

Work-related safety



- Work-related vehicle crashes account for almost half¹ of all occupational fatalities in Australia and 15% of the national road toll².
- In the 2012–13 financial year, workplace injury and illness cost the Australian economy \$61.8 billion, which represented 4.1% of the Australian Gross Domestic Product.³

State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

THE FACTS

The Australian Work Health and Safety Strategy 2012-2022⁴ provides a 10 year national framework to drive improvements in workplace health and safety in Australia. The Australian Strategy sets three **targets** to measure progress in achieving the vision:

- 1. a reduction of at least 20% in the number of worker fatalities due to injury;**
- 2. a reduction of at least 30% in the incidence rate of claims resulting in one or more weeks off work; and**
- 3. a reduction of at least 30% in the incidence rate of claims for musculoskeletal disorders resulting in one or more weeks off work.**

What is work-related safety?

Work-related safety is a multi-disciplinary approach aimed at protecting the safety, health and welfare of employees, contractors and visitors attending workplaces and worksites. Work-related safety professionals acknowledge that work-related death, injury and illness can be prevented through effective and appropriate risk management. By recognising and controlling for hazards, they strive to create a proactive and sustainable safe work environment.

Legislation

For organisations operating either light or heavy vehicle fleets, there are two primary forms of legislation to consider:

- 1. Road safety or transport legislation** governs general road use, including driving hours for heavy vehicles, as well as vehicle safety and driver qualification and regulatory frameworks; and

- 2. Workplace Health and Safety legislation** governs an organisation's vehicles operated for work.

- In the case of road and transport legislation, various transport departments and police services across Australia provide guidance and enforcement of these legislations. Additionally, the National Heavy Vehicle Regulator serves as an independent regulator for the operation of heavy vehicles.
- Under Workplace Health and Safety (WHS) legislation in Australia, organisations are obliged to provide safe premises, machinery, materials and systems of work, information, instruction training and supervision, as well as a suitable working environment and facilities required for the job. Likewise, employees have an obligation to perform work (including driving) safely and comply with legislation, policies and procedures to minimise safety risks.
- Under WHS legislation, vehicles used for work purposes are considered as a workplace.

Why is work-related safety important?

- Every work-related accident is preventable and every employee has the right to work in a safe environment.
- Work-related safety is critical to organisations to:
 - Improve safety for workers, road users and members of the public;
 - Reduce fatalities and injuries;
 - Improve profitability by reducing the costs associated with production delays, recruiting new staff and replacing equipment;
 - Improve worker morale and productivity;

- Gain higher employee retention rates and reduced work absences; and
- Enhance corporate image.
- Not only do employers and employees benefit from safer workplaces, but also their families, their communities and the economy at large.

All members of a workplace have the obligation to maintain the health and safety of themselves and others, regardless of whether they are owners, managers, employees or visitors to a workplace.

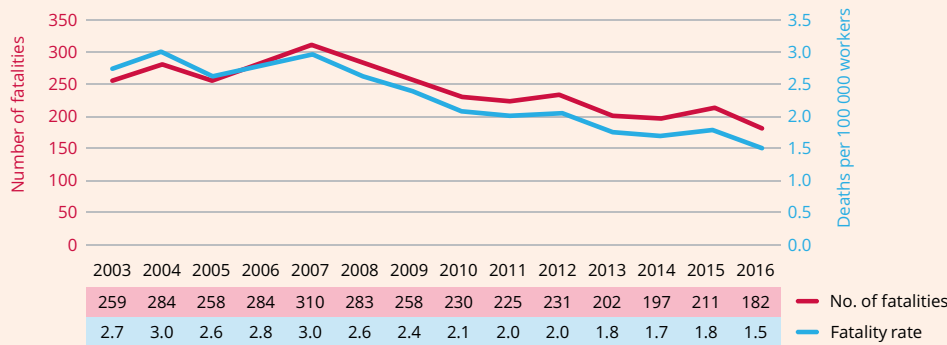
THE AUSTRALIAN SITUATION

2016 in focus¹:

- There were 182 work-related traumatic injury fatalities in Australia, of these:
 - 99 of the 182 fatalities (54%) involved a vehicle;
 - 168 (92%) of the 182 worker fatalities were male;
 - 76 (42%) were due to a *vehicle collision*, 17 (9%) were due to being *hit by a moving object*, and 25 (14%) were due to *falls from height*;
 - Mobile plant and transport accounted for 55% of fatalities. Trucks, semi-trailers or lorries were the biggest contributors accounting for 23% of fatalities, followed by cars, station wagons, vans or utilities (12%);

ANALYSIS SINCE 2003¹

Figure 1 Worker fatalities: number of fatalities and fatality rate, 2003-2016



- Both the number of fatalities and the fatality rate have been trending downward since 2007. Injuries at work resulted in the deaths of 182 workers in 2016, 29 less than in 2015, and the lowest number since the full collection of data began in 2003.
- Over the last 10 years (2007-2016), 1,484 (64%) of worker fatalities involved vehicles. Of these, just over half (748 fatalities) occurred on a public road. The majority of these (88%) were the result of a vehicle collision.
- Over the last 10 years (2007-2016), the vast majority of fatalities occurred in three industries: transport, postal and warehousing accounted for the highest number of fatalities, followed by the agriculture, forestry and fishing industry, and then the construction industry.
- Whilst fatality rates for male workers have declined over the last 10 years, males have consistently recorded ten times the fatality rate of females.

- Although the road transport fatality rate has decreased since 2003, it is still 10 times the all industries rate (14.9 compared with 1.5 per 100,000 workers);
- Fatality rates generally increased with age from 0.8 fatalities per 100,000 workers in those aged under 25 years to 5.3 in workers aged 65 years and over; and
- The actions of a worker or a fault in a workplace resulted in the deaths of 52 members of the public. Of these, 24 were the result of a vehicle incident.

- Costs associated with work-related vehicle crashes often do not include costs associated with personal injury, medical/hospital, rehabilitation, absence from work, workers compensation, downtime/lost productivity and potential loss of custom⁷, administration, loss of assets, and retraining and insurance premiums costs¹¹.
- It has been reported that the average total insurance cost of a work-related crash in Australia is approximately \$28,000¹¹. In the UK, work-related crashes cost organisations an estimated average of £4.4 billion annually¹².

- Role of thrill and adventure seeking in risky work-related driving behaviours.
- Effects of sleep loss on change detection while driving.
- Surveys of driver exposure to sleepiness and their on-road compensation strategies.

The significant economic costs of work-related injury, illness and death are borne by workers, the broader community and employers.

WORK-RELATED ROAD CRASHES IN FOCUS

- In 2016, work-related vehicle collisions accounted for 42% of all occupational fatalities in Australia¹ and 15% of the national road toll².
- Reversing incidents are the most common types of crashes^{5,6}.
- Work-related road crashes incur a greater average time lost in worker absence than any other workplace claim^{5,6}.
- Based on Australian Workers' Compensation data, work-related road crash injuries are estimated to cost approximately \$500 million per year⁷.
- How an organisation performs, or is required to perform its operations, may influence work-related driver safety (e.g. high mileage travel^{8,9}, time pressures¹⁰, and in particular, organisational culture¹¹).

Work-related safety: CARRS-Q'S recent work in the area

- Investigation to increase knowledge and understanding of the needs and motivations of Queensland industry to reduce productivity losses from injuries and illnesses.
- Investigation of crash involvement of taxis in Queensland.
- Heavy vehicles (trucks) in Oman, including characteristics of crashes and driving behaviours, beliefs, attitudes and practices.
- Integrating technological and organisational approaches to enhance the safety of road workers.
- Investigation of contemporary best practice in safety at road worksites and recommended practical guidance.
- Development of an Occupational Road Safety Guide, available at: <https://www.nrspp.org.au/resources/a-guide-to-applying-road-safety-within-a-workplace/>
- Investigation of deterrence-based and positive/persuasive approaches can be used to influence industry work health and safety compliance.
- Investigation into employee's perceptions regarding the effectiveness of occupational road safety initiatives.

Work-related road safety is a complex puzzle comprising many different components. If only one piece of the puzzle is targeted, the complete picture is never achieved¹³.

CONSTRUCTION SAFETY IN FOCUS

- In 2013-14¹⁴, the Australian construction industry employed 1.01 million people, representing 9% of the Australian workforce.
- Over the 12 years from 2002-03 to 2013-14, 417 construction workers died from injuries sustained at work, accounting for 14% of all fatalities of Australian workers during this period. The total number of deaths equated to 2.24 fatalities per 100,000 workers, which is 34% higher than the national rate of 1.67.
- Falls from a height accounted for 28% of fatalities overall in the construction industry over the 12 year period 2002-03 to 2013-14. This was followed by vehicle collisions (16%) and contact with electricity (15%).
- Around 12,600 workers' compensation claims are accepted from the construction industry each year for injuries and diseases involving one or more weeks off work. In the construction industry this equates to 35 serious claims each day.

- Although the incidence rate of serious claims has fallen 31% from 27.5 claims per 1,000 employees in 2001-02 to 17.5 in 2011-12, this rate remains higher than the rate for all industries (12.0) and was the fourth highest of all industries in 2011-12.

Construction safety: CARRS-Q's recent work in the area

- CARRS-Q conducted research in partnership with the Sustainable Built Environment National Research Centre (SBEncr) and its predecessor, the CRC for Construction Innovation:
 - A national qualitative and quantitative assessment of the use of drugs and alcohol in the Australian infrastructure and building industry. A key outcome of this project was the development of a web-based program for use by managers and supervisors to help reduce and manage AOD in the construction industry.
 - Development of a tailored AOD addiction/impairment module in collaboration with Mates in Construction as part of their industry-specific suicide awareness program.

ALCOHOL AND OTHER DRUGS IN THE CONSTRUCTION INDUSTRY

- The impact of employees' alcohol and other drug (AOD) consumption on workplace safety and performance is an on-going issue for Australian employers, particularly within high-risk industries like construction.
- Very little is known about what proportion of accidents are directly attributable to the effects of AODs, despite AOD consumption being widespread within the Australian community¹⁵ and the clear link between such consumption and subsequent declines in cognitive and behavioural performance¹⁶.
- A study using the Alcohol Use Disorders Identification Test (AUDIT)¹⁷ revealed 286 respondents (58%) scored above the cut-off score for risky alcohol use, with 43 respondents (15%) scoring in the significantly 'at risk' category. Other drug use (both illicit and licit) was also identified as a major issue.
- Many companies now conduct random AOD testing as part of their overall AOD management plan. In some industries, such as transport, development of an AOD management program (including testing) is a mandatory requirement under legislation (i.e. rail and civil aviation).

Alcohol & other drugs: CARRS-Q'S recent work in the area

- Investigation to optimise general deterrence initiatives to prevent drink driving.
- Investigation of current drug driving trends in Queensland.
- Investigation of women's drink driving behaviour.

- Development of options for rehabilitation in interlock programs.
- Deterrence of drug driving: the impact of the QLD drug driving legislation and detection techniques.
- Development of best practice to inform community understanding and management of the impact of prescribed drugs on driving and machine operation.

WORKING IN REMOTE AREAS

- Australian employees are increasingly choosing to commute long distances to and from work for various reasons. This phenomenon is particularly apparent within the resources industries such as construction and mining. In response to the mining boom, mine sites opted to hire workers from all parts of Australia, typically on a fly-in-fly-out or drive-in-drive-out basis. This employment arrangement has continued, despite the slight decrease in industry employment¹⁸.
- Remote workers face risks associated with long-distance commuting and commuting following shiftwork (e.g. fatigue resulting from length of shift) and the road environment (e.g. animals). These risks are amplified if, coupled with long driving distance in remote areas, the worker leaves immediately at the end of their shift¹⁸.

Remote area work: CARRS-Q'S recent work in the area

- Investigation of control beliefs and commuting intentions of mine workers.
- Examination of the legislative framework governing commuter safety in the Queensland mining industry.
- A review of Australian fly-in, fly-out operations and the impacts on communities, safety of workers, and their families.



HEAVY VEHICLES

- Heavy vehicle transport performs a critical service to the Australian economy. Due in part to the high level of driving exposure heavy vehicles are involved in a large number of road crashes. The size and mass of heavy vehicles also increases the likelihood of harm when a crash occurs.
- Based on the latest available data, approximately 16% of road crash fatalities and 4% of injuries involve these vehicles¹⁹.
- While assignment of fault can be problematic, available Australian evidence suggests that in approximately 80% of fatal multiple-vehicle crashes involving heavy trucks, fault is not assigned to the heavy truck¹⁹.

Heavy vehicles: CARRS-Q'S recent work in the area

- Investigation of safety culture in the Australian heavy vehicle industry to design organisation structures and systems to optimize safety.
- Profile contextual factors which influence safety in heavy vehicle industries.
- Investigation of the influences of power and control and culture on truck driver safety.
- Workplace interventions to improve truck drivers' health knowledge, behaviours and self-reported outcomes.

Vehicles used for work purposes are considered "workplaces". Safety in and around them is everyone's legal responsibility.

FUTURE DIRECTIONS

- There is a strong, urgent and increasing need for solid research expertise to guide interventions, strategies, and policies in Australia and overseas.
- Work-related safety remains a complex area where attention needs to be paid to multiple targets, such as behaviour, culture, legislation and regulation. CARRS-Q will continue to focus on all these areas with immediate targets in the regulation, policy and behaviour change domains. This work will include industry and government funded research and PhD programs.
- Future research will also focus on the dynamic relationship between regulator, industry and the worker. An area of increasing interest remains the heavy vehicle transport industry.



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