

WORK HEALTH AND SAFETY IN THE ROAD FREIGHT TRANSPORT INDUSTRY



OCTOBER 2013



safe work australia

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Key findings

Road freight transport worker fatalities

The annual number of work-related fatalities resulting from injury in the Road freight transport industry has decreased from 58 in both 2006–07 and 2007–08 to 30 in 2010–11.

This decrease in the annual number of fatalities reduced the fatality incidence rate from 38 fatalities per 100 000 Road freight transport workers in 2006–07 to 19 in 2010–11.

The fatality rates in the Road freight transport industry were roughly ten times higher than those for all industries across the eight year period 2003–04 to 2010–11.

There were 352 work-related fatalities resulting from injury in the Road freight transport industry over the eight-year period 2003–04 to 2010–11.

Of these fatalities:

- 275 (78%) occurred while the decedent was driving or being driven in a vehicle on a public road. Of these fatalities:
 - * 173 fatalities were the result of single vehicle incidents classified as either *Rollover* or *Hit stationary object*.
- 77 (22%) occurred at a location other than a public road. Of these fatalities:
 - * 49 fatalities occurred while *Loading and unloading*, and
 - * 12 occurred while undertaking *Repair and maintenance* tasks.

Road freight transport non-fatal serious workers' compensation claims

Employees in the Road freight transport industry made around 4000 non-fatal serious compensation claims a year over the period 2002–03 to 2010–11. Non-fatal serious claims involve either a permanent incapacity or a temporary incapacity that required a week or more away from work.

The incidence rate of non-fatal serious claims has ranged between 36.8 (2002–03) and 29.8 (2009–10) claims per 1000 Road freight transport employees.

Over the five-year period 2006–07 to 2010–11p:

- Male employees made nearly all (97%) of the non-fatal serious workers' compensation claims in the Road freight transport industry, reflecting the male dominance of the industry.
- The rate of non-fatal serious claims for male employees in the Road freight transport industry increased with age. Male employees aged under 25 years had the lowest incidence rate (32 claims per 1000 workers) while males aged 65 years and over had the highest rate (41).

- The most common types of injuries were:
 - * *sprains and strains of joints and adjacent muscles* (45%)
 - * *fractures* (13%)
 - * *contusions with intact skin surface and crushing injury excluding those with fracture* (8%), and
 - * *open wound not involving amputation* (6%).
- The most common causes of injury were:
 - * *muscular stress while lifting, carrying, or putting down objects* (19%)
 - * *muscular stress while handling objects other than lifting, carrying or putting down* (15%)
 - * *falls from a height* (13%)
 - * *falls on the same level* (12%), and
 - * *vehicle incidents* (8%).

The median time lost from work increased slightly over the period 2002–03 to 2010–11, from a minimum of 4.8 weeks in 2003–04 to a maximum of 5.8 weeks in both 2007–08 and 2008–09.

The median time lost from work for employees in the Road freight transport industry was consistently higher than the all industries figure by between 1 and 1.8 weeks over the period.

The median cost of a claim also increased from \$5800 in 2003–04 to \$8700 in both 2007–08 and 2008–09.

The median cost of a claim for the Road freight transport industry was consistently higher than the all industries figure by between \$300 and \$1500 over the period.

Introduction

The Australian Strategy 2012–2022 and the Road freight industry

The *Australian Work Health and Safety Strategy 2012–2022* sets out a broad range of activities and strategies to improve the health and safety of Australian workers. The strategy framework highlights many areas for attention, including broad “Priority industries” — that is, industries identified as a national priority for prevention activities. In addition, to focus attention on areas requiring the greatest improvement, relevant sub-sectors from within the broad priority industries will be chosen by the jurisdictions for particular scrutiny. Because of their high numbers of fatalities, the Australian Strategy selected the two industry sub-sectors of Agriculture and Road transport for particular attention during the first five years of the Australian Strategy. In response to this Safe Work Australia recently published an overview of work health and safety in the Agriculture sector — *Work-related injuries and fatalities on Australian farms*. This report provides a similar overview of the work health and safety status within the Road freight transport industry — an industry primarily engaged in transporting freight using trucks on public roads.

ABS definition of the Road freight transport industry

The Australian Bureau of Statistics industry classification, *Australian and New Zealand Standard Industrial Classification, 1993*, lists the primary activities of the Road freight transport industry as businesses that are “mainly engaged in the transportation of freight by road” but can also include business “mainly engaged in renting trucks with drivers for road freight transport”. The primary categories listed are delivery service (road); furniture removal service (road); log haulage service (road); road freight transport service; taxi truck service (with driver); and truck hire service (with driver).

Restricting the report to the Road freight transport industry means not all truck drivers are covered since an employee of a retail company that had their own truck or truck fleet would be recorded under the relevant Retail trade industry group. The same would apply to a truck drivers employed by a construction company or a mining company.

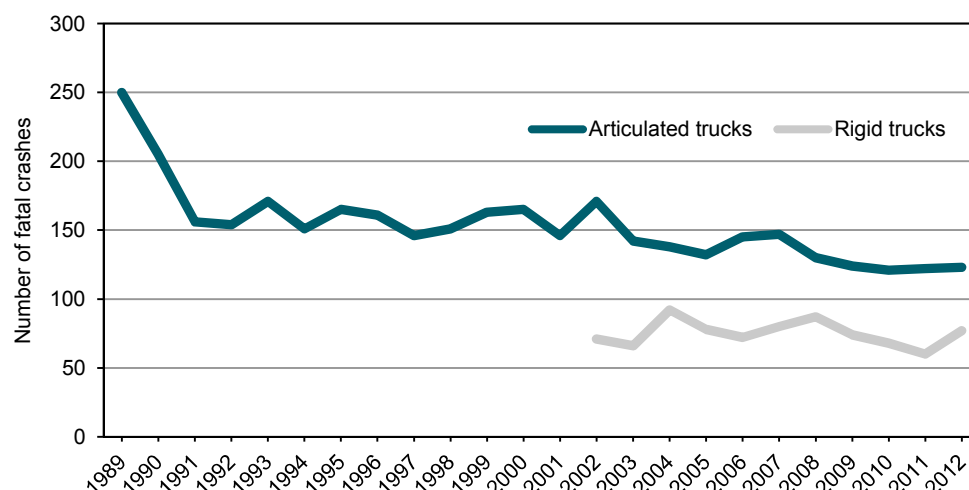
Road freight transport industry in the spotlight

The high number of fatalities associated with the Road freight transport industry has not just drawn the attention of work health and safety authorities. The broader issue of heavy transport road safety has long been a focus of attention from police and road transport authorities. For example, some particularly tragic incidents involving heavy vehicles in 2012 led to a recent series of coordinated ‘blitzes’ on the road worthiness of vehicles and the operational safety of some companies.

Fatal articulated truck crashes currently number around 120 a year

Figure 1 shows the number of fatal crashes (an incident in which at least one person died) on Australian roads involving either an Articulated truck (from 1989) or a Rigid truck (from 2002). The most notable feature of the graph is the large number of incidents involving Articulated trucks in 1989 (250 fatal crashes) and 1990 (205 fatal crashes) and the subsequent stabilisation of the number at around 150-160 fatal crashes. Relatively recent improvements since 2003 have brought the annual number of fatal crashes involving Articulated trucks closer to around 120.

Figure 1 Fatal crashes: articulated and rigid trucks



Source: Australian Road Deaths Database (http://www.bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx), 22 February 2013. Bureau of Infrastructure, Transport and Regional Economics, Canberra.

There are currently around 75 fatal rigid truck crashes each year

The data available for Rigid trucks are restricted to a more limited eleven-year period. During that time the number of fatal crashes averaged around 75, with only a slight trend downwards.

The number of deaths associated with each fatal crash can be more than one. Consequently, although there were 122 fatal crashes of Articulated trucks in 2011, the number of deaths associated with these incidents was 138. Similarly, for Rigid trucks, the number of fatal crashes in 2011 was 60, while the number of associated deaths was 72.

The majority of these fatal crashes involve more than one vehicle and the resultant deaths are most likely the drivers and passengers of other, often lighter vehicles, rather the driver of the heavy vehicle. Where the working driver of the heavy vehicle was at fault, the death of a driver or passenger in the other vehicle would be considered work-related and classified as a 'Bystander' death. However, because of the difficulty in establishing fault this issue is not covered in this report.

The Road freight transport industry has one of the highest fatality rates

The focus of this report is on the work health and safety issues affecting the Road freight transport industry and thus primarily on the workers within that industry. At the broad level, the industry is notable as having one of the highest fatality rates of all industries. In 2010–11, the fatality rate was 18.6 deaths per 100 000 workers — this sits starkly with an overall Australian fatality rate of 1.9 deaths per 100 000 workers (see Table 1).

The majority of deaths in the industry occur on the open road

The majority of deaths in the industry happen to drivers working on the open road who become involved in a vehicle incident: either as a single vehicle when, for example, the vehicle rolls-over or leaves the road, or in a multiple vehicle incident. Table 1 shows the number of worker deaths attributed to the Road freight transport industry over the period 2003–04 to 2010–11. Over this period the number of worker fatalities has ranged between a minimum of 30 (in 2010–11) and a maximum of 58 (in both 2006–07 and 2007–08).

Compensation claims in the Road freight transport industry are most commonly for body stressing

In contrast to fatalities, most workers' compensation claims for injury in the Road freight transport industry are the result of hazards other than those found on the open road, such as body stressing and falls from a height while carrying out such tasks as loading and unloading goods and covering loads.

The impact of speed and fatigue

The main work health and safety hazards impacting on drivers who have to deliver their load over long distances are fatigue and tight schedules that may encourage speeding. The National Transport Insurance Company regularly reports on the circumstances of major heavy truck incidents occurring under their scheme. Their latest report, *Major Accident Research Report, 2013*, highlights both inappropriate speed and fatigue as dominant causes of incidents. Their analysis of 461 heavy vehicle crashes involving losses of more than \$50 000 determined that inappropriate speed accounted for one-quarter of the crashes and fatigue caused a further 12%. This observation is supported by an analysis of the circumstances surrounding heavy vehicle speeding in New South Wales between 1 January 2003 and 2 April 2011 that reported that 12 107 heavy vehicles were issued at least one strike for speeding at or more than 15 km/h over the posted limit (AIC, 2012).

Although Australian Design Rules have required all vehicles over 12 tonnes gross vehicle mass to be speed limited to 100 km/h since 1 January 1991 (DOTRS, 1990), a large proportion of heavy vehicle incidents occur at lower speeds. For rigid trucks, the Bureau of Infrastructure, Transport and Regional Economics reports that in recent years around 60% of fatal crashes occurred on roads where the posted speed limit was 90 km/hour or less (BITRE, 2012). Research suggests that “total elimination of heavy vehicle speeding might prevent roughly one-quarter of serious casualties involving a heavy vehicle” (Brooks, 2002).

Some recent work health and safety initiatives include new regulations, the Road Safety Remuneration Tribunal and the construction of new rest areas

Recent heavy vehicle safety initiatives include the establishment of a National Heavy Vehicle Regulator (www.nhvr.gov.au) to administer new regulations, including fatigue management, for specific types of heavy vehicle; the introduction of the Road Safety Remuneration Bill 2012 and the creation of the Road Safety Remuneration Tribunal (www.rsrt.gov.au) to make decisions about pay and related conditions for road transport drivers and hear and help resolve disputes between road transport drivers and their hirers or employers; and at a practical level, the construction of new roadside rest areas and other road freight related infrastructure funded under the federal Nation Building fund (www.nationbuildingprogram.gov.au). These measures add to the existing heavy vehicle safety activities carried out by road traffic and law enforcement authorities such as roadside heavy vehicle checking stations and average trip speed safety cameras.

The following two sections of this report present the most detailed data currently available on death and injury in the Road freight transport sector. The first section presents information on fatalities in the Road freight transport industry that were identified through a combination of notifications from jurisdictional work health and safety authorities; the National Coronial Information System (NCIS) and workers’ compensation data. The second section presents information about Road freight transport industry employees who made a workers’ compensation claim for a non-fatal injury or disease.

Assigning industry categories

There may be differences in the degree of accuracy with which deaths and injuries were assigned to the Road freight transport industry. For non-fatal injuries the industry of employer determinations come solely from the worker’s compensation authorities. For fatalities, industry of employment was generally identified either by the worker’s compensation authority or by the notifying work health and safety authority. Where a fatality was neither compensated nor notified to Safe Work Australia information in the NCIS or the media may be used to best determine industry of employment.

Road freight transport worker fatalities

The information in this section on work-related fatalities has been extracted from the Work-related Traumatic Injury Fatalities (TIF) database compiled by Safe Work Australia. This database compiles data from notifications from jurisdictional work health and safety and workers' compensation authorities and information accessed through the National Coronial Information System. The discussion is restricted to workers who died while working and excludes bystanders who lost their life as a result of a workers' work-related activity.

Work-related fatalities due to injuries 2003–04 to 2010–11

The number of Road freight transport industry fatalities has declined in recent years ...

... but the fatality rate is still roughly ten times higher than for all industries

Table 1 shows the number of work-related fatalities in the Road freight transport industry by state and territory of incident, the number of fatalities for all industries and the resulting fatality incidence rates over the eight-year period 2003–04 to 2010–11. Although the number of work-related fatalities in the Road freight transport industry is high, the table shows that in recent years there has been a notable and consistent decrease in the number of work-related fatalities in the Road freight transport industry — from 58 in both 2006–07 and 2007–08 to 30 in 2010–11. This decrease is reflected in the declining fatality incidence rates over the same period — from 38 fatalities per 100 000 Road freight transport workers in 2006–07 to 19 in 2010–11. However, despite the recent decrease, the fatality rates in the Road freight transport industry were roughly ten times higher than those for all industries across the eight year period.

Table 1 also shows the underlying number of compensated fatalities, these were workers that were employees in the industry and thus covered under the workers' compensation system. Over the eight-year period around 70% of work-related fatalities due to injury in the Road freight transport industry were compensated.

Table 1 Road freight transport worker fatalities: number and rate by industry and state or territory of incident^a

Industry of employer	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Number of fatalities while working								
New South Wales	22	12	14	20	16	18	10	11
Queensland	3	10	13	17	20	12	10	4
Victoria	13	6	12	13	8	10	7	6
Western Australia	2	4		4	7	4	4	6
South Australia	4		1	3	4	3	5	3
Tasmania	1	2	2	1	1	1	1	
Northern Territory					2			
Road freight transport	45	34	42	58	58	48	37	30
Number compensated ^b	30	26	26	38	47	29	24	14
All industries	267	253	287	298	291	285	222	223
Fatality incidence rate (deaths per 100 000 workers)								
Road freight transport	28.4	25.0	29.4	38.2	35.7	27.3	22.2	18.6
All industries	2.8	2.6	2.9	2.9	2.7	2.6	2.0	1.9

a The state or territory where the incident that caused the fatality occurred.

b Compensated fatalities due to injuries based on financial year of incident rather than of claim lodgement.

Source: Safe Work Australia Work-related Traumatic Injury Fatalities database and National Data Set for Compensation-based statistics.

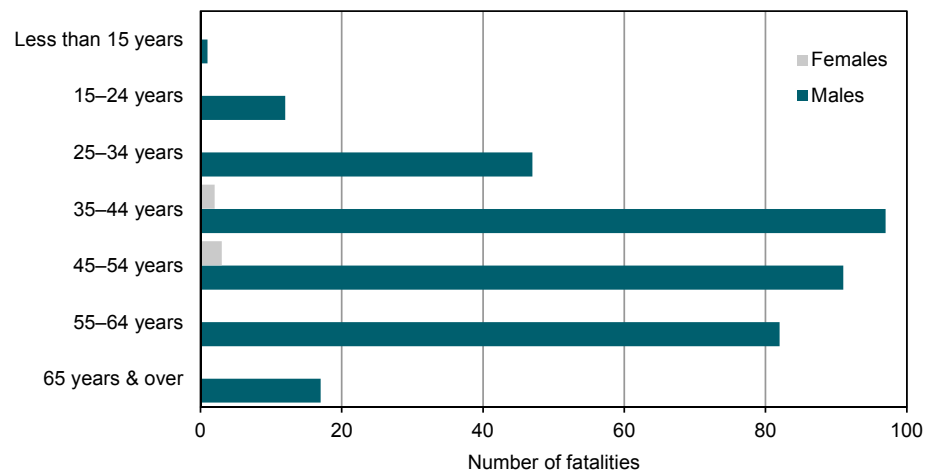
The state or territory where the incident that caused the fatality occurred is also shown in Table 1. However, the distribution of incidents primarily reflects the population dominance and the patterns of freight movement in eastern Australia. In 2000 about one-third of all road freight (on a tonnage basis) in Australia either moved within NSW; from another state or territory to NSW; from NSW to another state or territory; or travelled through NSW in transit between other states or territories (ABS 2001).

Demographic characteristics

Fatalities were predominantly of males in the middle to older age groups

Figure 2 shows the combined number of work-related deaths in the Road freight transport industry by age and sex over the period 2003–04 to 2010–11. Since only 5 of the 352 deaths over the eight-year period in the industry were of female workers the graph is dominated by male workers, particularly in the middle to older age groups. The most common age group of deceased males with 97 deaths (28% of fatalities) was 35–44 years. Notably, there were 82 deaths of male workers aged 55–64 years and 17 aged 65 years and over — together representing just over one-quarter (28%) of all work-related fatalities in the industry. The age sex profile of all workers employed in the Road freight transport industry is not available at this level of detail from the Australian Bureau of Statistics so fatality rates are not presented.

Figure 2 Road freight transport worker fatalities: number by age group and sex 2003–04 to 2010–11 combined



Fatalities while driving on a public road

78% of the fatalities within the industry occurred while the decedent was driving on a public road

Over the period 2003–04 to 2010–11 there were 352 work-related fatalities resulting from injury in the Road freight transport industry. Of these fatalities 275 (78%) occurred while the decedent was driving or being driven in a vehicle on a public road.

Figure 3 shows the types of incident that led to the death of the driver or, in a few cases, a passenger. The most common cause, accounting for 97 fatalities, was *Hit stationary object*. A typical example of such an incident was:

The decedent was driving a semi-trailer and as he approached the top of the ranges the road has a slight left hand curve. He continued to travel in a straight line driving into the right hand barrier rail pushing approximately thirty five metres of rail to the ground and driving across the top of the flattened railing. The prime mover and trailer continued over the railing and

down a steep embankment of approximately twelve metres and through approximately thirty eight metres of trees and bushes. The decedent was not wearing a seat belt at the time and was ejected from the vehicle and sustained fatal injuries.

The second most common type of incident, accounting for 76 fatalities, was a vehicle *Rollover*. A typical example of such an incident was:

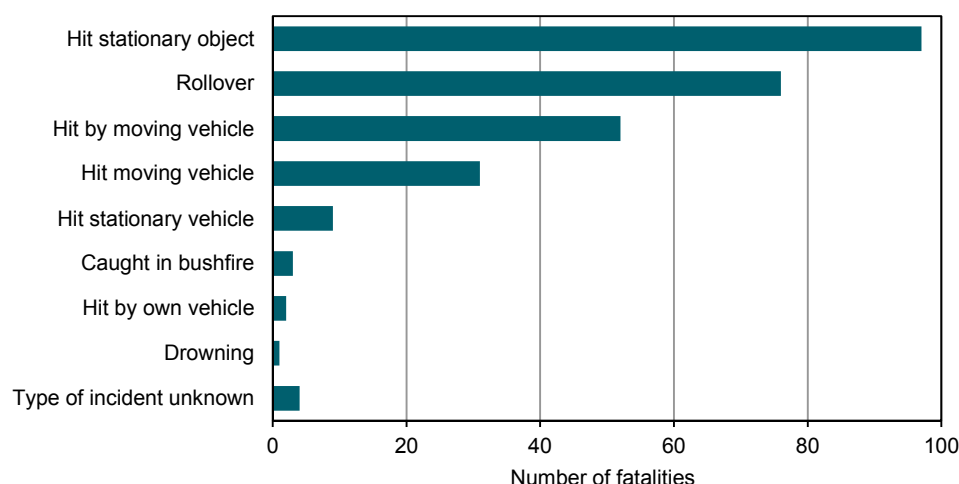
The vehicle was negotiating a 45 degree corner when the rear wheels of the trailer lifted off the road. This action carried onto the vehicle prime mover and subsequently caused the vehicle to roll-over.

Single vehicle incidents accounted for two-thirds of fatalities on public roads

These two categories of single vehicle incidents together accounted for two-thirds (173 fatalities) of the Road freight transport public road incidents. In many of these cases the vehicle being driven by the decedent both collided with a stationary object and then rolled, or conversely, rolled and then hit a stationary object—in these cases the first occurrence was used to classify the incident.

Most of the other incidents on public roads involved the decedent's vehicle either being hit by another vehicle (52 fatalities) or colliding with another moving (31 fatalities) or stationary vehicle (9 fatalities).

Figure 3 Worker fatalities while driving on a public road: type of incident 2003–04 to 2010–11 combined



Fatalities other than those on public roads

Over the period 2003–04 to 2010–11 there were 77 work-related fatalities resulting from injury in the Road freight transport industry that occurred at a location other than a public road. Table 2 shows a breakdown of these incidents by the activity the decedent was undertaking at the time and the mechanism of the incident.

Loading and unloading

Loading and unloading vehicles is particularly hazardous

The most common activity undertaken at the time of the incident was *Loading and unloading*. Overall, 49 fatalities occurred while carrying out this activity — accounting for nearly two-thirds (64%) of the Road freight transport industry fatalities that occurred at a location other than on a public road.

The most common mechanism of incident that occurred while *Loading and unloading* was *Being hit by falling objects*. This mechanism caused 15 fatalities. Most of these fatalities involved a truck driver being struck by an

Table 2 Road freight transport worker fatalities other than those on a public road: number by activity of decedent and mechanism of incident

Activity of decedent by mechanism of incident	Number of fatalities
Loading and unloading	49
Being hit by falling objects	15
Being trapped between stationary and moving objects	13
Being hit by moving objects	8
Falls from a height	6
Vehicle incident	3
Contact with electricity	3
Explosion	1
Repair and maintenance	12
Being hit by moving objects	4
Being trapped between stationary and moving objects	3
Contact with electricity	1
Contact with hot objects	1
Falls from a height	1
Being hit by falling objects	1
Being trapped by moving machinery	1
Driving	5
Vehicle incident	3
Contact with hot objects	1
Rollover of non-road vehicle	1
Other activity	11
Being hit by moving objects	3
Being trapped between stationary and moving objects	2
Falls from a height	1
Being assaulted by a person or persons	1
Single contact with chemical or substance	1
Being bitten by an animal	1
Exposure to environmental heat	1
Single contact with chemical or substance	1
Total non-public road fatalities	77

object falling from the truck being unloaded or from the forklift being used. In 4 cases, the object clearly fell after the worker released the load bindings on an unstable load. An example of these incidents is as follows:

A truck driver was unloading a semi-trailer loaded with large round bales of hay. While undertaking this task he released a load binder which resulted in a bale falling from the top of the load to the ground inflicting fatal crush injuries

The next most common mechanism was *Being trapped between stationary and moving objects*. This mechanism caused 13 fatalities. These incidents were quite varied but were primarily related to the hazards of manoeuvring prime-movers and trailers, the presence of other vehicles in the vicinity, the use of loading bays and ramps, and vehicle mounted cranes. A more atypical example of these incidents is as follows:

A truck driver was removing a 3.4 tonne steel coil from a semi-trailer parked next to his crane truck using the rear mounted crane on his vehicle, when the crane truck overbalanced tilted towards the semi and crushed the deceased between the two trucks.

Being hit by moving objects caused 8 fatalities. These incidents were also quite varied but primarily related to workers on foot in the vicinity of operating vehicles or vehicles that were out of control due to a brake failure of some form. An example of such an incident is as follows:

A worker was detaching a dog trailer from a tipper truck when the truck started to roll backward crushing the worker and causing fatal injuries.

Falls from a height was the cause of 6 fatalities while *Loading and unloading*. Most of these incidents involved the truck driver falling from the truck in some way while loading or unloading or inspecting the load. An example of such an incident is as follows:

A self-employed truck driver was loading wool bales onto a truck with the assistance of a farmer and farmhand when he fell from the load sustaining fatal injuries.

Repair and maintenance

The second most common activity carried out at the time of a work-related fatality was *Repair and maintenance*. This activity accounted for 12 (16%) of the 77 fatalities that occurred at a location other than on a public road.

The most common cause of *Repair and maintenance* incidents was *Being hit by moving objects* (4 fatalities). Of these, 3 incidents involved the truck moving unexpectedly while the driver was working on the vehicle. The other mechanisms of incident were quite varied and although not necessarily 'typical', these three narratives illustrate some of the hazards of maintenance work on heavy vehicles:

The deceased conducted a log hauling business and was working alone in a shed on his property removing a truck engine from the truck body when the engine fell sideways on to him inflicting fatal crush injuries.

It appears as though the deceased was in the process of adjusting the brakes on a truck. It appears as though the truck was still operating at this time and has built up air and caused the brake to release and strike the deceased.

The deceased fell off truck while cleaning. The deceased was on top of one of the trailers using a fire hose to wash down a trailer. The deceased has then fallen and landed head first on the bitumen drive way. This is a fall of approximately 3.4 m.

Other activities

There were 5 fatalities associated with the activity of *Driving*, which mainly involved vehicle incidents on private roads. There were a further 11 fatalities associated with the *Other activity* category. The mechanisms of incident for this category were very varied and, other than 2 incidents where the worker was stuck by their own vehicle while opening a gate, involved few common characteristics.

Road freight transport non-fatal serious workers' compensation claims

The most comprehensive and detailed source of national information on work-related injury and disease in Australia is the National Data Set for Compensation-based Statistics (NDS), which is compiled and maintained by Safe Work Australia from datasets supplied by jurisdictional workers' compensation authorities. The insight that this source of information can give into work-related injury and disease is restricted since only employees are covered by the workers' compensation schemes. The exclusion of self-employed workers can be problematic when examining the work health and safety situation of industry or occupation groups where self-employment is common. However, Australian Bureau of Statistics Labour force survey data show that over the period 2002–03 to 2010–11 the large majority (82%) of workers in the Road freight transport industry were employees.

Claims and rates by jurisdiction

Table 3 shows the number and rate of non-fatal serious claims (see explanatory notes) for injury and disease in the Road freight transport industry by the larger jurisdictions over a nine year period up to and including the preliminary¹ figures for 2010–11. The table shows that employees in the Road freight transport industry made around 4000 non-fatal serious compensation claims a year involving either a permanent incapacity or a temporary incapacity that required a week or more away from work over this period.

Table 3 Road freight transport industry: number and rates of serious non-fatal workers' compensation claims by jurisdiction^a, 2002–03 to 2010–11p

Jurisdiction	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11p
Number of serious non-fatal claims									
New South Wales	1 440	1 260	1 185	1 120	1 055	1 165	1 275	1 290	1 135
Queensland	865	970	975	1 065	1 045	1 185	1 200	1 105	1 140
Victoria	1 040	945	1 000	855	870	925	855	800	740
Western Australia	350	360	425	390	415	465	415	390	420
South Australia	365	405	425	415	390	350	330	315	355
Tasmania	95	115	110	110	100	125	150	125	115
Total serious non-fatal claims	4 210	4 120	4 195	4 060	3 930	4 260	4 275	4 090	3 970
Rate of serious non-fatal claims per 1000 employees									
New South Wales	37.7	30.8	32.8	32.2	31.3	28.8	33.3	32.2	27.7
Queensland	46.0	40.5	43.6	51.0	43.0	46.0	45.9	38.2	43.2
Victoria	32.3	26.8	33.9	25.8	28.8	26.6	21.9	22.5	21.3
Western Australia	30.6	30.8	35.7	34.0	29.7	30.7	31.3	23.6	31.8
South Australia	43.6	46.7	43.7	42.3	36.1	34.3	36.8	33.1	34.6
Tasmania	33.8	35.0	43.9	46.7	28.0	37.3	47.3	40.7	32.9
Australia	36.8	32.6	36.8	35.7	33.1	32.2	32.5	29.8	30.1
Australia all industries	16.5	16.3	16.0	15.0	14.5	14.2	13.6	12.9	12.2

a The Northern Territory, the Australian Capital Territory and the Commonwealth are not listed because of the small number of claims in these jurisdictions. However, they are included in the total figures for the Australian Road freight transport industry.

1. Throughout this section the letter "p" is used to indicate that claims data for 2010–11 is preliminary.

In 2009–10 the incidence rate of non-fatal claims in the industry was just over double the rate of all industries

The rates of non-fatal claims per 1000 employees in the Road freight transport industry are among the highest of all industry groups. Table 3 shows that over the nine year period the rate has ranged between 36.8 (2002–03) and 29.8 (2009–10) non-fatal serious claims per 1000 employees (the preliminary year data for 2010–11p are not used when assessing changes over time). To place the incidence rates for the Road freight transport industry in perspective, the overall rate of non-fatal serious claims in Australia in 2009–10 was 12.9 serious claims per 1000 employees.

The rates of serious non-fatal claims by jurisdiction show that over the nine-year period Victoria consistently had rates below the Australian average while Queensland and South Australia consistently had rates above the Australian average.

Claims by age and sex

Figure 4 shows the distribution of non-fatal serious compensation claims in the Road freight transport industry by age group and sex. The graph is based on aggregated claims over the period 2006–07 to 2010–11p.

Figure 4 Road freight transport industry: proportion of serious non-fatal claims by age group and sex, 2006–07 to 2010–11p

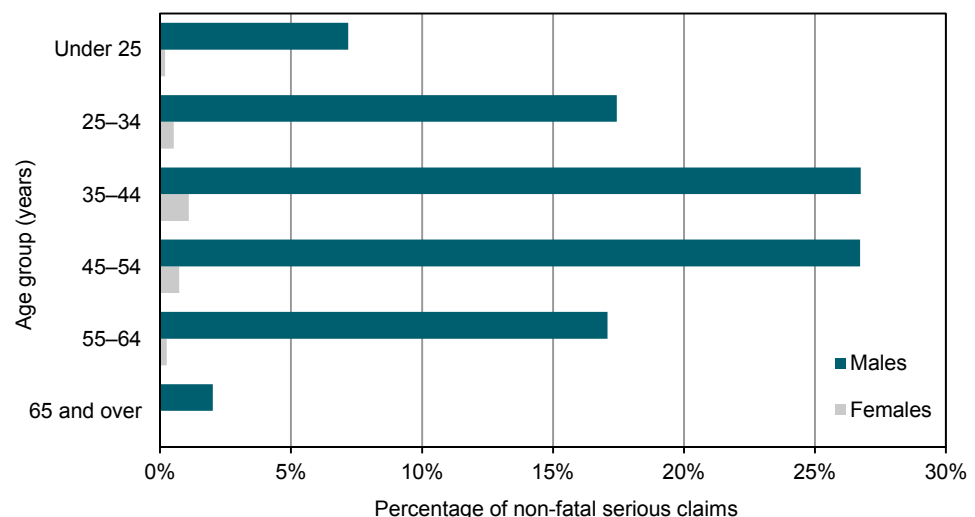
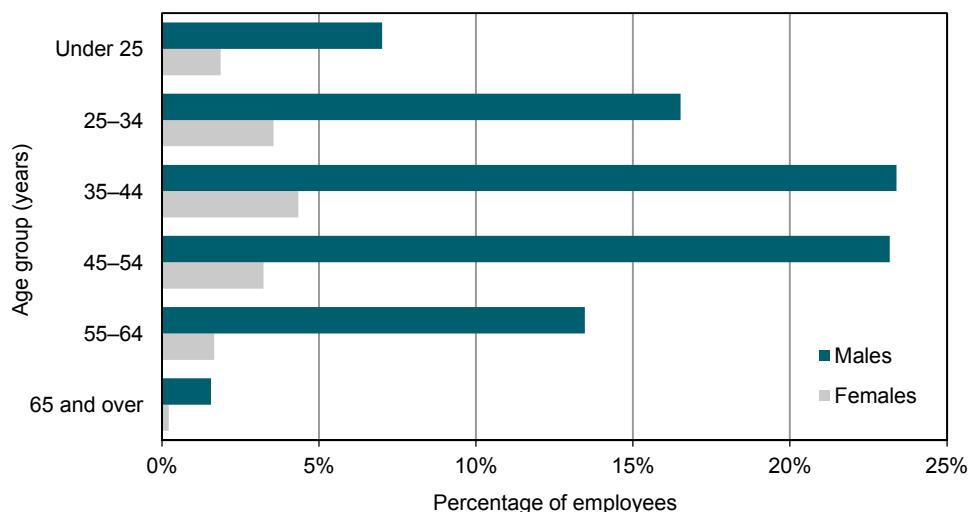


Figure 5 Road freight transport industry: proportion of employees by age and sex, 2006–07 to 2010–11p



Overall, males made nearly all (97%) of the non-fatal serious claims in the Road freight transport industry, reflecting the male dominance of the industry (85% of employees were male over the period). Just over half (53%) of all non-fatal serious claims were made by males aged 35–44 and 45–54 years. This pattern closely reflects the age/sex distribution for employees in the Road freight transport industry (see Figure 5) since these two male age groups represented 47% of all employees.

The incidence rate of non-fatal serious claims for males increased with age

Figure 6 shows the rate of non-fatal serious claims by age group and sex. The rate of non-fatal serious claims for male employees in the Road freight transport industry increased with age. Male employees aged under 25 years had the lowest incidence rate (32 claims per 1000 workers) while males aged 65 years and over had the highest rate (41).

The pattern for female employees was different to the pattern described for males. Females had considerably lower rates, most likely reflecting the different and less hazardous roles that women undertake within the industry. Female employees aged under 25 years had the lowest incidence rate (3.3 non-fatal serious claims per 1000 workers) while females aged 35–44 years had the highest rate (8). The rates then decreased with age with female employees aged 55–64 years recording a rate of 4.8.

Figure 6 Road freight transport industry: incidence rate of serious non-fatal claims by age group and sex^a, 2006–07 to 2010–11p



^a A rate for females aged 65 years and over is not shown since the estimate of the number of employees for this group has a relative standard error of over 50%.

Types of injury and disease

Sprains and strains of joints and adjacent muscles alone accounted for 45% of non-fatal serious claims

Table 4 shows the percentage distribution of the nature of injury categories for non-fatal serious claims made by Road freight transport industry employees over the period 2006–07 to 2010–11p. The table shows that just over three-quarters of claims (78%) were for an injury. By far the most common injuries were *Sprains and strains of joints and adjacent muscles* (45%). *Fractures* accounted for 13% of claims, *Contusions with intact skin surface and crushing injury excluding those with fracture* accounted for 8% of claims and an *Open wound not involving amputation* accounted for a further 6% of claims.

The most common disease category was *Diseases of the musculoskeletal system and connective tissue*, which accounted for 14% of non-fatal serious claims made by Road freight transport industry employees. The most common underlying category was *Dorsopathies - disorders of the*

spinal vertebrae and connective tissue, which accounted for 6% of claims. The second most common category, *Disorders of muscle, tendons and other soft tissues*, also accounted for 6% of claims. These disease categories and the injury category *Sprains and strains of joints and adjacent muscles* previously discussed highlight the susceptibility of Road freight transport employees to injuries related to manual handling. This is because ‘transport work intrinsically involves exposure to the hazards associated with the handling of goods while loading and unloading. Table 5 examines the Mechanism and Breakdown agencies of Road freight transport claims and further highlights the dominance of claims related to Manual handling.

Table 4 Road freight transport industry: nature of injury for serious non-fatal workers' compensation claims^a, 2006–07 to 2010–11p

Nature of injury	Males	Females	Total
Injury and poisoning	78.6%	74.9%	78.5%
<i>Sprains and strains of joints and adjacent muscles</i>	44.4%	47.1%	44.5%
<i>Fractures</i>	12.7%	10.7%	12.6%
<i>Contusion with intact skin surface and crushing injury excluding those with fracture</i>	8.4%	8.2%	8.4%
<i>Open wound not involving traumatic amputation</i>	5.7%	3.4%	5.7%
<i>Dislocation</i>	1.8%	0.7%	1.7%
<i>Other and unspecified injuries</i>	1.3%	1.2%	1.3%
<i>Fracture of vertebral column with or without mention of spinal cord lesion</i>	0.7%	0.3%	0.7%
<i>Multiple injuries</i>	0.7%	0.2%	0.6%
<i>Superficial injury</i>	0.5%	0.6%	0.5%
<i>Intracranial injury, including concussion</i>	0.5%	0.7%	0.5%
<i>Burns</i>	0.5%	0.5%	0.5%
Diseases of the musculoskeletal system and connective tissue	13.5%	15.3%	13.6%
<i>Dorsopathies - disorders of the spinal vertebrae and intervertebral discs</i>	6.4%	5.3%	6.3%
<i>Disorders of muscle, tendons and other soft tissues</i>	5.9%	8.9%	6.0%
<i>Arthropathies and related disorders - disorders of the joints</i>	1.2%	1.0%	1.2%
Diseases of the digestive system	2.9%	0.9%	2.9%
<i>Hernia</i>	2.9%	0.9%	2.9%
Diseases of the nervous system and sense organs	2.5%	1.0%	2.5%
<i>Deafness</i>	1.9%	0.2%	1.9%
Mental disorders	1.5%	7.6%	1.7%
Other diseases	1.0%	0.3%	0.9%
Total	100%	100%	100%
Road freight transport compensation claims for serious non-fatal injuries 2006–07 to 2010–11p	19 950	580	20 530

^a Sub-categories shown are restricted to those with a total of 100 or more serious claims.

Mechanism and Breakdown agency of claims

Table 5 shows the most common Mechanism of injury for non-fatal serious claims made by Road freight transport industry employees over the period 2006–07 to 2010–11p. The most common Breakdown agencies associated with these Mechanisms are also shown. The Breakdown agency is defined as the ‘object, substance or circumstance that was principally involved in, or most closely associated with, the point at which things started to go wrong and which ultimately led to the most serious injury or disease’.

The most common single detailed Mechanism category, accounting for 19% of claims, was *Muscular stress while lifting, carrying, or putting down objects*. The most common detailed Breakdown agency associated with this category, accounting for 5% of all claims, was *Crates, cartons, boxes, drums, kegs, barrels, cans* (a category that is also used to code for general cargo and freight).

Table 5 Road freight transport industry: mechanism of injury and breakdown agency for serious non-fatal workers' compensation claims^a, 2006–07 to 2010–11p

Mechanism of injury and breakdown agency	Males	Females	Total
Muscular stress while lifting, carrying, or putting down objects	18.8%	19.4%	18.9%
<i>Crates, cartons, boxes, cases, drums, kegs, barrels, cans</i>	4.6%	7.7%	4.7%
<i>Materials and objects not elsewhere classified</i>	1.7%	2.4%	1.7%
<i>Other and unspecified furniture and fittings</i>	1.2%	0.7%	1.2%
<i>Other equipment</i>	1.2%	0.2%	1.2%
<i>Trucks, semi-trailers, lorries</i>	1.1%	0.9%	1.0%
<i>Pallets</i>	0.6%	0.5%	0.6%
<i>Ferrous and non-ferrous metal</i>	0.6%	0.3%	0.6%
<i>Fencing</i>	0.6%	0.3%	0.6%
<i>Storage equipment</i>	0.5%	0.2%	0.5%
Muscular stress while handling objects other than lifting, carrying or putting down	14.9%	13.5%	14.9%
<i>Trucks, semi-trailers, lorries</i>	3.5%	1.4%	3.4%
<i>Crates, cartons, boxes, cases, drums, kegs, barrels, cans</i>	1.1%	2.1%	1.1%
<i>Materials and objects not elsewhere classified</i>	1.0%	1.0%	1.0%
<i>Pallets</i>	0.9%	0.9%	0.9%
<i>Other equipment</i>	0.8%	0.7%	0.8%
Falls from a height	13.3%	9.7%	13.2%
<i>Trucks, semi-trailers, lorries</i>	7.9%	4.5%	7.8%
<i>Trailers, caravans</i>	0.7%	0.0%	0.7%
<i>Traffic and ground surfaces other</i>	0.6%	0.3%	0.6%
<i>Steps and stairways</i>	0.5%	1.5%	0.5%
Falls on the same level	11.6%	16.2%	11.7%
<i>Traffic and ground surfaces other</i>	2.5%	4.0%	2.5%
<i>Trucks, semi-trailers, lorries</i>	2.0%	1.7%	2.0%
<i>Wet, oily or icy traffic and ground surfaces</i>	0.7%	0.7%	0.7%
<i>Traffic and ground surfaces with hazardous objects</i>	0.6%	0.8%	0.6%
<i>Other internal traffic and floor areas</i>	0.5%	1.0%	0.5%
Vehicle incident	7.9%	5.8%	7.8%
<i>Trucks, semi-trailers, lorries</i>	5.3%	2.1%	5.2%
<i>Cars, station wagons, vans, utilities</i>	1.4%	2.9%	1.4%
Being hit by falling objects	5.2%	2.9%	5.2%
<i>Ferrous and non-ferrous metal</i>	0.7%	0.7%	0.7%
<i>Crates, cartons, boxes, cases, drums, kegs, barrels, cans</i>	0.6%	0.6%	0.6%
Being hit by moving objects	5.0%	4.1%	5.0%
<i>Forklift trucks</i>	0.8%	1.0%	0.8%
<i>Trucks, semi-trailers, lorries</i>	0.6%	0.0%	0.6%
Muscular stress with no objects being handled	3.6%	4.1%	3.6%
<i>Agency not apparent</i>	1.6%	1.7%	1.6%
<i>Trucks, semi-trailers, lorries</i>	0.8%	0.2%	0.8%
Being trapped between stationary and moving objects	3.4%	2.4%	3.4%
<i>Trucks, semi-trailers, lorries</i>	0.6%	0.7%	0.6%
Hitting stationary objects	3.2%	2.9%	3.2%
<i>Trucks, semi-trailers, lorries</i>	0.9%	0.7%	0.9%
Stepping, kneeling or sitting on objects	1.9%	0.9%	1.9%
Long term exposure to sounds	1.9%	0.2%	1.8%
<i>Trucks, semi-trailers, lorries</i>	0.5%	0.0%	0.5%
Hitting moving objects	1.8%	1.6%	1.8%
Unspecified mechanisms of injury	1.8%	1.4%	1.8%
Other and multiple mechanisms of injury	0.8%	0.5%	0.8%
Repetitive movement, low muscle loading	0.7%	3.9%	0.8%
Being trapped by moving machinery	0.8%	0.9%	0.8%
Being hit by an animal	0.5%	0.3%	0.5%
Other mechanisms	2.8%	9.3%	3.0%
Total	100%	100%	100%
Road freight transport compensation claims for serious non-fatal injuries 2006–07 to 2010–11p	19 950	580	20 530

^a Categories shown are restricted to those with a total of 100 or more serious claims.

The second most common Mechanism category was *Muscular stress while handling objects other than lifting, carrying or putting down*, which accounted for 15% of claims.

Falls from a height accounted for 13% of non-fatal serious claims

The third most common Mechanism category was *Falls from a height*, which accounted for 13% of claims. The most common associated Breakdown agency was *Trucks, semi-trailers, lorries* (8% of claims) implying the employee fell from a vehicle in some way. In addition, the category *Trailers and caravans* accounted for a further 0.7% of claims and most likely implies the employee fell from the trailer of a semi-trailer or B-double.

Falls on the same level were almost as common as *Falls from a height* and accounted for 12% of non-fatal serious claims made by Road freight transport industry employees. The underlying Breakdown agencies for this mechanism category were quite varied.

Vehicle incidents were not as common a cause of non-fatal injury among Road freight transport industry employees as might be supposed. Over the period 2006–07 to 2010–11p just 8% of claims were recorded as caused by a *Vehicle incident*, most commonly involving *Trucks, semi-trailers, lorries* (5% of non-fatal claims).

Four of the Mechanisms shown in Table 4 are commonly combined into the broad Mechanism *Body stressing* which is also commonly referred to as Manual handling.

Overall 39% of all non-fatal serious claims in the industry were caused by *Body stressing*

The four *Body stressing* categories are,

- *muscular stress while lifting, carrying, or putting down objects*
- *muscular stress while handling objects other than lifting, carrying or putting down*
- *muscular stress with no objects being handled, and*
- *repetitive movement, low muscle loading*

When combined, these four causes of non-fatal injury among Road freight transport employees accounted for 39% of all claims, indicating that *Body stressing* is the most common broad cause of non-fatal injury in the industry.

Median time lost from work and median cost of claims

Table 6 shows the median time lost from work and the median cost for non-fatal serious compensation claims made by Road freight transport employees over the period 2002–03 to 2010–11p. Total figures are also given for non-fatal claims in all industries for comparison.

The median time lost and median cost of claims in the industry have increased over the period

The table shows that the median time lost from work increased slightly over the period, from a minimum of 4.8 weeks in 2003–04 to a maximum of 5.8 weeks in both 2007–08 and 2008–09. This increase resulted in a concomitant increase in the median cost of a claim from \$5800 in 2003–04 to \$8700 in both 2007–08 and 2008–09. However, the increase in the median cost of a claim includes wage and price inflation as well as the cost of the increase in the median time away from work. The preliminary year data (2010–11p) are generally not used when assessing changes over time since compensation claims can be open for more than a year and subsequent annual updates include the cumulated time lost and cost of those longer term claims. However, using a median rather than an average reduces the impact of claim development on the data series.

Comparing the median time lost for non-fatal compensation claims in the Road freight transport industry with those for all industries shows that the median time lost from work was consistently higher than the all industries figure by between 1 and 1.8 weeks over the period. Similarly, the median cost of a claim for the Road freight transport industry was consistently higher than the cost of a claim for all industries by between \$300 and \$1500.

Table 6 Road freight transport industry: median time lost from work and median cost of non-fatal serious claims

	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11p
Median time lost for non-fatal serious claims: working weeks									
Males	5.2	4.8	5.4	5.0	5.4	5.8	5.6	5.6	5.6
Females	5.8	6.0	8.3	5.8	6.4	5.6	8.9	7.0	8.3
Total serious non-fatal claims	5.2	4.8	5.4	5.0	5.4	5.8	5.8	5.6	5.7
All industries non-fatal claims	4.0	3.7	3.6	4.0	4.0	4.0	4.2	4.2	4.2
Median cost of non-fatal serious claims									
Males	\$6 200	\$5 800	\$6 700	\$6 500	\$7 200	\$8 700	\$8 600	\$8 500	\$8 200
Females	\$5 200	\$6 000	\$7 200	\$6 000	\$10 600	\$8 600	\$14 200	\$9 500	\$11 800
Total serious non-fatal claims	\$6 200	\$5 800	\$6 700	\$6 500	\$7 200	\$8 700	\$8 700	\$8 600	\$8 300
All industries non-fatal claims	\$5 800	\$5 500	\$5 800	\$6 200	\$6 700	\$7 200	\$8 100	\$8 200	\$8 000

Explanatory notes

Breakdown agency

The Breakdown Agency is intended to identify the object, substance or circumstance that was principally involved in, or most closely associated with, the point at which things started to go wrong and which ultimately led to the most serious injury or disease

Type of Occurrence Classification System Revised 2.1 Edition, May 2002, National Occupational Health and Safety Commission, Canberra.

Mechanism of incident

The mechanism of incident classification is intended to identify the overall action, exposure or event that best describes the circumstances that resulted in the most serious injury or disease.

Fatalities have been coded to the *Type of Occurrence Classification System, Third edition (revision one), May 2008*, Australian Safety and Compensation Council, Canberra.

Under this edition the Mechanism of incident is coded.

Mechanism of injury

The Mechanism of Injury/Disease classification is intended to identify the action, exposure or event which was the direct cause of the most serious injury or disease.

Currently worker's compensation claims are coded to the *Type of Occurrence Classification System Revised 2.1 Edition, May 2002*, National Occupational Health and Safety Commission, Canberra.

Under this edition the Mechanism of injury is coded.

Non-fatal serious claims

This includes claims for workers' compensation made under the Commonwealth, State and Territory workers' compensation Acts where there was a permanent incapacity or a temporary incapacity resulting in an absence from work of one week or more (based on an employee's normal working week). Common law claims are included. Commuting claims are excluded. Fatalities would normally be included among serious claims but for this comparison are excluded.

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Enquiries:

For further information about the contents of this publication contact:

Data & Analysis Section
Safe Work Australia
(02) 6240 6813

info@swa.gov.au