Driving down the road toll:
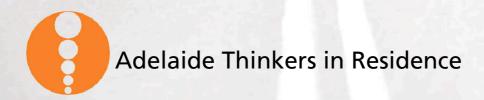## building a safer system
Professor Fred Wegman

Interim Report
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Adelaide Thinkers in Residence

Driving down the road toll:
building a safe system

Introduction

We must provide people with surroundings in which the chance of human error is limited. Fred Wegman

Professor Fred Wegman, Managing Director, SWOV Institute for Road Safety Research, Netherlands and Adelaide's 19th Thinker in Residence, is one of the world's most respected road safety experts. He continues to be at the forefront of Safe System developments around the world, an approach that considers the interactions of users, vehicles, roads and travel speeds — to prevent crashes and reduce crash severity.

The Netherlands has achieved one of the best road safety records in the world by using a Safe System approach, with a fatality rate 40 per cent lower than in South Australia. To put this into perspective, if South Australia achieved the same fatality rate per head of population, 40–50 lives would be saved each year.

As an Adelaide Thinker in Residence Professor Wegman shared his and the Netherlands wealth of experience with South Australians, and contributed to the State Road Safety Strategy (2011–2020) with specific road safety initiatives for South Australia.

Having delivered his final lecture and thus completing his third and final visit to South Australia, Professor Wegman has returned to the Netherlands to write his final report, to be completed in late 2011. This interim report presents the central theories and recommendations outlined during Professor Wegman's final lecture in the lead up to the release of the State Road Safety Strategy (2011–2020).

Much has been done to improve road safety in South Australia. Traditional stakeholders such as the police, road authorities and insurance agencies have invested considerable resources into tackling road safety problems and South Australia has good capability via the internationally recognised Centre for Automotive Safety Research. While the Safe System concept has been present in Australia for many years, its implementation still proves a challenge to everyone involved in road safety. Professor Wegman's recommendations seek to improve and build upon South Australia's existing strong road safety base and help move us a step closer towards the adoption of Safe System principles and ultimately a greater reduction in deaths and injuries on our roads.

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A new vision for road safety in South Australia

South Australia has made good progress in road safety over the past few decades through improvements to roads, safer vehicle design and efforts to improve road user behaviour. Although all are elements in the Safe System model, we have not been truly successful in integrating our approach. As the decline in deaths and injuries on our roads plateau, we need to do more. Road crashes are a tragedy for many families and communities and cost South Australia billions of dollars a year. Good investment in road safety is cost beneficial; preventing crashes and investing in prevention is cheaper for South Australia than the cost of road crashes.

Professor Wegman notes that many South Australians believe that the road safety problem is related to extreme behaviours — high levels of speeding or drink driving. While he acknowledges that such behaviours are a problem requiring continued action, he says 'in fact, the majority of crashes occur to ordinary people making ordinary mistakes on the road network'.

From his review of road safety in South Australia, Professor Wegman proposes how the state can transition to a true Safe System approach taken by many leading road safety countries—including the Netherlands. This approach starts from the understanding that road crashes resulting in death and injury are to a large extent predictable and preventable.

The Safe System approach is characterised by the following:
- a traffic system with considerably lower casualty levels, if not zero, for the next generation
- a proactive approach using our growing knowledge and understanding of road crashes
- integration of people, vehicles and roads into one Safe System
- addressing the whole network—all vehicles and all road users—instead of only high risk groups
- integration of road safety with other policy areas
- human capacities and limitations
- the understanding that the prevention of crashes is not wholly dependent on road user mistake or error
- based on the assumption that all crashes are preventable, begin with interventions which are the most effective and cost-efficient.

Professor Wegman identifies three main tasks to explore these characteristics and adapt them to South Australian conditions. The first (establish a taskforce) is the main recommendation of the residency; this taskforce should create and define the conditions for a successful Safe System approach.

1. Establish a taskforce under the leadership of the Premier supported by the Minister for Road Safety to implement a Safe System approach.
2. Integrate road safety into urban planning processes and decision making and link road safety with the Adelaide 30 year plan.
3. Review how road safety can be better incorporated into current traffic management practices and consider the role of road design.

An ambitious target for South Australia

There is no good reason why South Australia should not aim for the best when it comes to road safety. By adopting his recommendations and embracing the concept of a Safe System, Professor Wegman hopes that South Australia will dramatically reduce the level of death and injury from road crashes, and at a much faster rate than in previous years.

South Australia is not the best performing state in Australia, and Australia is not the best performing country in the world. South Australia consistently lags behind other states such as Victoria and New South Wales. A few European countries such as Sweden, the United Kingdom and the Netherlands have mortality rates (fatalities per 100 000 population) half that of the South Australian rate. Clearly there is much room for improvement.

The new Australian Road Safety Strategy, issued in 2011, works with a 30 per cent reduction of fatalities and injuries over a ten year period. This is a reasonable target. But should South Australia simply join this target, or can South Australia be more ambitious? Professor Wegman suggests setting a target of catching up with the best performing state in Australia (currently Victoria) over the next decade. There is no good reason why South Australia should have a poorer record than any other jurisdiction in Australia.

If South Australia accepts this challenge, the target becomes a 50 per cent reduction in ten years. That is ambitious. Notably, the European Union had a target of 50 per cent reduction over 2000–2010 and a few countries (such as France, Spain, Portugal) achieved it. With this in mind, why should South Australians accept a higher risk on the road than Victorians and the people of New South Wales?

The question then becomes: what should we do to aim for the best? Professor Wegman proposes that we invite road safety experts to consider a long list of potential road safety interventions, and have good public consultation with South Australian communities to obtain support for implementation. Success will mean saving more lives than if we continued with our traditional approaches.

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Understanding the problems and measuring progress

Currently South Australia focuses on fatality crashes. Injury crashes, however, are a major contributor to crash costs and deserve more attention. Improvements to the way crash costs are estimated in South Australia are required to provide better insight about who is carrying the cost burden. High quality data must be collected to enable analysis and monitoring of progress. What we collect as data may need to be improved. For example, when there is a crash we should also try to understand what is happening in terms of exposure—have the number of vehicles on the road increased, and are people driving for longer or over longer distances? It is important to understand as much of the road safety situation as possible and apply proven countermeasures based on good research evidence. Much can also be learnt by comparing the performance of South Australia to that of other states and countries and using that as a benchmark.

It is important that we understand as much of the road safety situation as possible and apply proven countermeasures based on good research evidence. I would like to suggest several actions so that we can tackle the road safety problem more effectively and efficiently. For that reason I recommend that an annual independent progress report be created for South Australia.

A need for cultural change

South Australia needs cultural change in its approach to road safety. Road safety needs to become integral to decision making. While road safety can be improved using the traditional approaches of making existing roads safer, using safer vehicles and improving human behaviour through education and enforcement, we need to acknowledge that humans make mistakes, and some deliberately violate traffic laws. We must manage the road system with these things in mind and create an environment that nudges people towards adopting the best behaviours. We have an ethical obligation to create an environment where people are not punished by death and injury for their mistakes. This will require cultural change — by the public, all sides of politics and all stakeholders.

Professor Wegman suggests the following actions:

The public
- Conduct further social research to understand the cultural elements that form opinions on road safety based on a framework similar to the American Automobile Association compendium on a safe driving culture.

Politicians
- Create a climate of genuine bipartisan support for road safety.
- Build the political and administrative support for evidence led decision making in road safety.

Stakeholders
- Conduct social research into the boundaries between personal responsibility and stakeholder responsibility. Insights from this can then be used to better target private sector involvement.
- Make stakeholders accountable for their contribution to reach the South Australian road safety target.

Actions and measures

While the final report will describe Professor Wegman's proposals in detail, the following areas for attention give a flavour of the actions and measures for consideration. These recommendations do not imply that nothing has been done or is being done in these areas, rather Professor Wegman suggests actions from his perspective that could further improve current activity.

1. **School education**
   - Create a project to align current education programs with best practice principles.
   - Create a road safety resource centre to make it easier for schools to adopt best practice road safety programs.

2. **Mass media and communication**
   - Develop a manual for road safety campaigns similar to the European CAST manual.
   - Continue to coordinate road safety campaigns with other road safety activities such as enforcement.
   - Conduct further evaluations of road safety campaigns based on behavioural outcome measures.
   - Further involve local communities in campaigns to enhance their effectiveness.

3. **Enforcement**
   - Ensure that any new enforcement strategies articulate the role of general deterrence, specific deterrence and ways of dealing with extreme behaviours.
   - Utilise new technologies and intelligence/data analysis to maximise existing resources.
   - Ensure that enforcement activities are better integrated with mass media campaigns.
   - Conduct scientific evaluations of traffic enforcement to develop tools and a knowledge base to guide operations.

4. **Safe roads**
   - Review current guidelines and standards from a road safety perspective.
   - Integrate road safety into planning and design processes.
   - Assess the suitability of current road designs to nudge road users into adopting safer behaviours.
   - Develop a plan to retrofit road safety into the existing road network according to Safe System principles.
   - Align minimum standards of safety performance according to a functional road hierarchy.
   - Develop the case for eliminating stobie poles from the road network.

5. **Vehicles**
   - Work with the federal government to ensure that safety features are not removed from vehicles prior to sale in Australia.
   - Encourage fleet owners to purchase the safest vehicles for their employees.
   - Develop a scheme to ensure that novice drivers use the safest car available when driving.

6. **Road safety technology**
   - Create a Road Safety Technology Forum to nurture cooperation between key stakeholders.
   - Conduct a study to establish the scope for new technology implementations.
   - Establish demonstration projects using new technology.

7. **Speed management**
   - Establish a framework for the retrofitting of the network to support safe speeds and credible speed limits.
   - Conduct a review of speed limit setting procedures.
   - Conduct and evaluate demonstration projects that promote safe and credible speed limits.

8. **Novice drivers**
   - Review if improving the quality of training and testing procedures can enhance current driver (and rider) training and licensing.
   - Review if the current Graduated Licensing Scheme can be enhanced by upgrading to international best practice.
   - Increase the minimum licensing age.

9. **Older Drivers**
   - Review the requirement to annually test motor vehicle licence holders from the age of 70 years.
   - Continue the development of programs that discuss awareness of, and compensation for, declining ability as drivers age, including alternatives to driving.

10. **Unlicensed drivers**
    - Conduct research to better understand the problem of unlicensed driving and identify factors behind individual circumstances, motivation and choices.

11. **Health**
    - Create a project that identifies synergies between public health and road safety and where cooperation can occur with input from the road safety and health sectors.

12. **Indigenous problems**
    - Conduct research to further understand the circumstances and context of remote area crashes involving Indigenous people.
    - Establish a demonstration project with SA Health to show ways in which road safety issues can be addressed in Indigenous communities.

13. **Cyclists**
    - Create a second generation cycle network that links isolated cycling infrastructure installed over the past decade.
    - Implement a demonstration project—Vancouver style cycling lanes—create two major routes across the CBD for cyclists for north/south and east/west movements.
    - Implement a cycling demonstration project—access to public transport and shops based on the potential to use bicycles for short trips (less than 7km).

14. **Motorcyclists/scooters**
    - Review all aspects of driver training for novice riders.

15. **Heavy Vehicles**
    - Develop a vision to bring the highest safety standards to the professional heavy vehicle sector at all levels of operation.
    - Adopt traffic management techniques that facilitate the safe driving of heavy vehicles in urban areas.

16. **Alcohol and drugs**
    - Continue research into the issue of recidivists with high levels of Blood Alcohol Concentrations.
    - Monitor European activities in establishing an evidence base in relation to drug driving.
    - Conduct further research to understand the driving risks associated with combining alcohol and drugs.

17. **Distraction**
    - Encourage public and private organisations to prohibit the use of hands free mobile phones whilst driving as a safety based policy.
    - Create campaigns to highlight the fact that even hands free mobile phone use whilst driving elevates risk.
    - Explore activities in relation to other in-car devices, such as navigation systems.

18. **Fatigue**
    - Conduct further research to establish the prevalence of sleep disorders in fatigue related crashes.

Implementation

The successful implementation of countermeasures and changes in pursuit of our road safety vision is certainly hard. We cannot just go to a store and select countermeasures off a shelf and hope they will work. We must fine tune and adapt the countermeasures for the South Australian context. The following recommendations will enhance South Australia's ability to do this, build upon current expertise and strengthen organisations that currently perform good work in road safety.

1. **Multi stakeholder alignment**
   - Ensure the next road safety strategy for South Australia is a stakeholder strategy — not only containing actions and responsibilities for government departments.

2. **Cooperation**
   - Work with other states to coordinate road safety policy with other states.
   - Lobby with other states for more road safety leadership from the federal government.
   - Explore at all levels the ways in which South Australia can benefit by cooperating with other international organisations involved in road safety.

3. **Strengthening local authorities**
   - Encourage local government to take more of an interest and active role in road safety.
   - Consider the role of local government in contributing to road safety education in local schools.
   - Develop more formal protocols for communication with the police to optimise intelligence for traffic enforcement purposes and include feedback for local government.
   - Establish a resource unit to allow local government to obtain assistance in implementing a Safe System.
   - Require local government to develop road safety action plans over the next decade.
   - Mandate the reporting of road safety statistics in annual reports.

4. **Capacity building and knowledge transfer**
   - Train and attract new dedicated professionals in the field of road safety in South Australia and resource the state's universities to make further efforts in this area.
   - Develop courses for professional road safety training, seek opportunities to strengthen undergraduate training of professionals in road safety and engage further in postgraduate training.
   - Allocate resources for a centre for knowledge transfer and capacity building to be established at the Centre for Automotive Safety Research.

5. **Private sector involvement**
   - Consider how to promote adoption of the safest vehicles, banning of hands free mobile phone use whilst driving, monitoring of driver behaviour in company vehicles, and consequences for employees caught drink driving in the private sector.
   - Initiate a study to identify the range of ways in which cooperation can occur with private industry to adopt road safety policies and conduct demonstration projects amongst different sectors.

- Explore circumstances in which private companies would be willing to contribute towards road safety initiatives for communities (e.g. in rural and remote areas).

6. **Strengthening research**
   - Explore opportunities for scientific cooperation with interstate research organisations with a focus on Safe System principles and their practical applications.
   - Improve the academic standing of the Centre for Automotive Safety Research by reconsidering the balance between core scientific research, project based research and knowledge transfer activities. Core research could also receive further support from the University of Adelaide.
   - Identify opportunities to strengthen research centres amongst the three public universities and continue with efforts towards cooperative research.
   - Require the Centre for Automotive Safety Research to produce more independent road safety progress reports and reviews for South Australia.

Conclusion

Given the extent of our current road safety knowledge and the performance of the leading road safety countries in Europe there is certainly a case for South Australia to set some ambitious targets and continue to implement a Safe System approach to road safety. By taking this path, more personal tragedies amongst families and communities will be prevented than would have otherwise been the case. However, to do so we need a shift in our road safety culture, not only amongst individual road users, but on all sides of politics, and across the public service, the private sector and entire communities. Professor Wegman's recommendations should enhance existing capabilities and activities in road safety in South Australia and take us a step closer towards realising a true Safe System.