

**2004 ROAD SAFETY RESEARCH, POLICING AND EDUCATION CONFERENCE –
PERTH, W.A.
14 – 16 NOVEMBER 2004**

IMPLEMENTING A ‘SAFE SYSTEM’ APPROACH TO ROAD SAFETY IN VICTORIA

ERIC HOWARD, GENERAL MANAGER – ROAD SAFETY, VICROADS

1. INTRODUCTION

“The challenge is to move our thinking from ways to limit the toll to how to create a genuinely safe road transport system and to work out how to achieve such a system.” – National Road Safety Strategy, 2001

2. THE COMMUNITY AND ROAD SAFETY

Achieving genuine and sustainable progress in reducing road trauma, requires an informed community, engaged in the issues and in public debate. There are some fundamental questions which can be raised as a means of fostering dialogue.

These include:

- What level of road trauma are we prepared to accept?
- What behaviour on the road is unacceptable and should be targeted through:
 - new or more enforcement?
 - tougher regulations/restrictions?
 - seeking substantive cultural change?
- What further constraints on unsafe but legal behaviours would you accept to achieve a safer system? For example:
 - Lowering speed limits on some higher risk roads?
 - Tougher licence testing conditions and more structured licence graduation?
 - Tougher drink driving measures?
- How much and in what way should we invest in improving the level of safety of the road network?
- Is it acceptable that new cars in Australia not provide safety features currently widely available in Europe or North America?

These key issues deserve robust community discussion. So often however, the road safety community fails to provide quality information on relevant issues to the public. This is critical to developing greater awareness and understanding necessary for a more informed debate about how to improve road trauma outcomes.

The essential road safety questions and challenges, central to achieving success in delivering road trauma reductions, as set out in *‘arrive alive!’ Victoria’s Road Safety Strategy 2002 – 2007*, remain. A safe system approach helps us to understand the interaction between road use elements and to develop effective countermeasures to address these key challenges.

VicRoads and the other Victorian road safety agencies adopted the ‘safe system’ approach as a basis for reducing road trauma in late 2003. It has been adopted by Austroads (2004) as a framework to guide road safety research programs and is a prominent guiding principle in the

draft National Road Safety Action Plan, 2005-2006, for the integrated development and implementation of Road Safety Policy.

The 'systematic/systemwide' approach is based on Swedish practice and experience, but in its application locally reflects the nature of the Victorian road transport system, its risks and characteristics. It provides a framework for identifying and analysing the interactions between elements of the road transport system including its use, and the associated crash and crash outcome risks.

3. THE SAFE SYSTEM

What is a safe system approach, what are the important benefits and opportunities it provides, and what is our experience to date with achieving implementation of measures identified from the approach as worthwhile?

4. WHAT IS THE SAFE SYSTEM?

The safe system builds upon a framework of the key road safety elements and their linkages. These elements and linkages are shown in Appendix 1.

It assumes that crash analysis and ongoing development of better understanding of crash causes in a very broad sense is a mainstream and continuing activity of road safety agencies.

It also assumes that adequate road rules and enforcement of those rules are in place, that an adequate licensing system exists and that an informed and aware community is very supportive of the settings required to achieve and maintain an increasingly safe road transport system.

The most powerful and challenging concept within the safe system approach is that road users who are alert and fully compliant with road rules should not lose their life as a result of a crash on the road system. While this is clearly a desirable goal - far ahead of current realities - it does focus the thinking of road safety agencies on what is required to achieve it.

It challenges system designers to achieve a balance in the 3 key factors on the physical network – the road and roadside safety, the travel speed as influenced by speed limits and the primary and secondary safety features of vehicles in order to achieve safe conditions, which result in non-fatal crash outcomes.

However, it also anticipates that there are many other system designers – beyond the road and vehicle engineers – who impact on use of the network – and who also carry a major responsibility for these safer, survivable outcomes.

These include the legislators/regulators/enforcement agencies who are expected to identify unsafe but currently legal behaviours and implement new compliance measures to create a safer operating system for road users; the employers providing vehicles - both light passenger and heavy commercial – for use by their staff and requiring a range of driving tasks as part of employment contracts; the road trauma agencies providing onsite and hospital care; the licensing authorities seeking to improve the safety of drivers when licensed and the road safety agencies and local road safety groups in the community who provide public education and information (effectively the “users manual” guidance) for operating within the system. The public rely upon these organisations for information and awareness raising – about crash risks and possible countermeasures.

And so, the safe system approach requires that the road transport system is to be designed on the premise that accidents are going to happen (even with a focus on prevention) and

designed, structured and operated based on limiting external forces in any crash to a level the human body can withstand, so that collisions do not result in death or very seriously impaired health.

Individuals are responsible for abiding by road rules, and system designers (in this case regulators) need to ensure adequate safety-orientated road rules are in place.

The human body has a limited tolerance to rapid energy transfer. In certain parts of the transport network such as high standard freeways the risk of crash outcomes involving high levels of energy transfer, and therefore being fatal, is low in relation to the total distance travelled by vehicles on that link. These freeways would typically have no at-grade intersections, median barriers and side barriers installed to protect vehicle occupants from roadside objects, and would segregate vulnerable road user activity such as pedestrians and cyclists from higher speed traffic. In these circumstances higher operating speeds, such as 100 km/h, can generally be safely supported, for vehicles with a high standard of safety features.

On the other hand, for those two lane, two way roads in rural environments with unprotected roadside hazards, frequent intersections, unsealed shoulders and variable standards of horizontal and vertical geometry, the risks of crashes are much higher. In addition the nature of possible crashes is such that much higher levels of energy transfer can be expected. In these circumstances, even for a vehicle with the best currently available safety features, the road cannot support a travel speed much above 70km/h if fatalities are to be avoided.

In summary the safe system approach is 'aspirational' – it encourages us to be ambitious and focused in our efforts to achieve a much safer operating environment than currently exists on much of our network.

5. BENEFITS AND OPPORTUNITIES OF A SAFE SYSTEM

There are two major benefits for road safety agencies in using this 'safe system' approach.

- It provides a means to communicate within and between road safety agencies and with the community and government about the important safety related elements and their interactions on our road transport system, and their link to road trauma outcomes.
- It challenges us to comprehensively assess overall road safety risk on any section of the network; which in turn enables development of effective integrated countermeasure proposals which together clearly target the identified crash risk, and indicate any new policy settings required.

In requiring a focus on careful identification and consideration of risks a safe system approach provides many opportunities for the development of improved insights. These include:

- Understanding the nature of the separate 'system' elements involved in road trauma and their interaction.
- Developing a greater understanding of why crashes occur, and what the key crash risks are.
- Recognising the role key stakeholders can play in achieving improved outcomes in various system elements to reduce a particular risk.
- Identifying effective countermeasures and addressing the challenges inherent in winning government/community acceptance for implementation.
- Understanding the opportunities which integrated and concurrent implementation of countermeasures targeting a crash type can offer.

- Recognition of the need to carefully assess likely positive and negative effects of potential measures on the overall system.

6. EXPERIENCE TO DATE WITH IMPLEMENTATION OF A SAFE SYSTEM

What have we done/are we doing in Victoria to address each of the safe system elements?

6.1 Better Understanding Crashes

VicRoads (in concert with our road safety partners, TAC, Victoria Police and Department of Justice) has recently let a contract for analysis, stakeholder discussion and evaluation of crash causation and events leading up to a crash, for 80 serious crashes.

This follows a project conducted over the last 12 months which evaluated 3 crashes piloting an approach which has now been adopted for the full-scale project to run over the next 12 to 18 months.

6.2 Achieving road user compliance - Impaired drivers and enforcement activity

- Alcohol remains a major Issue

Fatalities in crashes where an involved driver is over the legal BAC limit remain at unacceptably high levels, and in 2003 represented 20% of the road toll.

Victoria implemented legislation in 2003 mandating alcohol interlocks for second offenders as a licence condition when returning to driving. It is also a Court imposed option for high level first offenders. Over 1000 interlock orders have now been issued by the courts since mid-2003, 800 are currently in use and this number is expected to grow to 3000 by mid-2007.

Tougher drink driving penalties were introduced in 2002 and 2003 including mandatory 10 demerit points for lower level drink driving offences (a BAC from 0.05 to <0.07) and, mandatory 6 month licence suspension for BAC levels from 0.07 to <0.10,

Future options include more tightly targeted RBT enforcement, expansion of interlock use including voluntary programs and ongoing penalty review.

The legislation needed for interlock introduction was complex. It needed to build upon the pre-existing drink driving legislation framework. Strong community and Government support continues to exist for tough sanctions for drink drivers especially alcohol dependent drivers.

- Drugs

Drugs are an important issue in road safety terms. Psychotropic drugs were present in the blood of 30% of driver fatalities in Victoria in 2002 and 2003.

Victoria is expecting to commence random roadside saliva testing for drugs (THC and methamphetamine) by the end of 2004.

Organising policy support was a major challenge and legislative drafting and agreement were complex tasks. Issues to be addressed included testing of devices for reliability/ accuracy and finalising roadside procedures to be followed by Victoria Police.

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6.3 Achieving road user compliance – Non-impaired drivers and enforcement activity

- Observing Road Rules

Ongoing education and enforcement are essential together with a review of rules that are not being effective or where gaps have emerged. The deterrence benefits of measures such as vehicle immobilisation need to be further explored for offences such as driving while disqualified.

- Not speeding and driving at appropriate speeds for the conditions.

Extensive research studies have demonstrated that inappropriate speeds including speeding are major factors in crash risk and severity of crash outcomes.

Victoria has introduced a raft of measures to lower travel speeds and bring them closer to posted speed limits across the whole road system. These have included:

- (a) Significantly increased mobile camera hours and covert camera operation. (2001/2002)
- (b) Tougher enforcement thresholds (i.e. 60 does not mean 70).(2002)
- (c) Introduction of fixed cameras on certain routes.
- (d) Speed/red light cameras at intersections. (2004)
- (e) Lower speeding level thresholds for increases in demerit point penalties. (2002)
- (f) Licence suspension for speeds more than 25 km/h over the limit. (2002)
- (g) Extensive supportive media advertising (“Wipe Off 5” campaign).
- (h) Development of materials about speed and crash risk for inclusion with vehicle registration mail outs. (2004)
- (i) Modified infringement notices to show not only the alleged speed but also the detected speed (usually 3 km/h higher). (2004)
- (j) Mobilising local community/council support, eg through support for acquisition of advisory speed trailers by local government.

The tougher speed enforcement thresholds were introduced from April to September 2002. During that period rolling 12 month fatality levels discontinued their progressive increase from 1997 (to 461 by May 2002) and began to fall (to 314 by March 2004).

While a full evaluation of the program has not been carried out, and other factors are likely to have been involved (such as the impacts of completion of part of the \$240M Accident Blackspot Program), actual data shows the following:

- (a) The reduction in mean free speeds over this period was some 2 km/h in 60, 70, and 80 km/h speed zones in metropolitan Melbourne. No change occurred in 100 km/h zones in regional Victoria.
- (b) Fatalities in 50, 60, 70 and 80 km/h zones in metropolitan Melbourne (and in 50 and 60 km/h zones in towns in regional Victoria) fell substantially. Most of the annual fatality reduction of 112 from 2001 to 2003 in Victoria was in these speed zones.
- (c) Mobile camera speeding infringements doubled from an average level of some 45,000 per month (in the months to May 2002), to 95,000 by January 2003. However, the level of infringements reduced to between 50,000 and 70,000 per month during 2003 and by May 2004 was back to the 45,000 per month long term level. Over this period, the offence rate fell from 2% of the traffic stream to less than 1%.

- Implementation and support

The period 2002-2003 was characterised by strident criticism in some sections of the media and extensive public reaction to the tougher enforcement arrangements. Undoubtedly more effective public information campaigns may have assisted community acceptance. However, there were (and still are today) sections of the community who believe “lower level” speeding (up to 10 km/h over the limit) does not increase risk and should be permitted. A useful benchmark in assessing speed limit compliance is the 85th percentile speed. In Victoria this remains above speed limits on most routes.

6.4 Road Environment – Safe Roads and Roadsides

The safety standard of roads and roadsides has a major impact on crash likelihood and on crash outcome. The major fatal crash types in Victoria are run-off-road, hit fixed object (41% in regional Victoria and 30% in metropolitan Melbourne) and side impacts at intersections (16% in metropolitan Melbourne). (2003 data)

Since 2002 serious injury numbers have reduced slightly in metropolitan Melbourne but fatalities are not reducing in regional Victoria.

A Ministers Policy Development Forum in 2002 identified the need for investment at the level of \$100M/year for at least 5 years on road safety infrastructure (including safer roadsides) as a key prerequisite in achieving ‘*arrive alive!*’ trauma reduction targets by 2007. This was at a time mid-way through implementation of the \$240 Accident Blackspot Program and following approval of a \$10M run-off-road crash treatment pilot program on rural highways.

A business case for investment of \$260m over the next 3 years (to mid-2007) was presented to Government in 2003. It identified that ‘*arrive alive!*’ targets, particularly the 20% reduction in serious injuries by 2007 would be unlikely to be achieved without initiatives additional to current programs.

The key crash types were known (run-off-road on high speed roads for fatalities and intersection crashes in urban areas for serious injuries)

Cost effective solutions to reduce these risks/crash outcomes were available and had the potential to deliver reductions in fatalities and serious injuries to enable the *arrive alive!* targets to be met.

This message was sold to Government and is now being conveyed to the community. \$130M has been allocated from the TAC to treat run-off road crash risk in regional Victoria and outer Melbourne, and intersection crash risk in outer Melbourne, over the 2004/05 and 2005/06 years. Projects underway include shoulder sealing, tactile edge lining, barrier installation and tree removal (to treat run-off-road crash risk) and installation of traffic signals, roundabouts and chanelisation (to treat intersection crash risk).

A business case seeking substantial investment in future years targeting further serious injury reduction has recently been prepared for Government consideration.

Victoria has also directed some federal highway funding to safety upgrades on the National Highway network, targeting run-off-road and head-on crashes – with barrier and tactile edge lining installation and a pilot installation of tactile centre lining. There are important potential benefits available if this targeted national funding can be expanded.

6.5 Road Environment – Safe Vehicles

What does improvement in Vehicle Safety Standards offer and can the benefits be realised?

Victoria has recently developed a Vehicle Safety Strategy under the *arrive alive!* banner.

The Strategy has six key objectives:

- to inform the community why vehicle safety matters
- to build consumer demand for safer vehicles
- to obtain fleet operator commitment
- to influence vehicle suppliers to improve safety standards
- to improve the maintenance of safety features
- to eliminate inappropriate vehicle advertising

There are many opportunities for improvement in the vehicle safety features available to the Australian market. There have been instances of vehicles imported from Europe without safety features fitted that are standard in Europe, presumably to save some cost. In addition many suppliers offer some important safety features as options only, but bundle them with other non-safety items as an option package making the additional cost for these safety features alone prohibitive.

A major concern is that features now commonly available in Europe and the US such as head protecting side curtain air bags and electronic stability control to improve braking performance are available on very few vehicle models manufactured in Australia. These features have been shown to lead to large fatality and serious injury reduction when fitted. We need to encourage local manufacturers and importers to do much more as soon as possible.

Government fleets can provide highly important leadership to the community and to suppliers by being prepared to specify best practice safety features in their vehicles. Outcomes here will be an important indicator of will and commitment on the part of governments and road safety agencies in all jurisdictions.

The promotion of ANCAP will continue to be an important consumer information activity. It is a valuable program, steadily increasing its profile to gain consumer attention and awareness and well supported by the motoring clubs and state and territory jurisdictions. The Federal Government however, does not provide funding for ANCAP.

6.6 Road Environment – safe travel speeds

As described earlier many risks can be addressed to a great extent by targeted infrastructure investment over time.

But the financial scale of necessary infrastructure investments required are such that it will be many years before these improvements are in place across our transport system.

Further, there are many high-risk sections of roads where it will not be feasible to invest to adequately reduce risk, even in the long term.

The mechanism available to us to reduce the risk of unsafe crash outcomes (leaving aside the risks of crash occurrence) – in the short to medium term until infrastructure and/or vehicle improvements are in place, or for the longer term where improvements will not be feasible – is to reduce travel speeds in those locations. That is, to selectively reduce speed limits, and by doing so, reduce the energy to be lost in crashes.

For our open rural roads in Victoria we have a default limit of 100km/h. Yet the risks of a fatality per distance of vehicle travel vary substantially. Ongoing targeted road investment and improvements in vehicle safety will progressively increase the safe travel speed on the network. Road safety investments should be targeted at the priority routes in economic terms - that is the higher volume limits. This is likely to be a 15 to 20 year program.

Over the same time period examination of lower volume routes with higher crash risk could lead to recommendations for selective reductions in speed limits on some of those roads.

But a prerequisite to achieving this reduction in overall risk over time, will be a shift in public attitudes. Without that shift it will remain very difficult for government and their road authorities to utilise selective speed limit adjustments to support improvement to system safety.

The public need to be given the facts about risks, including information about travel speed and risk in various road environments. Most motorists accept lower speed limits in urban areas due to the higher perceived risks of colliding with other road users. We need to explain the serious consequences of head-on or run off road hit fixed object crashes for travel speeds above 80 km/h (i.e. impact speeds above 70km/h) on lengths of road where conditions are such that crash risks are high.

These are pivotal issues. An efficient transport system is a vital component of our economic well being. Investment in our principal routes to ensure they can be utilised safely at speeds of 100 km/h is a priority. There will be many other roads where investment is not likely to occur for many years, which have a high crash risk, and where a reduction in speed limits would provide the basis for safer travel. To the extent that these roads cater for lower traffic volumes, little freight movement, and do not cater for longer journeys, the case for some lower limits will be more readily made.

In urban areas in Victoria there have been significant changes to speed limits in recent years.

The default urban limit of 50km/h was introduced in 2001, and time based lower limits of 40km/h have been introduced in metropolitan strip shopping centres on arterial routes in recent years

A comprehensive school speed zones system has also been introduced in 2004, providing generally for 40km/h time based speed limits on urban arterials (60 or 70km/h) and for permanent 40km/h limits on those streets where the urban default limit of 50km/h otherwise applies.

A small number of significant speed limit reviews have led to a reduction in the open road limit, for example on the Great Ocean Road from Anglesea to Apollo Bay (from 100km/h to 80km/h) and on a section of the Princes Highway East – a duplicated highway with at grade intersections, near Pakenham (from 110km/h to 100km/h).

Achieving better community understanding of speed related risks in different environments as a basis for seeking attitudinal change in this area, is a major challenge for everyone involved and interested in road safety.

6.7 Admittance to the System – Licensing

New/inexperienced drivers are a significant crash problem. These road users are least safe in using the road system. Victoria has a graduated licensing system with a probationary licence available from 18 years of age for a minimum of 3 years. Various additional restrictions apply to a probationary licence.

Recent countermeasures in Victoria have included strong encouragement for learners to achieve 120 hours of supervised driving experience as a means to reduce post licence crash risk. In addition, to deter unsafe behaviours in the first 3 years of driving a 5 demerit point threshold in any 12 month period (in addition to the 12 point limit over 3 years) was introduced in 2003.

Many Australian jurisdictions are considering regulatory, training and education options to further reduce risks for this very high risk group of drivers. Regulatory options to address key risks offer considerable promise based on international experience but the social impacts may be difficult for communities to accept and governments to support. Much better awareness by the community of the level of risk faced by novice drivers and the likely benefits of various countermeasures will be necessary before interventions of this nature can gain support.

6.8 Support to Driving and Travelling

While this element of the safe system encourages adequate provision of educational and information materials and programs by road safety agencies and stakeholders to encourage risk awareness by road users, it is essentially about strengthening the supportive nature of the culture in a society for road safety improvement.

We are often unaware of the underlying inconsistencies and contradictions in our attitudes to road safety (among many other public issues). We do not (in general) agree with inappropriate speed yet it is an integral component of vehicle advertising. The shift in attitudes to drink driving has taken more than 30 years in Victoria and yet more than 20% of drivers killed are still over the legal BAC limit. This illustrates the difficulties involved in achieving genuine, deep seated cultural change. Consumer information programs such as ANCAP, Used Car Safety Ratings and the fledgling AUSRAP proposals are important means to increase public awareness and encourage shifts in current thinking.

7. COUNTERMEASURE MODELS

It is useful to consider some models of particular crash types to better appreciate how a system approach which considers all the relevant contribution of all system elements to that crash risk could guide the selection of a range of countermeasures to reduce risk. This will particularly address crashes arising – not from deliberate action – but from distraction, inattention or lack of judgement.

The first example is pedestrian fatal crashes. Pedestrian fatalities are 20% of the Victorian road toll. It is well known from the research literature that the risk of a pedestrian fatality when struck by a vehicle increases significantly for impact speeds above 40km/h.

There are two important opportunities to lower the system crash risk faced by pedestrians in locations of higher pedestrian activity. One is to separate them physically by fencing/other barriers from travelling vehicles and the second is to lower the travel speeds of vehicles by reducing speed limits below 50km/h (and enforcing them).

I would also add a third opportunity and that is to provide adequate traffic light controlled road crossings in high pedestrian activity locations, where significant priority is given to pedestrians - perhaps as much as motorists where pedestrian crossing demand is high - even on arterial roads. This encourages pedestrians to use these crossings and to comply with the signals.

In Victoria, lower speed limits, both permanent and timebased, have been progressively introduced in higher pedestrian activity areas on 50 km/h and 60km/h streets in urban areas over the last two years. This has been a contributor to the significant reduction in pedestrian fatalities in 2003.

A further opportunity in this area is pedestrian friendly vehicle design. From 2005 European manufacturers will be required to improve pedestrian compatibility of vehicles to reduce severity of crash outcomes. When will Australian manufacturers embrace this approach?

The second example relates to intersection crashes. Side impact crashes at intersections (signalised and non-signalised) are 16% of fatal crashes and 25% of serious injury crashes in Melbourne. (2003)

In side impact crashes with an impact speed no greater than 50 km/h the risk of fatalities is significantly reduced. Where an impacted vehicle has head protecting side airbags research shows there is a 45% reduced risk of a fatal outcome for occupants compared with vehicles without these side airbags.

Opportunities to reduce impact speeds include; lowering speed limits, especially on those 70 km/h and 80 km/h arterials where 85th percentile speeds are above the limit, and where intersection crash rates are higher; improving intersection controls with roundabouts or traffic signals; and applying skid resistance pavement treatments to improve braking performance. In addition fully signal controlled turning movements can reduce crash risk significantly, albeit often at the cost of reduced intersection throughput.

Use of any of these measures would reduce crash severity outcomes – not only for fatal crash outcomes but also serious injuries.

Many other models can be developed to better understand opportunities to address particular crash risks. It is important we do so.

8. LEARNINGS TO DATE FROM IMPLEMENTATIONS

What can we learn from the experiences we have had in seeking and implementing change?

8.1 Travel Speeds

Major challenges remain in obtaining public support for selective travel speed reductions.

Firstly, speed limits as specified on a sign are still not widely regarded as a maximum speed in appropriate conditions but to some extent as a guide to a higher level of allowed speed. In encouraging drivers to slow down and observe speed limits to lower their risk and improve road safety outcomes, we are competing against the vehicle advertising industry which often markets cars on the basis of speed and power, the film industry which churns out high risk high speed car chase sequences, the video game industry with much inappropriate content, and on-road motor sport activity brought into our living rooms on television. Speedometers on most cars extend to 220 km/h while maximum speed limits in all but the Northern Territory are 110 km/h. How can we counter these influences? The road safety stakeholders need to do more to compete against this onslaught and we have to engage the community in this endeavour.

Many media commentators regularly express dismay at the behaviour of a proportion of young drivers who drive in a risky manner and especially at high speeds. Yet they usually overlook the culture that these young people have grown up in, where speed is glorified and risks on the road to themselves and others are disregarded. At an impressionable age they commence solo driving and too many of them take risks (especially young males) and are either killed or injured. Victoria has recently experienced a media focus on the existing high powered vehicle restrictions for probationary drivers, and how enforcement of this requirement could be simplified. Leaving aside opportunities to address this issue, the reality is that the current power/mass limit of 125kw/tonne is now not far above that of the current Holden and Ford family sedans on the market. There is more than enough power in most vehicles to enable many young inexperienced drivers brought up on a diet of speed, power and risk taking, to engage in very high risk behaviours, and our culture continues to provide support for these attitudes.

Speed enforcement and speed limit reductions are highly contentious issues. They run foul of strong desires not to slow down and encounter political trepidation about acting to reduce risk by reducing mobility. It leads to limited intervention allowing 10 km/h enforcement tolerances on speed limits (that is for example a 60 km/h limit really means 70 km/h) and only installing and operating highly conspicuous speed cameras. This certainly reduces crashes at those locations but it also advises motorists where speed enforcement is unlikely to be carried out (everywhere else); Why is there such reluctance to introduce “anywhere, anytime” speed enforcement, at tougher levels, when so many lives could be saved? This is an extreme failure at the political and operational enforcement level in many jurisdictions.

Similarly the continuation of identical speed limits on roads of widely varying standard is not supportable in the long term if a safe system approach is embraced - How can we justify the same speed limit if the risk is markedly different?

Clearly, the driving task cannot be made too complex for drivers through constant changes in speed limits. But the crash risks do vary from one section of road to another. We can lower those risks through infrastructure investment over time or we may need to consider lower speed limits. However, it is important that we not take a narrow either/or view on this issue, and that we encourage fresh thinking about the way we proceed. Perhaps a way to simplify the speed limit regime in urban areas is to average down the limits over a length of road rather than seeking to maximise speeds wherever possible. For generations brought up on higher speeds and an individual's right to choose a ‘safe’ speed, this is likely to be difficult to understand, let alone accept.

8.2 Road and roadside standard – New tools to assess risk and/or to help prioritise intervention

Victoria has developed a fresh approach to risk identification and assessment of the cost effectiveness of countermeasures. We identified predominant crash types across the State that we needed to target (run off road hit fixed object crashes). We have further developed and utilised a new tool – based on the ARRB Road Safety Risk Manager software package – to assess likelihood and consequence of run off road risk – and applied it to the 20 km sections of the Victorian open road network where those crashes were most frequent in the last 5 years. Countermeasures were identified (such as barriers, shoulder sealing) to address sections within that 20km section where risks were higher. Benefit cost ratios were then calculated based on that portion of the recorded crashes that would have benefited from the specific proposed countermeasure treatments. BCR's usually in excess of 3 were achieved.

Our challenge is to apply this approach to identify future cost effective treatments for intersection crash risk and head on crash risk.

8.3 Vehicle Safety Standard

Advice about vehicle safety is a consumer information priority. ANCAP is a key means of providing information to the public about vehicle safety. Australia cannot afford to continue to miss out on early availability of certain critical safety features in our vehicles. The benefits they offer are very significant and the pace of new technological development is rapid.

8.4 Public Information

An important learning has been the need to improve the quality and scope of information provided to the public. So many implementers and researchers produce excellent quality findings, but not enough effort is made to place this information in the public domain in a digestible, interesting way.

8.5 Implementation

We do, generally, have good awareness of what works to improve road safety and what doesn't. The safe system channels our thinking towards integrated solutions which best achieve safe travel outcomes. But implementation is usually difficult and often painfully challenging. Implementers need the support of all the stakeholders in a tough environment – seeking to convince governments on one hand to legislate or invest and fighting negative popular press coverage almost on a daily basis on the other. While the media interest is to be welcomed and engaged – it does divert significant resources away from pro-active advocacy to stakeholders, the public and government and away from developing and implementing agreed policy.

More of us in the road safety community have to become stronger advocates about the mix of critical road safety risks and how they can be addressed, not just those we feel can be comfortably put forward. This is particularly necessary for more of you outside government. If we are to change the existing culture settings in relation to matters such as speed, strong sustained advocacy is essential.

8.6 Benefits of linkages

The safe system encourages us to consider linkages between its elements. For example vehicle safety features such as alcohol interlocks, speed interlocks and seat belt warning systems are all about supporting improved behavioural compliance. Other opportunities will emerge.

9. ACHIEVING A SAFE SYSTEM – SURMOUNTING BARRIERS TO IMPLEMENTATION

So what are the barriers to implementation of so many of the measures this focus and approach leads us to identify?

This is the key challenge for all of us in road safety. We (generally) know what could be done to reduce trauma and in using a systems approach, we can maximise the benefits.

But we often stumble when we have to convince governments and the community of the benefits of recommended measures. Whether it is policy preparation, selling the policy or implementing countermeasures, we are operating in a political environment. We need to become far more effective in selling policy options to the government and community. It is certainly not easy. It is indeed the key challenge.

Whether you are from road operating authorities or have responsibility for licensing, vehicle standards, road rules, enforcement, government legal policy, health, education and insurance or are elected members or community members – you have to become much better at expressing complex issues in much simpler more digestible terms. Realise the commitment that public dialogue requires and prioritise resourcing to engage the community.

The road trauma reductions that are available to us if we are successful in advocating and implementing what we know today to be highly effective – are very substantial. The safe system approach is a powerful framework for our advocacy and analysis. We need to utilise it to get on with delivering benefits.

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Safe System

