

Road Safety and 4WDs

The rise in common use of off-road vehicles has led to notable changes in the road safety environment. The associated road safety issues have become significant overseas and are now apparent here. This Research Note examines road safety policy by focusing on the four-wheel drive (4WD) issue.

The safety aspects of 4WD (or sports utility-SUV) vehicles have come under recent scrutiny as they can be dangerous to other drivers. Road safety and accident research into 4WDs has found that it can be wise to avoid travel in smaller cars. Marketed as sporty, safe and fashionable, 4WDs are popular, but pose risks to all, especially if they carry bull-bars on their front.

SUV and 4WD Safety

Over the nine-year period to 1998, there was an eighty-five per cent increase in the incidence of fatal 4WD crashes, according to the Australian Transport Safety Bureau (ATSB).¹ The increase coincided with strong growth in 4WD sales and usage.

According to the ATSB, the number of kilometres travelled by 4WDs almost doubled between 1995 and 1998, while the overall number of vehicle-kilometres travelled increased by only 4 per cent over the same time period. By comparison, the incidence of all fatal crashes decreased by 25 per cent between 1990 and 1998.

A higher proportion of 4WDs was involved in fatal rollover crashes compared to normal passenger cars (35 per cent and 13 per cent

respectively). The higher centre of gravity relative to the wheel-base of 4WD vehicles does not help to reduce the likelihood of such rollovers. In addition, 4WD roofs are more liable to be crushed in a rollover. New control technologies and special airbags may help here.

A more insidious problem is the lack of vision behind 4WDs. Almost ninety per cent of children killed in NSW driveways in 1998 were run over by 4WDs or large commercial vehicles.² Also, 4WD vehicles can be more difficult for other drivers to see past.

In general, 4WDs reduce injury risk for their occupants but raise the risk facing everyone else, according to a Monash Accident Research Centre report.³ In using a 4WD, instead of a normal car, one's chance of death or serious injury falls by 4 in 1000. But the chance of killing or injuring others rises by 11 in 1000, with a resulting cost to the community.

There is a less clear but loud claim that 4WD drivers tend to be more aggressive than those in regular vehicles. Certainly the bulk and height of 4WD vehicles may appear intimidating to other users and be used to force them out of the way.



4WD Size Issues

Vehicle shape and mass seem to be important factors in crash outcomes. However, better vehicle quality rather than weight can affect this. Popular midsize cars, minivans and imported luxury vehicles tend to

have the safest crash records. 4WDs are about as risky as large cars.

The relative energy inefficiency of 4WDs compared to standard cars is a cost to the environment. In the United States, environmental standards are weaker for 4WDs, due to their light truck classification. The American road toll rose to its highest level in a decade in 2002, with SUVs figuring prominently.

In Australia, 4WD buyers benefit from a tariff rate ten per cent lower than on passenger cars.⁴ In Europe, where the 4WD market share is four per cent, vehicle tax regimes punish fuel inefficiency.

Road Safety and Driver Attitudes

4WD accident problems form part of wider road safety issues.⁵ With the New Year release of annual road accident statistics, the abhorrent reality of deaths, injuries and social effects on the community receives wide attention. Campaigns against drink driving, speeding, traffic light infringements and seat belt non-use have led to reductions in the carnage, but the accident rates seem to be stagnating. The rise in 4WD use is not helping to arrest the trend.

Commentators attribute the difficulty in further reducing the road toll to entrenched community attitudes. The ownership and operation of a car is often viewed as a public right, with little regard to safety. Anyone holding a driver's licence may purchase a car of any size or capacity, as long as it meets local design rules. There is no restriction on engine power or the

capable speeds of motor vehicles and bikes, or bans on bull bar use.

Poor driving attitudes may often cause disruption, carelessness and accidents. Selfish, aggressive driver behaviour on our roads is all too frequently seen. Courtesy and respect for others often appears replaced by a vengeful lust for road dominance, based on anonymity.

There is an argument that people need to be taught the correct ways to drive, rather than only be sanctioned and penalised. However, currently, the primary response appears to be a push for tougher punitive sanctions against those responsible for road deaths and injuries. Maybe both measures have a role. Note too, that the design of vehicles and roads also affects driver performance and outcomes.

Accident Causal Factors

Other factors contribute to the road toll. The (former) House of Representative Communications, Transport and the Arts Standing Committee found that fatigue was a major contributing factor in between 20 and 30 per cent of road accidents. The culture of joyriding among 'hoons' and teenagers is a significant social factor, as are the effects of drugs.

The type of road system has some bearing on accident, and therefore on hospitalisation and death rates.⁶ The more 'open' the road system, the more likely it is that there will be serious accidents. Thus physically small countries, with high population densities (and comprehensive public transport systems), such as Belgium and the Netherlands, have lower rates of (serious) accidents. This is because journeys there are predominantly shorter and at slower speeds. Physically larger countries with high population densities, such as Germany and Sweden are more likely to and do have higher rates. Physically large countries with low population densities, such as Canada and Australia are likely to

and do have the highest rates, because, on average, journeys are much longer and at higher and therefore more dangerous speeds.

National Road Safety Policy

This brief summary provides an overview of road safety policy. The issue remains very much one under the control of state and local government with limited Federal coordination.

National action has come under the auspices of the Australian Transport Council (ATC). The ATC provides advice to governments on the national coordination and integration of all transport and road policy issues. Ongoing ATC issues include bus safety, drugs, heavy vehicles and fatigue.

On 17 November 2000, the ATC announced a new National Road Safety Strategy 2001–2010 and Action Plan for 2001 and 2002. Under the Strategy, a second National Road Safety Action Plan 2003 and 2004 has also appeared. These focus on matters of speed, licensing, fatigue, alcohol and drug impairment of drivers. However, they have little to say on the matter of driver education and 4WDs.

In mid-2003, the ATC released together the National Heavy Vehicle Safety Action Plan 2003–2005 and the National Heavy Vehicle Safety Strategy 2003–2010. These focus on seat belt usage, driver fatigue, speeding and Australian Design Rules (ADRs).

ADRs set out national design standards for vehicle safety and emissions. They arise from the *Motor Vehicle Standards Act 1989*. Matters of road funding, ADRs and accident research may also be worthy of support under road safety policy initiatives. Note that uniform Australian Road Rules now apply.

Road Safety Inquiry

The House of Representatives Standing Committee on Transport and Regional Services is conducting a new inquiry into national road

safety. The Inquiry will review strategic objectives, priority areas and proposed measures in the National Road Safety Strategy and the National Road Safety Action Plans, and consider whether these remain appropriate. It will also identify any additional measures or approaches that could or should be adopted by the Commonwealth, states and territories, local government and non-government agencies and bodies (including industry) to reduce road trauma. The Inquiry will identify factors that may be impeding progress in reducing road trauma, and suggest how these could be addressed. The sorry record of 4WD accidents will be presumably on its agenda.

1. ATSB Monograph 11, 'Fatal four wheel drive crashes', 4 September 2002.
2. L. Milligan, 'Off-roaders drive home deadly message', *The Australian*, 8 April 2000, p. 9.
3. A. Leigh, 'Beware the arms race on our roads', *Age*, 10 July 2003, p. 13.
4. M. Priestley, 'The 5 Per Cent Tariff on Four-Wheel-Drive Vehicles', *Research Note no. 17*, Department of the Parliamentary Library, 2003-04. This recent Research Note canvasses the rationale for lower tariffs on 4WDs and its impact on passenger car sales.
5. <http://www.science.org.au/nova/080/080key.htm>
6. G. Winter, 'Road Accident Casualties', *Research Note no. 37*, Department of the Parliamentary Library, 1995–96.

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ISSN 1328-8016