# Corporate Road Safety: An opportunity to reduce the road toll through integrated research, policy and practice

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#### **Abstract**

Internationally, few governments have explored road-safety from an occupational perspective, although road-use is the biggest traumatic cause of worker fatalities in most westernised countries, and an increasing risk in many others.

Work-driving policy is poorly addressed in existing Workplace Health and Safety (WHS) practice. Work-road risk management frequently falls between WHS and work-road safety policy. Considerable opportunity exists to enhance road safety at work if existing mature WHS regimes could be effectively applied by organisations to work-road safety.

Workplace road-safety is gaining recognition in many countries as a viable strategic focus to address a growing road toll. Most existing initiatives are applied on an individual employer basis rather than systematically across industries. The potential workplace integration of road-safety and WHS strategies presents a unique opportunity for significant reductions in both injury-burden and damage costs for organisations, nationally and internationally, whilst also reducing the road toll.

# **Keywords**

Work-related road safety; fleet safety; occupational driving; driving at work

### Introduction

Internationally, few governments have explored road-safety from an occupational perspective, although road-use is the biggest traumatic cause of worker fatalities in most westernised countries, and an increasing risk in many others.

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This paper will explore the excellent opportunities for both Commonwealth and State / Territory Governments in Australia to broaden their existing approaches to road safety to a more holistic, efficient and effective perspective. In other words Governments have a potentially new regulatory leverage for road safety if they were to view road safety as part of the workplace health and safety regime. This approach has the potential to achieve outcomes potentially much greater than the sum of these individual approaches.

# Methodology

A comprehensive review of the literature was undertaken to identify policy and practice gaps and underpin the development of recommendations for organisations.

#### **Results**

Work-driving policy is poorly addressed in existing WHS practice. Work-road risk management frequently falls between work- and road-safety policy. With the involvement of all Governments, existing well established WHS regimes could be effectively applied by organisations to work-road safety, to provide co-ordinated and cost-effective strategies to reduce the road toll.

# **Discussion**

As a component of its National Road Safety Partnership Program draft strategy, the Australian National Transport Commission (NTC) recently consulted with stakeholders regarding the future for Corporate Road Safety in Australia, focusing on the major role that industry can play in improving road safety in Australia. This paper draws on and extends our submission, which can be seen in full on the NTC website [National Road Safety Partnership Program 2012].

Contemporary road-safety focuses on key public safety factors, yet globally few governments have explored road-safety from an occupational perspective. Road-travel is the biggest traumatic cause of worker fatalities in most westernised countries, and an increasingly recognised injury and fatality burden in many others [2].

Corporate road safety is poorly addressed in existing Australian and other international regulatory regimes, with the work-road injury burden frequently falling between work and road safety policy and regulatory practice [2]. In contrast, Work Health and Safety (WHS) regimes are well established in many countries. It is proposed that these existing WHS systems could be effectively applied to work-road safety to provide a framework for coordinated policy and cost-effective strategies to reduce the road toll.

Based on experience and a systematic literature analysis, gaps were identified in existing policy and practice. Evidence-based recommendations were then developed to focus on reducing the road toll and related business costs. These include the implementation of strategic corporate road safety systems underpinned by existing WHS data, systems, strategies and policies.

Over the past 15 years a small number of researchers, practitioners and policy makers have provided significant evidence around the significance of corporate road safety in Australia. This clearly supports the societal, business, legal and financial case for action. From a

financial perspective, Davey and Banks [3] and others before them (including Murray et al [4]), have shown that the hidden costs of at-work collisions for society, organisations and individuals, are real and significant. It is clear that some evidence of sound organisational practice already exists in Australia, although to date little has made its way into the peer reviewed literature. Recent good practice examples include the Australasian Fleet Managers Association (AfMA) Fleet Safety and other award winners (<a href="www.afma.net">www.afma.net</a>) such as Roche Australia [5] and Redland Shire Council [6].

Despite these isolated examples, corporate road safety in Australia remains fragmented between the State and Federal agencies involved in road safety, compulsory third party insurance, workers compensation and work health and safety, as well as law enforcement [6]. Many of these stakeholders and related researchers and agencies are isolated, and often appear to be working in isolated silos.

It is imperative that key stakeholders in research, policy development and WHS/road safety practice (including industry and suppliers) collaborate in a national and integrated process to embrace corporate road safety.

This would provide a powerful strategic initiative towards further reducing the road toll and lowering workplace fatalities and injuries, thereby significantly cutting injury and damage costs to industry and society.

In line with the strategic direction of the National Road Safety Plan, actions need to engage with a large proportion of Australian organisations. For example government (federal, state and local) is collectively the country's largest purchaser of vehicles, and one of the largest employers of contracted and sub-contracted organisations using the road. Government should therefore lead by example in terms of policy and practice in relation to its own corporate road safety.

An effective first initiative would be the comprehensive enforcement of WHS and Chain of Responsibility (COR) requirements pertaining to business and government organisations as a means to engage smaller contractors in road safety. For example, supply chain partners could be required to purchase only 5-star vehicles, demonstrate robust driver recruitment, induction, risk assessment and controls, and, have monitoring programs for all their employees required to travel in the course of work.

Without regulatory inducements many organisations will not engage and implement corporate road safety strategies. Therefore, a more harmonised and robust interpretation, combined with integration and enforcement of existing COR, WHS and road traffic regulations are essential to achieve significant improvements in corporate road safety.

Furthermore, currently many gaps and inconsistencies are undermining the existing structures. These include inconsistent enforcement, WHS application and regulation, and communication to organisations; lack of accurate and detailed crash and license data; inconsistency between heavy vehicle and occupational light vehicle regulation, and fragmented workers compensation and insurance structures [2]. All of these issues are compounded by the current parochial jurisdictional systems variations, and the lack of standardisation or harmonisation across Australia.

The new reform incorporating the National Heavy Vehicle Regulator (vehicles > 4.5 tonne) which began in January 2013, and manages enforcement of the Heavy Vehicle National

Laws, is a welcome initiative. Such regulations governing large and heavy vehicles are more extensive and rigorous than those governing smaller and light vehicles and similarly WHS requirements also focus on large and heavy vehicles.

As discussed by Stuckey and LaMontagne [7], such legislative changes and the good practices they support and encourage, have so far had minimal impact on the significant numbers of light company and privately owned small commercial vehicles and cars being driven for work – although many good practice processes could be applied in a similar manner irrespective of vehicle type. Murray [8] focused more attention on the potential applications of WHS policy principles and good practice for corporate road safety in Australia, where vehicles on roads are recognised as a workplace, but as yet only limited regulation and enforcement has been undertaken to address related risks [2].

WHS compliance is a requirement of all organisations and other workers in all sectors, therefore a national harmonised road safety WHS Code of Practice (COP), supported by communications, education and enforcement, would be a good starting point to engage the vast majority of organisations with employees and all others for whom the public road system is a workplace. Such an approach should provide a clear minimum standard for everyone to work to – much like the joint Health & Safety Executive (HSE) and Department for Transport (DfT) 'Driving for Work' guide in the UK, which was launched in 2003 [9]. To be effective the WHS COP should be supported by closer collaboration between WHS agencies, Road and Licensing Authorities and the Police in terms of enforcement and post event investigation. Similarly, existing transport and COR regulations are effective for larger vehicles, but increased enforcement using a similar approach should also be considered for occupational light vehicles.

Such recommendations are not about developing a whole set of new systems, they are about using the systems which are already in place to improve the overall regulatory outcome. State level guidance documents already exist, such as in Victoria [10], which spell out the responsibilities clearly under Victorian WHS law. Given such existing frameworks, it is argued that Australia does not actually need another regulator or set of regulations, but rather enforcement of the existing regulation. All the contemporary O/WHS Acts require risk identification, risk assessment risk quantification and risk control. There is clear evidence of a quantifiable injury and fatality risk, a range of relevant risk factors – what is lacking is the efficient and effective enforcement of the prevailing regulation [11].

A COP should engage WHS professionals in corporate road safety, and provide practical guidance for organisations to achieve minimum Duty of Care obligations and standards. To some extent, this is already happening in relation to vehicles used off public roads on traditional worksites. A COP should also provide WHS inspectors with guidelines when auditing and enforcing an organisation's WHS practices. There are a number of existing examples of enforcement (breaches of the COP in regards to managing plant) which can be used to support this approach, including the following vehicle and fatigue based cases:

- http://www.safework.sa.gov.au/uploaded\_files/20110526\_mihalopoulos.pdf
- http://www.theage.com.au/national/1000-charges-raft-of-road-charges-levelled-at-trucking-bosses-20120510-1yeez.html

- http://www.theage.com.au/victoria/justice-for-dead-brother-20100428-tsic.html
- http://www.workcover.nsw.gov.au/formspublications/publications/Documents/health\_ aged care industries minimising fatigue 0230.pdf

These cases illustrate that WHS agencies and road authorities typically do get involved if apparent causation relates to a vehicle fault and or specific safety risk such as fatigue, which had not been systematically addressed by the responsible organisation.

It also appears from the publicly available cases that such prosecutions generally occur in relation to heavy vehicles or vehicles driven by emergency service workers, where there is an overt public risk and the vehicle is clearly being driven for work purposes – and generally where there has been a lot of publicity about potential risk factors in a sector prior to the event. The jurisdiction of risky or hazardous driver behavior is more typically enforced by the police focusing on fault, liability and negligence – and is generally not recognized or acknowledged as related to work, organisations or the purpose of journey in any way.

To summarise, corporate road safety, for all vehicles being driven for work irrespective of size or type, is both a road safety and a work health and safety issue. Like any complex matter, a combined approach of both 'soft' and 'hard' measures is required to make real change. Corporate road safety should be managed through the WHS legal and regulatory structures. A legal 'Duty of Care' compliance is required to protect the health and safety of workers driving for work purposes. This legal requirement is included in all Australian WHS acts, including the Model Work Health and Safety Act 2011 [12]. This duty of care applies to all employers, workers (regardless of work arrangement), and 'others' such as non-workers and the general public.

The potential benefits from a collaborative WHS and Road Safety Partnership at State, Territory and Commonwealth levels need to be promoted widely. This is essentially building on the very significant human factors and behavioural change skills in road safety, whilst using the powerful regulatory tools available to the WHS authorities of Australia. State and Territory jurisdictions already have an Interagency Agreement or Memorandum of Understanding in place between the WHS regulators throughout Australia, Road and Licensing Authorities and the Police.

Currently, however, there does not appear to be a consistent escalation approach to WHS regulators for work-related road traffic incidents - in particular for light vehicles. Fatalities are more likely to be escalated, whereas serious injuries are less likely or rarely addressed. Minor incidents that do not require police presence should be recorded by an organisation as an incident regardless of the level of damage, as for any other type of WHS incident, and thus open to Regulatory inspection. Obtaining such collaboration between road enforcement and WHS agencies will require the building of a case by the NTC though the relevant Ministerial Councils, to endorse a genuine national partnership that will capitalise on the workplace as a 'new frontier' for road safety improvements.

It is clear that this concept of 'escalation' of work-road safety to WHS is implicit in the NTC's National Road Safety Partnership Program. Currently, however, it is not explicitly outlined as to how this interface between road safety regulation and WHS regulation would operate. Accordingly, a much stronger and genuinely regulatory approach needs to be made clear to enable the step changes needed. The implementation of a harmonised pan-Australian

WHS Code of Practice on Managing Risks for Work-related Vehicles would be the simplest and most responsible approach to underpin and practically support this outcome.

Other strategies aimed to assist improving compliance, include access to driving licence data to allow checks on people required to drive as part of their work. This could bring many benefits to work-related road safety across the whole of Australia. The truck sector is already requesting it in Australia, and organisations in NSW and SA have systems in place which allow them to currently conduct online checks of individual licenses of employees with their written consent.

If Australia could adopt a similar model to the well-established UK Driver and Vehicle Licensing Agency (DVLA) electronic check or the US Motor Vehicle Record (MVR) a great deal of bureaucracy could be reduced. Licence checks could provide the first step in risk assessment and benefit the many organisations in Australia which require their people to use the road as part of their work. This could assist them to check on-going driver road-law compliance and further develop risk based models for driver recruitment, management and monitoring.

Currently many Government agencies in Australia appear to cite privacy and data security as reasons to not be proactive in making such data more readily available for WHS surveillance. Australia could learn a great deal from the more developed US, UK and New Zealand practices to institute such systems. As long as drivers provide explicit, freely given and fully informed consent, appropriate compliance and risk-based data could be transferred, stored and utilised in a secure environment. Based on the US and UK models, this approach also offers a potential income stream for the licensing authorities, which can sell the data to employers and third party intermediaries.

The NTC proposed National Road Safety Partnership Program is a welcome initiative, but its membership appears quite narrow and needs to be expanded to include mechanisms for other critical sectors and organisations to be involved in the on-going deliberations, including representation from some or all of the following:

- Australian College of Road Safety.
- Australasian Fleet Managers Association (AfMA).
- Safe Work Australia.
- State, Commonwealth & Territory WHS agencies.
- Workers Compensation Insurers.
- Police
- Government fleets which remain the biggest purchasers of vehicles in Australia.
- Vehicle leasing, supply and finance sector including manufacturers.
- Bus and rail sector.
- Lead researchers in the area of work-related road safety such as CARRS-Q, MUARC and other University based researchers.
- Compulsory Third Party and private motor insurers.
- Occupational Health and Safety Professional bodies including bodies represented by the Health and Safety Professionals Alliance (HaSPA).
- Other Industry and professional bodies.

The following case study illustrates the many benefits experienced by a UK-based vehicle manufacturer, which applied an insurer-supported WHS-based methodology to improve its work-related road safety. The company has approximately 500 dedicated business drivers averaging 30-35,000 at-work kilometres per year almost exclusively by car. The program, which has been in place for several years, has the following aims:

- Take all practicable steps to ensure the safety of drivers, passengers and the public with regard to vehicles used on company business.
- Record the company's commitment to the application of good safety practices in activities involving driving and vehicle management.
- Ensure that employees and contractors are mindful of vehicle safety at all times.
- Extend this policy to all users of vehicles administered by the company and to their families, as far as is practicable and reasonable.
- Ensure that fleet management and any other relevant vehicle supply or administration organisations are involved in the company's WHS policies.

Close partnership with its insurer was a key element of the program. As a starting point, the insurer performed a detailed 11-section, 300+ question, gap analysis. The results are summarised and aggregated around the titles of the 11 areas covered in Figure 1. Each section contains about 30 specific questions that are scored individually, and then aggregated. 100% would show full compliance. The gap analysis tool has been completed with hundreds of organisations, having evolved through many years of industry experience, informed by unpublished academic and industry based research and heavily influenced by the Haddon Matrix. It showed that the company had many effective management systems in place, and also identified driver level risk assessments, organisational culture/climate and driver development as areas of opportunity.

		All		
Eleven areas covered by insurer fleet gap	Case 1	fleets	Case 1	All fleets
analysis	2006	2006	2010	2010
Fleet Safety Policy	75%	71%	87%	71%
Health & Safety Policy and Risk Assessments	61%	63%	71%	65%
Legal Compliance	81%	62%	87%	79%
Organisational Leadership and				
Culture/Climate	62%	70%	82%	68%
Journey/Mobility Planning	77%	74%	92%	76%
Driver Recruitment, Selection and Induction	51%	62%	75%	67%
Driver Supervision, Monitoring, Assessment				
& Training	61%	59%	80%	65%
Driver Wellbeing	57%	61%	82%	64%
Vehicle Selection, Checking, Maintenance &				
Security	85%	77%	93%	79%
Claims Reporting, Investigation and Recording	81%	61%	96%	63%
Marketing and Community Involvement	49%	48%	-	47%
Total	69%	65%	86%	68%

Figure 1: Insurer gap analysis for Case 1, undertaken during 2006 and again in 2010

The gap analysis formed the basis of the initiatives that have been introduced in partnership with the insurer since 2006 to engineer a steady change in safety culture and climate from the top of the organisation down. Since the gap analysis, the company has worked diligently to implement the recommendations, as follows:

- Zero tolerance on driving licences: '*No licence, no car policy*'. All drivers were asked to sign a mandate giving the company the right to check their driving licence details electronically with the UK Driver Vehicle Licencing Agency (DVLA).
- All employees who have a collision or an identified 'near miss' when making workrelated road journeys have a full debrief with their line manager
- Online Virtual Risk Manager (VRM) program for driver risk assessment, monitoring and improvement was implemented for all employees making work-related road journeys. A targeted intervention plan was developed based on the individual risk profiles and any specific risks identified as unacceptable.
- An updated communication strategy, covering issues such as the risks associated with fatigue, ergonomics, using a mobile phone whilst driving and speeding, along with information on how the fleet is performing and details on some of the activities that are taking place as part of the risk management program. Communications take the form of a driver handbook, quarterly driver bulletins email, web and pamphlet-based, and road safety awareness posters in fleet management handover centres.
- Focused in-vehicle and work-shop-based coaching based on the Virtual Risk Manager assessment outputs, and specific risk groups including young drivers, post collision and speeding convictions and UK familiarisation training for all overseas personnel.
- External benchmarking and good practice sharing.

Between 2006 and 2010, the company improved in all the areas shown in Figure 2. These process improvements are reflected in sustained collision reductions, with the overall event rate per vehicle per year rate falling from 18% to 7%. This data is based on all the motor related insurance claims made by the company's business drivers.

Claim type	2005	2006	2007	2008	2009	2010	2011	Total	Coef	P value	% change p.a.
Hit Stationary Object	15	14	15	16	17	10	3	90	-0.119	0.030*	-11.2
Our Vehicle Rear-Ended Other Vehicle	8	10	28	19	10	7	5	87	-0.130	0.198	-12.2
Other Vehicle Rear-Ended our Vehicle	13	12	8	18	13	8	10	82	-0.037	0.508	-3.6
Our Vehicle Sideswiped Other Vehicle	8	9	19	12	7	13	4	72	-0.062	0.438	-6.1
Our Vehicle Backed into Other Vehicle	27	8	3	12	5	4	1	60	-0.371	0.001*	-31.0
Other Vehicle Sideswiped our Vehicle	9	10	9	12	6	7	2	55	-0.139	0.045*	-12.9
Vandalism/Hit whilst Parked & Unattended	1	5	6	14	8	7	4	45	0.107	0.322	11.3
Other/not listed	11	9	8	6	3	3	2	42	-0.278	0.001*	-24.3
Other Vehicle Backed into our Vehicle	6	2	5	2	0	0	0	15	-0.556	0.002*	-42.6
Our Vehicle hit Other Vehicle head on	1	2	2	5	2	1	0	13	-0.102	0.489	-9.7
Intersection/Roundabout Collision	8	1		1	0	1	1	12	-0.423	0.058	-34.5
Theft	3	1	1	0	0	0	3	8	-0.074	0.733	-7.2
Other Vehicle hit our Vehicle head on	1	0	0	0	1	1	0	3	1.26E-17	1.000	0.0
Hit Pedestrian	0	0	2	0	0	1	0	3	-1.79E-13	1.000	0.0
Total	111	83	106	117	72	63	35	587	-0.147	0.001*	-13.7

Own Fault	84	57	78	83	55	46	27	430	-0.156	0.001*	-14.5
Third Party Fault	27	26	28	34	17	17	8	157	-0.113	0.006*	-10.6
Vehicles	613	606	662	632	600	552	524				
Claims Rate Per Vehicle	18%	14%	16%	19%	12%	11%	7%				

Figure 2: Case 1 business use vehicle collision reductions (statistically significant \*)

In Figure 2, statistically significant reductions were found in 5 of the 14 claim types with a 43% reduction in 'Other Vehicle Backed into our' Vehicle' for which there are only 15 claims while the largest category of 'Hit Stationary Object' with 90 claims had an average annual reduction of 11%. The subtotal categories of 'Own Fault' and 'Third Party Fault' both have statistically significant reductions of 15% and 11% respectively. Only 'Vandalism/Hit whilst Parked & Unattended' indicates an increase (11.3%) although this was not shown as statistically significant (p=0.32).

The annual claim reduction was determined by fitting a negative binomial model to the data, which showed that total claims reduced by 13.7% annually (p = 0.001). This level of reduction is favourable when compared to the 4% annual fall in killed or seriously injured casualties in the seasonally adjusted quarterly casualty totals (KSI) for Great Britain.

As a result of the program and data trend, the company experienced significant reductions in its insurance premiums. Although detailed cost information cannot be included due to the highly commercially sensitive nature of the actuarial values involved, based on its previous claims history, in 2011 the company paid on average £200 per vehicle less than it would have if the various initiatives had not been implemented – at a time when insurance premiums were 'hardening', ie becoming more expensive, in the UK. This represents an annual premium saving of £1m, which has a serious impact on the company's overall profitability and helps provide impetus for further commitment to work-related road safety at all levels of the business.

As a further form of evaluation, the company has participated in various external programs, including benchmarking with other organisations using Virtual Risk Manager. In Figure 3, the company compares well against the overall average with regards to its journey, vehicle and defensive driving risk assessment outcomes, its driving licence check results (based on the number of demerit points and event types) and very low overall insurance claims rate per vehicle per annum.

VRM summary data	Case 1	All average
Assessment % compliance	100%	71%
DRIVER: VERY HIGH OR HIGH	1%	1%
JOURNEY: HIGH	3%	4%
VEHICLE: HIGH	0%	5%
DEFENSIVE DRIVING: HIGH	4%	8%
Overall: HIGH	3%	4%
Overall: MEDIUM	85%	76%
Overall: Low	12%	20%
DVLA licence checks HIGH	7%	7%
DVLA licence checks MEDIUM	18%	15%
DVLA licence checks LOW	75%	78%
Claims per vehicle 2009	12%	45%
Claims per vehicle 2010	11%	44%
Claims per vehicle 2011	7%	42%

Figure 3: Case 1 work-related road safety data benchmarked against other organisations

The organisations in the 'all average' data represent approximately 170,000 drivers and 80,000 vehicles, and included some of the best known organisations in the UK, who are recognised to have very well risk-managed fleets. Together they have saved more than £11 million in direct collision costs over the three year period 2009 to end 2011 through claim rate and cost per vehicle reductions as a result of the work-related road safety programs they have implemented.

#### **Conclusion**

Workplace road-safety is gaining recognition in many countries as a viable strategic focus to address a growing road toll. Most existing initiatives are applied on an individual employer basis rather than systematically across industries. The potential workplace integration of road-safety and WHS strategies, presents a unique opportunity for significant reductions in both injury-burden and damage costs for organisations, nationally and internationally.

To be effective, workplace safety requires comprehensive regulatory regimes with significant enforcement. Corporate road safety is gaining recognition in many countries as a viable strategic focus to address the growing global road toll. In Australia, however, most initiatives result from individual employer-based strategy initiatives rather than a systematic approach based on regulatory and other government-based interventions. Corporate road safety should be managed through the existing WHS legal and regulatory structures in partnership with existing road safety programs.

In the case study described, the organisation applied a WHS systems-based methodology to review its performance and implement various management-led programs to risk assess, monitor and improve the road safety of employees who drive as part of their work, framed by the Haddon Matrix. In so doing it has identified the potential of work-related road safety to be a conduit to road and worker safety, at both the organisational and policy levels. The case has hinted at the makeup of the successful DNA of organisations that have developed and evaluated effective processes for improving corporate road safety. Management involvement, risk assessment, taking a health and safety led approach, targeted driver improvement through

a mix of online and other tools, all supported by detailed monitoring of process and outcomes, all appear to be important success factors.

#### Recommendations

- 1. A pan-Australia Code of Practice which addresses work-related road risk should be developed and implemented as soon as possible.
- 2. A National work-related road risk management memorandum of understanding should be established between all State and Commonwealth WHS agencies, Road and Licensing Authorities, and Police Agencies to assist in the enforcement of corporate road safety obligations under current WHS laws.
- 3. The national road safety strategy body and jurisdictional agencies need to incorporate corporate road safety as part of on-going risk management priorities.
- 4. The potential benefits from organisations collaborating closely with their insurers and other fleet suppliers should be explored.

These recommendations address occupational road travel risks, and the possibilities for the application of integrated and systematic road-safety and WHS strategies.

They present unique opportunities for significant reductions in the social and economic injury-burden, and approaches to managing related damage costs for participating organisations in Australia and could readily be applied internationally. Systematic implementation at regulatory and industry levels should provide compliance, economic and risk management benefits to every workplace using road vehicles.

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