate substantial increases in the probability of death in crashes. For example, the most recent meta-analysis for pedestrian crashes found that each 1km increase in impact speed produced an 11% increase in the likelihood of a pedestrian death and a 7% increase for serious injury.(29)
- Hundreds of evaluation studies of interventions to reduce speeds demonstrate profound reductions in deaths, serious injuries and crashes overall. These include evaluations of the benefits of speed cameras,(30) of speed limit reductions,(24) and of speed reducing road engineering such as speed humps, raised platforms, chicanes and gateway treatments.(31)

Noise pollution reductions from lower speeds

The WHO identifies noise as the second largest environmental health problem, behind air pollution,(15) and estimates that transport noise kills more people in Europe than road crashes.(32, 33) Hearing loss is just one of many harmful effects of noise, which are well established in scientific research yet are largely unrecognised by the community and governments. Some of these proven effects are annoyance and stress, disruption to core activities in homes affected by road or other noise sources reducing quality of life;(32, 34, 35) impairing sleep architecture/rhythm, causes awakenings and sleep disturbances associated with substantial long-term health effects;(36, 37) less physical activity;(38) physical health effects including cardiovascular damage, metabolic disruption(39, 40) and digestive system disruption;(41) reduced brain size in children(42) and learning disruptions.(43)

Road traffic is a major contributor to noise, and higher traffic speeds result in more traffic noise. Traffic noise also arises from the interaction of tyres and the road surface as well as engine noise, and both increase with higher engine revolutions and faster tyre impacts on the road. Lower speeds are established to significantly decrease road traffic noise.(44, 45) Because of the primary contribution to noise of the interaction of tyres and the road surface, lower speeds will remain useful for reducing the health harm of noise even for electric vehicles. The adverse health effects are chronic – people do not simply get used to the noise.

Fuel and vehicle maintenance cost reductions for lower speeds

Higher traffic speeds result in higher vehicle running costs,(12, 13, 46, 47) reducing the supposed economic benefits of high speed road travel. This is consistent with the broad effects of higher speeds which require more fuel, and burning more fuel emits more air pollution and more GHG. Policies to reduce travel speeds, such as from 50km/h to 30km/h in urban traffic where lower maximum speeds reduce acceleration and deceleration, generally reduce fuel costs and emissions.(8) For higher speeds, the ideal speed for minimum fuel consumption is around 75 km/h,(14) well below Australian motorway speed limits.

Optimal speed limits

An assessment of the costs of travel time, crashes, air pollution and vehicle operation in Victoria revealed different economically optimal speeds for different road (Table 1).(47) Note that this study did not specifically include noise pollution or GHG emissions.

Table 1: Economically optimal speeds in Victoria

Road environment	Optimal Speeds - cars and light commercial vehicles	Optimal Speeds - trucks
Rural freeways	110	95
Rural divided roads	95	90
Standard sealed two-way undivided rural roads	90	85
Sealed two-way undivided rural roads with crossroads, towns and curvy alignment	85	85
Shoulder sealed two-way undivided rural roads	90	90
Shoulder sealed two-way undivided rural roads with crossroads, towns and curvy alignment	85	85

(Source: Cameron, 2012)

Conclusion and Recommendations

The ACRS supports the Transport and Infrastructure Net Zero Roadmap, and the inclusion of road safety in the Consultation Draft. To strengthen the final document, we recommend:

- Extra explicit incentives for a shift to freight rail
- Dedicated safety infrastructure to support active and public transport
- Provision of safe, affordable, reliable and accessible public transport
- Better support for speed management including additional infrastructure and appropriate speed limits
- “Accident” be replaced with “crash” throughout the Roadmap in line with the National Road Safety Strategy and recognition that crashes can be prevented

The ACRS appreciates the opportunity to comment on the Consultation Roadmap and contribute to improved road safety and decarbonisation. Please contact us if you need any further information.

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Appendix A: ACRS Climate Change and Road Safety Policy Position Statement

ACRS Policy Position Statement
Climate Change and Road Safety

Summary

Current and future climate change will have increasing adverse health impacts and reduce road safety. Life and health are not exchangeable for other benefits in society (e.g., economic or efficiency). As one of the key contributors to greenhouse gas emissions, the transport system must adapt to address climate change and road trauma. Both are preventable and must be addressed by improving the design and management of the transport system. Active and sustainable mobility options such as public transport must be prioritised to decarbonise the transport system and benefit road safety.

Key policy positions

1. Governments should implement the Intergovernmental Panel on Climate Change (IPCC) recommendations because unmitigated climate change will result in road traffic injuries and other direct health and economic impacts.
2. Governments must immediately invest in active travel, public transport, and sustainable freight options, and disincentivise personal fossil fuel-based transport.
3. Default 30 km/h speed limits for all residential areas.
4. Governments should upgrade current infrastructure to prioritise active travel and public transport.

This policy position statement was developed by ACRS members including: Dr Oscar Oviedo-Trespalacios, Dr Brett Hughes, Karen Cogo, Dr Chika Sakashita, and Robynann Dixon.

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Policy problem

Climate change is a significant challenge to the planet, affecting the environment, people's livelihoods, quality of life, and infrastructure.(1, 2) Climate action and good health are equally important Sustainable Development Goals.(3) Climate change and road trauma have interconnected causes, impacts, and policy solutions. Climate change threatens human health via direct impacts and reduces road safety and engagement in healthy and safer transport choices such as cycling, walking, and public transport during more frequent extreme weather.

The underlying cause of climate change is excessive greenhouse gas emissions, of which the transport sector in Australia is responsible for 17%.(4) Transport emissions have grown more than any other sector, increasing nearly 60% since 1990.(4) Climate change produces more extreme weather events and adverse weather conditions, which can cause road crashes, divert spending into infrastructure maintenance rather than safety improvements, and discourage the use of more sustainable and safer mobility options such as public transport. Significantly, shifts to public transport and other forms of low emissions transport can enhance health, employment, energy security, and equity.(5)

Principles underpinning ACRS position

- Life and health are not exchangeable for other benefits in society (e.g., economic or efficiency); therefore, the transport system, one of the key contributors to greenhouse gas emissions, must adapt to address climate change and road trauma.
- It is never acceptable that people are killed or seriously injured in the road traffic system.
- Climate change's current and future consequences for health and quality of life are unacceptable and must be addressed through urgent action to mitigate the current and emerging climate change crisis.
- Road safety and climate change prevention must be aligned to maximise benefits for society.

Evidence base

Road safety can benefit from climate action

Public transport is the safest and most energy-efficient form of transportation.(6, 7) Australian research has confirmed that a mode shift from private vehicle to public transport (i.e., train, tram, or bus) for commuting would reduce not only total crashes but also severe crashes.(8) Better public transport access and coverage will also reduce the incidence of risky driving behaviours, such as inattentive and drug driving.(9) Shifting the balance of transport infrastructure, policy, and funding away from private fuel-based transport and towards public transport will prevent road trauma and increase the sustainability of the transport system. As public transport ridership increases, road safety outcomes will improve.

Public transport growth also supports climate action, using less fuel and energy than private car transport. Notably, the success of public transport relies on non-motorised transport (including walking and cycling) that acts as a feeder to public transport stops/terminals. However, the lack of access to safe walking, cycling, and public transport infrastructure is a critical barrier to modal shift strategies for green transport.(10)

The hierarchy of importance of road users in the transport system needs to prioritise active travel and public transport users over private vehicle occupants. This will also have important health and safety benefits as it will reduce emissions and increase physical activity. Public and private initiatives to reduce demand for

transport such as "working from home" arrangements and carpooling are also encouraged to address road safety and climate change.

Decarbonising road transport requires a large-scale shift from gasoline and diesel to biofuels, electricity, or hydrogen, either in dedicated battery-electric or fuel-cell vehicles or mixed configurations, such as plug-in hybrid-electric vehicles, as well as prioritising active travel and public transport.

Climate change has a direct impact on road trauma

Climate change increases the occurrence and severity of risky weather events, reducing road users' safety.

Climate change will increase the frequency of heavy rain and heatwave events.(11) An increase in rain is problematic for road safety because it reduces tyre-surface friction, impairs visibility for drivers, and makes vehicle handling more difficult. Greater rainfall frequency is expected to translate into higher collision counts,(12, 13) and heatwaves increase road fatalities.(14) Road pavements deteriorate faster with extreme weather resulting in potholes and other dangerous pavement damage. Advancements in vehicle safety technologies (such as advanced driver support systems) will not necessarily mitigate the increased risk because such technologies often do not work in risky weather situations such as rain.(15) These circumstances will also affect other road users such as pedestrians and cyclists as rain and heatwaves can result in falls, crashes, and health deterioration through heatstroke.

Extreme weather from climate change will also create road hazards and emergency evacuations where motorists may drive in unsafe conditions.

Disaster situations such as bushfires can create significant immediate and longer-term psychological stress for drivers, (16) increasing crash risk.(17, 18) The Country Fire Authority of Victoria dedicated a website to 'Staying safe in the car during a bushfire', noting that *"Car crashes are common in bushfires due to poor visibility"*.(19) Driving through floodwater is highly risky and can result in property damage, injuries, or fatalities.(20)

Climate change has the potential to deteriorate transport infrastructure in the Australasian region.

Sea-level rise will compromise coastal infrastructure of all types,(21, 22) and the increased frequency of excessive summer heat may compromise bridge integrity.(23) Heavy rainfall and subsequent floods can cause long term damage to transport infrastructure.(24) Deteriorated infrastructure contributes to road crashes, and the increased need for maintenance diverts resources from upgrading the safety of the road network or mitigating climate change.(22, 25)

Road safety improvements are needed to safely encourage more climate-friendly travel.

Given the ongoing threats associated with climate change, individuals and communities can privately or through policy-based incentives reduce fossil fuel-based transport usage, such as increasing walking, cycling, or using personal mobility devices to travel. These changes to mobility patterns will affect risk exposure and safety outcomes as active travellers are vulnerable road users.(26) Given the link between motorised transport, climate change, and road trauma, lowering speed limits will help mitigate climate change and increase road safety.(27) Introducing 30 km/h speed limits for residential areas and better infrastructure for active transport should be priorities for governments at all levels.

Road safety practice must evolve to consider climate change

Potential conflicts between road safety and climate change mitigation need to be managed. For example, trees on roadsides can be deadly in a crash,(27) however, planting and keeping trees is a meaningful way to mitigate climate change, provide shade, and reduce surface temperatures for pedestrians and cyclists.

Transport infrastructure construction to improve road safety requires significant amounts of natural raw materials. The extraction, transportation, and production of these materials produces waste, consumes energy, and emits greenhouse emissions. Significant benefits can be realised by finding new uses and solutions to reuse, repurpose, and repair civil infrastructure. Recycled, alternative, and sustainable materials can be successfully used in road infrastructure.(28) Road and transport infrastructure must address whole-of-life impacts of asset decisions and their future climatic risks through mitigative and adaptive responses.

Recommended policy actions

1. Governments should implement the recommendations of the IPCC.
2. Governments immediately invest in public transport, active travel, and sustainable freight options, and disincentivise personal fossil fuel-based transport.
3. Implementation of 30 km/h speed limits for residential areas and access roads to public transport.
4. Governments should limit urban sprawl.
5. Governments should upgrade current infrastructure to prioritise public transport/active travel.
6. New road infrastructure projects must explicitly consider and reduce environmental impacts and increase safety.
7. Governments invest in developing infrastructure resilience against extreme weather events
8. Governments limit the number of vehicles on the road.
9. The use of sustainable and recycled materials should be prioritised for all road and transport infrastructure projects.
10. The private sector should be appropriately taxed according to their contribution to the social and economic costs of emissions.
11. The private and public sector should encourage sustainable transport for work-related travel and commuting.
12. Community organisations should advocate to governments for climate adaptation initiatives and take responsibility for their contributions to climate change.
13. Individuals need to prioritise public transport and active travel options over private fossil fuel-based transport.

ACRS actions

1. Raise awareness of the relationship between climate change and road safety among members.
2. Advocate to road safety stakeholders to consider the impact of climate change and road safety.
3. Support the development of the knowledge base for strategies to increase road safety considering climate change.

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