Productivity Commission

Inquiry into Australia's productivity performance with recommendations on productivity-enhancing reform.

Submission from the

Australasian College of Road Safety

14 December 2016

Contacts:

Mr Lauchlan McIntosh AM
ACRS President

Claire Howe
ACRS Executive Officer

ACRS
PO Box 198
MAWSON ACT 2607
p: 02 6290 2509

Contents

1.0 Summary

- Australia's National Road Safety Strategy 2011-2020[1] sets out a range of strategies to reduce road trauma by 30% by the end of the decade, resulting in a reduction of the impost unnecessary road trauma impacts on national productivity. This Strategy is unfunded despite the national annual cost of road trauma being at least $32bn pa, 1.8% of GDP and increasing.

- While such a reduction will have a positive benefit across many areas of the economy as evidenced in the College submission to Parliamentarians in 2013 (to be updated early 2017) and in our submission in December 2013 to the Productivity Commission Inquiry into Public Infrastructure, Australia has fallen behind that target, are falling behind when we make international comparisons and have a limited strategic approach to assess the problem, and doubt whether we fully understand the complete national economic losses associated with road trauma[2&3] .

- All Federal funding for road infrastructure should be conditional on safety outcomes.

- Federal standards for new vehicles should actively encourage best practice collision avoidance technologies.

- International research suggests that real progress in reducing road trauma will necessitate a fundamental paradigm shift in the way the road safety problem is viewed, as well as the strategies used to address it. As a result, a national strategy program to reflect that paradigm shift must be initiated.

2.0 Recommendations

The College recommends that the Productivity Commission:

- Recognises the full impacts of road trauma on the national economy;

- Recognises the lack of national accounting for the full impacts of road trauma on the national economy; and

- Recognises the value of a significant national investment in road safety strategic oversight, research and development to ensure we build the scale required to reduce the impact and cost of road trauma in the future.

[1] http://roadsafety.gov.au/nrss/
[2] 2013 ACRS College submission to Parliamentarians
[3] http://www.pc.gov.au/__data/assets/pdf_file/0017/131543/sub018-infrastructure.pdf

3.0 Background

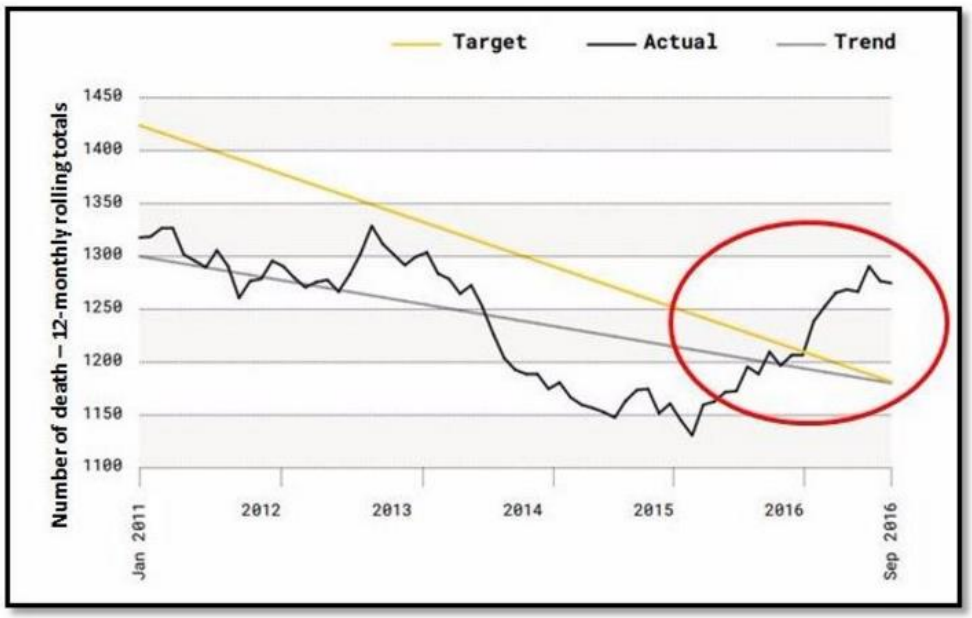
The Australasian College of Road Safety (ACRS) is the region's peak membership association for road safety professionals, researchers, agencies, corporations, and members of the public who are focused on saving lives and serious injuries on our roads.

Historical Federal government analysis put the annual cost of road trauma to the economy at $27bn in 2011[4]. This was the equivalent of 18 per cent of health expenditure and 1.8 per cent of Gross Domestic Product (2012-13). (Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2014, *Impact of road trauma and measures to improve outcomes*, Report 140, December, Canberra.) At that time road trauma had been falling steadily, with a reduction in deaths per 100,000 over the 2005-2015 period by 34%. Hospitalisation injuries increased. [5]

This trend in reducing the number of deaths from road trauma has sadly not continued (Figures 1-3), with a 7.1% increase in deaths for the twelve-month period ending November 2016. The number of hospitalised injuries from road trauma are also growing despite a National Strategy and Action Plan for further reductions, and are currently around 36,500+ per year in Australia (BITRE 2016 figure) i.e. 100+ people seriously injured per day. [6]

Figure 1: Australia's progress against the National Road Safety Strategy 2011-2020

Number of Deaths from Road Crashes – Annual Rolling Totals

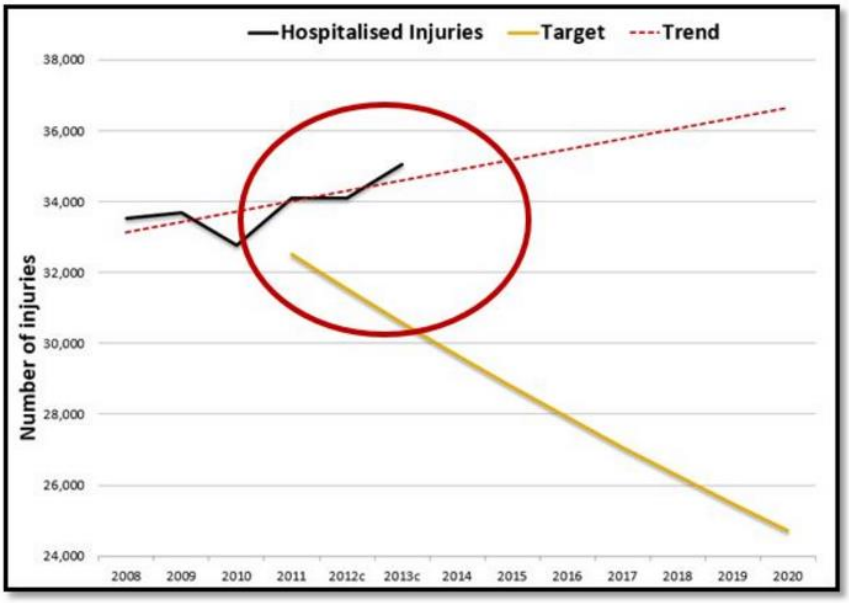


---------- **Data Source:** BITRE, **Chart source:** AAA / ANCAP /ACRS ----------

[4] roadsafety.gov.au/nrss
[5] bitre.gov.au/publications/ongoing/road_deaths_australia_annual_summaries.aspx
[6] bitre.gov.au/publications/ongoing/road_deaths_australia_monthly_bulletins.aspx

Figure 2: Australia's progress against the National Road Safety Strategy 2011-2020

Number of Hospitalised Injuries from Road Crashes – Annual Rolling Totals



---------- **Data Source:** BITRE, Chart source: ACRS ----------

It is reasonable to estimate that in 2016 the costs from road trauma are likely to have been well over $32bn (Table 1, Figure 3).

Table 1: Australian road trauma costs 2011-2020

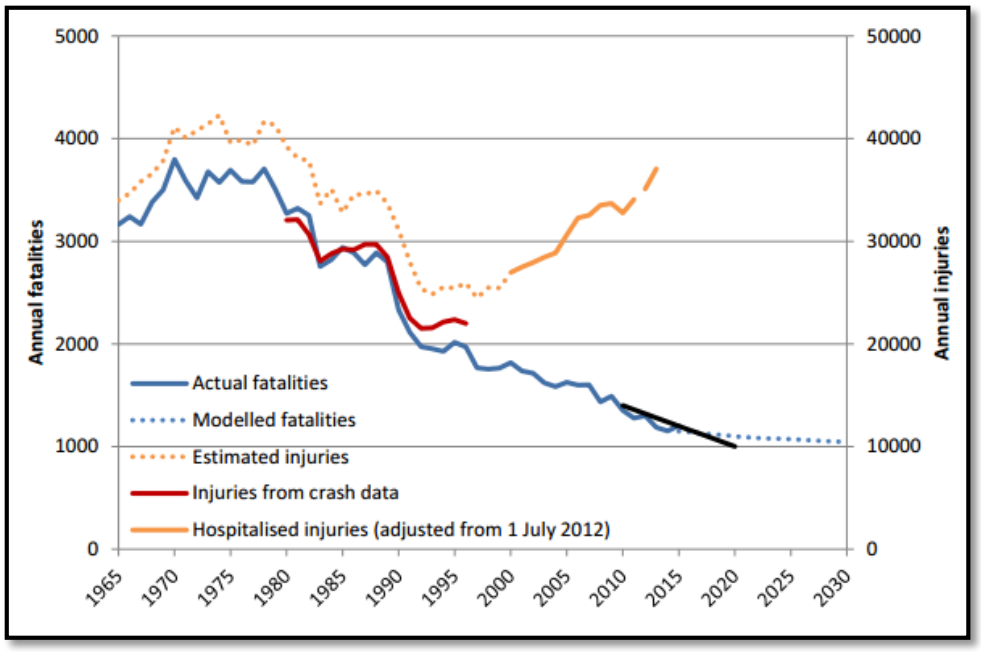
Baseline figures – assuming nil reduction in deaths and serious injuries

Year	Road Trauma cost baseline figures (assuming annual trauma reduction = 0)		
	Deaths (No.)	Injuries (No.)	Road trauma cost $b[a]
NRSS Baseline	1,400	32,500	27
2011	1,400	32,500	27.81
2012	1,400	32,500	28.64
2013	1,400	32,500	29.50
2014	1,400	32,500	30.39
2015	1,400	32,500	31.30
2016	1,400	32,500	32.24
2017	1,400	32,500	33.21
2018	1,400	32,500	34.20
2019	1,400	32,500	35.23
2020	1,400	32,500	36.29
Total	14,000	325,000	318.81

a Assumes 3% CPI, and utilises $27b figure estimate in NRSS 2011-2020 i.e. $3,180,598 per death and $316,869 per serious injury (2006 dollars)

Figure 3: Australian road fatalities and injuries: historical and modelled, 1965 to 2030

(Source: BITRE)



In a report to the Australian Railway Association on the Cost of Road Crashes in 2010[7], Dr Richard Tooth notes; "The significance of road crash costs in Australia has been consistently underestimated, both in terms of the overall cost and the extent to which these costs are incorporated (i.e. internalised) in road-users' decisions.".

With 23 people dying and 700 being seriously injured each week in Australia, the ripple effect of each road trauma event to our families, to the workplace and communities is enormous.[i] It is reasonable to assume the cost to the national economy over the next decade to be in the order of at least $350bn based on BITRE's conservative costing of $27bn per year in 2011.

The subsequent impact on Australia's health system and communities is too often overlooked, as is the impact on national productivity.

Note: This submission represents a condensed report from the ACRS. We are available to expand on any of the points outlined in this submission at a later time should the Commission wish. The key points outlined here can be validated and expanded by a range of stakeholders - Government agencies, research bodies, industries and insurers both in Australia and overseas. The Commission itself could undertake such a comprehensive analysis should it wish.

[7] http://www.econ.mq.edu.au/Econ_docs/research_seminars/2011_research_seminars/Tooth_Accidents_180311.pdf

4.0 Key Issues and Experiences

We note that key aspects of the Inquiry are to;

1 Analyse Australia's productivity performance in both the market and non-market sectors including an assessment of the settings for productive investment in human and physical capital and how they can be improved to lift productivity

2 Examine the factors that may have affected productivity growth, including an assessment of the impact of major policy changes, if relevant

3 Prioritise potential policy changes to improve Australian economic performance and the wellbeing of Australians by supporting greater productivity growth.

And also;

> The Commission should have regard to other current or recent reviews commissioned by Australian governments relating to Australia's productivity performance such as the Harper Competition Policy Review and include comparisons of Australia's productivity performance with other comparable countries.

Given the costs demonstrated above in road trauma, reductions will bring about national savings and hence significant national productivity improvements.

However, it has been recognised in a recent OECD/ITF Report – '*Zero Road Deaths and Serious Injuries: Leading a Paradigm Shift to a Safe System*'[8] that:

> "Real progress (in reducing road trauma) will necessitate a fundamental paradigm shift in the way the road safety problem is viewed, as well as the strategies used to address it. This paradigm shift involves a move from traditional road safety policies to an integrated view in which road traffic becomes a "Safe System" where serious outcomes from crashes are presented in the first place….
>
> road safety has to be horizontally correlated with other important areas of the road transport system…
>
> there is a convergence of public policy agendas around the notion of sustainable mobility….
>
> there is a strong business case to include the prevention of road traffic deaths and serious injury on the health agenda."

4.1 Regulation, enforcement and associated structures.

In Australia's federal system, government responsibilities for road safety vary across jurisdictions:

- The Australian Government is responsible for regulating safety standards for new vehicles, and for allocating infrastructure resources, including for safety, across the national highway and local road networks.

[8] http://www.globalncap.org/wp-content/uploads/2016/10/Zero_road_deaths-SafeSystems.pdf

- State and territory governments are responsible for funding, planning, designing and operating the road network; managing vehicle registration and driver licensing systems; and regulating and enforcing road user behaviour.
- Local governments have responsibilities for funding, planning, designing and operating the road networks in their local areas.[9]

There are many government collaborative mechanisms and agencies (eg Austroads, National Transport Council, Heavy Vehicle Regulator, National Road Safety Partnership, BITRE) which address some aspects of road safety, various State agencies and university safety centres, various associations (eg ACRS, AAA, ATA, AFMA, motor cycle, bicycle, pedestrian, community, and other specific issue groups) dealing with a wide range of relevant issues. However, there is no national overarching mechanism to support coordinated and collaborative actions across these groups.

4.2 Infrastructure Road Safety and Productivity

The Australian National Road Safety Strategy[10] is very specific about the benefits of safe road infrastructure and also newer safer vehicles. Our submission to the Commission on Public Infrastructure in 2013[11] set out some of the benefits from investment in safe road infrastructure which are still relevant today.

In 2015, Australasia's premier road safety award, the 2015 3M-ACRS Diamond Road Safety Award[12], was presented to the Queensland Government in recognition of their exemplary innovation and effectiveness for a project to expedite road trauma reductions on the Bruce Highway. The project saw the rapid implementation of a range of key road safety treatments including the widening of the centre line for one third of the highway, with the saving of 30 lives per year.

Not all safety upgrades are complicated. As Minister Mark Bailey in Queensland recently said;

> *"One of the simple but effective ways of making the Bruce Highway safer is by widening the gap between centre lines in places. Wide centre lines were introduced in Queensland in 2010, and data indicates a 43 per cent reduction in fatal and hospitalisation crashes where vehicles have crossed the centre line. That's why we are adding to the upgraded 711 kilometres of wide centre lines on the Bruce Highway so far."*[13]

Further, the Australian Automobile Association has developed the Australian Road Assessment Program (AusRAP) which has examined 21,921 kilometres of national highway with a speed limit of 90 kilometres per hour or above, awarding Star Ratings based on their level of safety. The AusRAP analysis indicates that an investment of approximately $4.7 billion would bring 85 per cent of the national highway network to a standard of 3-star or above with only 15 per cent comprising 1 or 2-star rated roads. The improved road conditions are estimated to prevent more than 36,000 fatalities and serious injuries nationally over a 20-year period. In Tasmania specific road improvement programs are tied to AusRAP ratings.[14]

[9] www.infrastructure.gov.au/roads/safety/
[10] www.roadsafety.gov.au/nrss/
[11] www.pc.ggov.au/__data/assets/pdf_file/0017/131543/sub018-infrastructure.pdf
[12] us7.campaign-archive1.com/?u=a4664bfed5e72009f29785051&id=c0251c7ea4&e=9de4fd43da
[13] www.statements.cabinet.qld.gov.au/Statement/2016/11/10/more-bruce-highway-safety-upgrades-in-central-queensland
[14] www.midlandhighway.tas.gov.au/__data/assets/word_doc/0011/101207/Midland_Highway_10_Year_Action_Plan_A4_20150520.doc

Experience from around the world from Road Assessment programs (RAP) suggests that crash rates per distance travelled reduce between 33 and 50% for every additional star awarded (p95)[15]

Setting specific safety outcomes for all Federal road funding to States and Local Government, in a similar program as occurred in 1989 when the Hawke Government made additional road safety funds available conditional upon the States being prepared themselves to implement a set of what would then become national uniform measures.[16]

4.3 Vehicle Safety and Productivity

Due to the uptake of 5 star cars across the Australian fleet, the Australasian New Car Assessment Program (ANCAP) predicted a one-third reduction in the number of Australians killed or seriously injured by 2020, compared with 2001, when there were no 5-star rated cars in Australia.

ANCAP is a non regulatory program which has used the power of the market to encourage new car buyers to demand 5-star rated cars. This has been particularly effective with active support from major government and commercial fleet buyers seeking to reduce workplace trauma.

"As a result of safer cars, the risk of being killed or seriously injured on Australia's roads today is halved compared to 15 years ago. The Australasian New Car Assessment Program (ANCAP) has conducted in-house analysis of the age of the vehicles involved in fatality crashes.

The research is based on 2014 data.

- The average age of the passenger vehicle fleet was 9.8 years.
- The average age of passenger vehicles involved in fatalities was 12.5 years (27% higher than the average age).
- The oldest vehicles on our roads (built 1999-earlier) accounted for 20% of the fleet, but were involved in 36% of fatalities
- The newest vehicles on our roads (built 2010-2015) accounted for 31% of the fleet, but were involved in 11% of fatalities. [17]

The message is that there are fewer older vehicles on our roads, however they are involved in the greatest number of fatal crashes.

New technologies in vehicles have already been proven to dramatically reduce collision rates by up to 60% in a recent 4 year study of 250,000 cars equipped with a collision avoidance technology, long before the introduction of autonomous vehicles into the fleet. [18]

In the USA the National Highway and Safety Administration has gained voluntary agreement from 20 manufacturers to introduce collision avoidance technologies rather than regulate. [19]

[15] www.globalncap.org/wp-content/uploads/2016/10/Zero_road_deaths-SafeSystems.pdf
[16] www.pmtranscripts.pmc.gov.au/release/transcript-7846
[17] reference available
[18] www.acrs.org.au/wp-content/uploads/Symposium_Autonomous.pdf
[19] www.nhtsa.gov/About-NHTSA/Press-Releases/nhtsa_iihs_commitment_on_aeb_03172016

While this has been criticised as inadequate[20], the benefits of the new technologies are well established and early introduction into both the light and heavy vehicle fleet will bring substantial reductions in road crash rates and hence improve national productivity.

Work-related road safety is increasingly regarded as a vital issue for a wide range of private companies. Vehicles used in the course of employment are a part of the workplace and it has been estimated that work related road crashes in Australia account for about half of all occupational fatalities and 15% of national road deaths. [21] Worksafe Australia does not record workplace deaths and injuries on public roads as a specific category it reports that in the 12 years ending 2014 two thirds of worker fatalities involved vehicles, and in 2014, 166 or 61% of the 188 worker fatalities involved vehicles. [22]

New technologies assist in monitoring travel performance factors including speeding, driver fatigue, and route usage and have been implemented by some fleets without regulation.[23]

The TAC in Victoria is actively promoting collision avoidance technologies[24] as is ANCAP by including fitment of these into its updated rating scheme.[25]

To date no agreement has been sought by the Australian Government from new vehicle importers to include collision avoidance technologies, or to introduce any regulation to mandate their introduction.

We have recommended this action to the Government.

4.4 Safe Systems, Strategies and Productivity

In the Commission's Discussion Paper there is recognition that greater engagement of people in the labour market can increase the level of national income, and that bringing people back into the labour market is a mechanism to improve productivity. As noted above, road trauma reduces not only the workforce but I also a burden across the community in health, social work and other administrative functions, which are often classified as "non-market" mechanisms and as such are not recognised by the Commission.

The example given of the impacts of traffic congestion lowering personal travel as well as public and commercial transport is equally directly relevant to road crash impacts. To make the "paradigm" shift in thinking suggested in the ITF/OECD report referenced above, it will be necessary to include these impacts into productivity assessments, and to find new ways to encourage change.

NCAP and RAP programs are non regulatory assessment and rating programs which, along with ISO39001 Standards, can encourage regulators and others (consumers, banks, insurers, fleet managers, procurement agencies, road builders and funders) to set safety performance outcomes for road funders and vehicle buyers. The strategic decision by major fleet buyers to purchase only 5-

[20] www.consumerwatchdog.org/resources/ltr_nhtsa_re_aeb_petition5-23-16.pdf
[21] www.nrspp.org.au/Resources/Details/436
[22] www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/939/work-related-traumatic-injury-fatalities-australia-2014.pdf
[23] www.ntc.gov.au/media/1411/enforcement-approaches-for-speeding-heavy-vehicles-discussion-paper-may-2016-sarah-jones-toll-group-jun-2016.pdf
[24] www.tac.vic.gov.au/road-safety/tac-campaigns/vehicle-safety
[25] www.ancap.com.au/understanding-safety-features

star ANCAP rated cars and require their contractors to do likewise[26] is an excellent example of the gains that can be made in this way.

Equally, the RAP assessment model has been used to invest in road upgrades as "The road assessment demonstrated that one of the highest risks to employees was simply getting to and from work." [27]

Development of the Safe Systems approach does require strategic analysis, research, evaluation and development, as well as building capacity (knowledge and knowledge translation) for all stakeholders to implement the necessary systems. Just as with any new products or techniques, investment is necessary to ensure the best outcome. Australia does have a National Road Safety Strategy and Action Plan though a COAG process, and a recent symposia noted;

> *"…building capacity in road safety is happening; the new Austroads step change approach, potentially a review of insurance regulation to use a market process to reduce risks, specific road safety management training with built in leadership training with collaboration between Universities, expanding and with enhanced networking and publications and policy input from the ACRS."*[28]

However, importantly it concluded;

> *"Whether it is adequate, whether it will be enough to ensure a step change in reducing road trauma, or encouraging higher levels of responsibility through collaboration, was not considered."*

Saving lives and reducing injuries has a considerable economy-wide effect, obviously in reducing the burden on hospital operations and infrastructure, but also in reducing direct workplace impacts, social support for victims and carers, insurance expenses, workplace impacts to note a few, and hence in improved productivity.[29]

Considerable attention is currently being given to the introduction of autonomous vehicles into the vehicle fleet, with more connectivity between vehicles and the road infrastructure, with claims of more productive and safer travel. A recent symposium "Autonomous, semi-autonomous and existing vehicles. What will be the impact on road safety results and when?"[30] concluded;

> *"There appear to be no reliable predictions for the value of fully autonomous vehicles in terms of actual reductions in crashes and there is doubt over whether full autonomy will occur. However large reductions in crash rates from driver assist technologies have been demonstrated now. Early introduction of these, will also assist in gaining acceptance of further automation."*

[26] http://www.bhpbilliton.com/~/media/bhp/documents/suppliers/hsec-information/petroleum/141114_suppliers_petroleum_phse00c01petroleumhseccontrols.pdf?la=en

[27] inpers.acrs.org.au/index.cfm?action=main.paper&id=478

[28] acrs.org.au/wp-content/uploads/Symposium_Building-Capacity.pdf

[29] 2013 ACRS Submission to Federal Parliamentarians

[30] acrs.org.au/wp-content/uploads/Symposium_Autonomous.pdf

4.5 International Comparisons

In terms of annual deaths per 100,000 population, in 2014 Australia's rate of 4.92 was the 14th lowest rate out of the 32 nations with available data. [31] Our ranking dropped to 11th out of 24 in 2004.[32])

Between 2005 and 2014, the rate of annual road crash fatalities per 100,000 population in Australia declined by a total of 38.9 per cent. Over the same period the OECD median rate fell by 46.0 per cent.

However, recently Australia's annual death rate has risen to 5.3, which would lower Australia to the 19th lowest rate out of 32, on par with France, assuming other countries remained the same.

Australia's relative performance in terms of this measure then has been steadily falling, and it is reasonable to assume the impact on our productivity relative to other OECD nations is increasing.

With the costs of road trauma at 1.8% of GDP and rising, the associated fall in productivity decreases our international competitiveness with these results.

We recommend that the national accounts should record these impacts in order to encourage a realistic level of investment to ensure road trauma does decline at least in line with the COAG set targets, and ideally for the benefit of all the community in line with world best practice. We should aspire at least to be in the top 10 in the world in terms of our road safety performance not in the lower end of the top 20.

[31] bitre.gov.au/publications/ongoing/international_road_safety_comparisons.aspx
[32] bitre.gov.au/publications/ongoing/files/irsc_2004.pdf