

# **A Practical Strategy for Road Safety in Western Australia**

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## EXECUTIVE SUMMARY

Deaths on Western Australian roads involve many factors, and there is a clear need to find new ways to reduce our increasing road death toll.

Research and statistics have shown that there are several important causes of accidents and fatalities, that require a much greater focus, in particular the issues of driver inattention and misjudgement. These key issues are not impacted by the current strategy of focussing on speed cameras.

The majority of accidents and fatalities occur in Regional WA and it is proposed that more practical strategies need to be implemented to reduce these country fatalities.

The proposed strategies to be considered are:

- Systematic appraisal of regional roads based on the AUSRAP report on improved road design. The regional roads need to be modified to be more forgiving;
- Improved use and effectiveness of road signage and road treatments to alert drivers to speed changes and generally improve driver behaviour;
- An increase in the use of traffic calming in residential areas;
- Refocus of driver education on driver inattention and misjudgement;
- Regional driver education and reinforcement campaign using mobile message boards reminding drivers of the penalties for not wearing seatbelts etc;
- Increased visibility of police vehicles on our roads, both in the city and on regional roads;
- To change the Key Performance Indicators of the Office of Road Safety and the Road Safety Council and ensure that road safety measures are evidence and outcome based;
- Provide more accurate, relevant and meaningful analysis of the research on road accidents and fatalities to ensure that the most current and relevant studies are considered.
- The use and effectiveness of vehicle design and technology and implementing viable new technologies that will enhance road safety;

- The use of driver training systems and other educational measures to improve driver competence and behaviour.
- Ways in which the Government can engage industry and employee representative bodies in support of improved road safety measures.

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# HOW TO SAVE LIVES

## 1. What needs to be done

The WA State Government needs to be seen to be taking positive measures towards reducing the road toll, driven by a real concern for improving road safety. Funding for road safety needs to be changed and it should be distributed to where it counts, on improving our roads and better road safety education.

There is community feeling about road safety measures being seen in terms of revenue. It is important that these perceptions are overcome, so that the community can be engaged in a shared vision around improving road safety.

Some strategies and approaches put forward by road safety authorities are seen to be impractical and receive negative public sentiment. There is a need for a more practical and pragmatic approach to road safety than that put forward in the past. It is proposed that there be greater emphasis on education, training and rewarding good drivers rather than the past emphasis on punitive measures.

It is also understood that in this economic climate, funding of road safety projects must be reallocated rather than just coming from general State Government Revenue. With this in mind we have proposed budget reallocations for the projects and strategies we propose.

## 2. Improving Regional Roads in Western Australia

The majority of road accidents in Western Australia are single car deaths due to driver inattention and misjudgement or fatigue. Deaths on regional roads comprise around 58% of all road deaths, and there is a good case for developing stronger policy responses aimed at addressing this particular issue.

We can avoid crashes by redesigning roads to make them safer. Table 1 details how specific improvements can reduce the likelihood that a particular type of crash will occur.

		Potential reductions (per cent) in various crash types						
Crash type								
	Off road, on straight	Off road, on curve	Out of control on curve	Rear end	Head on	Hit permanent obstruction	Overtaking	Lane change
Treatment								
Install safety barriers along length of road	30-40	30-40						
Remove specific roadside hazards	60-80	60-80						
Resurface road	10-20	20-30	20-30	20-40				
Seal shoulder	Up to 60	Up to 60	Up to 60		Up to 60			
Advisory speed sign		20-40	30-40	10-20				
Linemarking and guideposts	10-20	10-30	10-20	10-20	30-40	10-20	30-40	10-20
Widen or replace bridge or culvert	30-50	30-50	30-50		30-50	30-50	30-50	
Widen shoulder	20-30	20-30	20-30		20-30			
Provide overtaking lane	30-50	20-30			20-30		30-50	
Duplication				30-40	90-100		30-50	
Improve alignment	30+50	30-50		30-50	30-50			

Source: Royal Automobile Club of Victoria (RACV) 2003 'Lifeline: Situation Critical'

**Table 1: Potential reductions (per cent) in various crash types**

## 2.1 Proposal

Regional roads need to be modified to be more forgiving. There are many design elements which contribute to the safety of a road. These include the width of the shoulders (or road edges), whether the shoulders are sealed, the construction of audible road markings, the presence of intersections, horizontal and vertical alignment, and the presence of roadside hazards such as trees and poles in close proximity to the road. Each of these elements can have an influence on the likelihood of a crash and the severity of it.

Regional roads need to be assessed in a systematic manner as proposed in the AUSRAP Program. Priority ratings can be placed on regional roads based on the type and quantity of accidents and fatalities. Design changes can then be recommended, budgeted and prioritised. These should be published and readily available for public scrutiny. Of course priorities will change as conditions and statistics change.

Roads can become more forgiving and the risk of crashes and fatalities greatly reduced by redesigning roads to make them safer.

## ***2.2 Suggested Budget Reallocation***

Reallocate some federal government funding of major road works to Regional Road design improvement. Rechannel funds from speeding fine and red light camera revenue to the Regional Road Improvement Project. Some of the funds promised to Regional WA should be redirected to making the roads safer. This should not include just resealing and fixing potholes but to safer road design.

## 2.3 Proven ways to save lives

Here are some common problems and solutions available to road engineers to make our roads safer and help save lives.



### Undivided Roads

This is a major hazard on our roads. It is responsible for a large proportion of fatalities and injuries.

#### Solution

By dividing all our major roads and highways with safety barriers, the number of head-on collisions and resulting fatalities would fall to almost zero.



### Poor Road Shoulders

Broken or narrow edges of roads and shoulders can lead to a loss of control, vehicle roll-over and crashes.

#### Solution

Resurfacing roads and ensuring road shoulders are sealed can make a real difference to a driver's ability to control their vehicles. Potentially up to 60% of common crashes could be avoided if these measures were taken.



### No Overtaking Lane

In spite of high traffic volumes on our major roads and highways, many stretches of road do not have regular overtaking lanes.

#### Solution

Potentially, up to 50% of crashes that occurred while overtaking could be avoided if overtaking lanes were to be added.



### Narrow or aged bridges and crossings

Motorists risk their lives when travelling across bridges that are too narrow or in poor condition. Country motorists are especially at risk when crossings are not adequate

#### Solution

There are significant potential reductions in crashes that would occur with the widening or replacement of bridges and crossings

<http://www.ausrap.org/ausrap/howtosavelives.htm>

Australian Road Assessment Program, July 2009



### 3. Improved Driver Education

Both the public and media are cynical and disillusioned about the road safety system. This cynicism is highlighted by the fact that the previous Labour Government had to spend millions of road safety dollars on defending its speed camera policy, with the advertising campaign “There is a reason behind everything we do”.

I would suggest that if the road safety system was working effectively then these funds would be better allocated to tackling the real problems of road safety not defending the policies.

#### 3.1 Driver Inattention / Misjudgement

The main causes of accidents and fatalities on our roads as determined by ATSB are due to driver inattention and misjudgement; however these issues have failed to be adequately acknowledged or addressed through driver education programs.

Primary cause	1996		1999	
	No. of fatal crashes	percent	No. of fatal crashes	percent
Unintentional road user errors <sup>1</sup>	519	29.4%	510	33.7%
Driver intoxication	317	17.9%	380	25.1%
Speeding	224	12.7%	160	10.6%
Fatigue	117	6.6%	99	6.6%
Road or environmental factors	107	6.1%	60	4.0%
Pedestrian intoxication	91	5.1%	104	6.9%
Other dangerous road behaviours	83	4.7%	39	2.6%
Vehicle malfunction	46	2.6%	62	4.1%
	..	..	37	2.5%
Other factors	42	2.4%	2	0.0%
Unexplained fatal crashes	221	12.5%	59	3.9%
<b>All fatal crashes</b>	<b>1767</b>	<b>100.0%</b>	<b>1512</b>	<b>100.0%</b>

<sup>1</sup> Unintentional road user errors include an unknown contribution from fatigue (that could not be ascertained as such by investigating police) but many errors solely from inattention or misjudgement.

Source: ATSB 1996,1999

**Table 2: Primary cause of fatal road crashes**

<b>Major factors contributing to fatal road crashes, Australia, 2000-2004</b>	
<b>Major factor</b>	<b>2000-04</b>
<b>Inattention or misjudgement</b>	30%
<b>Intoxication with alcohol &amp;/or drugs</b>	27%
<b>Excessive vehicle speed</b>	24%
<b>Medical or emotional condition</b>	7%
<b>Fatigue</b>	6%
<b>Dangerous manoeuvre (excluding excessive speed)</b>	6%
<b>Vehicle factors</b>	3%
<b>Road or environmental factors</b>	3%
<b>Mischance</b>	1%

Source: Department of Infrastructure, Transport, Regional Development and Local Government, Fatal Road Crash Database, 2008.

**Table 3: Major factors contributing to fatal road crashes**

“Australians are more likely than not to be in a crash at some point in their lifetime, with current figures from AAMI's road safety index revealing that 81% of us will be involved in a crash at some point in our lives. The most likely cause of crashes isn't among the frequently-conceived chief risks such as speeding, drink driving or fatigue, but rather a lack of attention on the actual process of driving.

According to the index, almost half of all accidents on Australian roads can be attributed to inattention while speeding was a factor in just 17% of crashes.

"Absent-mindedness is a factor in 44% of all car collisions, with drivers much more likely to crash due to their own inattention than from speeding, fatigue and alcohol combined," AAMI public affairs manager Geoff Hughes explained.

The results highlight the fact that individual drivers ultimately have the power to avert most crashes by changing their behaviour and paying more attention.” (AAMI 21 August 2008)

The 2008 AAMI Crash Index clearly shows Australian drivers need to address the issues of driver inattention and fatigue. Combined, these two factors contribute most to motor vehicle crashes. A staggering 55 per cent of drivers attribute their previous crashes to one of them. Both these factors can be significantly reduced if drivers are

more aware of how inattention and fatigue impact on their behaviour behind the wheel of a vehicle.

### **3.2 Proposal**

There needs to be more focus on these issues with a new driver education campaign. We propose a TV, radio and poster campaign around the well known hit song Roadhouse Blues by The Doors. “Keep your eyes on the road, your hands upon the wheel” to highlight that driver inattention and misjudgement are the key killers on the road. Catchy phrases and songs in campaigns aid retention of a key message. Providing a variety of inputs to drivers is vital to encouraging greater attention to their driving. Short sharp messages on radio stations; posters, signs, visible police vehicles and speed cameras can all contribute to the campaign.

### **3.3 Suggested Budget Reallocation**

Reallocate funds directed toward TV, billboard and radio advertising for the “We stand behind everything we do” campaign to the “driver inattention and misjudgement campaign.”

## **4. Regional Driver Education and Behaviour**

WA’s vast distances mean far more regional roads, with less frequently patrolled stretches. This results in less compliance with compulsory seat belt wearing and driving long distances without regular rest stops.

Drivers take risks if they think that they will not get caught or if they are not reminded of the consequences. Road safety messages on billboards are often ignored as they are generally associated with advertising of products.

Drivers need reminders and messages that will have greater impact and are less likely to be ignored. The use of large mobile message boards which drivers generally associate with road works or road hazards will have much greater impact.

#### **4.1 Proposal**

It is proposed that mobile message boards generally used at road works, be used around the regional roads of WA with brief reminders of penalties for not wearing seat belts, and to take regular breaks. The message “to keep your eyes on the road and



hands upon the wheel” should also be displayed. These message boards can be moved around from time to time to ensure regular drivers do not start ignoring the warnings, and the messages should be rotated to a different theme. Having them every 200 kilometres or so along high accident stretches will have particular benefits.

Many arrow boards used at road works have been fitted with SWS beacons and it is proposed that SWS beacons be fitted to the mobile message boards. SWS beacons are offered as a free public safety initiative.

#### **4.2 Suggested Budget Reallocation**

That money allocated to advertising the use of speed cameras on billboards, bus stops and expensive TV advertising should be reallocated to the hire and use of these mobile warning systems.

### **5. Improved Enforcement**

#### **5.1 Police Presence**

People need to know that the police are out there. The need to increase fines as a deterrent (especially for not wearing seatbelts) will not produce the results expected because drivers currently know that the likelihood of being caught is low due to limited police presence. This is especially true in regional areas.

The sight of a Police Vehicle results in improved driver behaviour, not just speeding but correct use of indicators, lane merging, safer overtaking, use of seat belts,

increased driver attention to the road and conditions. Many overseas jurisdictions have reduced speed camera usage and increased police visibility on the roads to improve overall driver behaviour. Speed cameras are limited to enforcing only one driver behaviour, speeding.

## **5.2 Proposal**

It is proposed to increase the visibility of police vehicles on our roads, both in the city and on regional roads. To this extent Police bikes are just as effective and can be less expensive to operate. More frequent road patrols should be scheduled in all areas. The strategic parking of Police vehicles in high traffic areas is also effective in reminding drivers that the police are around.

## **5.3 Suggested Budget Reallocation**

It is proposed that the number of unmarked police vehicles be reduced and the money saved, be transferred to increase the number of police motor bikes and visible police cars on the road.

# **6. Traffic Calming**

Currently our roads have various speed limits within a short travelling distance with only a sign to inform motorists to slow down. Reports show that this is not enough; the roads need to be adapted by using traffic calming, road paint, etc so that the public are aware of the change in the speed limit.

## **6.1 Proposal**

### **6.1.1 Regional WA.**

In regional WA there is a need to change the road design when the speed limit changes from 110 to 60 kph. A perceived narrowing of the road with road markings provides drivers with a more visible alert to the speed change and therefore greater speed limit compliance. Again audible road markings can warn of changes to road conditions or speed limits.

### **6.1.2 Residential Areas**

In residential WA the use of road narrowing and speed bumps ensures speed compliance without the need for speed cameras or police presence. These measures work at all times, are inexpensive and are very successful in speed compliance.

### **6.1.3 School Zones**

It is proposed that flashing lights should be used on main roads through school zones. Flashing lights mean danger and are more likely to slow drivers down when school zone speed restrictions are in force.

## **6.2 Suggested Budget Reallocation**

Reallocation of Federal Funding of Main Roads, to road design improvements in Regional WA.

## **7. Improve Driver Skills**

Offer drivers that have received 9 demerit points the opportunity to buy back some outstanding points by attending an approved advance drivers course. Drivers who have received demerit points can improve or refresh their driving skills and knowledge through an approved driving course. This has worked effectively in other countries and provides motivation to drivers to improve their knowledge and skills. This is also seen as a positive measure to improve public perception of road safety strategy.

However the course should not solely be a matter of improving skills it must have a component that demonstrates an ability to concentrate for longer periods.

The cost to be borne by the driver.

## **8. Reward Good Drivers**

Offer drivers that have not received any demerit points since the last renewal of their drivers licence a discount of 15% off the renewal fee. They should also be given a certain status such as a “Gold Driver” status. People take pride in their good driving record and this is seen as an acknowledgement of their skill and sustained good driving. Drivers will

go to extra lengths to ensure they protect their Gold Driver status and licence fee discount.

## **9. Increase Young Driver Training Initiatives**

Increase driver training initiatives, especially for young drivers. Young drivers who successfully complete an approved skilled advanced driver training program can reduce their P plate status from 2 years to 18 months. This will provide young drivers with greater skills that will arm them for life. The cost to be borne by the driver.

## **10. Improved Vehicle Safety**

In Europe it is mandatory that vehicles over a certain size or weight or with restricted view when reversing, must be fitted with a reversing camera. The use of reversing radar is limited and does not provide a reversing driver with a view of what is behind them. All trucks, vans and 4wd station wagons should have a rear view camera system fitted. These are now inexpensive with some systems being available under \$150. Many children are killed each year when run over by a reversing vehicle with limited rear view.

## **11. Reporting & Analysis of Data**

Effective statistics on road safety needs to be gathered, with proper analysis of accidents. There is little research done on the true cause of accidents in WA and thorough analysis of statistics are years out of date. The time to produce the reports and analysis of accidents in WA runs well behind that of the other states. The analysis report of accidents and fatalities in 2003 was not published until 2006 by the Office of Road Safety. Other states have their published reports out within 6 months.

Statistics and analysis needs to be current and relevant if it is to be useful and meaningful to stakeholders.

## **12. Road Safety Funding**

The method of funding the Office of Road Safety is worthy of consideration. With one-third of Multanova revenue going to fund ORS-initiated programs, a reduction in

speeding offences and other non-compliance will result in funding cuts to these programs. The funding model therefore rewards fines-collection but not greater compliance by motorists. While not disregarding the policy considerations behind the original decision to allocate Multanova revenue in this way, the outcome is a problematic one if only theoretical tension between revenue and safety. Funding of these bodies should be linked to Key Performance Indicators not linked to speeding revenue.

### **13. Consultation with Stakeholders**

Currently the Office of Road Safety lacks sufficient research and input (consultative approach) from the community. The constant perception is that they rely too heavily on punitive measures alone and they have lost credibility with the media and the public. There needs to be more discussion with stakeholders, focus groups and the public to ensure that road safety measures are evidence and outcome based. The Government should engage industry and employee representative bodies in support of improved safety measures through stakeholder consultation.

#### ***13.1 Proposal***

Yearly forums on Road Safety Strategy for media and interested stakeholders. These should coincide with the release of the yearly statistics and analysis of the past road safety campaigns and those proposed in the future. The public and interested stakeholders are much more supportive and trusting with this type of transparency and when input is asked and considered.



## Conclusion

The public and media perception of the current Road Safety strategy is one of cynicism and frustration. In the past the same message about speeding and speed camera fines has been the main focus of the road safety campaigns. With the road statistics rising over the past few years the public and media have the right to feel that not enough is being done in the right areas. The only remedies that are being offered are penalties and punitive measures. It is proposed that there needs to be a more focused and evidence based approach to Road Safety policy and implementation and a reallocation of resources to those areas seen to provide the greatest cost benefit. It is also proposed that the development and implementation of Road safety policy be seen to be more transparent with a need to include the public and stakeholders in the process.

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