

safe work australia

Road Transport Industry Profile

Road transport is identified as a national priority under the *Australian Work Health and Safety Strategy 2012-2022* due to the high number and rate of fatalities in this industry. The Road transport industry is one of eight subdivisions of the Transport, postal and warehousing industry and consists of road freight transport and road passenger transport.

Broadly, the Road transport industry comprises work involved in the transportation of freight by road and the operation of buses and other vehicles

(e.g. taxis) for the transportation of passengers.



ABS data show that the number of workers in the Road transport industry has grown by 16 per cent over the 13 years from 2003 to 2015. In 2015, 74 per cent of Road transport industry workers were classed as employees and were covered by workers' compensation schemes.

While there have been substantial reductions in the numbers and rates of injuries and fatalities in this industry over the last 15 years, the Road transport industry remains a high risk industry with claim and fatality rates substantially higher than the all industry average.

The Road transport industry accounts for 2 per cent of the Australian workforce, however, it accounted for 17 per cent of work-related fatalities in 2015 and 4 per cent of serious workers' compensation claims in 2014-15.

Table 1: Main causes of injuries and fatalities in the Road transport industry

	Main causes of injury	%		Main causes of fatalities	%
1	Body stressing	43	1	Vehicle collision	77
2	Falls, trips & slips of a person	29	2	Hit by moving objects	7
3	Being hit by moving objects	16	3	Being hit by falling object	4

Data is this report are sourced from the National Dataset for Compensation-based Statistics (NDS) and the Work-related Traumatic Injury Fatalities data set. Claims and fatalities are coded according to the Type of Occurrence Classification System 3rd Ed. Revision 1 (TOOCS). Industry and occupation level data are presented using the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 and Australian and New Zealand Standard Classification of Occupations (ANZSCO) 2006. Data on serious claims only relate to employees covered by workers' compensation and therefore excludes some workers, such as self-employed. Data on fatalities, however, cover all workers including self-employed workers, unpaid volunteers etc. Further information and explanatory notes on the data can be found on the Safe Work Australia <u>website</u>.

SERIOUS WORKERS' COMPENSATION CLAIMS



A serious claim is a workers' compensation claim for an incapacity which results in a total absence from work of one working week or more. The number of serious claims reported in 2014-15 are preliminary (as denoted by the letter 'p') and are likely to increase as more claims are accepted or amended by jurisdictional authorities.

Trends in serious claims

Over the period from 2001-02 to 2014-15 there has been on average 5100 serious claims made in the Road transport

industry each year. Figure 1, however, shows that despite a rise between 2007-08 and 2011-12, the frequency rate of serious claims in the Road transport industry has fallen 27 per cent from 15.5 claims per million hours worked in 2001-02 to 11.3 claims per million hours worked in 2014-15p. This rate, however, remains almost double the rate for all industries (6.5 claims per million hours worked) and was the sixth highest of all industry subdivisions in 2014-15.





As shown in Table 2a, Road freight transport accounts for the majority (over 80 per cent) of serious claims in the Road transport industry – of the 4245 serious claims in the Road transport industry in 2014-15p, 3545 were in Road freight transport and 700 in Road passenger transport. Road freight transport also has a significantly higher frequency rate of serious claims than Road passenger transport – 12.5 serious claims per million hours worked in 2014-15p compared with 7.6 in Road passenger transport.

Table 2a: Serious claims: number in Road transport by industry sub-division, 2010-11 to 2014-15p

	2010-11	2011-12	2012-13	2013-14	2014-15p
Road transport	5165	5210	4970	4530	4245
Road freight transport	4125	4150	4050	3680	3545
Road passenger transport	1040	1060	920	855	700
All industries	128 170	128 345	120 050	113 965	107 355

Table 2b: Serious claims: frequency rate (serious claims per million hours worked) in Road transport by industry sub-division, 2010-11 to 2014-15p

	2010-11	2011-12	2012-13	2013-14	2014-15p
Road transport	14.9	15.1	12.9	12.1	11.3
Road freight transport	15.9	16.4	14.2	13.2	12.5
Road passenger transport	12.1	11.6	9.4	8.9	7.6
All industries	7.6	7.4	6.7	6.3	6.5

Serious claims by age and sex

Figure 2 shows that the frequency rate of serious claims for males in Road transport was highest for workers aged less than 20 years and those aged 60-64 years (16.4 and 16.0 serious claims per million hours worked respectively) and lowest for workers aged 25-29 years (11.5 serious claims per million hours worked).

The frequency rate of serious claims for females was lower than those for males in every age group. The difference was most evident in the youngest age group (less than 20 years old), where the frequency rate of serious claims for males (16.4 serious claims per million hours worked) was five times higher than the rate for females (3.1).





Serious claims and rates by jurisdiction

The frequency rate of serious claims in the Road transport industry has fallen in all jurisdictions over the last five years. Table 3b shows that in 2014-15p Queensland recorded the highest frequency rate in the Road transport industry of 14.3 serious claims per million hours worked, followed by South Australia (12.2). New South Wales recorded the lowest rate of 9.5 serious claims per million hours worked.

Jurisdiction	2010-11	2011-12	2012-13	2013-14	2014-15p
New South Wales	1670	1505	1305	1215	1105
Victoria	1070	1110	1075	925	895
Queensland	1355	1435	1465	1350	1295
Western Australia	465	585	515	460	460
South Australia	355	360	435	385	305
Tasmania	140	135	90	105	95
Australia	5165	5210	4970	4530	4245

Table 3a: Serious claims: number in Road transport by jurisdiction^a, 2010-11 to 2014-15p

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

Table 3b: Serious claims: frequency rate (serious claims per million hours worked) in Road transport by jurisdiction^a, 2010-11 to 2014-15p

Jurisdiction	2010-11	2011-12	2012-13	2013-14	2014-15p
New South Wales	15.0	14.9	11.6	11.2	9.5
Victoria	11.9	13.1	11.4	10.0	10.6
Queensland	19.5	17.7	15.6	17.3	14.3
Western Australia	13.8	14.3	12.3	9.5	10.6
South Australia	14.6	15.7	17.0	12.7	12.2
Tasmania	16.7	20.0	10.9	14.8	*11.6
Australia	14.9	15.1	12.9	12.1	11.3

a - The Northern Territory and the Australian Capital Territory are not listed because of the small number of claims in these jurisdictions. However, they are included in the total figures for the Road transport industry. * relative standard error greater than 25%

Serious claims by occupation

Table 4 lists the occupations responsible for the highest proportion of claims in the Road transport industry. As would be expected almost three-quarters (72 per cent) of serious claims in the industry were made by drivers (Truck drivers, Automobile and bus drivers and Delivery drivers). Miscellaneous labourers accounted for a further 5 per cent of claims, followed by Mobile plant operators (4 per cent) and Freight handlers and shelf fillers (4 per cent).

Table 4: Serious claims: percentage of claims in the Road transport industry by occupation, 2010-11 to 2014-15p (combined)

Occupation	%
Truck drivers	53%
Automobile, bus and rail drivers	15%
Miscellaneous labourers	5%
Delivery drivers	4%
Mobile plant operators	4%
Freight handlers and shelf fillers	4%
Automotive electricians and mechanics	3%
Clerical and office support workers	2%
Store persons	1%

Note: Only the occupations which account for the highest proportion of serious claims are included and therefore the proportions do not add to 100%.

Serious claims by mechanism of injury

For the Road transport industry, Body stressing was the most common mechanism (or cause) of injury accounting for 43 per cent of serious claims between 2010-11 and 2014-15. Just under half (46 per cent) of these serious claims were the result of Muscular stress while handling objects other than lifting, carrying or putting down objects (e.g. pushing or pulling objects). Falls, trips and slips of a person was the second most common cause of injury representing a further 29 per cent of serious claims, with most caused by Falls on the same level. Only around 10 per cent of serious claims in the Road transport industry were as a result of a Vehicle accident.

Table 5: Serious claims: percentage by mechanism in the Road transport industry,2010-11 to 2014-15p combined

Mechanism of injury	Road Freight	Road Passenger	Total Road Transport	Total all industries
Body stressing	43%	44%	43%	42%
Muscular stress while handling objects other than lifting, carrying or putting down	45%	51%	46%	39%
Muscular stress while lifting, carrying, or putting down objects	44%	25%	41%	41%
Falls, trips and slips of a person	30%	24%	29%	22%
Falls on the same level	47%	66%	50%	64%
Falls from a height	45%	21%	42%	27%
Being hit by moving objects	16%	14%	16%	14%
Being hit by moving or flying objects	34%	20%	32%	33%
Being hit by falling objects	30%	10%	27%	22%
Vehicle incidents and other	11%	18%	13%	6%
Vehicle accident	69%	76%	71%	39%
Unspecified mechanisms of incident	20%	16%	19%	42%
Total (all mechanisms)	100%	100%	100%	100%

Note: Only selected mechanisms and sub-groups are included and therefore the percentages may not add to 100 per cent. The percentages shown have been rounded to the nearest whole number.

Serious claims by nature of injury

Table 6 shows that just under half (46 per cent) of all serious claims in the Road transport industry were Traumatic joint/ligament and muscle/tendon injuries. Musculoskeletal and connective tissue diseases accounted for a further 16 per cent of serious claims, followed by Wounds, lacerations, amputations, and internal organ damage (13 per cent) and Fractures (13 per cent).

Broadly the nature of injuries and illnesses in the Road transport industry were similar across the two industry sub-divisions, however, Mental disorders were more prevalent in Road passenger transport (10 per cent of serious claims) compared with Road freight transport (2 per cent of serious claims).

Table 6: Serious claims: percentage by nature of injury/illness in the Road transport industry, 2010-11 to 2014-15p combined

Nature of injury/disease	Road Freight Transport	Road Passenger Transport	Road Transport	All industries
Traumatic joint/ligament and muscle/tendon injury	47%	46%	46%	45%
Trauma to muscles and tendons	20%	18%	20%	18%
Residual soft tissue disorders due to trauma	17%	18%	17%	18%
Trauma to joints and ligaments	10%	10%	10%	9%
Musculoskeletal and connective tissue diseases	16%	18%	16%	15%
Spinal vertebrae and intervertebral disc diseases – dorsopathies	7%	9%	7%	6%
Diseases of the muscle, tendon and related tissue	5%	5%	5%	5%
Other soft tissue diseases	2%	2%	2%	2%
Wounds, lacerations, amputations and internal organ damage	13%	10%	13%	15%
Fractures	14%	8%	13%	9%
Mental disorders	2%	10%	3%	6%
Digestive system diseases	3%	1%	3%	2%
Other injuries/diseases	6%	7%	6%	8%
Total	100%	100%	100%	100%

Note: Only selected nature sub-groups are included and therefore the sum of the percentage figures may not add to the category total. The percentages shown have been rounded to the nearest whole number and therefore the sum of the figures for each column may not equal the total.

Serious claims by location of injury

Over the period from 2010-11 to 2014-15p, injuries to the back (21 per cent of serious claims) and to the shoulder and upper arms (15 per cent of serious claims) represented just over one-third of serious claims in the Road transport industry. This was followed by injuries to the knee and upper leg (10 per cent of serious claims) and the ankle and lower leg (9 per cent of serious claims).



Serious claims by agency of injury

The most common agencies (i.e. the object, substance or circumstance that was principally involved in inflicting the injury or disease) causing injuries in the two Road transport industry sub-divisions were consistent with the type of work carried out in each. For example, Trucks, semi-trailers and lorries were the direct cause of 21 per cent of serious claims for injuries in Road freight transport whereas Buses, trolleybuses and minibuses were the cause of injury in one-quarter of serious claims in Road passenger transport.

In Road freight transport the second most common cause was Traffic and ground surfaces, accounting for 8 per cent of injuries, while other persons were responsible for 12 per cent of serious claims in Road passenger transport.

able 7: Serious claims: percentage by agency causing the injury in the Road transpo	rt
ndustry, 2010-11 to 2014-15p (combined)	

Agency of injury	Road Freight	Road Passenger	Total Road Transport	Total all industries
Trucks, semi-trailers, lorries	21%	1%	17%	2%
Traffic and ground surfaces other*	8%	6%	8%	6%
Other materials and objects	6%	5%	6%	5%
Agency not apparent	5%	5%	5%	7%
Crates, cartons, boxes, cases, drums, kegs, barrels	6%	1%	5%	5%
Buses, trolleybuses, minibuses	0%	25%	5%	0%
Cars, station wagons, vans, utilities	2%	7%	3%	2%
Other person	1%	12%	3%	10%
Ferrous and non-ferrous metal	3%	1%	3%	3%
Pallets	3%	0%	3%	1%
Total	100%	100%	100%	100%

Note: Only the agencies with the highest proportions are included and therefore the sum of percentage figures for each column will not equal the total. The percentages shown have been rounded to the nearest whole number. *Traffic and ground surfaces other includes roads, paved and unpaved paths, grass covered ground surfaces, uneven ground surfaces, embankments, sloping ground surfaces and other no specified traffic and ground surfaces.

WORK-RELATED FATALITIES



Only persons who die from injuries sustained while they are working are included in this report—it does not include deaths attributable to disease and other natural causes. The data also excludes suicides, as a direct link to work is often difficult to ascertain, as well as bystanders.

Over the 13 years from 2003 to 2015, 583 Road transport workers died from injuries sustained at work. This was 18 per cent of all work fatalities in Australia over this period.

The fatality rate for the Road transport industry in 2015 was 13.3 fatalities per 100 000 workers, which was the sixth highest fatality rate of all industry sub-divisions, and over eight times the national rate of 1.6 fatalities per 100,000 workers. Road freight transport accounted for 92 per cent (535 out of 583) of fatalities in the road transport industry over the 13 years to 2015.

Trends in fatalities

While there has been some volatility year-on-year, over the 13 years from 2003 to 2015 there has been a 34 per cent decrease in the rate of fatalities in the Road transport industry compared with a 41 per cent decrease across all industries.

Figure 3: Worker fatalities: fatality rate (fatalities per 100 000 workers) in the Road transport industry and all industries, 2003 to 2015



Table 8a shows that the Road freight transport industry sub-division have consistently accounted for the vast majority of worker fatalities in the Road transport industry and has recorded significantly higher fatality rates compared to Road passenger transport. In 2015, there were 34 worker fatalities in the Road transport industry, with all of these occurring in the Road freight transport sub-division.

	2011	2012	2013	2014	2015
Road transport	29	52	39	39	34
Road freight transport	25	45	34	36	34
Road passenger transport	4	7	5	3	0
All industries	224	229	201	194	195

Table 8a: Worker fatalities: number in the Road transport industry, 2011 to 2015

Table 8b: Worker fatalities: fatality rate (fatalities per 100 000 workers) in the Road transport industry, 2011 to 2015

	2011	2012	2013	2014	2015
Road transport	12.7	23.1	16.6	16.2	13.3
Road freight transport	15.6	29.0	20.7	21.0	18.4
Road passenger transport	5.8	9.9	7.1	4.0	
All industries	2.0	2.0	1.7	1.7	1.6

Fatalities by age

Between 2003 and 2015, workers aged 45-54 years accounted for the highest proportion (27 per cent) of fatalities in the Road transport industry, followed by workers aged 35-44 years (26 per cent). Over the same period, workers aged 15-24 years accounted for only 4 per cent of fatalities, despite accounting for 17 per cent of employees. By contrast, while workers aged 55-65 years only account for 13 per cent of employees, over the period they accounted for just under a quarter (24 per cent) of fatalities.





Fatalities by mechanism and agency of injury

Over the 13 years to 2015 there have been 583 worker fatalities in the Road transport industry. Over three quarters of these fatalities (449 fatalities or 77 per cent) were caused by Vehicle incidents, with the vast majority (82 per cent) of these involving Trucks, semi-trailers or lorries. A further 7 per cent of fatalities were caused by Being hit by a moving object, with over half of these due to being hit by a truck.

Table 9: Worker fatalities: number by mechanism and breakdown agency, 2003 to 2015 combined

Mechanism & breakdown agency	Number	%
Vehicle incidents	440	77
Of these, 82 per cent (368 fatalities) were due to Trucks, semi-trailers or lorries	449	11
Being hit by moving objects	40	7
Over half (57 per cent) were workers hit by a truck	42	1
Being hit by falling objects	24	1
Six fatalities occurred due to objects falling from forklifts	24	4
Being trapped between stationary and moving objects	17	2
88 per cent of these (15 fatalities) involved trucks or parts of trucks (eg. trailers)	17	3
Falls from a height Fight fatalities occurred as a result of truck drivers falling from the truck cabin	14	2
Other mechanisms	37	6
	57	0
Total Road transport fatalities	583	100

Note: The percentages shown have been rounded to the nearest whole number and therefore the sum of the figures in the percentage column may not equal 100.

Fatalities by state/territory and type of incident

Table 10 shows the breakdown of worker fatalities in the Road transport industry by state and territory and the type of incident which resulted in death. Nationally, between 2003 and 2015, more than three quarters of fatalities occurred in three states: New South Wales (34 per cent), Queensland (25 per cent) and Victoria (22 per cent). Vehicle accidents which occur on public roads make up 80 per cent (467 fatalities) of Road transport fatalities, of which two out of three resulted from single vehicle crashes.

Type of incident	NSW	QLD	VIC	WA	SA	TAS	NT	Total
On a public road	166	124	101	34	23	11	8	467
Multi vehicle incident	59	41	32	18	7	3	2	162
Single vehicle incident	107	83	69	16	16	8	5	304
No crash	0	0	0	0	0	0	1	1
Not on a public road	30	22	25	24	11	3	1	116
Multi vehicle incident	9	2	6	4	2	0	0	23
Single vehicle incident	17	17	15	14	7	3	1	74
No crash	4	3	4	6	2	0	0	19
Total	196	146	126	58	34	14	9	583
% of total	34%	25%	22%	10%	6%	2%	2%	100%

Table 10: Worker fatalities: number by state and type of incident 2003 to 2015 (combined)

Note: The percentages shown have been rounded to the nearest whole number and therefore the sum of the figures in the total row may not equal 100.

ANALYSIS OF VEHICLE FATALITIES

Road transport fatalities which occurred from 2013 to 2015 have been analysed in further detail using a variety of sources including information from the National Coronial Information System, the National Dataset for Compensation-based statistics, notifiable fatalities from states and territories and data reported by the Bureau of Infrastructure, Transport and Regional Economics.

The sample of 108 worker fatalities occurring between 2013 and 2015 was selected in order to conduct further analysis regarding the circumstances which led to the incident, how and when the incident occurred, and the type of vehicle involved. As work-related fatalities data is classified according to the workers' industry of employer, some fatalities in Road transport may occur whilst the worker is not driving a vehicle – for example, unloading/ loading or undertaking maintenance.

Fatalities by time and location of death

Of the 108 Road transport fatalities, 78 workers (72 per cent) died while driving on country roads. The highest number of fatalities on country roads occurred in the late afternoon and evening, between 4 pm and 8 pm (19 fatalities). By contrast, half of the fatalities (15) on metro roads occurred during the morning, between 4 am and midday.



Table 11: Worker fatalities: number by time and location of death, 2013 to 2015 (combined)

Time of incident	Country	Metro	Total
12am to 4am	15	4	19
4 am to 8am	11	8	19
8am to 12pm	8	7	15
12pm to 4pm	15	5	20
4pm to 8pm	19	2	21
8pm to 12am	10	4	14
Total	78	30	108

Fatalities by worker activity and type of crash

As shown in Table 12, almost half (49 fatalities) of the 108 Road transport fatalities were as a result of a single vehicle crash, with the majority occurring on country roads.

There were 36 fatalities which occurred as a result of a multiple vehicle crash, of which 16 (44 per cent) occurred as a result of a heavy vehicle crashing with another heavy vehicle. A further eight fatalities occurred when a heavy vehicle crashed into a light vehicle.

Of the 108 worker fatalities, there have been 23 fatalities as a result of performing duties other than driving. Seven of these fatalities occurred while the worker was unloading a vehicle, with three of these occurring whilst unloading livestock.

Of the seven fatalities that occurred whilst the worker was conducting maintenance on a vehicle, two workers died whilst checking brakes and three were crushed whilst working underneath the vehicle primarily due to hydraulic jack failure.

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	Country	Metro	Total			
Single vehicle crash	40	9	49			
Multiple vehicle crash	29	7	36			
No crash	9	14	23			
Unloading/loading	5	8	13			
Vehicle maintenance	3	4	7			
Worker on foot	1	2	3			
Total	78	30	108			

Table 12: Worker fatalities: number by worker activity and type of crash, 2013 to 2015 (combined)

Fatalities by type of crash and mechanism of incident

Of the 108 Road transport fatalities, almost one-third (32 fatalities) were due to workers veering off the road, usually as a result of a sweeping or sharp bend. There were a further 23 workers (21 per cent) who died as a result of a head-on collision, of which 14 were due to the worker's vehicle crossing to the wrong side of the road.

Seven fatalities (6 per cent) occurred as a consequence of the worker being struck by equipment (eg. lifting equipment, loading ramps), while a further six fatalities (5 per cent) were deemed to be related to excessive speed given the road conditions.

Table 13: Worker fatalities: number by type of crash and mechanism of incident, 2	2013 to
2015 combined	

	Single vehicle crash	Multiple vehicle crash	No crash	Total
Veered off road	28	4	0	32
Inattention/fatigue	3	6	0	9
Wrong side of road	6	17	0	23
Wrong side of road - worker vehicle	6	8	0	14
Wrong side of road - other vehicle	0	9	0	9
Speed	5	1	0	6
Mechanical/tyre failure	5	0	2	7
Struck by equipment	0	0	7	7
Worker on foot and hit by vehicle	0	0	4	4
Other	0	5	10	15
Unknown	2	3	0	5
Total	49	36	23	108

Fatalities by type of truck

Of the 108 fatalities which occurred in the Road transport industry, 59 involved articulated trucks, 16 involved rigid trucks and 11 involved light vehicles.

Type of vehicle	Single vehicle incident	Multi vehicle incident	Total*
Articulated truck	39	20	59
Bus	1	0	1
Rigid truck	9	7	16
Light vehicle	7	4	11
Unknown	11	4	21
Total	67	35	108

Table 14: Worker fatalities: number by type of crash and vehicle, 2013 to 2015 (combined)

* includes where type of crash was unknown

The Bureau of Infrastructure, Transport and Regional Economics' report, <u>*Heavy truck safety:*</u> <u>crash analysis and trends</u>, contains details of many aspects of truck related fatalities; however, it does not identify which fatalities were work-related.

Nevertheless, the report shows that while articulated truck-related fatalities have fallen by around 5 per cent each year since 2006, there has been little change in the number of fatalities involving heavy rigid trucks.

The report also highlights that articulated trucks do most (80 per cent) of their travel outside of capital city areas. In contrast, rigid truck travel is evenly split between capital city areas and other areas.

In line with this, the report shows that fatalities involving articulated trucks are more likely in rural/remote locations than is the case for other types of trucks. Although regional or remote areas account for only 30 per cent of the Australian population, they account for 65 per cent of fatal crashes with 80 per cent of these involving articulated trucks.