Work-related road traffic injury: Managing the risk

Monash University Accident Research Centre (MUARC)

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Executive Summary

Recently, there has been some important theoretical discussion about the organisational practices that contribute to safe driving behaviour and reduce work-related road traffic injury. In order for industry to be able to review current practices, modify and adopt new practices that will act to reduce work-related driving risk, researchers must find an effective means of communicating with industry. This report is the first of a series to emerge from a recently completed government funded research project. It represents the first step in the establishment of a "translation task force" with the aim to communicate key messages and encourage policy and practice change. This first report maps current practice in workplace road safety against an established best practice (i.e., benchmarking) framework. A total of n =83 senior managers from a range of organisations in Victoria and New South Wales, within Australia, were recruited to participate in an interview. The interviews discussed each organisations' practices, policies and procedures around work-related driving. Overall, the results suggested there were opportunities for a greater level of maturity in the implementation of workplace road safety practices in the areas of road safety management, safer mobility, safer vehicles, safer road users and post-crash response. Recommendations focus on clarifying roles and responsibilities in the management of workplace road safety as well as the role of human-computer interaction in increasing safe driver behaviour. Finally some important key actions emerged from an interactive stakeholder workshop that provided an opportunity to discuss and address gaps and limitations in the current approach to reducing death and injury in this critical safety domain.

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About the larger study

Road traffic injury is the leading cause of death, injury and absence from work in Australia. Over 30% of vehicles on Australian roads are driven for work-related purposes. At certain times of day, two out of three vehicles are making work-related trips. There is also evidence to suggest that more people are injured driving work-related (light) vehicles than non-work related vehicles.

Despite these statistics, limited attention has been given to identifying organisational factors that may influence the safety of our work-related drivers. Such factors may include, for example:

- the quality of management practices;
- a driver's perception of the value given to safety in the organisation;
- the driver's daily workload, and/or;
- attitudes to safety expressed by the driver's supervisor.

Better understanding of the various organisational determinants is important to be able to reduce work-related road traffic injury. This study was awarded government funding to determine how organisational factors influence the likelihood of work-related road traffic injury. In particular, the study set out to investigate how key factors influence injury risk at the individual-driver, the supervisor, and organisation levels. The unique findings from this research will have direct relevance to a large proportion of the Australian workforce.

Much anticipated findings

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From its inception, this NHMRC-funded research project being carried out by researchers at MUARC has attracted a lot of interest from the media (e.g. article in National Safety Magazine, Jan-Feb, 2014), the Insurance and Occupational Health and Safety arenas, and industry in general.

What makes this project unique? The MUARC researchers have formed an ''**occupational translation taskforce''** to ensure that the project findings are adopted into routine workplace policies and procedures. The first workshop of the series, involving key stakeholders, entitled: **'Reviewing the landscape of work-related driving safety policy and practice'** was held in April, 2016

Current Landscape of Work-related Driving Policy and Practice

Introduction

According to the World Health Organisation (WHO) 1.3 million people die annually as a result of road traffic accidents, which equates to more than 3000 deaths each day globally [1]. In Australia, more than 30% of the traffic volume is work-related, and with a likely over-representation of injury when comparing work-related drivers with non-work related drivers [2]. In terms of fatalities, work-related road crashes are the leading cause of occupational death, with this figure estimated to be around 33% of all work-related fatalities [3,4]. In the state of New South Wales, there are up to 5.3 fatalities per 100,000 registered fleet vehicles (generally referred to as light vehicles < 4.5 tonnes; [5,6]). In Queensland, crashes involving fleet vehicles account for an estimated 25% of road fatalities and 43% of work-related fatalities [7].

Although work-related driver safety is being given increasing attention in the scientific literature and the media, it is uncertain how well this knowledge is being translated into industry practice. This is partly due to a lack of understanding regarding what constitutes 'best practice' in risk management. With the exception of a few case studies (e.g., [8]) that describe effective fleet safety programs, there is limited research to guide practitioners in the establishment of best practice. This lack of research evidence suggests that a deductive approach to risk management is unlikely to be effective in reducing workplace road safety death and injury; rather, an inductive process, whereby, industry practice guides scientific knowledge needs to be considered. To this end, this study focuses on exploring risk management through the lens of current benchmarking practices.

Benchmarking

Benchmarking is a tool that can be used to find, adapt and implement outstanding practices that typically involves learning from others how to improve existing practices, rather than reinventing practices [9]. Currently, there is no empirical benchmarking tool in Australia. Building a strong and functional definition of best practice is essential for developing an empirical benchmarking tool. Such a definition will also result in increased implementation rates of effective safety practices in industry.

The National Road Safety Partnership Program (NRSPP) is an initiative that constitutes a network of organisations and academics working together to develop a positive road safety culture in Australia [10]. One of the core aims of the NRSPP was the development of a national fleet benchmarking tool. The first stage of the tool, the development of a framework to better illustrate or identify best practice, has recently been completed.

The benchmarking tool was designed by the NRSPP to allow organisations to measure their safety performance against a series of indicators. It was developed and informed by the recommendations of the 'World Report on road traffic injury prevention and commission for global road safety' as set out by the World Health Organisation [11]. The WHO report introduced the 'Five Pillars' of Road Safety, with each pillar representing a set of activities that is recommended to be implemented at a national level (See Figure 1).
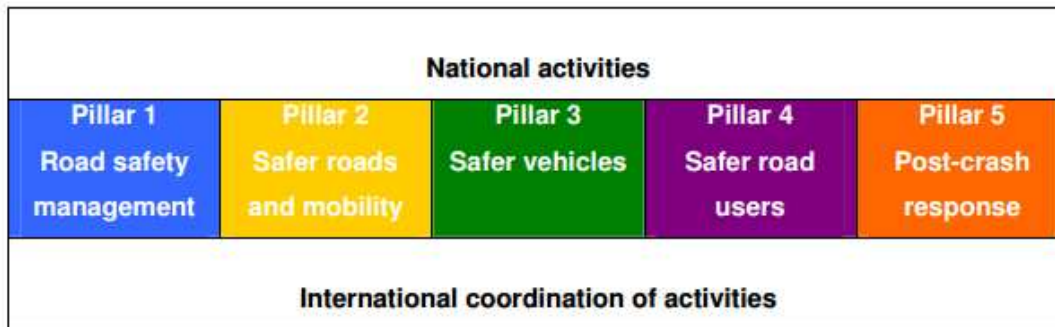

Figure 1. *Five Pillars of Road Safety (WHO, 2013)*

The approach aligns with existing road safety frameworks such as Safe, Vision Zero and Sustainable Safety, and maps out five pillars to guide national road safety plans and activities. The definitions for each of the five pillars as put forward by the WHO are detailed in Table 1, Appendix A. **This framework has been used to examine the alignment between current practice and 'best practice' in risk management.**

Aim

This report maps the current landscape of risk management in workplace road safety in Australia. This was done by assessing alignment between *current* practice and *best* practice, to identify opportunities for improvement in workplace road safety management. In order to achieve this, the research team has utilised an existing 'evidence-based' benchmarking tool, developed by the NRSPP.

Methods

Recruitment procedure

Organisations were recruited by selecting eligible organisations from a list of work-related injury claims relating to motor vehicle crashes received by the Work Safe Victoria (WSV) between July 2010 and end of May 2014[1]. A two stage screening process excluded:

- vehicle types *such as* the primary 'agency of injury' including taxi, bus, tram, train, motorbikes, trucks, emergency service vehicles, other machinery driving / operating;
- claims that listed a fatality;
- organisations with head offices not in Victoria, or with head offices not in NSW metropolitan regions;
- organisations with fleet sizes of < 5 vehicles, those with fleets primarily consisting of heavy vehicles (trucks, buses, trains); and
- driving schools or driver training schools.

Of the initial sample of 713 organisations contacted by mail, a final sample of 83 managers consented to be interviewed.

Participating organisations

A total of 83 organisations were recruited. The majority of organisations were Victorian-based (89%), with national recruitment also extending to organisations in metropolitan Sydney, New South Wales. The organisations ranged in size, from microbusiness (N=1, 1%), small (N=2, 2.5%), medium (N=19, 23%) large (N=8, 10%) to enterprise (N=53, 64%). Table 1 presents a summary of industry type, as classified by the Australian and New Zealand Standard Industry Classification (ANZSIC).

Table 1.

Frequency of industry type of the sample (n=83 organisations).

Industry Type	N
Agriculture, Forestry and Fishing	2
Mining	0
Manufacturing	2
Electricity, Gas, Water and Waste Services	5
Construction	4
Wholesale Trade	4
Retail Trade	3

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[1] These claims were limited to those above the minimum threshold of $680 and >10 work days lost

Accommodation and Food Services	0
Transport, Postal and Warehousing	3
Information Media and Telecommunications	4
Financial and Insurance Services	0
Rental, Hiring and Real Estate Services	0
Professional, Scientific and Technical Services	1
Administrative and Support Services	3
Public Administration and Safety	11
Education and Training	4
Health Care and Social Assistance[1]	**26**
Arts and Recreation Services	0
Other Services	11

[1]Modal industry type was Health Care and Social Assistance.

A representative within the Occupational Health and Safety and/or fleet management division of each organisation was approached to participate in a one-on-one interview. Organisational roles of the interview participants ranged from OHS managers, to safety and risk managers, fleet managers and quality managers (see Table 2, Appendix A). Interview respondents had a mean age of 47.5 years (ranging in age from 35 to 55 years). Respondents were primarily male 61% (n = 48) with an average organisational tenure of 7.75 years (Range 0.5 to 35 years) and an average of five years in their current organisational role.

After obtaining consent, interviews were conducted over a period of 45-90 minutes. The majority of interviews (93%) were completed face-to-face at the interviewee's workplace. The remaining interviews were completed over the phone due to the remoteness of the geographical location of the interviewee.

Measures

Interview questions elicited information on current organisational practices, as well as policy and procedures around work-related driving within the organisation. The interview guide was based on previous research into work-related driving which investigated risk management strategies. Examples of such strategies include safety policies and procedures, crash database management, and recruitment and induction programs [12]. A selection of open ended questions used as part of the interview schedule are shown in Table 2 below.

Table 2.

Example open ended questions or probes used during interviews.

Category	Example question or probe
Crash system database	Does your organisation have a crash system database?
Selection and recruitment	Can you please talk me through recruiting and selecting new employees that have a driving role?
Induction and training	Can you please talk me through the induction process for new employees that have a driving role?
Procurement and maintenance of vehicles	During the procurement process, what do you look for in a car?
Work-life balance	Does your organisation have policies to help employees balance work and home life?

An initial question list was designed and developed[2] to identify the existence of organisational practices, policies and procedures and how they were being implemented in practice in organisations.

Data Analysis

The interviews were transcribed and coded using standard qualitative data analysis processes. This process included the development of an initial coding list, creating provisional codes from an initial subset of interview transcripts, and the use of focused coding to identify themes (representing an idea or meaningful unit) across all of the transcripts.

The data were then analysed using *thematic analysis* which documented themes, patterns and insights, and identified data that were unique or contradictory. The themes identified are discussed within this report in a de-identified format to preserve anonymity of interviewees and participating organisations.

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[2] The interview question list underwent a two stage review process involving content validation, and a comprehension, grammar and sentence structure check. This resulted in a refined final list of questions and (optional) probes.

Research findings

The results are categorised below under each of the five pillars of the NRSPP benchmarking tool, and provide an indication of the *current* landscape of workplace road safety.

Pillar one: Road safety management[3]

In the workplace road safety management context, the results suggest that 'road safety management' is focused on building accountability and responsibility within the organisation and relevant methods of communication to staff e.g., performance management and policy review.

In the majority of organisations interviewed, there was not a clear understanding of the person(s) responsible or accountable for road safety management. One manager described their confusion: "Is it the employer? Is it their responsibility?" More often than not, this was the result of viewing driving as a peripheral (or secondary) part of the primary job role, e.g. a nurse was considered a health care professional and not a work-related driver, and all aspects of the perceived primary role from recruitment to training reflected this distinction.

Three reasons emerged that may explain the lack of clarity around accountability in the safety management of drivers. First, driving was considered the responsibility of the individual driver, rather than an organisation-level issue. Second, there is a level of complexity reflected in the physical context of work-related driving. That is, work-related driving is a remote task, with limited opportunity for managers to supervise the performance of their staff. And third, a lack of senior management support was seen as a barrier in most organisations. For example, one health care organisation reported: "When the CEO says, 'oh they don't have to do the audits this month'… I just don't think that's good enough."

The central subthemes that were discussed under the road safety management topic included key performance indicators (KPI)s, policy reviews and communication practices. A small number of participants discussed the existence of KPI indicators such as having a valid drivers' licence or demerit points. For example, the manager of a large telecommunications provider described how they tied these KPIs to upward mobility: "…there are KPIs that the driver's manager has to check every six months, just to make sure that the driver still holds a valid licence, and hasn't lost it through demerit points or anything like that. It's actually the driver's responsibility to provide that information either as print out or mailing form from the relevant government body." The data also showed that it was *uncommon* for driving performance to be included as a KPI for staff or for it to be considered during assessment for promotion. However, this finding should not be surprising considering that, as discussed above, driving was considered as a secondary task in most organisations.

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[3] See Table 1, Appendix A for the WHO definition of all pillars

Policy reviews were also discussed as a road safety management strategy. Some organisations did six monthly or annual reviews and others had not reviewed such policies in many years. A trigger observed for policy reviews was a new leader or manager driving organisation change. One manager discussed a recent change in CEO: "[name removed] who was the CEO prior to [name removed] starting, he spent a lot of time on that. And he went out to sites and visited and saw what we had and then changed it. So it's been a big change in driving safety".

In the context of communication, the majority of interviewees openly discussed formal communication strategies used within their organisations. Table 3 below lists all of the formal communication mechanisms for safety-related messages that the interviewees discussed during the interviews. As can be seen, multiple channels and methods of delivery were employed by organisations, with the most commonly utilised method of delivery via the electronic channel. The frequency of communication ranged from daily, weekly, fortnightly, monthly, to annually. One site supervisor stated "…the guys who drive for us are spoken to literally every load before they go out. So there's communication going on literally all the time."

Table 3.

Formal communication mechanisms listed by channel and the method of delivery

Channel	Method of Delivery
Face-to-face	Toolbox talks, Kick-off (daily agenda) meetings, and OH&S committee meetings
Hardcopy	Flyers, mail, affixed to payslips
Hardcopy & Electronic	Newsletter, notice boards i.e., RSS feeds
Electronic	Intranet including systems such as WIKI, website, emails, memos i.e., safety alerts, in-vehicle telematics, incident reporting system e.g., RiskMan, Mango
Telecommunications	SMS, two way radios, telephone

Communication was primarily reactive, i.e. driven by incidents or events evoking a post-incident learning. For example, if something happened or an organisation was seeing a lot of speeding fines, they would make communication relevant to speeding. In addition, the dissemination of information was driven by a top-down approach for the majority of organisations. To illustrate, in many organisations held senior management level meetings where supervisors were briefed and tasked with

disseminating this information 'downward' to drivers. It was uncommon for information from meetings or reports to be provided directly to drivers. In general, communication approaches primarily relied on the manager or supervisor. One manager explained: "…it would be made through the supervisors. And they would do it during a team meeting or an ad-hoc team meeting."

Pillar two: Safer roads and mobility

In the work-related road safety context, this pillar 'safer roads and mobility' reflects how organisations manage risk when staff drive for work-related purposes, and in particular, journey management. Overall, there was large variability in journey management across industry type which appeared to be influenced by an organisation's core business activity and driving environments. To illustrate, organisations employing drivers as part of their core business activity (e.g., courier services) had greater documentation around journey management, including fatigue restrictions, temporal driving guidelines, points of contact and expectations in regarding to the safety management of drivers. For example, one manager described their approach to decreasing exposure by improving journey management: "They all do planning, they know where they need to go in advance to all of their site inspections and things like that. So they would be working and I'd certainly be working with them to say okay there's no point driving from here, all the way over to the other side and back again. You'd obviously cluster your jobs you know for that day or this week to this region and that type of thing as well".

In contrast, organisations that viewed driving as a 'secondary' function of an employee's day were given little or no documentation regarding journey management and staff were generally expected to manage their own workload and day-to-day trips. This was also true of more senior staff who were given greater autonomy. This variability across industry type was particularly evident in approaches to fatigue management, points of contact including technology use, and driving or environmental conditions.

The data showed that the majority of organisations did not have a formal policy on fatigue management. This finding was not surprising considering that light vehicle fleets have not been subjected to the same regulations in relation to fatigue management as the commercial vehicle industry (i.e., trucks; Adams-Guppy & Guppy, 2003; Arboleda et al., 2003). Fatigue management was generally found to be at the discretion of the workgroup manager or supervisor. That is, where formal policy was not provided, arrangements such as staying overnight would be made on a case-by-case basis whereby the driver would need to directly report symptoms of fatigue to a supervisor.

The data also showed that journey management was more stringent within organisations which had staff driving in potentially extreme environmental conditions and making rural trips. In these situations management had greater involvement and accepted more responsibility for risk management, e.g. preparing for the drive by carrying water and food, sun protection, the use of safe road networks, two way radios, global positioning systems (GPS) and buddy systems. A community

service organisation manager stated: "…we don't encourage people to be driving alone anyway so there's a second person. But it doesn't help you if you've got a second person if you're stuck in the fringe or in the middle of a desert and there are no other drivers going past. So yeah there are some real challenges for us."

Also apparent was that when management was involved, journey management generally included setting up points of contact using a variety of technologies. For example, some organisations used SMS warning systems, particularly for bush fire prone areas. These systems sent a fleet wide SMS advising of the dangerous route to avoid. One manager also discussed a belt worn by staff: "So when they get to a site they push this 'I'm okay' button which sends an SMS back to their manager including GPS co-ordinates and there's an SOS button. And then when leaving the site, they message as well…"

Pillar three: Safer vehicles

In the workplace road safety context, 'safe vehicle' activities relate to the organisation's procurement and maintenance practices which are designed and implemented to reduce vehicle-related risk to work-related driver safety. The data identified that:

- the ANCAP safety rating was the most widely used and accepted vehicle safety and procurement criterion;
- 'manufacturer's specifications' was the most widely used maintenance practice; and,
- vehicle turn-over is becoming less frequent across industry.

In the majority of organisations, the ANCAP rating [13] was the most widely used and accepted safety criterion for vehicle procurement, with organisations requiring a 4-5 star rating (majority 5). The one exception was an organisation that allowed commercial vehicles to be three star rated (i.e., tool of trade utes). Although safety, as measured by the ANCAP rating, was considered of primary importance, cost of the vehicle was also a primary consideration. Additional procurement criteria that were commonly represented included size, economy, environmental efficiency (i.e., emissions), ergonomics, office location (i.e., rural versus metro), country of manufacture, Bluetooth, staff perspectives, recommendations from a fleet provider, organisational client needs or requests (i.e., security companies or mining companies) and 'fitness for purpose'.

As mentioned, cost was a significant consideration in vehicle procurement and turnover. Interestingly, the majority of organisations commented that they were keeping their vehicles for longer than ever before, and the most common trend was transitioning from 2-3 year periods to up to 4-5 years. The manager of an educational institution concludes: "[vehicle turn-over] used to be based on the policy, we replaced the cars every 3 years… we're not observing that at the moment, we're basically replacing things when we need to replace them….". Specialist vehicles, including tool of trade vehicles, or those with additional modifications (e.g., additional shelving or custom cargo holds) were kept longer, and were more likely to be owned than leased due to capital investment and resale value.

The majority of interviewees stated that maintenance of the vehicle was completed to 'manufacturer specifications'. In only a few organisations, it was stated that the drivers were held accountable for servicing, and this occurred more frequently when drivers had dedicated vehicles (i.e., as opposed to pooled fleet vehicle). There was a lack of consensus among organisations as to who should be responsible for vehicle maintenance process e.g., recording completed services.

It was also noted during the interviews that there appeared to be greater rates of servicing documentation and compliance in organisations that used technology to assist them e.g., a web based application that would send reminders when services were due. This finding aligns with the previous discussion relating to a lack of consensus around responsibility for road safety management (Pillar one). Additionally, fleet managers or officers often cited the positive benefits of such electronic systems, such as reduced workload.

Pillar Four: Safer road users

In workplace road safety context, discussion relating to the 'safer road user' pillar addressed the need for employees of organisations (the road users) to be safe such that they hold a valid drivers' licence, complete an induction, engage in safety-related communication and complete required training. Overall, the results identified that organisations rely heavily on licencing as a competency.

Specifically, the recruitment process was the same, regardless of whether the person drove for work or not. That is, very few organisations had a dedicated recruitment process for the driving role. The majority of organisations stated that potential drivers would be asked whether they had a licence during the recruitment process. However, the verification process was highly varied, ranging from no process to verify a license to other organisations that maintained licence status, expiry and points in an electronic system which would also notify via email when renewals were due or points were low. There was also a large degree of variability in the auditing of licencing with some organisations placing the onus on the driver to notify of any changes.

Other pre-employment checks conducted by organisations included health checks i.e., vision tests, in-vehicle competency assessments, and drug and alcohol screening. While the former were not very common, police checks were common (however, this may have been due to the number of community service organisations in this sample). Depending on the role e.g., delivery driver, there may have been physicality requirements, for example, fitness or height requirements.

Another identified subtheme of this pillar was driver history. The majority of organisations did not ask about a candidate's driving history. In fact, in some cases there was an intentional aversion to questions related to a previous driving behaviour for reasons around talent scarcity. The issue of perceived discrimination and being an equal opportunity employer was also considered an important factor in the recruitment of drivers. For example, one manager commented: "…you can't necessarily

discriminate against putting someone in that position because they don't have a driver's licence. Because it's not really a core requirement."

A further relevant subtheme is OH&S induction. The majority of organisations completed some form of site induction. However, there was variability across organisations, particularly as a result of the core business activity of that organisation. In some cases, there were procedures to induct staff on fleet and driving issues such as servicing, maintenance, accident procedure, authorised drivers, and logs, while in other organisations there was no formal induction process. In addition, there was no vehicle induction for the majority of organisations. One reason for this appeared to be reflected in the perception that if the person had a licence, this process could be perceived as condescending to already able drivers.

For organisations with a vehicle induction process, this was generally undertaken at the discretion of the supervisor or fleet manager: "…on the induction checklist there are certain policies that are highlighted that we expect that they will read. Again, depending on the area, sometimes it is just asking them to do it, and hoping that they've done it."

In the context of driver behaviour, the majority of organisations assumed that their staff would 'follow the road rules'. One manager stated: "So we assume by having their licence they have the competency to drive a vehicle safely." And with respect to driving training, only a few organisations employed external driver training programs, and of those, there was a strong trend toward online training or e-learning modules. Reasons for the lack of training included cost, lack of information (e.g., effectiveness of different training programs, types of training programs), logistics (i.e., time-management, decentralised companies) and lack of senior management support (the latter often cited as a critical factor).

Pillar five: Post-crash response

In workplace road safety, 'post-crash response' refers to an organisation's policy and process following an incident in the workplace including reporting, investigation and infringements. Results suggested that incident reporting was being completed, however, also that incident reporting training was limited in the majority of organisations.

The majority of organisations had some type of incident reporting system which included collecting information about the driver, vehicle, who was at fault, location, and other vehicles involved. Some also recorded crash cause, task, time of day and near misses. Of note, online systems (e.g., risk management software or spreadsheets) were frequently used, e.g. Riskman, Mango or Excel. Only a small number of organisations stated that reporting was completed exclusively by their insurance company.

The majority of organisations completed monthly (others weekly, quarterly or annually) reporting from incident databases, mostly in the form of trend analyses. These reports were generally discussed at

management meetings or OH&S committee meetings. In some cases, interviewees mentioned that the reports were simply given to a senior manager or the CEO of the organisation. Related to this, proper incident investigation tended to be reserved for 'serious' incidents such as those involving personal injury and/or asset damage. A small number of organisations conducted incident investigations (e.g., root cause analysis) internally while many seemed to rely on insurance investigators or reports. Both organisations and insurers were primarily interested in 'at fault' collisions.

Training employees how to report incidents was limited, and it was evident that there was significant underreporting due in part to a lack of training. However, if a new system had been implemented, staff were generally trained on how to use that system.

The majority of organisations also recorded infringements. However, there was a lack of oversight in the management of the incidents for which employees had received infringements. For example, most organisations had infringement notices sent directly to a financial or administrative office such that they were never seen by fleet managers or supervisors. One manager commented: "…if there was someone that was constantly infringing and we were concerned, then we'd talk to them…there's nothing formal in policy." There were exceptions, e.g. in one organisation the driver received a personal letter signed from the CEO. Another organisation gave infringement notices to supervisors rather than staff directly, and this practice reportedly resulted in a 50% reduction in the number of infringements received.

Potential Impact of the Research

The section above reported current industry work-related driving policy and practices within the context of the NRSPP benchmarking framework. This framework was used to map the *current landscape of work-place road safety* against *best practice*. **As part of this process the *maturity* of organisations has been further considered below with respect to current policies and practices in workplace road safety and the depth of development, implementation and evaluation of these practices.**

At a high level, the results showed varying levels of maturity across the participating organisations. It was evident that there were opportunities for improved maturity across the sample. These opportunities have been expressed as 'recommendations' (see Table 3, Appendix B) against each of the five pillars of road safety, consecutively. The recommendations have been informed by expertise within the research team, stakeholder perspectives[4], and published literature in the field of work-related driving safety.

Practical Implications

This report has provided a unique insight into the landscape of workplace road safety management in Australia. The practical implications of these results prompt review of current practices and risk management strategies as well as an opportunity to explore the development of new initiatives that target a reduction of death and injury in this safety critical domain. In this context, one central theme that emerged was the apparent lack of management commitment to safety. This was evidenced in a lack of standardised and implemented practices related to journey management (i.e., fatigue), road users (e.g., training, induction to the vehicle) and post-crash response (i.e., incident reporting). To minimise the risk of work-related driver injury, a greater formalisation of policy and procedure is required by organisations, particularly in regards to roles and responsibilities of supervisors in the safety management of drivers (i.e., [14]).

Increased formalisation of policy and procedure would act to reduce the discretionary practices of supervisors as well as provide clarity in supervisors' roles and responsibilities in the safety management of drivers. Another prominent theme in the context of reviewing current risk management strategies is licensing requirements. The practical implication of industry perception that licenced drivers are competent to drive any vehicle, in a wide range of conditions and without organisational training is twofold. Firstly, it reveals a need for systems to validate (e.g., manual versus automatic licence) and maintain (e.g., licence expiry dates) licences and manage infringement notices (e.g., demerit point accumulation). Secondly, it presents a need for organisations to assess whether

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[4] Stakeholder (representatives from work-related injury compensation regulators, insurers, academics and industry) opinion was sought at the recent workshop, "Reviewing the landscape of work-related driving safety policy and practice" (see Appendix C for a list of workshop participants and affiliations).

there are aspects of their employee's driving roles which may require more than holding a current, valid a licence. Each organisation is unique and each role presents pressures. Greater consideration of the specific risks faced by drivers, raises awareness of potential safety concerns which may result in supervisors and senior management implementing risk management strategies. For example, some organisations offer needs-based training for driving requirements including, e.g. 'driving with a trailer'.

A second key theme that emerged in the data was the use of technology in the context of fleet maintenance, incident reporting and communication practices. Technology will undoubtedly play a prominent role in the future management of safety within this context, particularly in regards to addressing the challenge around 'visibility' of driving performance. This also presents an opportunity for organisations to use the generated data to optimise safety through learning. The interaction and communication between supervisors and drivers should play a key role in this process following the integration of data produced by technology into the daily safety management practices of supervisors.

Translation Workshop

Executive Summary

In order for industry to be able to review current practices, modify and adopt improved practices that will act to reduce work-related driving risk, researchers must find an effective means of communicating research findings with industry. As a first step in the translation of this study's findings, the recent workshop, "Reviewing the landscape of work-related driving safety policy and practice" attracted a variety of key stakeholders such as representatives from work-related injury compensation regulators, insurers, academics and industry (see Appendix C for a list of workshop participants, affiliations and program outline). There were a number of future directions and steps forward that emerged at this forum that will encourage further research and relevant changes to policy and practice to improve work-related driver safety. These steps are summarised below (Table 4) in the form 'key actions' that have been proposed to address each of five major barriers to better managing the safety of work-related drivers.

Table 4.

Key Actions expressed as a function of the five major barriers identified to better managing the safety of our work-related drivers

Identified barrier	Key Actions
1. Government policy as a barrier: Lack of access to data from regulatory bodies to assist in quantifying the 'extent of the problem'[5]. Regulatory interest exists, but need their involvement; Lack of specific legislation (e.g., induction, vehicle selection) around maintaining safe vehicles and chain of responsibility.	1a. Work on greater transparency from regulators and arrange access to data to quantify extent of the problem; 1b. Use data to **build a business case[6]** to elevate work-related driving as a public health issue. 1c. Work with WSV toward introducing a simple extension to OHS policy that would deem unsafe vehicles equivalent to unsafe workplaces. 1d. Clarify the roles and responsibilities of those involved in the safety management of drivers.
2. Knowledge gap as a barrier: Lack of access to relevant information about benchmarking and 'gold standards' relevant to industry types and unique contexts.	2a. Ensure that the Translation Task Force extends itself to communicate in appropriate and targeted language to educate organisations around "What is Safety Culture', and What is Best Practice', etc [7]. 2b. Disseminate results of this study as broadly as possible within the research, regulator and industry contexts[8].
3. Fleet manager role barrier: Lack of clarity and consensus around the role(s) of the fleet manager – need to acknowledge management of work-related drivers as well as the fleet 'asset'. The placement of the fleet manager within the organisation structure can be a barrier in itself.	3a. Work with organisations toward a change in culture - raise awareness of the importance of managing individual driving employees as well as fleet vehicles; 3b. Encourage organisations to consider the placement of the fleet manager within the organisation structure to reflect Key Action 3a.
4. Post-crash data barrier: Lack of collection of critical information post-crash such that it is impossible to determine 'purpose of journey'.	4a. Work with TAC and WSV toward taking responsibility for capturing purpose of journey data. A simple change in standard post-crash documentation required. Need to first address Key Action 1b.
5. Safety culture barrier: Inability to mandate or regulate safety culture within organisations. There is a general lack of understanding across organisations of the importance of establishing a mature 'safety culture'.	5a. Develop a summary of relevant case studies from the NRSPP[9] to provide the impetus to move forward with respect to safety culture.

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[5] 'Extent of problem' refers to the prevalence of work-related driving crashes and injuries.
[6] Contributions to such a business case should include the inclusion of a cost-benefit analysis (CBA) that demonstrates gains in productivity and efficiency in the context of return on investment (ROI); inclusion of potential savings on insurance premiums through reduced risk; viable timeline to see ROI.
[7] Initial strategy proposed that would target organisations or industries at highest risk.
[8] Forums identified that will assist with results dissemination include: TAC summit in July; Comcare summit (this year has a workplace road safety focus); present to autoclubs to improve awareness.
[9] The NRSPP case studies illustrate the effectiveness of the implementation of safety standards (e.g. BHP Billiton introduced mandatory reporting to ensure that road safety was a part of business operations).

Overall Summary

As part of the established Translation Task Force, this first report has mapped current industry work-related driver safety management practices against current best practice using the NRSPP framework. As part of this process we sought to identify the maturity of organisations, focusing on their policies and practices in workplace road safety and the depth of development, implementation and evaluation of these practices.

Overall, it was found that there was opportunity for improved maturity in workplace road safety risk management strategies in the majority of organisations. Of the five pillars, Pillar 3 'Safer Vehicles' showed the strongest evidence to support the development and implementation of initiatives to better safety manage work-related drivers.

The practical implications of this research are far reaching. These findings reveal that currently Australian organisations have an opportunity to develop greater maturity across all five pillars and their relevant practices. Of note is the ambiguity employees experience regarding their driving role, the large amount of supervisor discretion and a lack of management commitment to safety initiatives. There was an identified need to better formalise policy and process. Increased technology use also calls for a strong need for its evaluation as a road safety management technique, particularly in the areas of communication, journey management, and incident reporting. Using the ANCAP rating was one of the few consensus items derived from this report, in addition to the trend for increased fleet vehicle age. The latter prompting organisations to consider the associated safety implications. Licencing was discussed in great depth within this report, as there was a general perception that holding a current licence negated the need for a vehicle induction, training or information relating to being a safe road user. The need for relevant training and standardised incident reporting / response was also discussed. Mapping current practice against 'best practice' in this domain has identified a need for greater formality, accountability and evaluation of work-related driver safety management policy and practices within organisations. Key actions emerged from an interactive stakeholder workshop that provided an opportunity for discussion around addressing limitations to the current approach to reducing death and injury in this critical safety domain.

Who to contact?
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Dr Sharon Newnam

Dr Newnam is a Senior Research Fellow at MUARC and is recognised as a world leader in the area of work-related transportation safety. She has demonstrated significant impact in advancing knowledge of factors that influence the safety of work-related drivers and developing interventions to reduce the social and financial impact of crashes. Using an evidence-based approach, Dr Newnam's contributions to the field have been recognized at the industry level with significant improve-ments in safety outcomes (e.g. reduced crashes, traffic infringement notices, insurance premiums) identified within several partner organisations.

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Appendices

Appendix A: Methodological supplementary information

Table 1.

World Health Organisation Definitions of the Five Pillars of Road Safety.

Pillar	Description	Definition
1	Road safety management	Adhere to and/or fully implement UN legal instruments and encourage the creation of regional road safety instruments. Encourage the creation of multi-sectoral partnerships and designation of lead agencies with the capacity to develop and lead the delivery of national road safety strategies, plans and targets, underpinned by the data collection and evidential research to assess countermeasure design and monitor implementation and effectiveness.
2	Safer roads and mobility	Raise the inherent safety and protective quality of road networks for the benefit of all road users, especially the most vulnerable (e.g. pedestrians, bicyclists and motorcyclists). This will be achieved through the implementation of various road infrastructure agreements under the UN framework, road infrastructure assessment and improved safety-conscious planning, design, construction and operation of roads.
3	Safer vehicles	Encourage universal deployment of improved vehicle safety technologies for both passive and active safety through a combination of harmonization of relevant global standards, consumer information schemes and incentives to accelerate the uptake of new technologies.
4	Safer road users	Develop comprehensive programmes to improve road user behaviour. Sustained or increased enforcement of laws and standards, combined with public awareness/education to increase seat-belt and helmet

wearing rates, and to reduce drink-driving, speed and other risk factors.

| 5 | Post-crash response | Increase responsiveness to post-crash emergencies and improve the ability of health and other systems to provide appropriate emergency treatment and longer term rehabilitation for crash victims. |

Source: (WHO, 2013)

Table 2.

Job Title Categories within the Sample.

Job title category	N
Occupational health and safety manager	16
Environment, health and safety manager	12
Safety and risk manager	11
General manager	11
Fleet manager	6
Human resources manager	5
Finance manager	4
Director / Managing Director	4
Administrative / Support manager	4
Workers compensation manager	3
Quality manager	2
Other	3

Appendix B: Potential Impact supplementary information

Table 3.

Current landscape in work-related road safety and relevant recommendations as mapped onto the WHO Five Pillars of Road Safety

Pillar	Current Landscape – Identified Opportunities for Improvement	Recommendations
1. Road safety management	- Role clarity and responsibilities of management - Communication practices	- Shared ownership for driver safety between management and drivers - Ensure safety policy & procedure is communicated and understood - Use a range of communication methods so that messages are accessible at all levels - Utilize novel technologies to assist with communication, but retain human element
2. Safer roads and mobility	- Lack of monitoring driver journeys, managing fatigue - Some evidence of use of new technology to assist journey management	- Implementation of a journey management policy - Integration of new technology into reporting systems - Evaluation of effectiveness of novel technologies
3. Safer vehicles	- Widespread use of ANCAP ratings - Some evidence of electronic systems for vehicle maintenance - Strong influence of 'cost' on vehicle turnover	- Broader application of risk assessments to determine individual driver needs - Broader application of electronic systems for management of vehicle maintenance - Empowerment of fleet managers to allow more informed decisions based on *safety & ROI* for vehicle procurement - Consideration of safety implications associated with the trend of increased fleet vehicle age
4. Safer road users	- Lack of staff induction and training related to work-related driving for majority of organisations	- Stop relying on license checks; Implement mandatory induction and training in workplace road safety programs - Greater consideration of supervisor / manager-level responsibilities with regard to driver behaviour
5. Post-crash response	- Few organisations had driving incident reporting / response practices in place - Limited use of incident reporting data to improve safety management	- Implement improved (driving-related) incident reporting processes, and train staff to use them - Consider the use of standardised electronic incident reporting system - Ensure that ALL relevant incident-related data are integrated within safety management practices[10]

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[10] Data collation should extend to ALL information potentially relevant to driver behaviour including, e.g. individual traffic infringements, near misses, accidents, public complaints, licensing, as well as relevant system and organisation factors.

Appendix C: Workshop participants and program

Reviewing the Landscape of Work-related Driving Safety Policy and Practice

Workshop Participants

Research Team

Mark Stevenson, CIA, Professor of Urban and Public Health, The University of Melbourne

Sharon Newnam, CIB, Senior Research Fellow, Monash University Accident Research Centre and ISCRR

Dianne Sheppard, Senior Research Fellow and project manager, Monash University Accident Research Centre

Amanda Warmerdam, PhD student, Monash University Accident Research Centre

Chair

Andrea De Silva, Institute of Safety Compensation and Recovery Research (ISCRR)

Industry / Insurers / Regulators / Independent Researchers

Jerome Carslake, Manager, National Road Safety Partnership Program, Safe Systems Engineering, ARRB Group Ltd

Warwick James, Manager, Operational Strategy & Planning, Health & Safety, WorkSafe Victoria

Dale Garbett, Leader, Risk Engineering Client Services, Vero

Karl Arena, Motor Fleet Risk Management team, Vero

Mark Stephens, Manager Fleet Operations, UnitingCare, Queensland

Rob Eldred, Operations Manager, Holden Company Vehicle Operations, GM Holden

Scott Emanuelsson, Driving employee representative from GM Holden

Apologies

Prof Mark Griffin (CI and member of research team, UWA)

A/Prof Gillian Heller (CI and member of research team, Macquarie University)

Prof Malcolm Sim (AI and member of research team, Monash University)

Jamie Swann (WorkSafe Victoria)

Jason Thompson (The University of Melbourne)

Reviewing the Landscape of Work-related Driving Safety Policy and Practice

Tuesday 26th April, 2016

Program

9:45am   Tea and coffee, introductions

10:15am   Workshop commencement & Opening address: Mark Stevenson & Sharon Newnam

Outline of workshop: Chair, Andrea De Silva

10:50am   Study justification, methods, sample demographics – SN / AW

11:20   Key findings from interviews, *current landscape* work-related driving risk management –
SN / AW

11:45   Industry insights session – current barriers / facilitators: ALL

12:00   Round table discussion on key findings

12:30 – 1:30   **LUNCH**

1:30   **Open discussion forum:** What now? Solutions based on current landscape

What does this mean for: a. the community; b. the workplace; c. the individual?

2:30   Closing address – summarise outcomes of workshop and 'where to from here',
including insights from the NRSPP: Jerome Carslake & Andrea De Silva

3pm   Mark Stevenson / Sharon Newnam - formal workshop close

Informal discussions

3:45pm   **End of Workshop**