

Title: 'The Safe System- Are We on The Wrong Track and Falling at The First Hurdle?'

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INTRODUCTION AND BACKGROUND

We all make Mistakes. One of mine was thinking I could cram a book-length topic into this 15 minute talk. So I hope this chopped and cropped melange of information still makes sense, even without the interesting case studies and quotes that I had hoped to include.

The title of this paper is fairly bold, and certainly at odds with the more optimistic "Making it Happen" theme of this conference. In straightforward terms, the evidence I have amassed with help from a very large number of people, tells me that the road we are on is not the way to a 'Safe System' of road use by 2020 or even 2030.

I believe that by 2020, the final year of the new National Road Safety Strategy that is underpinned by the 'Safe System' approach, short of something near miraculous happening, we will have failed numerous people who suffer death, injury and grief because we are not doing all of what we should and could be doing for safer road use.

It's a fair question to ask, how can this be? Everyone at this conference, and many others are undoubtedly committed to reducing road trauma, and authorities continue to remind us that we have reduced road fatalities to the lowest levels in more than half a century.

But we began from such a low baseline, a very 'unsafe system' with poor roads, unsafe vehicles, poor driver behaviour, and inadequate safety management, with a massive task ahead in trying to minimise the scourge of road trauma. In more recent years, gains have slowed significantly, and we are struggling in particular to reduce serious injury.

This kind of duality, resonates through the whole story of road safety, with great tension between a complexity of competing, and at times conflicting priorities from both within the road safety domain, and from external factors that combine to significantly influence, restrict and in various ways, undermine road safety efforts.

For the remainder of this presentation, I'll try to explain why I say that that we are on the wrong road to the 'Safe System' and why we need fundamental change in direction.

THE HIDDEN SIDE OF UNSAFE ROAD USE AND SAFETY DEFICIENT ROADS.

We make mistakes every day, but many are hidden. There were an estimated 653,000 road crashes in 2006. (Lake Geoff, 2010)

The everyday risk of crash with potential death or injury is so high in road-use that it cannot be anywhere near fully assessed and understood using crash, death and injury statistics alone, or even when aggregated with police traffic infringements and cautions.

I wrote in the College Journal in 2008, that the on-road situation is very much like a strange and dangerous game of 'dodgems' where dangerous high risk evasion and 'chance' play too much of a role in averting crash and potential trauma" (Mackenzie, P 2008) Much of this remains out of official records. This skews the vital data we need and undermines efforts for change to improve safety.

There is a great mixture of unrecorded unsafe behaviour everyday on Australian roads, and consequently no intervention takes place and the road user continues on, either knowing that they

have avoided a record against their driving, or unaware that they have been at risk, depending on their level of awareness.

At the same time the lack of this data tends to downplay the levels of risk for specific locations and types of road infrastructure- at specific intersections for example, as well as for whole sections of road, types of road or specific traffic operations such as overtaking. What seems to be under-appreciated is the complexity of interactions and effect on other road users caused by the erring actions of one road user on another. It is often a very difficult and often dangerous environment.

Our mistakes can put others at risk. “The bus driver drove onto the gravel side of the road to avoid an overtaking oncoming vehicle” was reported to me by a young engineer colleague last year. (Mackenzie, P 2010). The outcome was better than a crash, but it no way lessened the extremely high risk behaviour and situation.

From more than 40 years of my on-road observational research, consultations with other road users, and collected other data, I know that these high-risk situations are not that rare, along with countless other less-high risk incidents that are nonetheless not safe. The system response to unsafe behaviour and risk incidents between road users is poor. In air and rail transport, what Australian Transport Safety Bureau calls safety “occurrences” are reported, investigated and actioned, but there is no such culture in road-use. That includes heavy vehicles and other driving during employment that is a workplace safety issue, where such reporting should be mandatory. ARRB noted in discussions with the Tasmanian Parliamentary Enquiry into Road Safety that truck drivers would not generally report a run-off-road incident for example. (Tas Parliament 2010)

There is no really effective system for one road user for reporting unsafe behaviour of others, nor of problems with the road environment. For example, in high traffic areas such as Gosford in NSW, I would have needed to attend court every day if I reported every tailgating driver. There was even a smattering of heroic car drivers tailgating heavy vehicles – as some Americans say “go figure”.

The focus on high risk-taking behaviour by younger drivers (and riders) is understandable. But many older drivers -particularly the oldest group- are struggling to drive safely, and their ability to 'share the road' safely with other vehicles, including heavy vehicles is quite poor. Again, lack of adequate data downplays the situation, and we miss opportunities for interventions, especially given our ageing population.

“An older male driver overtook my bus in a non-existent lane on the left and I had to take evasive braking action to save him crashing into an outstand” It is not on any official records, but in no way reduces the level of the risk involved. (Mackenzie, P 2010).

I should have reported that incident given the severity. But working with and for older people often presents us with what I call a “compassionate conundrum” when we know that in a car centred transport system, loss of license can mean exclusion from health services, friends and in rural areas, can result in forced relocation. At the same time many older pedestrians are constantly at risk, and growing traffic on busy roads means some can't even cross safely to visit friends.

Other research shows high levels of speeding, harrying, fatigue, tailgating and other unsafe road use that has not been apprehended by police. Video records show large numbers of vehicles and pedestrians unsafely using railway level crossings. “National transport Commission research suggests that 28% of heavy vehicle license holders reported having fallen asleep while driving”. (Highway Engineering in Australia- Aug 2008)

Our mistakes even at zero speed can be dangerous. Another work colleague told me “My dad has been falling asleep while stopped at traffic lights” (Mackenzie 2010). It sounds a bit like an episode of Irish comedy Father Ted, except that in the show, the car steered itself along the road while the occupants slept and the audience laughed. In real life, in a busy traffic environment, the risks of being crashes into by another vehicle, even while stopped are too high to be laughing about.

Added to the high level of incidents, is that a submission by the Australian Trucking Association says there “is a chronic shortage of enforcement resources, especially in regional areas of Australia”. (“Eyes on The Road Ahead” Conference, 2004)

To further exacerbate the problems with data reassessment of police records at The University of Michigan Transportation Research Institute showed that there were many more driving behaviours that significantly contributed to crashes than had originally been shown, reflected by later crash analysis by the RTA in Western NSW. (Streff, Fredrick M, 1991)

While we understandably emphasise speed, alcohol, fatigue and inattention as major factors, we need to also focus on these other contributing factors, especially in a society where numerous road users see their driving as superior, and believe crashes happen to other people. And we just do not have enough data to fully understand the role played by avoidance and evasion in reducing risks, conflicts, near-misses and crashes, where the defensive driving of one driver – which includes emergency evasion- can decide the outcome when another driver makes mistakes.

“I was already off the road, into the bushes and stopped, before the out-of-control car slid by on my side of the road” (Mackenzie 2010)

One of the problems with using reports of non-crash situations can be perception by the witness. I can assure you that there were no problems with my perception of the situation I just mentioned.

Similarly when two professional heavy vehicle drivers agree that there was only one to 1.5 seconds left before they drove over an embankment rather than crash into an overtaking oncoming truck, we don't need to fuss to much over fractions of a second. (Mackenzie 2010) I was the second driver, but in the passenger seat that day.

At its worst, there are recordings of truck drivers dying by running off the road in evasive action to avoid an oncoming overtaking vehicle. They tragically gave their lives to save the life of others, including the erring oncoming driver. In Tasmania in recent years a small boy was killed when one erring car driver drove into the path of a truck that then swerved and a dropped container squashed the car in which the boy was passenger. That's a terrible outcome from the complexity of road-user interactions and risk-taking and risk making for others. I'll finish this section with one example from another colleague, of how even the vulnerable can put others at risk.

“The schoolboy cyclist rode straight out from a t-junction in front of a car. To miss him, the car swerved in front of my bus and to miss the car, I drove onto the median strip. nearly went over into the oncoming lanes, and that could have been disastrous (Mackenzie 2010)

OUR CORNERSTONES CAN BE MILLSTONES

We place great store on the need for safety of the road and road environment as a cornerstone in delivering the 'Safe System' and reducing road trauma. When you begin to add in the hidden statistics, the task ahead is formidable. The findings of the 2004 Parliamentary Standing Committee on Transport & Regional Services Enquiry, 'Eyes on The Road Ahead', anticipated 19% out of the 40% target in reduction in road fatalities for the NRSS, nearly 50% of all reductions, to come from

safer roads. ([Eyes on The Road Ahead Enquiry, 2004](#)). Professor Mark Stevenson reflected in the college journal in 2009 that “One of the most important components needed to successfully face the challenging future is significant investment in the road network, without which it will become increasingly more difficult to achieve the reductions in road trauma”. ([Stevenson, Mark 2009](#))

However John Wikman from the RACQ, again in the College journal in 2009, noted that “..nine years on from the original [2001-2010 National Road Safety Strategy] not enough has been done to improve the safety of roads and roadside environments themselves”.([Wikman, J 2009](#)), while The Australian Automobile Association was raising similar concerns back in 2004 to the Eyes on The Road Ahead Enquiry. ([Eyes on The Road Ahead Enquiry, 2004](#))”

Professor Mary Lydon noted in the College Journal in 2009 how major infrastructure improvements are still overwhelmingly aimed at improved mobility, with a plea for the new national strategy to change the balance in decision making to increase spending on safety and a higher priority on protection of life and health, rather than faster travel. (Lydon, Mary, 2009). The new NRSS says “There may be scope to adjust the mix of general and safety-focused road funding to substantially increase road safety outcomes while still achieving other important transport objectives. ([NRSS, 2011](#))

This sounds hopeful, but doesn't stack up when the safety funding needs for roads has to compete for dollars with massive demands for mobility funding for roads in the face of continuing substantial growth in passenger cars, as well as light commercial traffic and truck freight traffic that will continue on to 2030 and beyond. In turn, funding for roads has to compete with the overall land transport dollar alongside freight rail, urban public transport and port connections.

We are already in a crisis situation with inability to meet all these funding demands in the face of population growth, freight growth and urban congestion. The overall demands as we head to 2020 and beyond are hard to quantify, given lack of adequate data. What we are certain of, is that demand has been outstripping funding for decades, and there is a massive backlog of mobility and safety needs still to be funded. Much of recently completed works for road and rail links have also been waiting for decades. At the moment there are many thousands of kilometres of roads with features that we know contribute to unsafe road use, and without the elements that reduce crash incidence and severity.

The total figure may well be in the hundreds of thousands of kilometres of roads, though again, we just don't have adequate data at this stage.

Local government is responsible for 653,000 kms of Australia's 800,000 plus kilometres of roads. BITRE reports don't show what proportion of the annual 650,000 crashes occur on local roads, but we know it is significant.([Lake, Geoff 2010](#)). While for example, Western Australian Local Government Association are working hard to develop and implement “Safe System” approaches, their efforts to make roads safer, will be severely hamstrung by funding limitations, despite all the best intent.

Nationally, local governments carry 25% of the national road transport task, and spend up to 50% of funds on roads. Two studies by local government groups put the national funding shortfall for local government roads at somewhere between \$1.2 billion pa (a) and \$2.8 billion (b) simply to maintain the current standards of the network. (a. [Australian Local Government Association, 2010](#). b. [Australian Rural Road Group Inc, 2010](#)).

That leaves the other 150,000 kms of national and state highways and other roads that are not

controlled by local government.

The AusRap and other assessments show that we need tens of billions to upgrade the National Highway up to 4 star safety rating and on top of that are more tens of billions required for state highways and other state roads. At the same time, the demands for highway bypasses, bridge upgrades and more to cater for passenger and freight traffic growth, added to ongoing maintenance and road replacement costs. National Transport Commission mentioned 1100km of Sydney roads needing replacement.

In short, the lack of alignment between land-use planning, and transport and road safety developments means that the norm is housing, commercial and industrial developments are approved, then when roads become clogged and unsafe, there is a cry for funding, which as have said, just isn't there to be had. As I mentioned, delays of up to 20 years are not rare.

In regard to creating a system of 'Safe Roads' under these conditions, I regrettably conclude that we have Buckley's chance of having a national system of safe roads, not by 2020, not by 2030, and I doubt that we will have one by 2040.

I am concerned that in trying to do so much with so little money, cheaper less effective safety features will be used on roads. There is some evidence of that already, although there is clearer evidence of state-federal squabbles over funding responsibilities where every delay means continuing risk of crashes, deaths and injuries for road-users. In total, these issues presents a massive barrier to ever creating a truly safe system of road use, and minimising road trauma.

SAFE ROAD USERS - WHEN "MOWER MAN" GOES DRIVING AND WORKING

"Mower Man" (and "Mower Woman" is my representative for the countless Australian men and woman who have poor understanding of unsafe behaviour, risk, health issues and too often consequences often until too late. The title stems from seeing people mowing gravelly nature strips, without safety glasses, grass-catchers or ear protection.

Unsafe behaviour is difficult and agonisingly slow to change as decades of remonstrations, pleading, warnings or fines have made inroads into alcohol use, cigarette smoking and of course driving safety, but only inroads. And as mentioned above about the risk levels, there are still massive volumes of unsafe driving every day around the nation. In addition to entrenched alcohol and drug-use, fatigue, speeding and lack of seatbelt wearing, we face specific emerging challenges such as risk-taking by younger drivers including texting while driving. Added to that are the difficulties faced by an ageing driving population such as higher incidence of sleep disorders, stroke, dementia, eyesight disorders and body flexibility.

A documentary showing a woman still smoking through her tracheotomy incision stops most of us community workers in our tracks on the difficulties of changing risky addictive behaviour. And of course as Doctor Michael Henderson noted decades ago, young people embrace and seek risk. "I was tired after 12 hours harvesting potatoes, so on the drive home, I texted my friends to keep awake" (Mackenzie, P 2010) The young man who told me that was driving for 80 kms on a 110 kph zoned highway.

We can make mistakes as long as it's someone else's fault. As a former Community Safety and Crime Project Officer for Launceston City, from working with and for older Australians in various roles, and similarly for younger people, "Mower Man" worries me greatly, including my own efforts in the same role at various times. "Mower Man" is ingenious at beating safety systems, and expert at finding fault in others, while deftly overlooking and denying their own risky behaviour.

Rumours of the death of the “fault syndrome” are greatly exaggerated. As I explained at a workplace safety forum recently, “Mower Man” (or woman) often drives as part of employment, speeding, fatigued, unwell, inattentive, tailgating and so on, and then undermines the positive safety programs of trucking firms by unsafe acts around heavy vehicles. I didn't know at the time of speaking, that a telecommunications employee had died that morning when her car drove into the path of a b-double log truck, which subsequently rolled.

What concerns me even further is that “mower man” sits on workplace safety committees, manages safety in the workplace, and otherwise influences workplace safety, all with serious implications for not only people driving as part of their work, but the safety of all the other road users they put at risk, when driving unsafely. Laurie Mooren will be talking about best practice in workplace road safety at this conference, and there are excellent developments overseas, and some top examples in Australia.

However, as the Tasmanian Legislative Council Select Committee report into Road Safety, noted: *“Road safety is an occupational health and safety issue for employers and employees. Where employees are required to travel in a motor vehicle in the course of their duties road safety must form an integral part of a workplace safety”*. The parliamentary committee also noted that: *“Road safety is not consistently included in workplace safety management plan”*. I submitted to the committee, that in fact the total safety management for still too many employers is simply “Here are the keys to the car”. And truck operators have acknowledged to me “we don't have a clue what our drivers are doing out on the road”. (Mackenzie 2010).

“Mower man” also works for road safety. I made my first recommendation for a safety change to a road hazard to Newcastle City Council back in 1977, and they acted swiftly and commendably to fix the problem. Since then I have had mixed success over the years, and at worst have at various times found great resistance, not always due to the understandable issue of funding, not because there wasn't a problem, but due to hitting the “fault syndrome” barrier. One engineer was so resistant to change that it resulted in a near miss with one of that council's own large vehicles and a car. The equal problem to that is that there is really no effective system or program for dealing with such issues, which are still happening.

You don't have to drive to make mistakes. Similar problems occur around roadworks and I would love to have the time to detail some quite horrific experiences. One quick example involved obsolete but obvious at night, centre lines that led the eyes into the oncoming lane. When an older driver crashed head-on, the engineer mumbled something about intent and perception. Balderdash! I know I could easily have made the same mistake. (Mackenzie 2010)

Another senior engineer just several years ago, put in an official document that the “Safe System” was only about older roads, not his new state of the art highway, which included centre safety dividers, but included plain jane t-junctions onto a divided 100 kph highway with high numbers of heavy vehicles running downhill to one of the intersections. When it was pointed out by community members that the location of the intersection had heavy fog and ice at times, the authority reluctantly brought in an independent qualified auditor who said that drivers would wind down their windows in the fog to hear the oncoming vehicles. The school bus driver said he could only do that if he gagged the 40 students in his bus.

The community argued via a media campaign and representation to the minister, and won safety changes including one overpass, but why did they have to go that far? And where is the independent arbitrator for such issues, which are not that uncommon?

The national shortfall of engineers is sometimes propelling younger inexperienced engineers into

decision making involving road safety, for which they are not suitably experienced, and that is another cause for concern.

SAFE VEHICLES

The main issue of concern I have for vehicle safety is that we have substantial numbers of ageing cars, trucks and other vehicles in the national vehicle fleet, and no sign of that changing or of real initiatives to improve the situation. Many older vehicles don't have modern or best practice safety features, and take-up of ESC is extremely sub-optimal.

In Tasmania, we simply have vehicles with rust holes you could put your hand through, many vehicles with one tail light and head-light, and authorities refuse to implement annual checks. I am not sure how much better other states are.

We also know that only 20,000 of the more than 500,000 trucks in Australia are part of the "Trucksafe" safety system. Governments, National Transport Commission and trucking associations have made much of the features of bigger, heavier vehicles such as b-doubles being better than less-safe trucks. Considering only around 8,500 of the 550,000 trucks in Australia are these safer trucks, we should be concerned about the remainder of the fleet, but little progress has been made in that regard. Even with the b-doubles, data again is a problem. Safety claims are made, but repeated requests by myself and associates for supporting data have not been met.

SPEEDING AWAY FROM MAKING SAFER ROADS

We are in the midst of making a big mistake. The near-impossibility of creating a safe road system under the conditions mentioned above is perhaps one reason why at least some road authorities seem to be diverting their efforts towards Speed Management, without equivalent focus on safety of the roads. There is an ongoing concern about this from a number of motoring organisations.

Tasmania began this year with a proposal to lower rural road maximum speeds. A community backlash has seen that modified to assessment of all rural roads for case-by-case speed rezoning. My requests to the Road Safety Advisory Council for the assessments to include data needed to develop a safety upgrade program for the roads and in turn for the Tasmanian Infrastructure Advisory Council to prioritise this and seek needed federal funding, were given a non-answer. After several attempts, the Infrastructure Minister said the assessments would include data on the road conditions and that "could" be used for actioning.

TRUCK SAFETY AND MODAL MAYHEM

Truck driving is one of the nation's most dangerous occupations. Truck related crashes are over-represented, safety changes are slow and difficult to make, and the numbers of trucks and freight task is doubling around every 20 years and set to continue doing that out to 2030 and probably beyond. Truck operators and drivers are under enormous pressures of time, finances, productivity, pay-rates and much more.

Researchers recommend reduced speeds for trucks, and given their relative braking abilities and stability issues, this needs to be implemented across Australia. Yet Minister Albanese has proudly announced in one media release that a road upgrade would allow trucks to travel at 110kph for the whole distance.

Crashes involving trucks and other road users, generates higher levels of fatalities than other crashes, often of the other road users involved. Reductions in truck related crashes are slower than with other types of road-use, uptake of various safety measures for trucks, such as under-run protection and electronic tracking, has been very slow, despite the potential for saving lives with these innovations. An Impending shortfall of suitably experience truck drivers, along with continuing growth in the passenger vehicle task, combined with growth in truck numbers, threatens

to result in greater crashes and trauma involving trucks and other road users.

In short, truck safety is a difficult aspect of road safety in which to make safety improvements. Safety efforts are confronted by challenges that are difficult and slow to mitigate against e.g. sleep disorders, fatigue in general, time pressures from “Just-in-time” deliveries and reported industry pressures to speed and work over-long hours.

The Australian Government and its National Transport Commission advisory body, advocates shift of passengers to public transport and freight to rail, for benefits to safety, environment, less road damage/costs and reduced urban congestion. Minister Albanese said in 2009, “We need to encourage more people out of their cars [to public transport] and get more freight onto trains” (Albanese, Anthony 2009).

Even a shift of 15% of freight from road to rail has potential to make significant reductions in road trauma, but it's left to financial decisions of business and industry, which in turn meets ideologically underpinned 'competition' policy/aims of government. With some exceptions, these aims are not adequately aligned with road safety aims, and do not fully consider the immense existing and future challenges in implementing 'Safe System' aims and approaches. Rail remains a 'poor cousin' in funding terms, resulting in shift of freight to road continuing today, despite the additional trucks being pushed onto roads that in some cases are acknowledged as safety and mobility deficient, without plans for upgrades in the foreseeable future. In a number of cases, the same authority that has assessed the road as deficient, has approved access to larger, heavier 'Higher Mass Limit' vehicles. This problem, is being basically ignored by authority.

The bigger problem though is the generally poor or non-alignment between the current development of a National Transport Policy; National Freight Plan; Major City Unit plans; any National Transport Plan for an Ageing Population, National Infrastructure Plans; and other key national planning that impacts on, or is impacted by transport and road safety development and issues. There are many other specific issues I would like to add, but that might have to be “Chapter Two”.

My key recommendations, given what I have said above, are:

- That reduction of motor vehicle use becomes a cornerstone of the “Safe System”
- That we develop and implement a comprehensive Workplace Road Safety Strategy
- That the federal government develop a national motor vehicle reduction strategy as a matter of urgency.

ROAD SAFETY IS PARAMOUNT -EXCEPT WHEN THERE ARE HIGHER PRIORITIES

My key concerns in making these recommendations are:

- That even if the safety that manages road safety decided to accept these recommendations, that it could make the changes happen in a reasonable timeframe.
- The external influences on road safety, such as broader transport and land-use issues, are unlikely to ever place road safety above their other priorities.

Former Queensland Minister for Transport John Mickel echoed comments from other jurisdictions when he said in 2008 “Road safety is paramount to the Queensland Government”, (Mickel John, However, the evidence is that there is considerable competition between various priorities that impact on road safety, and these too often share the 'paramount' status.

And while the Draft National Road Safety Strategy 2011-2020, stated that “No death or serious injury on the roads is acceptable”, we know that doesn't reduce the significant time-lag between identification of problems, research-based recommendations and development and implementation

of safety interventions. The AAA warned in 2004 that the 2010 targets of 40% was going to become increasingly difficult to achieve, while Prof. Ian Johnston saying the earlier NRSS was fundamentally flawed ([National Road Safety – eyes on the road ahead 2004](#)).

Unless we in the road safety community can fully grasp what is happening, and take urgent and bold action to break through those barriers, we face being disheartened, while the nation will suffer serious and costly consequences in terms of road crashes and trauma.

END OF ITEM

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