

**WORK-RELATED TRAUMATIC INJURY
FATALITIES, AUSTRALIA**

2014

October 2015



safe work australia



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ISBN [PDF] 978-1-74361-598-0
[DOCX] 978-1-74361-599-7

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Foreword

The aim of this report is to provide statistics about people who die each year from injuries that arose through work-related activity. This includes fatalities resulting from an injury sustained in the course of a work activity (worker fatality) and as a result of someone else's work activity (bystander fatality). Earlier reports have included fatalities that occurred while the worker was commuting to or from work (commuter fatality), however, these fatalities have always been difficult to distinguish from other road fatalities and this report relied heavily on workers' compensation data. As fewer jurisdictions are now providing compensation coverage for commuting, the integrity of the commuter fatality collection has diminished and has therefore been ceased.

Injury is defined as a condition coded to 'External Causes of morbidity and mortality' and 'Injury, poisoning and certain other consequences of external causes' in the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM).

The scope of this collection includes all persons:

- who were fatally injured, and
- whose injuries resulted from work activity or exposures, and
- whose injuries occurred in an incident that took place in Australian territories or territorial waters.

The report includes all persons killed:

- while working including unpaid volunteers and family workers, persons undertaking work experience and defence force personnel killed within Australian territories or territorial waters or travelling for work (worker fatalities), or
- as a result of someone else's work activity (bystander fatalities).

The collection specifically excludes those who died:

- of iatrogenic injuries — those where the worker died due to medical intervention
- due to natural causes such as heart attacks and strokes, except where a work-related injury was the direct cause of the heart attack or stroke
- as a result of diseases, such as cancers
- by self-inflicted injuries (suicide).

People who died of injuries caused by someone else's work activity while themselves at work are classified as a worker rather than as a bystander.

Changes from previous publications may also be evident due to the availability of additional information from finalised coroners reports and additional workers' compensation claims.

For explanatory notes on the data for this publication, refer to <http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/explanatory-notes-datasets>



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Summary of findings



In the 12 years from 2003 to 2014,
3000 workers
have lost their lives in work-related incidents.



The fatality rate has decreased

by 46% from 2.96 fatalities per 100 000 workers in 2007 to 1.61 in 2014.



In 2014, 188 workers

were fatally injured at work. This is 18% lower than the 229 deaths recorded in 2012 and 39% lower than the highest number of worker deaths recorded in the series (310) in 2007.

In 2014, **almost half** (47%) of the worker fatalities occurred within the transport, postal and warehousing and agriculture, forestry and fishing industries.

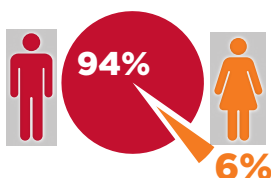


Across the 12 years of the series, two-thirds of
worker fatalities involved vehicles

In 2014, 116 of the 188 fatalities (61%) involved a vehicle.



In 2014, 71 workers (38%) were killed in a vehicle collision, 21 workers (11%) were killed when they were hit by moving objects, and 20 workers (11%) died after falling from height.



In 2014, 176 of the 188 fatalities (94%) involved
male workers

The fatality rate for male workers was over 10 times the rate for female workers.



Over the period from 2007–14

61% of bystander fatalities

were due to a vehicle incident with being hit by moving objects accounting for a further 15%.



The 188 fatalities in 2014 equates to a fatality rate of 1.61 fatalities per 100 000 workers. This is the

lowest fatality rate

since the series began 12 years ago. The highest fatality rate was recorded in 2004 (2.97).

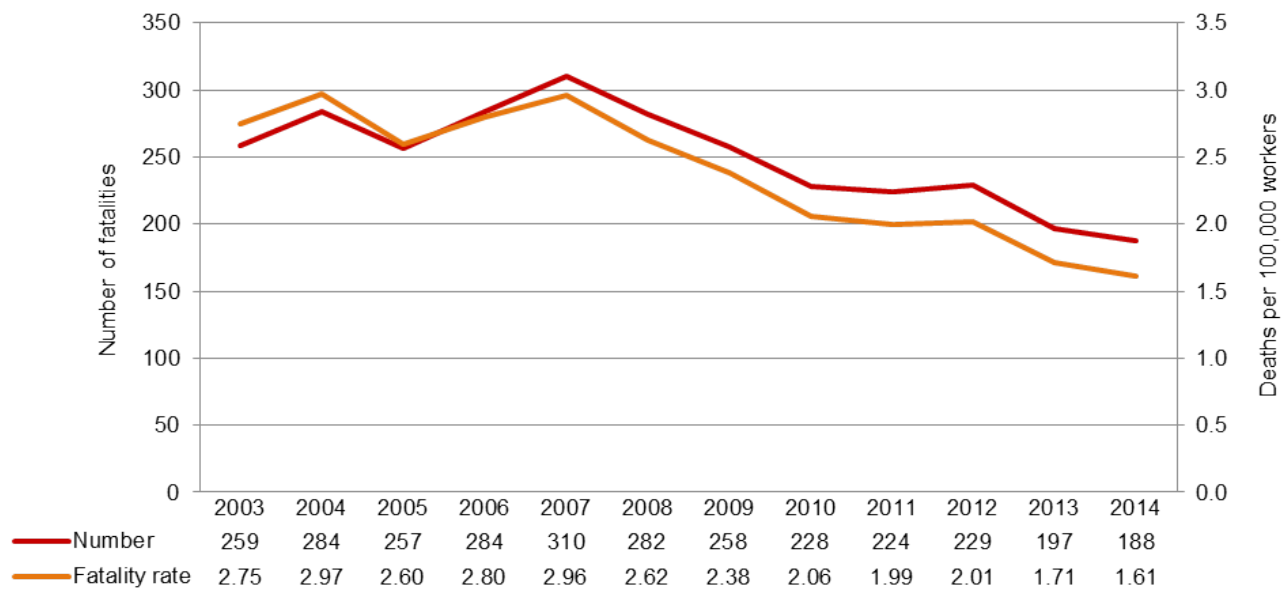


Worker fatalities

Injuries at work resulted in the deaths of 188 workers in 2014, the lowest number since the series began in 2003. The highest number of work-related injury fatalities was recorded in 2007 when there were 311 deaths.

Figure 1 shows the fatality rate of 1.61 fatalities per 100 000 workers in 2014 is the lowest rate since the series began.

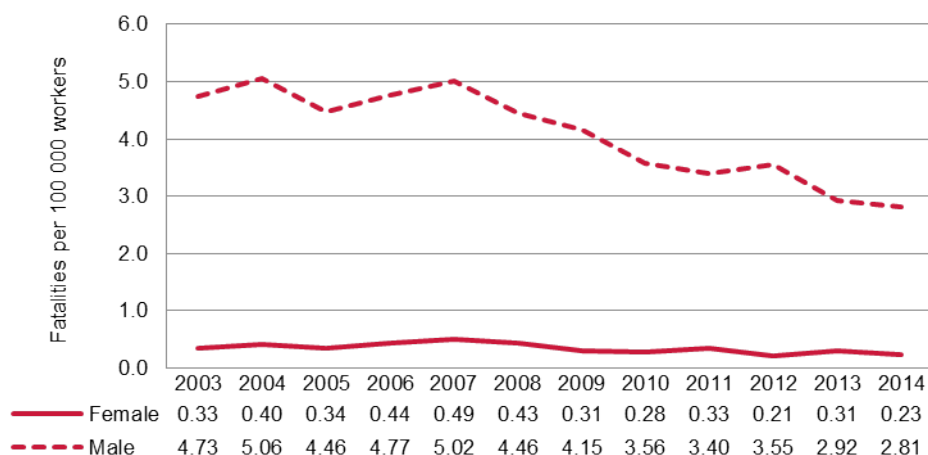
Figure 1: Worker fatalities: number of fatalities and fatality rate, 2003 to 2014



Sex

Figure 2 shows the fatality rate for male workers declined over the 11 years from 4.73 fatalities per 100 000 workers in 2003 to 2.81 in 2014. The fatality rate for female workers in 2013 (0.33 fatalities per 100 000 workers) decreasing to 0.23 in 2014.

Figure 2: Worker fatalities: fatality rate by sex, 2003 to 2014



**In 2014,
94% (176
of the 188
fatalities) of
workers killed
were men**

Age group

Table 1 shows the distribution of fatalities by age group. This distribution shows there were fewer fatalities in the youngest and oldest age groups, which reflects the lower workforce participation of these age groups compared with other age groups.

While the number of fatalities in 2014 is the lowest in the

series, the age profile was similar to previous years. The exception was the 65 years and over age group, which accounted for a slightly higher proportion of fatalities than other years.

These data show the 45–54 years age group recorded the highest number of fatalities in the past three years.

Table 1: Worker fatalities: number by age group, 2003 to 2014

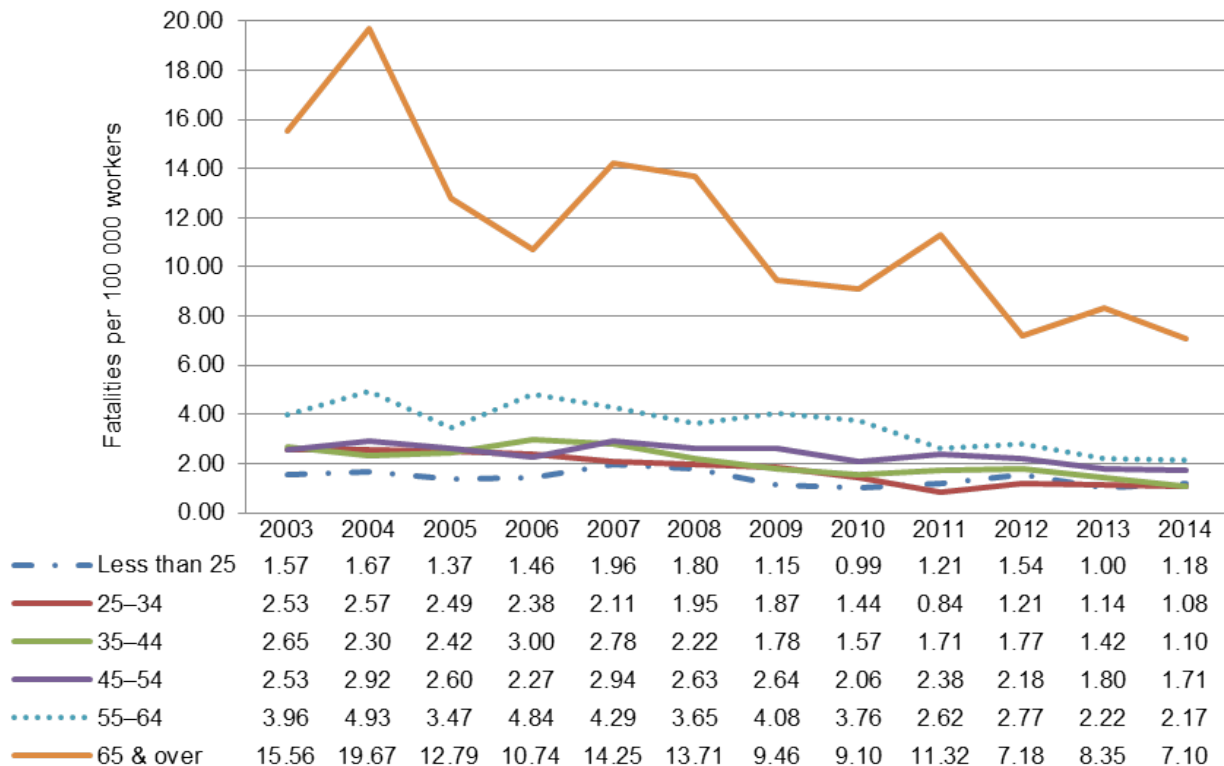
Year	Less than 25	25-34	35-44	45-54	55-64	65 and over	Total*
2003	26	55	61	53	40	24	259
2004	28	56	53	62	53	32	284
2005	24	55	57	57	40	24	257
2006	26	53	72	51	60	22	284
2007	36	48	68	68	56	34	310
2008	34	46	55	62	50	35	282
2009	21	44	44	63	59	27	258
2010	18	35	39	50	57	29	228
2011	23	21	43	58	41	38	224
2012	28	31	45	53	44	27	229
2013	18	30	36	44	36	33	197
2014	22	29	28	42	36	30	188
Total	304	503	601	663	572	355	3000

Figure 3 shows the fatality rates have fallen from the previous year for all age groups except the under 25 years age group, which rose slightly from the previous year but still remains considerably lower than all other years of the series. While the gap between the oldest age group and the younger age groups has narrowed,

the fatality rate of the oldest age group still remains four to seven times higher than the younger age groups.

In 2014, fatality rates increased with age from 1.08 per 100 000 workers in those aged 25 to 34 years to 7.10 in workers 65 years and over.

Figure 3: Worker fatalities: fatality rate by age group, 2003 to 2014



Mechanism of incident

Table 2 shows 38% of worker fatalities in 2014 were due to a **vehicle collision**. This mechanism is used when an occupant of a vehicle is killed following a collision with another vehicle or a stationary object. This is a major reduction from previous years with the highest being recorded in 2007 with 129 fatalities.

Being hit by moving objects and **falls from a height** each accounted for 11% of fatalities in 2014. There were 17 fatalities resulting from being hit by falling objects which is a decline from the 25 reported in 2013.

The top four mechanisms accounted for over two-thirds of work-related fatalities in 2014 (69%). For the complete time series see Appendix A1.

Being hit by moving objects and falls from a height each accounted for 11% of fatalities in 2014

Table 2: Worker fatalities: number by mechanism of incident, by selected years

Mechanism of incident	2003	2005	2007	2009	2011	2013	2014	% of 2014 fatalities
Vehicle incident	108	103	129	112	78	69	71	38%
Being hit by moving objects	40	29	38	31	19	22	21	11%
Falls from a height	27	26	32	29	22	24	20	11%
Being hit by falling objects	15	25	24	15	27	25	17	9%
Being trapped between stationary and moving objects	9	12	11	7	13	7	12	6%
Being trapped by moving machinery	6	11	11	11	13	10	10	5%
Rollover of non-road vehicle	9	11	12	12	11	14	7	4%
Explosion	3	2	1	1	5	1	6	3%
Contact with electricity	13	13	13	13	10	8	5	3%
Slide or cave-in	1	4	1	1	2		5	3%
Contact with hot objects	1	2	7		3	1	4	2%
Being assaulted by a person or persons	12	7	8	4	3	6	2	1%
Other mechanisms	15	12	23	22	18	10	8	4%
Total	259	257	310	258	224	197	188	100%

Table 3 shows the profile of fatalities by mechanism is roughly similar across the age groups. The exception to this is the 65 years and over age group which had a lower proportion of fatalities due to vehicle collision (24% compared with 38% to 48% for the other age groups)

and slightly higher proportions due to being hit by moving objects and falls from a height.

This oldest age group also had considerably more in the other mechanisms category of which rollover of non-road vehicle was a major contributor.

Table 3: Worker fatalities: percentage by mechanism of incident and age group, 2003 to 2014 combined

Mechanism of incident	Less than 25	25-34	35-44	45-54	55-64	65 and over	Total*
Vehicle incident	41%	44%	48%	40%	38%	24%	40%
Being hit by moving objects	13%	8%	9%	13%	14%	16%	12%
Falls from a height	8%	9%	7%	12%	14%	15%	11%
Being hit by falling objects	7%	10%	12%	7%	9%	9%	9%
Contact with electricity	9%	7%	4%	5%	2%	2%	4%
Other mechanisms	22%	22%	20%	22%	23%	34%	23%
Total	100%	100%	100%	100%	100%	100%	100%



Breakdown agency

The Breakdown agency identifies the object, substance or circumstance principally involved at the point at which things started to go wrong.

Table 4 shows the Breakdown agency of **mobile plant and transport** accounted for 61% of fatalities over the 2003–14 period and 59% of fatalities in 2014. Within this

group **trucks, semi-trailers or lorries** was the biggest contributor accounting for 26% of all worker fatalities. This was followed by **cars, station wagons, vans or utilities** with 10% and tractors 5%.

For the complete time series see Appendix A2.

Table 4: Worker fatalities: number and proportion by breakdown agency*, by selected years (sorted by total fatalities)

Breakdown agency	2003	2005	2007	2009	2011	2013	2014	Total	% of 2014 fatalities	% of total fatalities
Mobile plant and transport	161	151	192	167	132	120	110	1844	59%	61%
Road transport	99	100	139	110	72	73	68	1177	36%	39%
Trucks, semi-trailers, lorries	58	50	76	65	47	42	49	694	26%	23%
Cars, station wagons, vans, utilities	38	42	54	41	22	23	18	423	10%	14%
Air transport	24	15	11	11	21	10	9	180	5%	6%
Self-propelled plant	8	10	11	11	9	6	10	122	5%	4%
Other mobile plant	20	16	14	15	13	13	13	185	7%	6%
Tractors, agricultural or otherwise	13	13	7	13	9	10	10	140	5%	5%
Water transport	4	6	4	9	4	4	1	64	1%	2%
Other transport	3	3	4	7	10	12	6	65	3%	2%
Machinery and (mainly) fixed plant	23	32	29	31	32	24	20	324	11%	11%
Conveyors and lifting plant	13	20	18	16	22	17	11	188	6%	6%
Electrical installation	6	6	4	11	4	6	2	63	1%	2%
Environmental agencies	29	27	28	25	21	17	26	302	14%	10%
Non-powered handtools, appliances and equipment	13	11	24	13	8	14	13	186	7%	6%
Ladders, mobile ramps and stairways, and scaffolding	4	5	13	7	7	4	4	76	2%	3%
Animal, human and biological agencies	15	13	14	9	13	11	7	144	4%	5%
Human agencies	10	6	6	4	4	4	1	56	1%	2%
Powered equipment, tools and appliances	8	6	10	8	7	4	2	88	1%	3%
Materials and substances	7	13	8	5	8	6	7	83	4%	3%
Chemicals and chemical products	2	4	3		3	1	3	26	2%	1%
Total	259	257	310	258	224	197	188	3000	100%	100%

*Numbers shown in subcategories do not add to the larger category.

Involvement of vehicles

Over the 2003 to 2014 period, 65% of worker fatalities involved incidents with vehicles. Of the vehicle-related incidents, almost half (49%) occurred on a public road. One-third of worker fatalities arose from injuries sustained in a vehicle collision on a public road, one-third in vehicle incidents not on a public road and the remaining one-third did not involve a vehicle.

Table 5 shows 90% of vehicle-related incidents on public roads involved a **vehicle collision**. This was followed by **being hit by moving objects** which accounted for 8%.

Table 5: Worker fatalities involving a vehicle: number by public road status and mechanism of incident, 2003 to 2014

Year	Vehicle	Being hit by moving objects	Being trapped by vehicle	Rollover of non-road vehicle	Being hit by falling objects	Fall from vehicle	Other mechanism	Total vehicle related incidents
Public road incident								
2003	75	7		1			1	84
2004	90	3						93
2005	75	7	2	1	1			86
2006	83	8						91
2007	105	12						117
2008	76	4	1	1				82
2009	89	10	1	2	1	1		104
2010	56	7		1				64
2011	56	4			1			61
2012	69	7		1		1		78
2013	47	5	1					53
2014	52	2	1				1	56
Total public road	873	76	6	7	3	2	2	969
Non-public road incident								
2003	33	19	10	8	5	3	7	85
2004	31	22	15	13	7	7	6	101
2005	28	13	14	10	7	4	5	81
2006	41	14	10	6	6	11	5	93
2007	24	14	13	12	7	2	8	80
2008	45	20	11	10	8	9	12	115
2009	23	11	8	10	7	4	7	70
2010	22	15	12	10	13	6	7	85
2011	22	11	17	11	10	5	5	81
2012	22	14	9	5	9	5	3	67
2013	22	12	10	14	8	7	1	74
2014	19	13	10	7	5	3	3	60
Total non-public road	332	178	139	116	92	66	69	992
Total vehicle incidents	1205	254	145	123	95	68	71	1961

Public road	90%	8%	1%	1%	0%*	0%*	0%*	100%
Non-public road	33%	18%	14%	12%	9%	7%	7%	100%
Total vehicle	61%	13%	7%	6%	5%	3%	4%	100%

*Units are rounded to the nearest 1%.

Fatalities due to vehicle collisions

Table 6 shows in the five years from 2010 to 2014, 387 workers died in a **vehicle collision**. This is an average of 77 workers each year. Of these, two-thirds involved a single vehicle.

One-quarter of all worker fatalities involved a worker dying in a single vehicle crash

Table 6: Worker fatalities due to vehicle collision: number by breakdown agency, 2010 to 2014

Type of incident	2010	2011	2012	2013	2014	Total	% of total	% of all worker fatalities
Single vehicle incident	54	55	54	42	49	254	66%	24%
Truck	20	24	28	19	23	114	29%	11%
Aircraft	14	19	13	10	9	65	17%	6%
Light vehicle	16	8	7	5	9	45	12%	4%
Quad bike		1	2	4	4	11	3%	1%
Agricultural vehicle	2			1		3	1%	0%*
Motorbikes	1	1	1	1	2	6	2%	1%
Watercraft		1	2		1	4	1%	0%
Other single vehicle incident	1	1	1	2	1	6	2%	1%
Multi vehicle incident	24	23	37	27	22	133	34%	12%
Occupant in light vehicle killed in incident with truck	7	11	13	8	5	44	11%	4%
Two trucks	7	6	10	7	8	38	10%	4%
Two light vehicles	4	2	8	5	4	23	6%	2%
Occupant in truck killed in incident with light vehicle	3	3	3	4	3	16	4%	2%
Other multi-vehicle incident	3	1	3	3	2	12	3%	1%
Total	78	78	91	69	71	387	100%	36%

*Units are rounded to the nearest 1%.



Fatalities due to being hit by moving objects

Over the five years from 2010 to 2014, 118 workers died as a result of **being hit by moving objects**, which amounted to 11% of all worker fatalities over this period. Table 7 shows three-quarters (91 fatalities) of these incidents involved **mobile plant and transport**. Over the five years 49 workers died after being hit by a truck or a car.

Over the five years from 2010 to 2014, 49 workers died after being hit by a car or truck

Table 7: Worker fatalities due to being hit by moving objects: number by breakdown agency, 2010 to 2014

Breakdown agency	2010	2011	2012	2013	2014	Total	% of total	% of all worker fatalities
Mobile plant and transport	20	16	25	14	16	91	77%	9%
Trucks, semi-trailers, lorries	10	6	7	5	5	33	28%	3%
Cars, station wagons, vans, utilities	4	4	2	5	1	16	14%	2%
Tractors, agricultural or otherwise	3	2	4		5	14	12%	1%
Self-propelled plant	2	2	5	3	2	14	12%	1%
Other plant or transport	1	2	7	1	3	14	12%	1%
Machinery and (mainly) fixed plant	2		2	5	1	10	8%	1%
Conveyors and lifting plant	2		1	5		8	7%	1%
Non-powered handtools, appliances and equipment	2	1		2	2	7	6%	1%
Powered equipment, tools and appliances	2		1			3	3%	0%
Other agencies	2	2	0	1	2	7	6%	1%
Total	28	19	28	22	21	118	100%	11%



Fatalities due to falls from a height

Over the five years from 2010 to 2014, 123 workers died following **falls from a height**, which amounted to 12% of all worker fatalities. In 2014, 20 workers died due to this mechanism, which is the lowest number in the series. This follows from a relatively high 30 fatalities in 2012 when there were high numbers of falls from **roof** (8 fatalities in 2012).

Table 8 shows over the past five years **falls from a height** most commonly involved falls from ladders (20 fatalities), **roof** (19 fatalities), horses, donkeys and mules (11 fatalities) and **trucks, semi-trailers and lorries** (10 fatalities).

Table 8: Worker fatalities due to falls from a height: number by breakdown agency, 2010 to 2014

Breakdown agency	2010	2011	2012	2013	2014	Total	% of total	% of all worker fatalities
Environmental agencies	5	6	18	6	9	44	36%	4%
Roof	1	3	8	2	5	19	15%	2%
Openings in floors, walls or ceilings		2	1		1	4	3%	0%*
Shaft	1			2	1	4	3%	0%*
Internal building structures			2		1	3	2%	0%*
Buildings under construction or demolition	1		2			3	2%	0%*
Non-powered handtools, appliances and equipment	11	7	3	4	4	29	24%	3%
Ladders	8	6	1	3	2	20	16%	2%
Scaffolding	2	1	1			4	3%	0%*
Mobile plant and transport	5	5	5	7	2	24	20%	2%
Trucks, semi-trailers, lorries	3	2	2	3		10	8%	1%
Water transport	2	1		2		5	4%	0%*
Machinery and (mainly) fixed plant	3	2	4	3	2	14	11%	1%
Elevating work platforms	2	2	1	1		6	5%	1%
Animal, human and biological agencies	3	2	0	4	3	12	10%	1%
Horses, donkeys, mules	3	2	0	3	3	11	9%	1%
Total	27	22	30	24	20	123	100%	12%

*Units are rounded to the nearest 1%.

Fatalities due to being hit by falling objects

Over the five years from 2010 to 2014, 125 workers died due to **being hit by falling objects**, which amounted to 12% of all worker fatalities. This mechanism claimed the lives of 17 workers in 2014, which is lower than previous years.

Table 9 provides more detail on the object (agency) which hit the worker. Over the five years, 33 workers were killed by falling **vegetation**, mainly trees. This is 26% of all workers who died as a result of **being hit by falling objects** and 3% of all worker fatalities.

Over the five years from 2010 to 2014, 125 workers died due to being hit by falling objects

Table 9: Worker fatalities due to being hit by falling objects: number by agency, 2010 to 2014

Agency	2010	2011	2012	2013	2014	Total	% of total	% of all worker fatalities
Environmental agencies	10	16	8	8	6	48	38%	5%
Vegetation	8	12	5	6	2	33	26%	3%
Buildings and other structures	2	3	2	2	4	13	10%	1%
Materials and substances	9	4	6	7	5	31	25%	3%
Ferrous and non-ferrous metal	3	2	4	4	4	17	14%	2%
Mobile plant and transport	4	1	6	7	4	22	18%	2%
Trucks, semi-trailers, lorries	1		2	3	3	9	7%	1%
Non-powered handtools, appliances and equipment	3	2	3	3	1	12	10%	1%
Storage equipment	2	1	1	1		5	4%	0%
Machinery and (mainly) fixed plant	3	4	4			11	9%	1%
Conveyors and lifting plant		3	3			6	5%	1%
Powered equipment, tools and appliances					1	1	1%	0%*
Total	29	27	27	25	17	125	100%	12%

*Units are rounded to the nearest 1%.



Industry

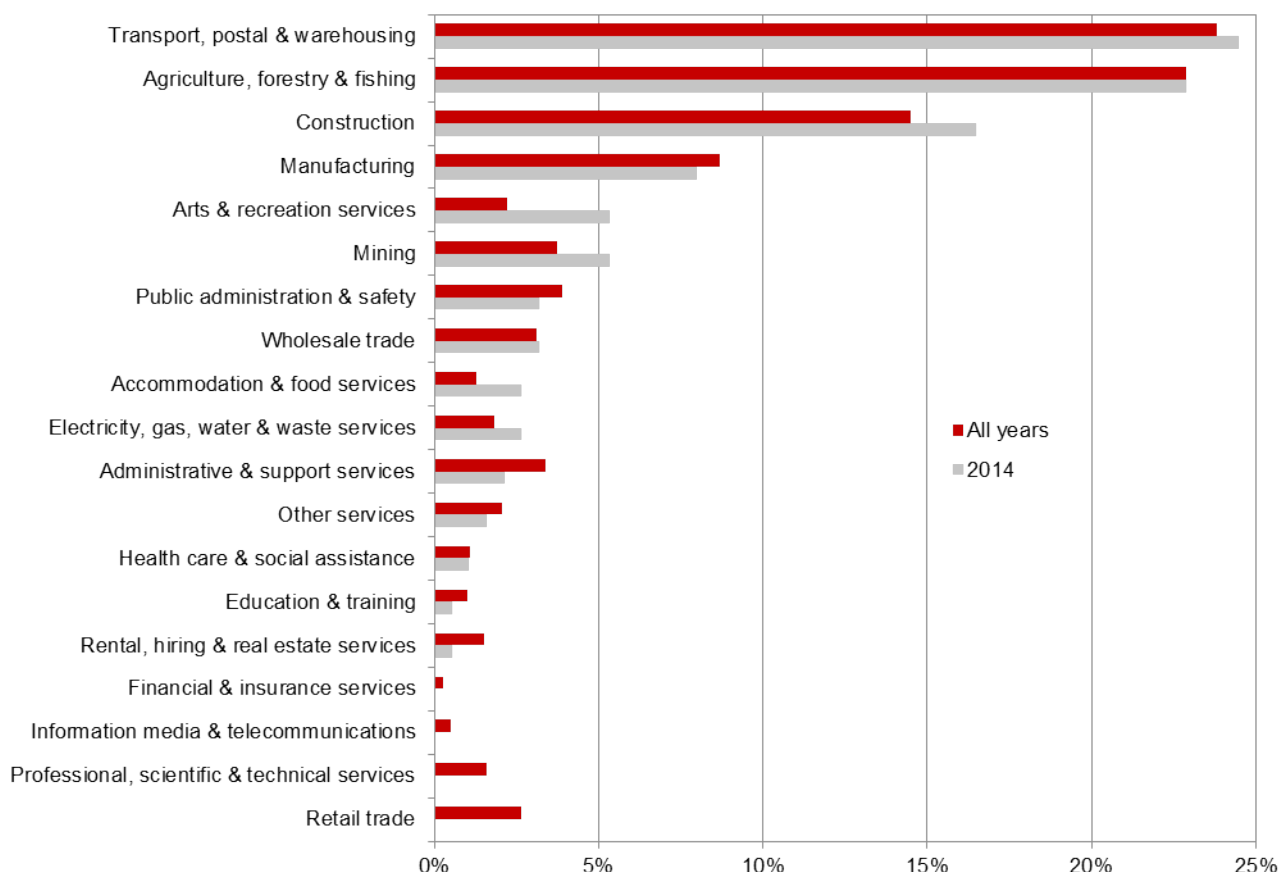
Figure 4 shows in 2014, 47% of the workers who died were employed either in the agriculture, forestry and fishing (43 fatalities) or the transport, postal and warehousing industries (46 fatalities).

Table 10 shows the top four industries have had substantial decreases in worker fatalities over the period

from 2003 to 2014. The transport, postal and warehousing industry recorded the highest proportion of fatalities in 2014 with the construction industry accounting for 15% of all worker fatalities.

For the complete time series see Appendix A3.

Figure 4: Worker fatalities: proportion by industry of employer, all years (2003 to 2014 combined) and 2014



The transport, postal and warehousing industry recorded the highest proportion of fatalities in 2014 with the construction industry accounting for 15% of all worker fatalities

Table 10: Worker fatalities: number by industry of employer, by selected years (sorted by 2014)

Industry of employer	2003	2005	2007	2009	2011	2013	2014	% of 2014	Total	% of total
Transport, postal and warehousing	68	55	83	64	48	46	46	24%	714	24%
Agriculture, forestry and fishing	60	62	52	62	59	49	43	23%	686	23%
Construction	43	30	45	36	41	22	31	16%	435	15%
Manufacturing	20	23	25	23	22	12	15	8%	261	9%
Arts and recreation services	3	6	10	1	6	7	10	5%	66	2%
Mining	11	9	7	10	6	8	10	5%	112	4%
Public administration and safety	9	14	13	11	11	11	6	3%	117	4%
Wholesale trade	7	10	8	4	3	7	6	3%	93	3%
Accommodation and food services	5		6	3	1	2	5	3%	39	1%
Electricity, gas, water and waste services	5	6	4	5	2	4	5	3%	55	2%
Administrative and support services	4	12	12	12	8	5	4	2%	102	3%
Other services	4	10	4	4	4	7	3	2%	62	2%
Health care and social assistance	3	3		6	2	4	2	1%	33	1%
Education and training	2	2	4	2	2		1	1%	30	1%
Rental, hiring and real estate services	4	6	10	2	2	3	1	1%	45	2%
Financial and insurance services	1			3				0%	8	0%*
Information media and telecommunications	1		3	1	3			0%	15	1%
Professional, scientific and technical services	2	2	7	4	2	2		0%	48	2%
Retail trade	7	7	17	5	2	8		0%	79	3%
Total	259	257	310	258	224	197	188	100%	3000	100%

*Units are rounded to the nearest 1%.

Fatality rates, expressed as fatalities per 100 000 workers, are best used when comparing risk across industries. Table 11 shows in 2014 the agriculture, forestry and fishing industry recorded the highest fatality rate with 13.25 fatalities per 100 000 workers. While this is one of the lowest fatality rates for this industry in the series it is still almost nine times the national fatality rate of 1.61.

It must be noted that as fatality rates are sensitive to the number of workers employed in each industry, fatality rates are liable to show volatility in those industries which employ the fewest workers even when small variations in the number of fatalities are recorded. Therefore, the actual number of fatalities should be considered when interpreting the fatality rates.

For the complete time series see Appendix A4.



Table 11: Worker fatalities: fatality rate (fatalities per 100 000 workers) by industry of employer, by selected years

Industry of employer	2003	2005	2007	2009	2011	2013	2014	Total
Agriculture, forestry and fishing	16.35	17.58	15.05	17.79	18.72	16.33	13.25	16.85
Transport, postal and warehousing	14.62	11.10	15.48	10.99	8.29	7.76	7.71	10.94
Construction	5.77	3.56	4.81	3.66	4.04	2.18	2.98	3.87
Manufacturing	1.94	2.25	2.43	2.30	2.32	1.30	1.62	2.19
Administrative and support services	1.16	3.41	3.39	3.38	2.02	1.29	1.05	2.33
Arts and recreation services	2.06	3.51	5.24	0.50	2.88	3.37	4.75	2.93
Public administration and safety	1.55	2.31	2.04	1.65	1.54	1.48	0.82	1.48
Mining	12.40	7.59	5.15	6.14	2.73	3.00	3.99	5.36
Wholesale trade	1.87	2.70	2.07	0.98	0.73	1.66	1.55	1.96
Retail trade	0.63	0.60	1.42	0.42	0.17	0.66	0.00	0.56
Health care and social assistance	0.33	0.30	0.00	0.51	0.15	0.29	0.14	0.24
Other Services	0.95	2.48	0.91	0.91	0.90	1.52	0.61	1.17
Professional, scientific and technical services	0.32	0.29	0.94	0.51	0.23	0.22	0.00	0.51
Accommodation and food services	0.78	0.00	0.86	0.41	0.13	0.26	0.64	0.45
Information media and telecommunications	0.45	0.00	1.25	0.46	1.45	0.00	0.00	0.56
Electricity, gas, water and waste services	5.48	6.04	3.83	3.76	1.35	2.72	3.42	3.72
Rental, hiring and real estate services	2.38	3.39	5.04	1.10	1.02	1.55	0.46	1.95
Education and training	0.29	0.28	0.52	0.25	0.24	0.00	0.11	0.31
Financial and insurance services	0.29	0.00	0.00	0.76	0.00	0.00	0.00	0.17
Total	2.75	2.60	2.96	2.38	1.99	1.71	1.61	2.35

Priority industries

The *Australian Work Health and Safety Strategy 2012-2022* provides a framework to drive improvements in work health and safety in Australia. It promotes a collaborative approach between the Commonwealth, state and territory governments, industry and unions and other organisations to achieve the vision of healthy, safe and productive working lives.

The Australian Strategy identifies national priority industries and disorders to help direct prevention activities to where they are needed the most.

The following industries have high numbers and rates of deaths and/or injuries or are by their nature hazardous:

- Agriculture
- Road transport
- Manufacturing
- Construction
- Accommodation and food services
- Public administration and safety, and
- Health care and social assistance.

For the purposes of this report, only those industries with fatality rates above the all industry rate will be examined in further detail, i.e. agriculture, transport, postal and warehousing and construction.

Industries such as accommodation and food services, healthcare and social assistance and public administration and safety have low fatality rates but are included in priority industries due to high injury rates. For information on serious claims in these industries, refer to the Australian Workers' Compensation Statistics:

<http://www.safeworkaustralia.gov.au/sites/swa/statistics/workers-compensation-data/pages/compendiumofworkerscompensationstatistics>

Figure 5 shows that fatality rates have been declining for priority industries over the last 12 years from 2003 to 2014. Road transport is over 10 times the all industry rate (16.2 compared to 1.6) and although it has declined over the period, improvements still need to be made.

Figure 5: Worker fatalities: fatality rate (fatalities per 100 000 workers) by industry of employer, by year

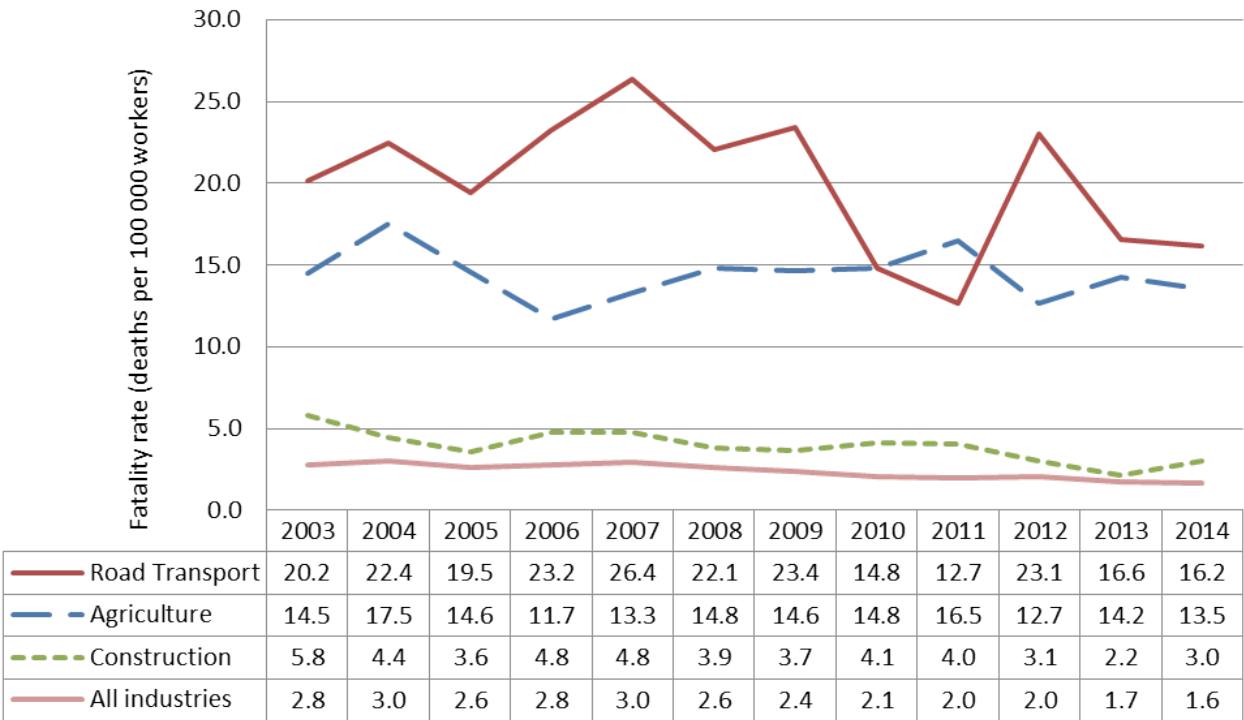


Table 12: Worker fatalities: Agriculture sub-divisions by mechanism of incident, 2003 to 2014 (combined)

Industry sub-divisions	Vehicle incident	Rollover of non-road vehicle	Being hit by moving objects	Being hit by falling objects	Falls from a height	Being trapped between	Being hit by an animal	Other	Total
Sheep, beef cattle and grain farming	101	48	53	30	26	18	20	50	346
Other crop growing	12	8	5	7		3		9	44
Fruit and tree nut growing	5	10	5	1	2	6		6	35
Other livestock farming	12	6	7		2			5	32
Dairy cattle farming	13	5	2			1	2	2	25
Mushroom and vegetable growing	6	2	6	1	1			3	19
Nursery and floriculture production	1	1	1	2		1		1	7
Poultry farming								1	1
Agriculture Total	150	80	79	41	31	29	22	77	509

Table 12 shows the number of worker fatalities in agriculture sub-divisions by mechanism of incident. Almost half (150 fatalities) of all worker fatalities in agriculture are due to vehicle incidents (including rollovers).

Within agriculture, sheep, beef cattle and grain farming makes up three-quarters of the number of fatalities (346 out of 509) with half of these being due to vehicles. In this group, the most common vehicles involved in these

fatalities were tractors (35 fatalities), quad bikes (31), cars and utilities (30) and aircraft (22).

Further information on fatalities and injuries that occur on Australian farms can be found in the Work-related Injuries and Fatalities on Australian Farms report:

<http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/759/Work-related-injuries-fatalities-farms.pdf>

Table 13: Worker fatalities: Road transport sub-divisions by mechanism of incident, 2003 to 2014 (combined)

Industry sub-divisions	Vehicle incident	Being hit by moving objects	Being hit by falling objects	Being trapped between stationary and moving objects	Falls from a height	Being trapped by moving machinery	Other	Total
Road freight transport	392	32	23	16	13	5	20	501
Road passenger transport	31	7	1		1	5	3	48
Interurban and Rural Bus Transport	2	1	1			2		6
Taxi and Other Road Transport	24	4					3	31
Urban Bus Transport (Including Tramway)	5	2			1	3		11
Road transport Total	423	39	24	16	14	10	23	549

Over the period from 2003 to 2014, 77% of all road transport fatalities involved vehicle incidents. Predominately these consisted of single vehicle incidents involving trucks and semi-trailers.

Table 14: Worker fatalities: Construction sub-divisions by mechanism of incident, 2003 to 2014 (combined)

Industry sub-division	Falls from a height	Vehicle incident	Contact with electricity	Being hit by moving objects	Being hit by falling objects	Being trapped between stationary and moving objects	Being trapped by moving machinery	Other	Total
Heavy and civil engineering construction	7	18	5	25	8	3	3	9	78
Land development and site preparation services	5	12	1	14	14	7	10	10	73
Building structure services	31	6	12	4	7	3	2	6	71
Building installation services	15	12	34	1		1		5	68
Residential building construction	22	4	4		8	1		4	43
Building completion services	23	2	3	3	2	3	1	1	38
Other construction services	8	11	3	4	5		1	4	36
Non-residential building construction	10	5	1	1	7	2	1	1	28
Construction Total	121	70	63	52	51	20	18	40	435

Table 14 shows the mechanism with the highest number of worker fatalities in the construction industry is falls from a height. These fatalities account for almost one-third (121 out of 435 fatalities) in the industry.

Within construction, heavy and civil engineering recorded the highest number of fatalities with 78, of which 25 were due to being hit by moving objects. Workers in this industry work alongside heavy machinery to construct roads, bridges and dams.

Building installation services recorded the highest number of fatalities from contact with electricity (34 fatalities). Workers in this industry are primarily involved with plumbing, electrical, heating and air conditioning installation.

For further information on fatalities and injuries refer to the *Work-related injuries and fatalities in Construction, 2003 to 2013* report:

Occupation

In 2014, 35% (65 fatalities) of the workers killed were employed as machinery operators and drivers. Labourers accounted for a further 26% (48 fatalities) of fatalities

followed by managers and technicians and trades workers (both with 15% – 29 and 28 fatalities respectively). For the complete time series see Appendix A5.

Table 15: Worker fatalities: number of fatalities and fatality rate by occupation, by selected years

Occupation	2003	2005	2007	2009	2011	2013	2014
Number of fatalities							
Machinery operators and drivers	86	76	112	95	61	63	65
Road and rail drivers	65	55	82	72	46	49	48
Mobile plant operators	11	8	17	12	7	6	6
Machine and stationary plant operators	7	11	7	9	8	7	11
Labourers	61	42	56	40	41	41	48
Farm, forestry and garden workers	22	15	16	12	16	11	22
Construction and mining labourers	24	12	13	11	12	8	9
Professionals	19	24	24	20	25	12	11
Design, engineering, science and transport professionals	17	19	12	13	19	9	9
Managers	40	50	38	43	40	29	17
Farmers and farm managers	31	35	27	32	34	24	15
Technicians and trades workers	31	42	55	37	43	28	27
Construction trades workers	10	6	17	13	8	3	10
Automotive and engineering trades workers	10	13	13	10	11	11	6
Electrotechnology and telecommunications trades workers	9	13	13	6	14	9	7
Community and personal service workers	11	12	10	14	10	14	11
Protective service workers	7	8	5	8	3	4	3
Sales workers	7	5	10	4	1	6	2
Clerical and administrative workers	4	6	5	5	3	1	3
Total	259	257	310	258	224	197	188
Fatality rate (deaths per 100,000 workers)							
Machinery operators and drivers	13.72	11.89	15.68	13.76	8.17	8.13	8.64
Road and rail drivers	24.94	20.68	28.62	24.98	14.78	15.17	15.02
Mobile plant operators	9.34	6.47	12.20	9.13	5.02	4.35	4.31
Machine and stationary plant operators	4.02	6.86	4.10	5.66	4.70	3.80	6.67
Labourers	5.62	3.81	4.89	3.48	3.57	3.64	4.24
Farm, forestry and garden workers	15.81	13.15	13.81	11.07	13.66	11.04	19.10
Construction and mining labourers	17.85	8.39	7.80	6.80	7.05	5.18	5.63
Professionals	1.04	1.23	1.13	0.88	1.03	0.47	0.42
Design, engineering, science and transport professionals	6.85	6.50	3.89	3.79	4.96	2.32	2.36
Managers	3.53	4.00	2.84	3.06	2.78	1.99	1.12
Farmers and farm managers	15.73	17.68	13.74	15.94	20.20	15.25	8.50
Technicians and trades workers	2.20	2.81	3.47	2.31	2.63	1.68	1.60
Construction trades workers	3.30	1.80	4.96	3.66	2.14	0.82	2.79
Automotive and engineering trades workers	3.00	3.80	3.70	2.85	3.07	3.00	1.59
Electrotechnology and telecommunications trades workers	4.61	7.03	6.14	2.77	6.36	3.97	3.03
Community and personal service workers	1.40	1.42	1.11	1.41	0.94	1.23	0.96
Protective service workers	5.91	6.55	4.10	6.08	2.22	2.71	2.00
Sales workers	0.71	0.49	1.01	0.40	0.10	0.56	0.18
Clerical and administrative workers	0.26	0.39	0.31	0.30	0.18	0.06	0.18
Total	2.76	2.61	2.98	2.39	2.00	1.72	1.63

State/territory of incident

The most populous states accounted for the majority of fatalities over the 12 years of the series. New South Wales accounted for 30% of the worker fatalities followed by Queensland with 25% and Victoria with 20%.

Table 16 shows in 2014, 53 workers were killed in New South Wales, 49 in Queensland, and 42 in Victoria.

Table 16: Worker fatalities: incidence rate by state/territory of incident, 2003 to 2014

State	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Number of worker fatalities												
New South Wales	85	75	91	95	86	83	63	67	58	82	54	53
Queensland	57	58	70	61	78	76	69	49	61	57	50	49
Victoria	54	67	42	67	69	47	51	47	46	35	32	42
Western Australia	28	36	23	23	45	43	33	31	24	24	33	22
South Australia	13	19	18	20	10	15	19	20	18	13	15	11
Tasmania	17	13	8	10	11	9	15	7	9	6	8	8
Northern Territory	4	13	4	6	10	9	6	6	7	9	4	3
Australian Capital Territory	1	3	1	2	1		2	1	1	3	1	
Total	259	284	257	284	310	282	258	228	224	229	197	188
Fatality rate (deaths per 100,000 workers)												
New South Wales	2.74	2.41	2.86	2.94	2.60	2.46	1.86	1.95	1.65	2.32	1.51	1.46
Queensland	3.19	3.14	3.59	3.02	3.70	3.49	3.13	2.20	2.70	2.50	2.18	2.11
Victoria	2.31	2.83	1.71	2.68	2.67	1.78	1.91	1.71	1.64	1.24	1.12	1.46
Western Australia	2.92	3.67	2.22	2.15	4.04	3.70	2.80	2.58	1.94	1.84	2.49	1.63
South Australia	1.83	2.66	2.45	2.67	1.31	1.92	2.42	2.50	2.23	1.61	1.87	1.37
Tasmania	8.24	6.11	3.65	4.48	4.84	3.79	6.38	2.95	3.80	2.56	3.45	3.37
Northern Territory	4.07	13.32	4.14	5.96	9.27	8.06	5.00	5.01	5.80	7.12	3.13	2.23
Australian Capital Territory	0.56	1.67	0.54	1.05	0.51	0.00	1.01	0.49	0.49	1.43	0.48	0.00
Total	2.75	2.97	2.60	2.80	2.96	2.62	2.38	2.06	1.99	2.01	1.71	1.61

***In 2014, 53 workers were killed in New South Wales,
49 in Queensland, and 42 in Victoria***

State/territory by industry

The last five years (2010 to 2014) of fatalities data were analysed to identify the industries which had the highest numbers of fatalities in each state or territory.

The analysis excludes the Australian Capital Territory due to the small numbers of fatalities involved (see Table 17).

Table 17: Worker fatalities: number by state/territory of incident and the industries with the highest number of fatalities, 2010 to 2014 combined

Industry	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Northern Territory	Total*
Number of worker fatalities								
Agriculture, forestry and fishing	74	53	69	25	17	13	8	259
Transport, postal and warehousing	78	49	58	29	16	5	9	245
Construction	44	30	46	18	14	8	3	165
Manufacturing	28	9	22	21	5	3		88
Public administration and safety	13	7	13	3	4		1	42
Mining	9	4	11	8	1	3	1	37
Administrative and support services	10	11	4	5	4		1	35
Wholesale trade	12	8	6	3	5		1	35
Arts and recreation services	10	2	15	2	2		1	33
Retail trade	7	4	3	3	3	1	1	22
Other industries	29	25	19	17	6	5	3	105
Total	314	202	266	134	77	38	29	1066
Proportion of total								
Agriculture, forestry and fishing	24%	26%	26%	19%	22%	34%	28%	24%
Transport, postal and warehousing	25%	24%	22%	22%	21%	13%	31%	23%
Construction	14%	15%	17%	13%	18%	21%	10%	15%
Manufacturing	9%	4%	8%	16%	6%	8%	0%	8%
Public administration and safety	4%	3%	5%	2%	5%	0%	3%	4%
Mining	3%	2%	4%	6%	1%	8%	3%	3%
Administrative and support services	3%	5%	2%	4%	5%	0%	3%	3%
Wholesale trade	4%	4%	2%	2%	6%	0%	3%	3%
Arts and recreation services	3%	1%	6%	1%	3%	0%	3%	3%
Retail trade	2%	2%	1%	2%	4%	3%	3%	2%
Other industries	9%	12%	7%	13%	8%	13%	10%	10%
Total	100%	100%	100%	100%	100%	100%	100%	100%

* includes Australian Capital Territory

Bystander fatalities

The actions of a worker or a fault in a workplace resulted in the deaths of 70 members of the public in 2014. This is the highest number since 2007 when 75 members of the public were killed.

Over the 12 years of the series, 60% of the bystander fatalities were male and 69% involved an incident on a public road.

Age group

Table 18 shows over the 12 years of the series, 22% of bystander fatalities were people aged 65 years and over while the under 15 years age group accounted for 19% (see Table 15).

Table 18: Bystander fatalities: number by age group, 2003 to 2014

Age group	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
14 and under	8	18	10	19	21	12	13	10	2	6	10	12
15-24	8	5	9	3	9	8	15	7	5	4	7	10
25-34	9	9	10	3	11	7	6	5	9	8	12	7
35-44	4	12	7	5	6	9	6	12	4	7	6	6
45-54	10	3	5	11	12	7	4	5	8	8	9	7
55-64	10	7	11	5	3	6	6	6	8	7	10	10
65 and over	8	9	13	13	13	13	3	13	27	22	12	18
Total	57	63	65	59	75	62	53	58	63	62	66	70

Mechanism of incident

Table 19 shows over the 2007–14 period 61% of the bystander fatalities were due to a vehicle incident with being hit by moving objects accounting for a further 15%.

Falls from a height accounted for 6% of bystander fatalities, and drowning 4% (18 fatalities). The majority of the deaths from drowning were of children aged 14 years and under.

Table 19: Bystander fatalities: number by mechanism of incident and breakdown agency, 2007 to 2014

Mechanism of incident	2007	2008	2009	2010	2011	2012	2013	2014	Total	% of total
Vehicle incident	50	38	32	39	24	41	42	42	308	61%
Being hit by moving objects	9	12	5	7	15	12	8	9	77	15%
Falls from a height	2	3	6	5	3	5	4	5	33	6%
Being hit by falling objects	5	2		1	3	3	6	3	23	5%
Drowning	5	2	3	2	1			5	18	4%
Contact with hot objects					13			1	14	3%
Being assaulted by a person or persons		1	1		2	1	1	2	8	2%
Falls on the same level	1		2				2	1	6	1%
Being trapped by moving machinery			1	2			1		4	1%
Hitting stationary objects	1	1					1		3	1%
Explosion		2							2	0%*
Other mechanisms	2	1	3	2	2	0	1	2	13	3%
Total	75	62	53	58	63	62	66	70	509	100%

*Units are rounded to the nearest 1%.

Appendix A

Appendix A1: Worker fatalities: number by mechanism of incident, 2003 to 2014 (sorted by total fatalities)

Mechanism of incident	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total	% of 2014 fatalities	% of total fatalities
Vehicle incident	108	121	103	124	129	121	112	78	78	91	69	71	1205	38%	40%
Being hit by moving objects	40	37	29	32	38	32	31	28	19	28	22	21	357	11%	12%
Falls from a height	27	25	26	39	32	30	29	27	22	30	24	20	331	11%	11%
Being hit by falling objects	15	21	25	25	24	23	15	29	27	27	25	17	273	9%	9%
Contact with electricity	13	16	13	18	13	9	13	10	10	6	8	5	134	3%	4%
Rollover of non-road vehicle	9	13	11	6	12	11	12	11	11	6	14	7	123	4%	4%
Being trapped by moving machinery	6	9	11	7	11	13	11	12	13	9	10	10	122	5%	4%
Being trapped between stationary and moving objects	9	13	12	12	11	8	7	8	13	5	7	12	117	6%	4%
Being assaulted by a person or persons	12	9	7	5	8	3	4	4	3	6	6	2	69	1%	2%
Drowning	4	3	2	2	5	9	8	2	3	3	3	1	45	1%	2%
Explosion	3	1	2	1	1	6	1	3	5	2	1	6	32	3%	1%
Being hit by an animal	1	3	1	1	2	3	2	3	6	4	2	1	29	1%	1%
Falls on the same level	3	5	1	1	4	4	2	2		3		1	26	1%	1%
Contact with hot objects	1		2	1	7	3		1	3	1	1	4	24	2%	1%
Slide or cave-in	1	2	4	3	1		1	1	2	1		5	21	3%	1%
Single contact with chemical or substance	3			1	3	1	1	2	2	2		2	17	1%	1%
Exposure to environmental heat	1	1		1	3		2	1	2	1	2	1	15	1%	1%
Being bitten by an animal	1	1	3	2				1	2	2			12	0%	0%
Hitting moving objects		1	3		3	3	1						11	0%	0%
Hitting stationary objects		1	1		1		1	2	1	2	2		11	0%	0%
Insect and spider bites and stings		1			2	3	1	1			1	1	10	1%	0%
Being hit by a person accidentally							2	2	2				6	0%	0%
Other and multiple mechanisms of injury	1		1				1						3	0%	0%
Other variations in pressure		1		2									3	0%	0%
Exposure to other and unspecified environmental factors							1					1	2	1%	0%
Contact with poisonous parts of plant or marine life				1									1	0%	0%
Unspecified mechanisms of injury	1												1	0%	0%
Total	259	284	257	284	310	282	258	228	224	229	197	188	3000	100%	100%

Appendix A2: Worker fatalities: number and proportion by breakdown agency*, 2003 to 2014 combined

Breakdown agency	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total	% of 2014 fatalities	% of total fatalities
Mobile plant and transport	161	180	151	172	192	184	167	133	132	142	120	110	1844	59%	61%
Road transport	99	114	100	112	139	115	110	84	72	91	73	68	1177	36%	39%
<i>Trucks, semi-trailers, lorries</i>	58	72	50	66	76	67	65	47	47	55	42	49	694	26%	23%
<i>Cars, station wagons, vans, utilities</i>	38	36	42	43	54	36	41	35	22	35	23	18	423	10%	14%
Air transport	24	12	15	21	11	19	11	14	21	13	10	9	180	5%	6%
<i>Industrial aircraft</i>	9	7	4	11	7	13	11	13	10	12	9	3	109	2%	4%
<i>Passenger aircraft</i>	15	4	11	10	4	6		1	10	1	1	6	69	3%	2%
Self-propelled plant	8	12	10	10	11	14	11	8	9	13	6	10	122	5%	4%
<i>Front-end loaders, log handling plant, other loading plant</i>		5	5	4	5	4	1	1	2	6	2	3	38	2%	1%
<i>Excavators, backhoes, other digging plant</i>	3	3	1	2	2	1	3	3	4	3	1	2	28	1%	1%
<i>Graders, dozers, snowploughs, other scraping plant</i>	3	1	2	2	1	5	1	2	1		1	2	21	1%	1%
Other mobile plant	20	23	16	15	14	15	15	16	13	12	13	13	185	7%	6%
<i>Tractors, agricultural or otherwise</i>	13	22	13	13	7	11	13	13	9	6	10	10	140	5%	5%
Water transport	4	9	6	4	4	11	9	4	4	4	4	1	64	1%	2%
Other transport	3	4	3	3	4	8	7	1	10	4	12	6	65	3%	2%
<i>Quad bikes</i>	3	4	3	2	4	8	6	1	10	4	12	6	63	3%	2%
Machinery and (mainly) fixed plant	23	27	32	30	29	29	31	25	32	22	24	20	324	11%	11%
Conveyors and lifting plant	13	10	20	18	18	17	16	14	22	12	17	11	188	6%	6%
<i>Forklift trucks</i>	4	4	6	9	5	8	3	8	4	2	6	5	64	3%	2%
<i>Power hoists</i>	2	3	3	1	9	6	6	4	8	3	4	3	52	2%	2%
<i>Cranes</i>	5	1	7	4	3	2	5		7	4	6	1	45	1%	2%
Electrical installation	6	6	6	5	4	5	11	5	4	3	6	2	63	1%	2%
Environmental agencies	29	28	27	29	28	20	25	20	21	32	17	26	302	14%	10%
<i>Buildings and other structures</i>	16	12	9	14	7	8	10	6	4	12	5	8	111	4%	4%
<i>Roof</i>	9	2	6	5	5	5	3	1	3	8	3	5	55	3%	2%
<i>Buildings under construction or demolition</i>	3	5	1	6		2	1	1	1	2	1	1	24	1%	1%
<i>Vegetation</i>	3	6	11	5	6	3	3	6	6	6	7	2	64	1%	2%
Non-powered handtools, appliances and equipment	13	17	11	20	24	22	13	23	8	8	14	13	186	7%	6%
Ladders, mobile ramps and stairways, and scaffolding	4	3	5	7	13	9	7	11	7	2	4	4	76	2%	3%
<i>Ladders</i>	3	3	3	5	10	4	4	9	6	1	3	3	54	2%	2%
<i>Scaffolding</i>	1		2		3	5	3	2	1	1	1		19	0%	1%
Animal, human and biological agencies	15	15	13	14	14	12	9	11	13	10	11	7	144	4%	5%
Human agencies	10	7	6	5	6	4	4	2	4	3	4	1	56	1%	2%
<i>Horses, donkeys, mules</i>	3	3	4	5	4	3	3	3	3	1	3	5	40	3%	1%
<i>Cows, steers, cattle, bulls, buffalo</i>	1	2		1	1	2	1	3	3	3	2		19	0%	1%
Powered equipment, tools and appliances	8	7	6	12	10	8	8	10	7	6	4	2	88	1%	3%
Materials and substances	7	10	13	4	8	6	5	2	8	7	6	7	83	4%	3%
Chemicals and chemical products	2		4	3	3	1		4	3	2	1	3	26	2%	1%
Total	259	284	257	284	310	282	258	228	224	229	197	188	3000	100%	100%

*Numbers shown in italics are major subsets of the larger category and do not sum to the larger category.

Appendix A3: Worker fatalities: number by industry of employer, 2003 to 2014

Industry of employer	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% of 2014	Total	% of total
Transport, postal and warehousing	68	66	55	62	83	71	64	44	48	61	46	46	24%	714	24%
Road transport	45	50	41	52	62	52	56	32	29	52	39	39	21%	549	18%
Road freight transport	40	47	37	47	58	50	51	31	25	45	34	36	19%	501	17%
Agriculture, forestry and fishing	60	77	62	46	52	68	62	55	59	53	49	43	23%	686	23%
Agriculture	46	54	44	35	40	44	45	46	45	35	37	38	20%	509	17%
Construction	43	35	30	43	45	38	36	41	41	30	22	31	16%	435	15%
Manufacturing	20	23	23	29	25	30	23	21	22	18	12	15	8%	261	9%
Arts and recreation services	3	5	6	5	10	3	1	5	6	5	7	10	5%	66	2%
Mining	11	11	9	15	7	12	10	5	6	8	8	10	5%	112	4%
Public administration and safety	9	11	14	13	13	4	11	6	11	8	11	6	3%	117	4%
Wholesale trade	7	10	10	8	8	11	4	10	3	9	7	6	3%	93	3%
Accommodation and food services	5	4		8	6	2	3	2	1	1	2	5	3%	39	1%
Electricity, gas, water and waste services	5	8	6	8	4	4	5	1	2	3	4	5	3%	55	2%
Administrative and support services	4	9	12	8	12	10	12	12	8	6	5	4	2%	102	3%
Other services	4	7	10	7	4	7	4	2	4	3	7	3	2%	62	2%
Health care and social assistance	3	3	3	2		2	6	4	2	2	4	2	1%	33	1%
Education and training	2	1	2	8	4	2	2	2	2	4		1	1%	30	1%
Rental, hiring and real estate services	4	2	6	4	10	4	2	4	2	3	3	1	1%	45	2%
Financial and insurance services	1			1		3	3						0%	8	0%
Information media and telecommunications	1	1		1	3		1	3	3	2			0%	15	1%
Professional, scientific and technical services	2	6	2	6	7	5	4	4	2	8	2		0%	48	2%
Retail trade	7	5	7	10	17	6	5	7	2	5	8		0%	79	3%
Total	259	284	257	284	310	282	258	228	224	229	197	188	100%	3000	100%

Appendix A4: Worker fatalities: fatality rate (fatalities per 100 000 workers) by industry of employer, 2003 to 2014

Industry of employer	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Agriculture, forestry and fishing	16.35	21.64	17.58	13.37	15.05	19.73	17.79	15.49	18.72	16.71	16.33	13.25	16.85
Agriculture	14.48	17.50	14.55	11.70	13.31	14.80	14.62	14.82	16.48	12.67	14.24	13.54	14.40
Transport, postal and warehousing	14.62	13.74	11.10	12.38	15.48	12.52	10.99	7.70	8.29	10.89	7.76	7.71	10.94
Road transport	20.18	22.44	19.47	23.25	26.39	22.09	23.38	14.80	12.67	23.05	16.58	16.17	20.06
Road freight transport	26.14	31.97	27.26	32.02	38.04	29.13	29.96	19.63	15.60	29.00	20.66	21.02	26.56
Construction	5.77	4.42	3.56	4.77	4.81	3.85	3.66	4.11	4.04	3.05	2.18	2.98	3.87
Manufacturing	1.94	2.21	2.25	2.87	2.43	2.87	2.30	2.15	2.32	1.90	1.30	1.62	2.19
Administrative and support services	1.16	2.66	3.41	2.29	3.39	2.93	3.38	3.13	2.02	1.52	1.29	1.05	2.33
Arts and recreation services	2.06	3.24	3.51	2.86	5.24	1.61	0.50	2.63	2.88	2.40	3.37	4.75	2.93
Public administration and safety	1.55	1.86	2.31	2.10	2.04	0.62	1.65	0.87	1.54	1.14	1.48	0.82	1.48
Mining	12.40	10.98	7.59	11.44	5.15	7.34	6.14	2.67	2.73	3.02	3.00	3.99	5.36
Wholesale trade	1.87	2.64	2.70	2.05	2.07	2.72	0.98	2.43	0.73	2.21	1.66	1.55	1.96
Retail trade	0.63	0.45	0.60	0.86	1.42	0.49	0.42	0.59	0.17	0.42	0.66	0.00	0.56
Health care and social assistance	0.33	0.31	0.30	0.19	0.00	0.18	0.51	0.32	0.15	0.15	0.29	0.14	0.24
Other Services	0.95	1.68	2.48	1.69	0.91	1.54	0.91	0.44	0.90	0.66	1.52	0.61	1.17
Professional, scientific and technical services	0.32	0.96	0.29	0.82	0.94	0.63	0.51	0.48	0.23	0.89	0.22	0.00	0.51
Accommodation and food services	0.78	0.61	0.00	1.22	0.86	0.28	0.41	0.27	0.13	0.13	0.26	0.64	0.45
Information media and telecommunications	0.45	0.46	0.00	0.42	1.25	0.00	0.46	1.42	1.45	0.88	0.00	0.00	0.56
Electricity, gas, water and waste services	5.48	8.83	6.04	7.58	3.83	3.29	3.76	0.71	1.35	2.01	2.72	3.42	3.72
Rental, hiring and real estate services	2.38	1.14	3.39	2.07	5.04	1.97	1.10	2.09	1.02	1.44	1.55	0.46	1.95
Education and training	0.29	0.14	0.28	1.09	0.52	0.25	0.25	0.24	0.24	0.46	0.00	0.11	0.31
Financial and insurance services	0.29	0.00	0.00	0.26	0.00	0.74	0.76	0.00	0.00	0.00	0.00	0.00	0.17
Total	2.75	2.97	2.60	2.80	2.96	2.62	2.38	2.06	1.99	2.01	1.71	1.61	2.35

Appendix A5: Worker fatalities: number by occupation, 2003 to 2014

Occupation	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% of 2014	Total	% of total
Machinery operators and drivers	86	91	76	89	112	94	95	64	61	78	63	65	35%	974	32%
Road and rail drivers	65	71	55	69	82	67	72	47	46	62	49	48	26%	733	24%
Truck drivers	47	60	48	53	72	60	63	38	39	50	39	44	23%	613	20%
Automobile drivers	5	2	2	3	2	1	4		1	8	5	3	2%	36	1%
Mobile plant operators	11	8	8	10	17	9	12	8	7	8	6	6	3%	110	4%
Earthmoving plant operators	4	5	4	6	13	3	5	6	5	2	1	4	2%	58	2%
Machine and stationary plant operators	7	8	11	9	7	15	9	7	8	5	7	11	6%	104	3%
Labourers	61	60	42	52	56	65	40	51	41	48	41	48	26%	605	20%
Farm, forestry and garden workers	22	26	15	13	16	33	12	22	16	16	11	22	12%	224	7%
Crop farm workers	13	13	3	4	6	10	5	5	4	3	1	2	1%	69	2%
Livestock farm workers	3	5	4	4	3	12	6	9	6	5	4	8	4%	69	2%
Technicians and trades workers	31	49	42	53	55	46	37	40	43	27	28	27	14%	478	16%
Construction trades workers	10	13	6	15	17	11	13	12	8	11	3	10	5%	129	4%
Plumbers		1	4	1	1	3	9	4	1	2		2	1%	28	1%
Automotive and engineering trades workers	10	15	13	12	13	16	10	10	11	4	11	6	3%	131	4%
Metal fitters and machinists	4	8	2	5	6	7	3	4	5		5	3	2%	52	2%
Electrotechnology and telecommunications trades workers	9	11	13	11	13	9	6	8	14	6	9	7	4%	116	4%
Electricians	6	7	9	7	9	4	4	4	9	5	7	5	3%	76	3%
Community and personal service workers	11	16	12	14	10	8	14	8	10	9	14	11	6%	137	5%
Protective service workers	7	6	8	7	5	3	8	4	3	7	4	3	2%	65	2%
Professionals	19	15	24	25	24	21	20	24	25	22	12	11	6%	242	8%
Design, engineering, science and transport professionals	17	12	19	17	12	16	13	13	19	15	9	9	5%	171	6%
Air transport professionals	13	7	9	9	10	13	7	11	13	11	8	6	3%	117	4%
Sales workers	7	4	5	7	10	7	4	5	1	3	6	2	1%	61	2%
Clerical and administrative workers	4	1	6	2	5	8	5	2	3	5	1	3	2%	45	2%
Total	259	284	257	284	310	282	258	228	224	229	197	188	100%	3000	100%

Appendix A6: Worker fatalities: fatality rate by occupation, 2003 to 2014

Occupation	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Machinery operators and drivers	13.72	14.24	11.89	13.47	15.68	13.06	13.76	9.07	8.17	10.49	8.13	8.64
Road and rail drivers	24.94	26.24	20.68	25.24	28.62	23.25	24.98	16.32	14.78	20.78	15.17	15.02
Mobile plant operators	9.34	6.51	6.47	7.97	12.20	6.62	9.13	5.59	5.02	5.43	4.35	4.31
Machine and stationary plant operators	4.02	4.76	6.86	5.55	4.10	8.53	5.66	4.35	4.70	2.88	3.80	6.67
Labourers	5.62	5.49	3.81	4.64	4.89	5.61	3.48	4.45	3.57	4.20	3.64	4.24
Farm, forestry and garden workers	15.81	20.62	13.15	10.76	13.81	31.43	11.07	18.32	13.66	14.70	11.04	19.10
Construction and mining labourers	17.85	6.97	8.39	9.51	7.80	8.95	6.80	6.99	7.05	8.77	5.18	5.63
Professionals	1.04	0.79	1.23	1.22	1.13	0.94	0.88	1.01	1.03	0.87	0.47	0.42
Design, engineering, science and transport professionals	6.85	4.64	6.50	5.61	3.89	4.74	3.79	3.65	4.96	3.88	2.32	2.36
Managers	3.53	4.06	4.00	3.27	2.84	2.41	3.06	2.35	2.78	2.56	1.99	1.12
Farmers and farm managers	15.73	18.13	17.68	14.07	13.74	11.78	15.94	13.56	20.20	14.80	15.25	8.50
Technicians and trades workers	2.20	3.41	2.81	3.46	3.47	2.81	2.31	2.47	2.63	1.62	1.68	1.60
Construction trades workers	3.30	4.11	1.80	4.40	4.96	2.94	3.66	3.35	2.14	3.18	0.82	2.79
Automotive and engineering trades workers	3.00	4.40	3.80	3.39	3.70	4.40	2.85	2.82	3.07	1.11	3.00	1.59
Electrotechnology and telecommunications trades workers	4.61	6.18	7.03	5.64	6.14	4.22	2.77	3.45	6.36	2.61	3.97	3.03
Community and personal service workers	1.40	1.97	1.42	1.64	1.11	0.86	1.41	0.79	0.94	0.83	1.23	0.96
Protective service workers	5.91	5.19	6.55	5.69	4.10	2.37	6.08	3.14	2.22	5.14	2.71	2.00
Sales workers	0.71	0.41	0.49	0.70	1.01	0.69	0.40	0.47	0.10	0.29	0.56	0.18
Clerical and administrative workers	0.26	0.07	0.39	0.13	0.31	0.49	0.30	0.12	0.18	0.30	0.06	0.18
Total	2.76	2.98	2.61	2.82	2.98	2.64	2.39	2.07	2.00	2.02	1.72	1.63

Glossary

Being hit by moving objects	Part of the Mechanism classification used to describe the action of an object hitting a person. This includes pedestrians hit by vehicles as well as being hit by other moving equipment or objects.
Breakdown agency	A part of the TOOCS classification which identified the object, substance or circumstance principally involved at the point at which things started to go wrong.
Bystander fatality	<p>The death of a person who dies from injuries sustained as a result of another person's work activity and who was not engaged in a work activity of their own at the time of the injury.</p> <p>A traffic incident death is only classified as a bystander fatality when attributable to someone else's work activity. Typically, this means the driver of a work vehicle is at fault. Cases where fault could not be determined with sufficient confidence are excluded.</p>
Contributing family workers	A person who works without pay, in an economic enterprise operated by a relative.
Employed person	The denominators used in calculating fatality rates in this report are based on ABS estimates of Employed persons, as defined in Labour force, Australia (ABS cat no 6202.0). This population includes Employees (who work for an employer); self-employed persons (regardless of whether they employ others or not); and those who work without pay for a family business or farm. It excludes persons whose only work is voluntary.
Employee	A person who works for a public or private employer and receives remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece-rates, or payment in kind; or a person who operates his or her own incorporated enterprise with or without hiring employees.
Fatality rate	The number killed as a result of work-related injury expressed as a per-capita rate against the population at risk of work-related injury. In this report the rate is expressed as the number of fatalities per 100 000 Employed persons: for brevity this is usually expressed as 'fatalities per 100 000 workers'. See Paragraph 4 of the Explanatory notes for further details.
Industry	A grouping of businesses that carry out similar economic activities. Fatalities data in this publication have been coded to the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 (ABS cat. no. 1292.0) and unless specified are shown at the industry division level.

Injury	A condition coded to 'External Causes of morbidity and mortality' and 'Injury, poisoning and certain other consequences of external causes' in the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM).
Job	A set of tasks designed to be performed by one person for an employer (including self-employment) in return for payment or profit.
Mechanism of incident	The action, exposure or event that best describes the circumstances that resulted in the most serious injury.
Non-public road incident	An incident involving a vehicle that occurred at a worksite, on a private road or a public area that is not a public road. These incidents include plane crashes and incidents involving watercraft as well as vehicle crashes on farming properties.
Occupation	A set of jobs with similar sets of tasks. Fatalities data in this publication have been coded to the Australian and New Zealand Standard Classification of Occupations (ANZSCO) (ABS cat. no. 1220.0) First edition and unless specified are shown at the major group level.
Public road incident	A collision on a public road between any vehicle or self-propelled plant and anything else including a pedestrian. Incidents involving vehicles at worksites or on private roads are excluded. Public road incidents can be due to a Vehicle collision or being hit by a vehicle (which is included in the Mechanism of Being hit by moving objects). Vehicles that are caught in bush fires or hit by falling trees while on public roads are not classed as public road incidents as they do not involve a collision.
Rollover of non-road vehicle	Part of the Mechanism classification used to identify when a vehicle that is not normally a road vehicle overturns. This includes tractors and quad bikes being used on farm properties.
Self-employed	Includes both owner managers and employers. An owner manager is a person who works in his/her own business, with or without employees, whether or not the business is of limited liability. An employer is a person who operates his/her own unincorporated economic enterprise or engages independently in a profession or trade, and hires one or more employees.
Type of occurrence classification system (TOOCS)	<p>A suite of four classifications to code the way an injury occurred, comprising:</p> <ul style="list-style-type: none"> • the Nature of injury/disease classification • the Bodily location of injury/disease classification • the Mechanism of incident classification, and • the Agency of injury/disease classification. <p>Version 3.1 is used for coding the data presented in this report. Fatalities are only coded by Mechanism and Agency.</p>

Vehicle collision

Part of the Mechanism of incident classification that identifies fatalities that occurred due to a vehicle crash and where the occupant of the vehicle was killed. In the classification, this category is called Vehicle Incident but has been renamed to assist with reader understanding. Vehicle collisions that occur on public roads are further classified as a public road incidents and do not include people hit by a vehicle, which are coded to Being hit by moving objects. Vehicles not only include cars and trucks but also include other motorised equipment such as aircraft, boats, loaders, tractors and quad bikes.

Volunteer

Persons who undertake voluntary work through or for an organisation or group are included in the worker counts where that organisation or group is a business enterprise. It does not include sporting organisations or caring activities.

Worker fatality

The death of a person who dies from injuries sustained while at work, including those workers whose injury was caused by another's work activity. Workers include employees, self-employed persons, volunteers and contributing family workers.