Improving safety in the Australian trucking industry: The benefits of voluntary accreditation programs

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Abstract

This paper examines structural factors that influence the safety performance of the Australian trucking industry. It argues that more needs to be done by industry to improve its commitment to effective self-regulation. Regulatory reform has had a significant impact on the efficiency and productivity of the industry. However, improvements in safety still lag. Data on the safety performance of the industry is examined and it is argued that traditional enforcement techniques have reached their limit in terms of impact on safety. Further improvements in safety standards demand that industry and regulators respond to safety as a much broader work related matter and not simply a matter of on-road compliance. This requires firms to adopt a more systemic approach to safety, which integrates aspects of accreditation programs into daily business practice. The available research evidence demonstrates that accreditation programs improve the safety performance of trucking firms and more needs to be done by industry associations and government to promote their take-up across the trucking sector.

INTRODUCTION

In recent years the Australian summer holiday season has consistently commenced with a spate of serious truck crashes. The start of 2012 was no different with a B-double truck running off the Pacific Highway in northern NSW, crashing into a house and killing a young occupant (Davey 2012). This was followed some weeks later with a triple fatality when a semi-trailer crossed the Hume Highway into oncoming traffic at Menangle outside Sydney (Ralston 2012).

For non-professional drivers, sharing the road with trucks is intimidating and often seen as dangerous (Rosenbloom, Eldror & Shahar 2009:727). It is generally well understood that truck accidents are more likely to result in severe injuries and have a

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higher potential for fatalities due to the weight and size of the vehicle compared to other road users (Poulter et al. 2008:2059).

Serious truck accidents are significant and often catastrophic events that generate intense media coverage. Long-time members of the Australian transport industry can still recall the worst trucking accident in the nation's history when in October 1989 a semi-trailer travelling on the wrong side of the Pacific Highway near Grafton collided with a passenger bus killing 21 people and injuring a further 22 (Waller 1994:65). Associated with the blanket news coverage of each major truck accident comes numerous calls from politicians and community members to increase police enforcement on the roads, increase penalties for speeding, install more speed cameras, and raise the level of taxes and charges on the trucking industry to help build better road infrastructure (Saulwick 2012a). This is supplemented with renewed demands for greater use of rail in the movement of freight.

Safety on our roads, however, is a shared responsibility that goes beyond government and also involves businesses and the community. What we need to hear more of in this debate is what the trucking industry is doing itself to improve road safety. This includes action that is targeted at the on-road safety performance of individual truck operators as well as other strategies that see the industry working in partnership with government, related businesses and communities to improve road safety.

This paper examines structural factors that influence the safety performance of the Australian trucking industry. It argues that more needs to be done by industry to improve its commitment to effective self-regulation. Discussion commences with a brief outline of the growing freight task and the pressure this has placed on industry productivity. It is noted that despite favourable regulatory reform and improvements in industry efficiency the accompanying gains made in safety have not been as dramatic. Regulatory responses to the safety challenge are reviewed and options for how industry might take a lead through programs of self-regulation are presented as strategies that show promise.

THE GROWING FREIGHT TASK

Trucking is an essential and critical industry of the Australian economy. The dispersed nature of Australian population centres and the general focus of freight rail on bulk goods (grains, coal and other minerals) means that Australia relies on trucking for the efficient movement of non-bulk goods more than any other developed country. The Australian road freight task has experienced continuous and significant growth over the past three decades (BITRE 2012; BTRE 2003; NTC 2006). For example, just for the period 2000 to 2007 total freight carried by road increased by a massive 53.4% to 2.2 billion tonnes (BITRE 2012:49; Li & Hensher 2009:16, 17). Transport planners expect road freight volumes to double again by 2030 (BITRE 2009:2). Currently, road transport carries around 35% of total freight moved within Australia (BITRE 2009:2). This represents around 72% of non-bulk freight and the proportional share of this task is expected to increase over time (DITRD&LG 2009a:12; NTC 2006). The ongoing growth in the road freight task has meant that both government and industry reform efforts have had a significant focus on improving the efficiency and productivity of the sector.

Work place reform and productivity improvements have been particularly driven by technological improvements. Satellite navigation systems and mobile data and communication systems have facilitated efficiency improvements in logistics (reductions in empty loading) and the coordination of freight services (just-in-time pick-up and delivery). Since the mid-1990s government policy reform has been open to technological advances in vehicle engineering and design and this has resulted in progressive increases in vehicle size and carrying capacity. Twenty-five metre B-doubles permitted to carry loads up to 68 tonnes are increasingly common on major highways and arterial roads. In more recent times, governments have indicated a preparedness to provide greater network access for 35 m B-triples which can carry up to 84.5 tonnes (NTC 2012; Saulwick 2012b). Articulated vehicles are the fastest growing vehicle category on Australian roads with B-doubles increasing by 44.5% during the period 2006 to 2011 (ABS 2011; Pearson 2010). While research is limited, it is generally acknowledged that on an internationally comparative basis Australia has one of the most efficient trucking industries in the world (OECD 2005). Increased use of innovative vehicles such as B-doubles, B-triples and road trains combined with a complex and yet sophisticated regulatory regime means that Australia leads the world in the manner in which it operates and regulates its trucking sector.

EFFICIENCY, PRODUCTIVITY AND SAFETY

Liberalising policy reforms and technological advances have increased the competitive efficiency of the industry but this has also been achieved

by exercising significant downward pressure on freight rates which has lowered operator returns (Industrial Relations Victoria 2005; Quinlan, Mayhew & Johnstone 2006:212). It is well known that the trucking industry has become significantly less profitable than in the 1980s (BTRE 2003:64; Industrial Relations Victoria 2005). Earlier research by the Bureau of Transport and Regional Economics notes:

> *'Profitability varies across different sizes of firms. In general, the financial position of medium-sized firms is relatively better. Owner-drivers/ small operators continue to face financial difficulties.' (BTRE 2003:8)*

Small operators of one and two truck fleets have been estimated to represent between 60 and 90% of operating businesses in the trucking fleet but remarkably their business effort accounts for less than 12% of the industry's operating income (BITRE 2009:9; BTRE 2003:76; NTC, Wright, & Quinlan 2008:11). Good financial performance is known to have a significant impact on the safety performance of trucking firms (Naveh & Marcus 2007:741). In the Australian context, the pressure to remain financially viable for such a large group of small operators, many of which have poor business practices, presents an ongoing problem for safety and compliance and is a major challenge for governments, industry and the community (BTRE 2003; Industrial Relations Victoria 2005; NTC et al. 2008; Quinlan 2001).

It is well documented in the safety science literature that small truck operators have less formalised systems for safety management and their safety performance is significantly poorer than the larger trucking fleets (Moses & Savage 1994:177; Spielholz et al. 2008:573). Businesses that operate under financial strain, particularly small businesses, are known to cut corners to reduce costs, take risks and cheat to maximise financial gain (Gunningham 2002; Haines 1997; Lamm 1999; Vickers 2008). In the trucking sector this often means overloading, speeding and driving excessive hours without adequate rest (Belzer 2000).

The evidence now emerging from industry practice suggests that innovations in vehicle design, reformed regulatory frameworks and industry efficiency have not come without a cost. Australian trucking is not safe. For some time it has been known that on an internationally comparative basis Australia is a poor performer when it comes to truck safety (McIntyre 2005). Compared with other OECD countries, Australia has the highest proportion of single vehicle fatal crashes and the highest proportion of truck occupant fatalities (Howarth, Vulcan & Sweatman 2002). The number of persons killed in crashes involving a truck per 100 million km of truck travel is lowest in the United States (1.7) and Great Britain (1.8), while the rate in Australia is 2.5. This means the Australian truck fatality rate is 47% higher than the United States and 39 % higher than Great Britain (Howarth et al. 2002). Australians are almost twice as likely to die in a crash involving a truck compared to their counterparts in the US and UK (Quinlan 2001).

While more recent comparative international data is difficult to come by it should nevertheless be noted that the safety performance of the trucking industry has improved over time shifting from an annual high of 525 fatalities in 1989, to 369 in 1999 and down to 234 fatal truck crashes in 2008 (BTRE 2003; DITRD&LG 2009b). The annual fatality truck crash rate reached a historic low of 212 at the end of 2011 (BITRE 2011a). However, these improvements in heavy vehicle safety appear to be in line with the overall downward trend in the national road toll (Baas 2008; BTRE 2003; Potter 2010). As with light vehicles, much of this downward trend can be attributed to better vehicle design, technological innovation, better driver training and improved infrastructure. It should also be noted that the decline in fatalities has also occurred during a period of increased truck travel (up by 17% during the ten year period 2001 to 2011) and with a significant increase in the total number of registered heavy vehicles on the road (BITRE 2012:76, 81). Therefore, in terms of exposure and on a per km basis the annual fatality rate has noticeably declined (Moore 2007).

Despite these notable improvements, the Australian road transport sector still remains one of the most dangerous industries to work in and has the highest rate of compensated fatalities of any industry (NTC et al. 2008:5). For the 2009-2010 period just over one-third of all work related fatalities involved working in or around a truck (Safe Work Australia 2012:vii). Organisations such as the Transport Workers Union (TWU) have drawn on this data in support of their campaign for better working conditions and the regulation of freight rates, claiming that Australian truck drivers are 10 times more likely to be killed at work than the average employee (TWU 2012). This characteristic of the Australian industry is, however, consistent with that of the US and UK where the road transport industry is also the leading source of work related fatalities (Newnam & Watson 2011a:339; Poulter et al. 2008:2058; Spielholz et al. 2008:569).

Australian trend data indicates that over the period 1998 to 2011 the annual heavy vehicle fatality rate has remained relatively constant, oscillating between 250 and 220 deaths (BITRE 2011a, b; DITRD&LG 2009b). A similar stabilisation of the death rate has been observed in the US (Lyman & Braver 2003). The stabilisation of these figures show that it is becoming increasingly difficult for policing and enforcement to have any further impact on the rate of heavy vehicle fatalities as vehicle numbers and distance travelled continue to increase. Action now needs to be taken to broaden the network of responsible parties who can contribute to improvements in heavy vehicle safety. This means expanding efforts beyond the traditional view that road safety is a government responsibility and placing greater emphasis on the role that business, corporations and other road users play in creating safer on-road travel.

CHALLENGES IN ADDRESSING SAFETY: IS REGULATING FREIGHT RATES AN OPTION?

The characteristics of the trucking sector suggest that the vast majority of industry participants face significant competitive pressures to engage in hazardous and risky behaviour. Without some regulatory presence unsupervised competition is likely to intensify with significant implications for road safety. A key challenge for regulators is the extent to which they aim to address the immediate and more obvious hazardous practices such as speeding, excessive driving hours and overloading, or target fundamental structural aspects of the industry believed to be major drivers of unsafe behaviour. Calls for systems that more effectively manage freight rates and help limit the negative safety outcomes of excessive competition have emerged from various parliamentary inquiries and special industry investigations over the past 25 years (National Road Freight Industry Inquiry 1984; Neville Committee 2000; NTC et al. 2008). However, suggestions to regulate freight rates and restrict entry into the industry through licensing systems have been repeatedly rejected by governments on economic efficiency grounds and impracticability and until recently very little action was progressed in this area (Jamieson 2006; McIntyre 2005:5; NRTC 1993:29).

While restrictions on entry to industry have not emerged, the Australian government has implemented the Road Safety Remuneration Act 2012 and established a remuneration tribunal for truck drivers and operators that has the authority to examine freight rates and adjudicate on remuneration disputes between parties in the transport chain (Australian Government 2012). Under the Act the tribunal may intervene and resolve disputes where remuneration conditions are seen to provide incentives for unsafe work practices (Australian Government 2011). The TWU has been a vocal advocate and strong supporter of the establishment of the Road Safety Remuneration Tribunal. It considers the introduction of the tribunal a major structural reform that will significantly moderate excessive competitive pressures that influence unsafe work practice. However, support for the establishment of the tribunal has not been universal. The parliamentary opposition party (Liberal National coalition) did not support the legislation and major industry associations along with the Australian Trucking Association declared they generally prefer a voluntary code or the status quo, claiming that the matter would be better dealt with by the newly established National Heavy Vehicle Regulator through chain of responsibility provisions (ATA, 2011; O'Neill, Ferris, & Pyburne 2012).

In the Australian context Quinlan (2001; Quinlan et al. 2006) has been a leading advocate for reform of structural factors, for more effective regulation of off-road parties and for industry behaviour to be underpinned by a framework of safe payments (NTC et al. 2008). Quinlan argues that neoliberal reforms in the governance of the trucking industry have been a fundamental cause of intensifying risk and the growth of unsafe practices. He claims

> *'…the promotion of deregulation and competition policies has arguably increased the mismatch between the power of particular interest groups and economic imperatives that drive industry work practices on the one hand and the array of legislative controls that seek to combat the adverse effects of these on the other.' (Quinlan et al. 2006:58)*

Quinlan argues that regulatory strategies for improving safety need to effectively challenge the actions of participants in the transport sector that contribute to excessive competitive pressures. However, as recent responses to the *Road Safety Remuneration Act 2012* reveal, industry is generally resistant to any effort by governments to regulate for safe payments and how this may influence the impact of the tribunal on road safety outcomes is yet to be seen. In the current pro-competitive and anti-regulatory environment it is likely that mechanisms established to investigate and influence negotiated freight rates would be light touch and minimalist in approach. The tenor of regulatory reform within Australia and internationally has been to minimise prescriptive government interference in markets and promote business friendly models of self-

regulation (Tombs & Whyte 2010; Vickers 2008). While showing great potential, the actual impact these legislative and institutional changes will have on the safety performance of the trucking industry may in fact be minimal.

OPTIONS FOR THE FUTURE: SAFETY AS A WORK RELATED MATTER

While many people may hate and fear sharing the road with large trucks, they are unfortunately an inevitable reality of our economy and trucking will always have a presence in our community. How then can the safety performance of the Australian trucking industry be improved? The popular press is active in promoting and dramatising what is wrong with the industry and the union movement is aggressively pushing government to focus on remuneration; however, what is missing from this debate is the loud voice of industry articulating how it intends to contribute to safer roads and better performance from its members.

In an era where governments are reluctant to spend more on public agencies the potential for an ever-expanding visible enforcement presence on our roads is unlikely. However, efficient technological mechanisms can be expected to expand such as speed cameras and remote point-to-point speed monitoring over longer distances. These efforts are cost-effective in monitoring on-road behaviour but they unfortunately fail to get at the central factors that shape the behaviour of truck operators and their drivers. What has become increasingly evident is that more effort needs to be directed at the management of the firm and how businesses approach their safety obligations within the industry. This strategy recognises that unsafe acts emerge from the complex interaction of organisational and workplace factors and that improvements in safety need to include actions that go beyond the performance of drivers (Reason 1997).

To facilitate this shift in both thinking and policy effort the National Transport Commission (NTC) has been active in promoting a higher level of engagement between industry and government with a focus on the role the corporate sector can play in improving road safety (NTC 2011). This approach recognises that for many businesses road safety is a work-related matter and it also acknowledges that a significant proportion of occupational fatalities are associated with the transport task (NTC 2011:1; Safe Work Australia 2012).

Approaching road safety as a work-related matter means industry organisations like the Australian Trucking Association (ATA) and its state-based affiliates should be pushing harder to see truck operators pick up models of voluntary self-regulation, accreditation and other quality assurance programs that demonstrate a commitment to higher standards of safety and compliance. Throughout Australia regulators and industry associations offer accreditation programs that aim to improve business practice and raise the performance standards of trucking firms so that safety becomes central to their daily operations. These programs tend to encourage the firm to look at driver-specific factors, vehicle-specific factors and general management factors as part of a broader and more comprehensive effort to improve compliance and safety performance.

Schemes like TruckSafe and the National Heavy Vehicle Accreditation Scheme (NHVAS) have been in operation for over a decade now and industry take-up of these programs needs to expand. These schemes reflect innovative approaches that aim to link operational aspects of a business with their compliance obligations and hence contribute to the broader road safety policy objectives shared by governments and the community. These schemes are not a solution in themselves but they add to the regulatory mix and extend the level of influence targeted at improvements in road safety. It is well documented in the research literature that broad organisation wide systems that develop a safety culture and interventions across the organisation are effective in improving safety outcomes (Naveh & Marcus 2007; Newnam & Watson 2011b).

BENEFITS OF VOLUNTARY SELF-REGULATION AND ACCREDITATION PROGRAMS

A range of voluntary and mandatory accreditation programs regarding safety, maintenance and general business practices are available from government and trucking industry associations. Industry-based programs operate in the area of animal welfare, food transport and the carriage of fuel and dangerous goods. The ATA administers TruckSafe, which covers both business management systems as well as compliance and safety systems, and state governments administer the NHVAS (though the program is scheduled to be transferred from states and centrally managed by the newly established National Heavy Vehicle Regulator during 2013). The NHVAS is the dominant accreditation program in the trucking sector because of its national focus and the regulatory concessions it provides for members as incentives to join. TruckSafe is the dominant industry based scheme and it is not uncommon for firms to also be members of NHVAS since they both operate similar mass management and

maintenance programs. The existence of numerous accreditation and certification schemes highlights how quality assurance programs have become important components of the safety and compliance framework of the Australian trucking industry. Research into mandatory company compliance and audit programs demonstrates they have a positive effect on the safety performance of firms. However, the resource-intensive nature of these programs means they are limited in their impact and reach (Chen 2008; Moses & Savage 1992; Moses & Savage 1994). It is for these reasons that increasing regulatory attention and support is given to voluntary accreditation and assurance programs. These programs supplement the formal regulatory framework and represent effective ways of engaging industry in the delivery of higher safety standards.

The limited available research into the safety impacts of voluntary accreditation and quality assurance programs in the trucking sector do report that such programs are effective in improving the safety performance of trucking fleets (Naveh & Marcus 2007; Rufford & Bass 2006; Walker 2012). Central to these programs is the impact they have on shaping both management and driver attitude towards safety and regulatory compliance. Poulter et al. (2008:2063) found that many drivers feel they have little control over compliance and therefore interventions that target operator management systems, attitudes and practices are likely to influence safety practice. In 2006 the National Transport Commission conducted a review of accreditation schemes with a view to examine the safety benefits that accrue to the trucking sector (Rufford & Bass 2006). To date, this has been the most comprehensive review of trucking accreditation and quality assurance programs within the Australian context. The qualitative findings of research into accreditation programs confirm that participating truck operators are strong supporters who find that their operations become more productive, reliable and safe (NRTC 1997; Rufford & Bass 2006; Walker 2012). Similar research into the impact of quality assurance programs on truck operators in the US reached comparable conclusions measuring a positive impact on firm productivity and safety performance (Naveh & Marcus 2007).

A key finding of the NTC 2006 review was that the crash rate of vehicles enrolled in TruckSafe and NHVAS is significantly lower than non-accredited vehicles. This was particularly noticeable for articulated vehicles, the fastest growing vehicle category in Australia. The review found that non-accredited articulated vehicles in Victoria, NSW and Queensland have an average crash rate 2.5 times higher than accredited vehicles (NTC 2007:24). The review suggested that if all non-accredited vehicles became accredited a 50% reduction in the crash rate of articulated vehicles could be expected (Rufford & Bass 2006). This research and subsequent research by Walker (2012) into NHVAS argues that voluntary accreditation programs do improve road safety and the current challenge is how to extend these safety benefits more widely across the vehicle fleet.

Trucking industry associations and lead firms can play a key role in increasing the take-up of voluntary accreditation programs. Programs such as NHVAS represent innovative models of regulation built in partnership with industry. They reflect more flexible modes of regulation that achieve both safety and productivity improvements. These programs represent a significant departure from the traditional enforcement focus that occurs under standard command-based models of regulation, which the current evidence suggests has reached its limit in having any further significant impact on road safety.

Accreditation programs such as TruckSafe and NHVAS see the state drawing on the voluntary commitment of firms to improve their compliance and safety performance. This change in operator attitude and practice may be motivated by material reward, such as access to more liberal regulatory limits like extra mass (available under NHVAS) or the contracting and reputational benefits that derive from being known as a safer operator (Naveh & Marcus 2007; van Erp 2011). Under these programs, enforcement practice is generally more educative and supportive rather than punitive and deterrent-based. Under accreditation programs regulators and industry scheme managers have an interest in building a truck operator's compliance capability making them safer, more compliant and competitively competent. These programs represent a shift in the enforcement game from detecting and chasing cheats to working with firms to help develop safer outcomes.

CONCLUSION

Industry associations have been too timid in their support for voluntary accreditation programs. These programs have been assessed and are known to improve the safety performance of trucking operators. In a sector where command-and-control regulation faces significant resource constraints alternative strategies that focus operators on their safety obligations are of increasing importance. Governments also need to push back, clearly articulating a position that stipulates any future claim from industry for the further relaxation of regulatory limits to promote efficiency and productivity will

not happen unless there is demonstrable evidence that they have made progress in raising the safety performance of truck operators.

The outstanding efficiency of the Australian trucking industry needs to be matched with an outstanding safety record. To achieve this ongoing pressure must be applied from governments and stronger leadership needs to come from industry. Without demonstrable improvements in the safety performance of the industry regulators will face strong community pressure to wind back on regulatory innovation and apply the handbrake to any further efficiency reforms.

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