

Contributed Articles

Creating a “Third Tier” for Road Safety

By Peter Mackenzie

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The Dead-End Transport Route

Australia has been heading down a dead-end land transport route for more than half a century. We seem to be almost obsessed with an over-reliance on road-use for both passenger and freight transport. Yet, this direction we keep travelling has always been unsustainable, unaffordable and, most relevant to our efforts for road safety, very unsafe.

Our road-use is carried out in an unsafe-incident-rich, hazard-filled environment on a road system so under-funded and inadequate to the task that it contributes to up to 30% of crashes occurring (1) and to the severity of a massive number of crash outcomes.

The risk levels on our roads are too often significantly downplayed by assessment limited to crash, death and injury statistics, and/or traffic violations. In the actual everyday situation on our roads, thousands of risks are taken by road users, too often putting other road users and even road-side users at risk. It is very often like a strange and dangerous game of ‘dodgems’ where dangerous high risk evasion and ‘chance’ plays far too much of a role.

And while Australia has often been applauded for its work with road safety audits, somewhere between the theory of the benefits of auditing and actual road upgrades, something seems to go awry.



“...recent upgrades of numerous locations have waited up to and more than a decade for safety treatment....”

There are current or recent upgrades of numerous locations that have waited up to and more than a decade for safety treatment, while thousands of others wait beyond the decade for funding. At the same time too many unsafe other locations are not listed for treatment, despite being hazardous for road users for up to a decade and more. Perhaps more vexing is that some locations have been recently upgraded, but with inadequate and outdated treatment – perhaps to outdated standards.

In addition, many other locations and sectors would never be ‘viable’ to upgrade. That situation often arises from that great difficulty authorities and their engineers have in trying to cope with traffic volumes and speed balanced against safety needs and the constraints imposed by the existing built environment.

A Failing System and Funding Crisis

Overall, this is a system that is failing, and in a funding crisis. That is concern enough, but what worries me more is that there is an apparent reluctance or inability on the part of government and their authorities to acknowledge this and take the necessary action.

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To exacerbate this already extremely problematic situation, as a nation, and community, we face what could easily be described as a land transport meltdown by 2020 or not far beyond.

Key predictions by the year 2020 include:

- Double the road freight task (2)
- Burgeoning numbers of older unsafe drivers, with many being de-licensed, creating along with others, a huge transport disadvantaged and socially excluded underclass.

- 78% increased transport emissions from 1990 levels (3)
- Urban traffic congestion costing \$20 billion per year (4)
- Road crash costs of near \$30 billion per year. (5)
- Crash costs involving heavy vehicles of more than billion per year (6)
- Significant growth in other health issues related to transport emissions.
- Shortage of suitable experienced traffic engineers and heavy vehicle drivers, with serious safety implications in both cases.
- Results of continued growth in traffic associated with employment – already 30% of crash totals - still without a dedicated comprehensive safety system.
- Unmanageable growth in currently emerging /growing risks with already high-risk younger drivers/riders.
- Estimated roads upgrade funding shortfall of up to or more than \$50 billion nationally to meet targets developed from the Swedish “Vision Zero” worlds best practice example. (7)

Separately these issues present huge challenges. When merged they may overwhelm us with a crisis involving public health, occupational health and safety, accident and injury prevention, risk management issues, greenhouse gas emissions, imported fuel usage and traffic congestion.

If we are going to steer our way out of this cul-de-sac, we need very clear collective vision as a nation, and strong political will as a driving force for the fundamental and rather monumental changes needed.

The Need for a ‘Third Tier’ of Road Safety

From this, my recommendation and plea to the Federal and State governments is that in parallel to the current development of a National Transport Policy and the related National Infrastructure Plan, a “Third Tier” of road safety be developed.

Currently “Tier One” of road safety involves creating safer roads, safer drivers and safer vehicles, while “Tier Two” involves encouraging more utilization of public transport (and to a lesser degree, alternative transport such as cycling).

The “Third Tier” of road safety would include a National Strategic Plan being developed to contain and minimize the overall growth in road freight transport and private motor vehicle use over future decades, and to actually reduce usage where possible. This plan also needs be linked to the National Road Safety Strategy, and associated action plans.

Given the implications for the future of road safety included in this article, we urgently need to develop this “Third Tier” of Road Safety. This is inextricably linked to greenhouse gas, fuel usage and public health considerations.

In road crash terms, if we keep moving in the current direction without any other fundamental and far-reaching

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change, we will pay near to \$30 billion per year in road crash costs by 2020. Overall numbers of deaths and injuries may not rise, but the 2020 figures will still involve otherwise avoidable death and serious injury to many thousands of Australians of all ages, as does today’s situation.

We might be able to build our way substantially to safer roads and lesser trauma numbers and costs, but there is a huge and costly catch. To do that we would need to equal or exceed world’s best practice in safety along the lines of the Swedish “Vision Zero” concepts and practices, as recommended by the National Transport Commission (NTC) in their recent advice to Federal Government.

However to do that would entail spending of an estimated minimum an additional \$50 billion before 2020. This is my own ‘quick and dirty’ estimate, but I doubt the figure would be less than that. If I had access to the estimations of upgrading costs from the AUSRAP assessment of road infrastructure, and could use that as a starting point, I suggest the total estimates for all needed road and highway upgrades might be considerably higher than the vast amount of money I have estimated.

That amount is twice the \$20 billion the Rudd Labor Government proposes to allocate to the Building Australia Fund for all infrastructure needs. The reasonable deduction is that nothing near \$50 billion of new money will be allocated for road and highway upgrades by 2020 or even beyond.

Added to that, the Australian public would need to pay an additional amount of possibly \$20 billion to have the ageing vehicle fleet upgraded to meet needed safety standards. This would include a mix of upgrading and replacement of vehicles. Again, this is my own very rough estimate and the accurate figure could range between \$15 and \$30 billion. I doubt it would be less.



Getting the Right Funding Priorities

While it might seem at first sight that the problems are centred on lack of funding from limited budgets, the actual situation is more complex than that. If we examine our land transport infrastructure, what we have is costly and often unnecessary duplication of rail and road infrastructure on some routes, while other routes and locations on both modes wait decades for upgrading. In fact we have almost unrestricted volumes of trucks, cars, vans, motorcycles, bicycles and pedestrians struggling to stay safe on a hazard filled, unforgiving road system, with an inadequate, incomplete and flawed road safety system.

“...too many stakeholders still want more and bigger roads, and unlimited use of cars and (bigger, heavier) trucks...”

Yet one of the monumental barriers to effecting the changes already needed is that despite the raft of massive disadvantages this presents to the health and safety of the community, too many stakeholders still want more and bigger roads, and unlimited use of cars and (bigger, heavier) trucks – to meet their own various needs and demands.

As mentioned above, this current direction locks Australia into trying to build and upgrade road infrastructure to satisfy the needs and demands of private cars and road freight vehicle users, while under-funding vital rail, public transport and community transport needs. (community transport includes mini-bus, community car etc for aged, disabled and other special transport needs). Maintaining the status quo would include continuing with ambitions to develop four-lane freeways around the eastern and southern seaboard between capital cities and other centres, with similar highway links to inland centres. It's part of an Australian dream along the lines of outdated, impossibly costly and unworkable schemes for greening and populating the deserts and about as rational.

Today we are still paying for the high financial and social costs of trying to turn this impossible 'highway dreaming' into a bitumen and concrete reality. One major component is trying to maintain the supposed benefits of competition between road and rail modes for freight haulage. I think the overall situation is well encapsulated in the comparison between the Tokyo-Osaka Shinkansen trains which have carried more than 3.5 billion passengers since 1964 without one death, and the Pacific Highway, which had more than 500 deaths from 10,000 crashes in the decade up to 2003. (8)

Despite the continuing excess of deaths and serious injury while the Pacific Highway upgrades take place, there has been no effort to use the availability of rail and intermodalism to reduce road traffic and consequent crash numbers. On the contrary, once a partial upgrade was complete, the highway was opened to longer and heavier B-Double trucks.

“...there is still an overwhelming acceptance that so-called 'competition' policy between road and rail is still acceptable...”

A Queensland Rail spokesman stated that without the rail track upgrades over recent decades, their Brisbane-Cairns mainline could not have competed with road transport. In NSW the slow and operationally difficult railway from Sydney to Brisbane will lose traffic to an upgraded Pacific Highway. Rail lobbyists argue that the upgrades are more about supporting road freight than car users and road safety. But in either case, if rail is the safer mode, why do we see competition as a good thing?

Yet there is still an overwhelming acceptance that so-called 'competition' policy between road and rail is still acceptable, even if begrudgingly by the 'rail lobby' and its peak bodies. Competition is still perceived or at least promoted as efficient and effective. Road freight is claimed to contribute \$30 billion per year to the economy annually (9). How this can be seen as beneficial defies understanding - except perhaps to some business interests - when it costs a death or maiming for every \$15 million per year contributed to the economy by road freight transport, and more than \$2 billion per year in road crash costs involving heavy vehicles (10).

It is worth noting that trucking peak bodies such as the Australian Trucking Association (ATA) actually argue for fewer trucks on our roads for safety reasons. The fundamental flaw is that they see this happening via longer and heavier B-Doubles and B-triples, which experience shows has simply resulted in more trucks on an overloaded system, from freight growth and from undercutting rail.

The modal freight split we have inherited is an anachronism that followed from the 1954 Hughes and Vale case to the Privy Council in England. The council decided that under the Australian constitution there had to be free interstate freight competition between road and rail. This situation has been continued through ideologically underpinned "Competition Policy", claiming that it has economic and other benefits for Australia.





At least the members of the Privy Council had the foresight to forecast the dangerous future with the massive growth in trucking on unsafe, inadequate roads. Others didn't, and it is telling to note that people in authority in Tasmania were prepared to see the rail system shut and all freight transferred to road as far back as the early 1950s. This situation has been repeated until really quite recently, making it obvious that too many people with influence on transport and road safety issues seemed oblivious to the dangers of putting more trucks onto unsafe roads with the inadequately controlled risk-taking activities of Tasmanian road users.

At the moment, apart from the restrictions on heavy vehicle use from certain urban roads, the main deciding factor on whether rail or road is used is a commercial decision, mainly based on which mode will provide the lowest price to the freight consignor, not on how that decision will impact on road safety issues. The fact that it is based on commercial decisions was recently re-confirmed as correct by the Transport Minister for my state of Tasmania.

Putting Profit Ahead of Safety

This so-called competition between rail and road (which I named "freight wars" back in 1996) means money spent on parallel road and rail links in some cases, while dragging vitally needed money away from other important needs. Yet if we can't afford to upgrade our roads to the safest standards possible, and rail is safer (and cleaner) then by deduction we are putting competition policy and commercial choice before road safety.

This has had a profound effect on the safety and health of our travelling workers, commuters, holidaymakers, and indeed all of our citizens. In allowing road to dominate for freight use over rail, we

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have chosen the least safe, more polluting mode, and as a consequence, in effect have put profit ahead of safety in our priorities. Similarly, with private car use dominating over road and rail based public transport, we have allowed domination of a greatly less safe form of road travel, in the least safe transport mode.

There are many changes to our work, social and other activities that have developed and changed pivotally around private car domination. To a great extent we have corralled ourselves into a cycle of development, not just of road-building, but also of mega-shopping centres, industrial developments, hospitals, public housing and much more, all linked to road access and often reliant on car use, so generating even more dependence on roads, cars and trucks.

This is a very complex situation and the nexuses between various aspects are even more complicated than they first appear to be. I think it is fairly straightforward, that if we have greater use of the less safe mode and in turn less safe vehicles on that mode, this creates greater exposure to risk, and consequently more crashes and resultant deaths and injuries.

What is not so straightforward is the evidence indicating that what we as a nation, think, understand and believe about road safety, coupled to what we don't do or at least don't do enough of, or well enough in our road safety approaches, actually facilitates or contributes to the imbalanced and unsafe use of road freight transport and private car usage.

Lack of a National Transport Plan

A significant component of the creation of this situation is that too many changes have just happened, in an ad hoc manner, and isolated from any 'big picture', rather than having been developed in any strategic fashion, as today we still move forward, rather erratically, without a national transport plan to guide us.

Despite the many statements over the years that have included strong rhetoric about 'integrated approaches' and 'intermodalism', new approaches in recent years, such as 'Auslink', have maintained the status quo with little fundamental change, and the indications are that this will continue without a major shift in thinking for the future.

This situation has not assisted with road safety efforts, and has actually worked counter to many of the positive developments.

Similarly there have been in past decades, and continue to be industrial developments that are sited away from rail access, while others have 'devolved' to road when rail links have been closed. Too many rail links have been closed as rationalisation measures by rail authorities, when it can be argued that they were not in fact losing money if safety costs of alternative road haulage, crashes and trauma (externalities) were factored in (as they traditionally weren't).

So Australia continues to career down this unsustainable, unaffordable and unsafe road, private car and road freight dominated land transport route. We are still too much of a car

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obsessed nation, and we ‘Baby Boomers’ are clinging to a dream I call ‘driving-on dreaming’. Sadly, the great majority of my ‘Baby Boomer’ peers for example, falsely believe they will be driving their cars for as long as they choose. Couched in terms of maintaining independence, it is at best an illusion. Even now, many older drivers are struggling to drive safely, with gradually increasing numbers being compulsorily delicensed or reluctantly so after crashes or high risk ‘scares’.

Ironically, many of the community members who support the current approaches, will find themselves part of the transport disadvantaged and socially excluded underclass by 2020, or not far beyond that date. Yet no government expecting to be re-elected is going to try and just force people out of their cars, or trucks off all of our roads. And just ‘putting it on rail’ as many rail lobbyists argue, is a very simplistic and unrealistic approach to our freight transport needs. But it is vital that we make big changes and urgently.

A Paradigm Shift Essential

We need to use the more creative, flexible and better resourced integrated intermodal options that are available. And we need to build or upgrade the infrastructure that best facilitates this shift. We may need to implement a ‘safety equalisation scheme’ for getting more freight on rail where most needed. This would be along the lines of the ‘Freight Equalisation’ scheme for the searoad to Tasmania. We may also need to put in place a ‘Buy-back’ scheme for a number of trucks.

At the same time, we urgently need to seriously reconsider the massive inadequacies in public transport and vastly poorly funded community transport, especially as much of the future increases in road freight will occur on urban roads.

But in all honesty I don’t see where that change is going to come from, without a paradigm shift developing from a major change in understanding of what is happening with our transport situation. To achieve this we would need to see the putting aside of self-interests, narrower focuses, and short-term thinking, and find solutions to the problem of competing and conflicting demands.

The pessimistic part of me takes great note of the National Transport Commission in its recent advice to COAG, warning about the existing problems of people/organisations “working in silos” and “patch protection”, rather than the national interest, so hindering vital changes. Can we really change this long entrenched behaviour?

Yet despite these impediments, and the current diversion of so much focus onto the current confusion and consternation with the global financial crisis, now is the time to act, and with just 11.5 years to 2020, we don’t have time to idle towards that

probable crisis situation. Nick Dimopoulos, Chief Executive from The National Transport Commission said in Feb 2008 “If we are to overcome the tyranny of distance, and support the sustainable growth of our cities, Australia’s road, rail, air and sea transport system –for passenger and freight – must be – planned and operated as integrated networks... a lot has already been achieved in transport reform without a national policy and plan. Just imagine what we could achieve if we had one”. This was in reply to a request for urgent advice on a national transport policy framework from Federal Minister for Transport, Anthony Albanese.

With respect, I believe even the NTC with its not unreasonably harsh criticisms of the current situation, is inadvertently understating the serious problems we have and the extremely difficult and challenging future. Getting people out of their silos and away from their patches is going to be about as easy as asking car enthusiasts to give up their cars – about as easy as talking down a charging, wounded rhino with calming words!

Fundamentals Needing Change

If we are going to have a chance to succeed, we need governments to begin by acknowledging some fundamentals that need changing:

- That the road transport mix of vehicles, drivers/riders and pedestrians, using a hazard filled, unforgiving road environment is fundamentally unsafe.
- That we have nothing like a comprehensive road safety system, despite all the dedicated work of so many people, and the system remains incomplete, inadequate and flawed.
- That there is compelling evidence that we cannot ever create such a system using what we can call ‘conventional road use’ as it exists today – as outlined in this article.
- That land transport policy and practice, particularly competition policy, often works counter to road safety efforts.
- That even if we could build and buy our way to bigger safer roads, this would still be against the national interests and not clean, green or safe enough.

Again, no less than The World Health Organisation argues for reduced motor vehicle use to reduce exposure to risk, which will in turn reduce crashes and the costly scourge of road trauma that kills and maims our citizens, and drains so many resources from our police, emergency services, hospitals and health system.

My ongoing wish is to be able to bring together a forum of people with passion for change, vision and expert knowledge on one or more of: road safety; rail/road competition issues; ageing issues; public transport; occupational health and safety in road use; transport disadvantage; environment. My vision is that we would draw up both a ‘Blueprint’ and ‘Greenprint’ for change that could be taken to a wider audience and to governments. I know it would only be a start. The main barrier to doing this at the moment is simply those three dreaded words – ‘lack of funds’.

And can we really steer around these barriers and head in a safer, less polluting, fuel guzzling future? I think we are in for a rough ride to 2020 and beyond, whatever we do!

I would welcome any constructive criticism on any aspect of this article. It is a complex topic and I realise I have probably glossed over certain aspects. My mailing and email addresses are below if anyone wishes to contact me directly*.

* [Editor: Readers are also invited to send their comments for publication in our 'Letters' section.]

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References

- 1) Main Roads WA Research cited on Fix Australia, Fix the Roads Website www.fix-the-roads.net.au
- 2) National Transport Commission: Rail Productivity Review Issues Paper Aug 2008; p2 (*Note the prediction is for a doubling of Australia's freight task 2000-2020 – noting that rail's share has been falling – so the 2020 road freight task may be more than double).
- 3) Henry, D (Australian Conservation Foundation), "Trains, planes and (mostly) automobiles" from ABC online 19th November 2007
- 4) Dimpoloulos, N. (National Transport Commission) "New Thinking for Transport"; speech to Roads Summit, March 4th 2008, Sydney, p2.
- 5) Mackenzie, P. 2008 *Note: Calculated using National Transport Commission (NTC) figure of road crash costs of \$17 billion per annum 2008 from "National Transport Policy Framework – A New Beginning" Feb 2008. Using a multiplier of 1.7 x \$17b (assuming 3% inflation) = \$28.9 billion. (*Note: the 'near \$30 bpa estimate assumes a 3.3% increase in death and injuries allowing for a decrease in crash rates from improved road safety as a balance against increased task and exposure).
- 6) Mackenzie, P. * Note: Calculated using figures for deaths then assuming ratio of deaths to injuries is similar to other vehicles as injury data not found.
- 7) Mackenzie, P. * Note estimated using data from AUSRAP, NRMA, Tasmanian Government, and estimates from various consulting engineers. (*Note: NRMA estimates for upgrading of Princes Highway are \$800 million alone).
- 8) NRMA Road Toll Crisis, p5 www.openroad.com.au/safety_roadtoll.asp
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Evaluating the Impact of 'Speed Kills Kids' Campaign in New Zealand Schools

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This article was originally presented as a paper at the September 2008 Brisbane Conference on 'High Risk Drivers, organised jointly by the ACRS and the Travelsafe Committee of the Queensland Parliament. It won the prize for the 'Best Practitioner's paper'.

Abstract

Speed is a major contributor to the incidence and severity of road crashes. While this is a generic problem across the road system, speeding in and around school zones is of concern owing to the large volumes of vehicle and pedestrian traffic at certain times of the day, and the presence of significant numbers of children and young people; for example, between 2004-06, and between the hours of 7:30-9:00am and 3:00-4:30pm, almost 1500 injury crashes were recorded within 250m of New Zealand schools (Ministry of Transport, 2008).

In attempts to counter this problem, in February 2006, New Zealand Police introduced its innovative 'Speed Kills Kids' campaign. The aim of this initiative was to reduce the incidence of speeding in school zones, through enforcing at lower speed tolerance levels, and to reduce the number of resulting injuries and fatalities associated with this problem.

Introduction

In New Zealand a school zone is defined as the area within 250m of a school's perimeter and schools can be in all speed limit areas i.e. 50, 60, 80 and 100 km/h zones.