

Work-related Traumatic Injury Fatalities, Australia

2019



safe work australia

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Foreword

This report provides statistics about people who traumatically die each year from injuries that arose through work-related activity¹.

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 traumatically, 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 sea.

The report includes all persons who died:

- while working, including unpaid volunteers and family workers, persons undertaking work experience and defence force personnel killed within Australian territories or territorial sea 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), and
- commuting to or from work.

The data presented in this report is based on the information available about the fatalities as at September 2020 when the 2019 dataset was finalised. A series of electronic tables are also available on the Safe Work Australia website that provide the full time series (2003 to 2019) for key data variables.

Changes from previous publications may 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

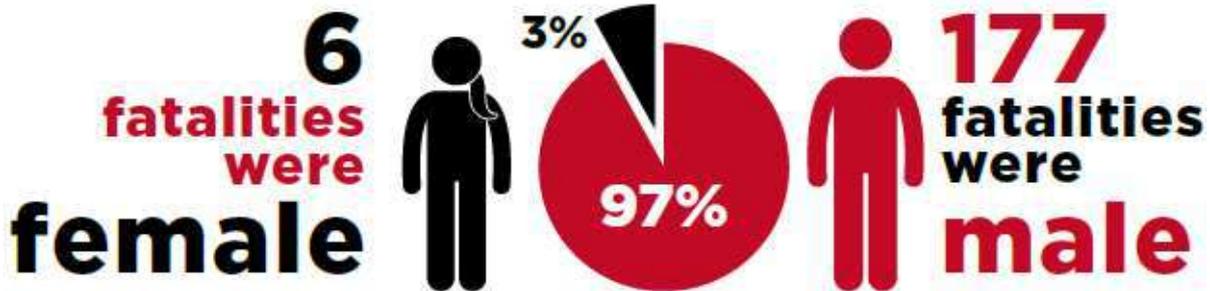
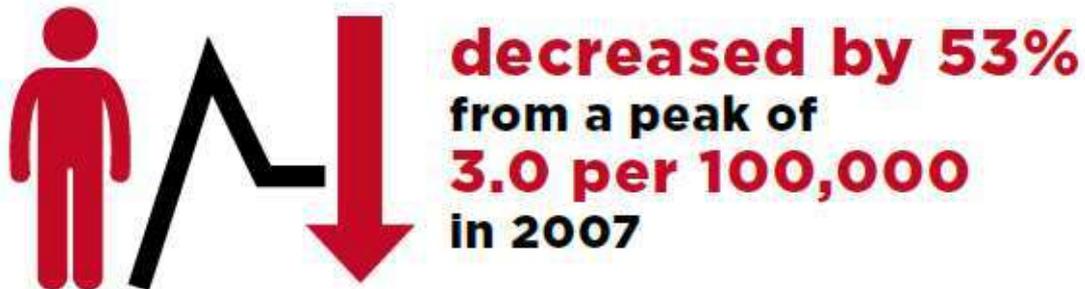
<https://www.safeworkaustralia.gov.au/doc/explanatory-notes-traumatic-injury-fatalities-safe-work-australia>.

¹ See Glossary for explanation of 'traumatic injury'

Worker Fatalities in 2019

Key findings

Worker fatalities in 2019

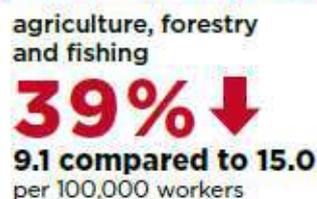


Industry fatalities in 2019

62% of fatalities were in three industries



These industry **fatality rates** have **decreased since the peak in 2007**



Causes of worker fatalities in 2019



43%

(79 workers)

vehicle collision



11%

(21 workers)

hit by falling objects



11%

(21 workers)

falling from height



72%
were related to vehicles

Causes of bystander fatalities in 2019



46%

(18 bystanders)

of bystander fatalities were due to a vehicle collision

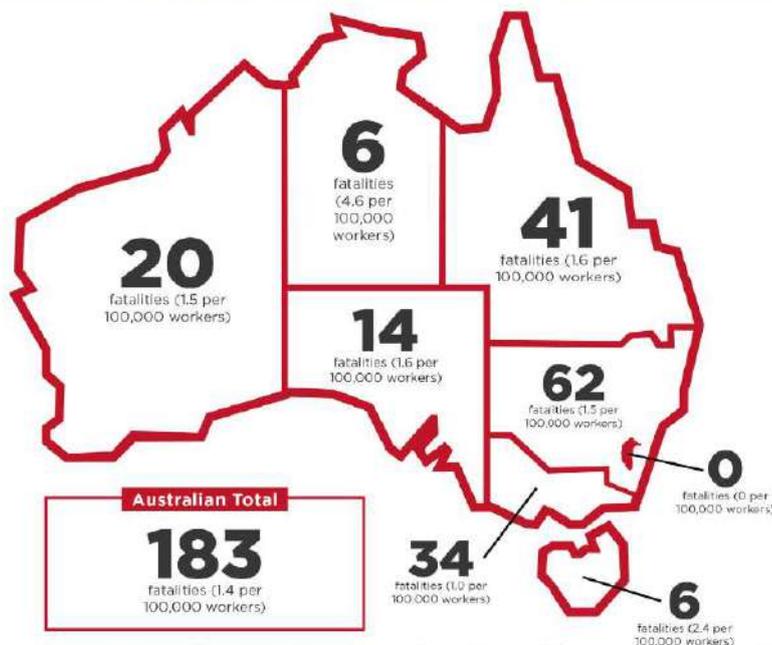


18%

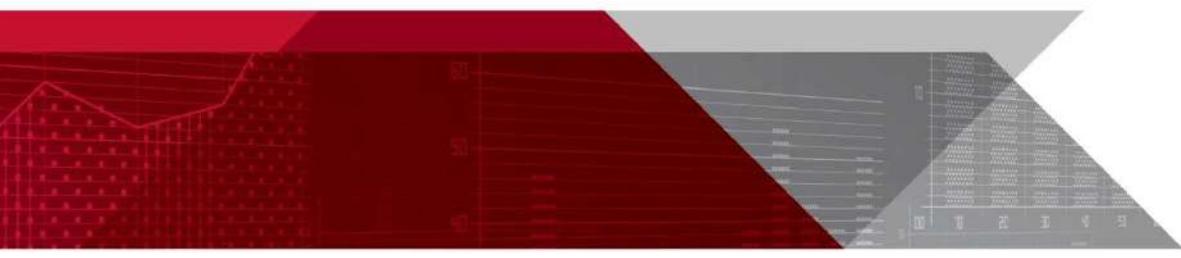
(7 bystanders)

hit by moving objects

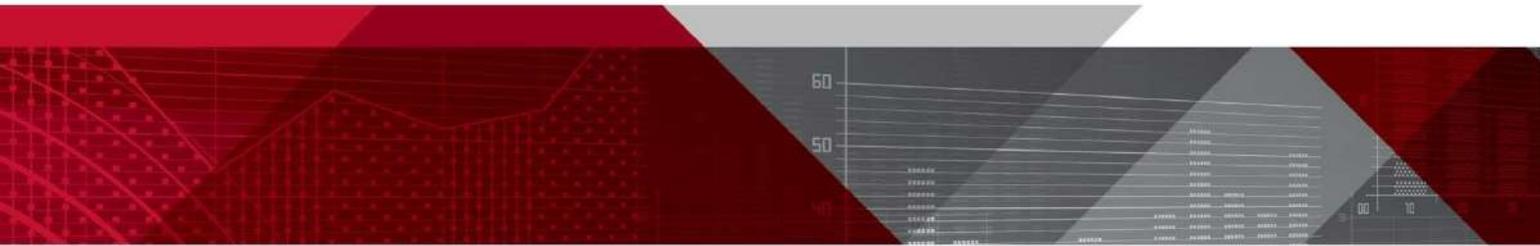
Location of worker fatalities in 2019*



* Fatalities are presented according to the state or territory where the fatality occurred, not the jurisdiction under which the fatality fell.



Section 1: Worker fatalities

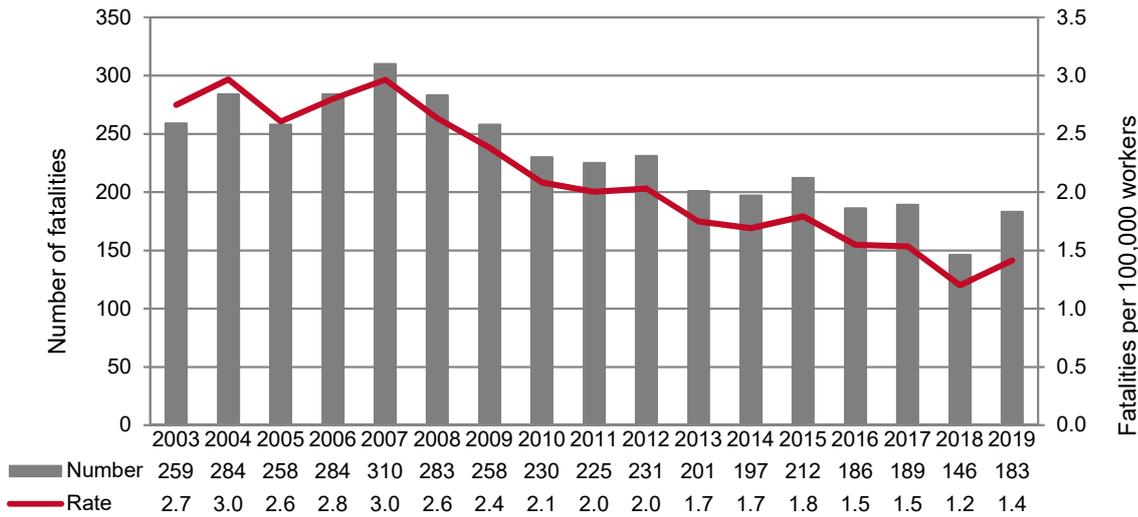


1.1. Fatalities and fatality rate

There were 183 worker fatalities in 2019 due to injuries sustained in the course of a work-related activity. While there has been an increase in fatalities between 2018 and 2019, overall the number of fatalities has been trending downward since 2007 (Figure 1). The highest number of work-related injury fatalities was recorded in 2007 when there were 310 deaths.

Similarly, the fatality rate (the number of fatalities per 100,000 workers) has decreased by 53% since the highest rate recorded in 2007. In 2007 the fatality was 3.0 fatalities per 100,000. This has decreased to 1.4 fatalities per 100,000 workers in 2019. This is slightly higher than the lowest recorded fatality rate of 1.2 fatalities per 100,000 workers in 2018.

Figure 1: Worker fatalities: number of fatalities and fatality rate, 2003 to 2019



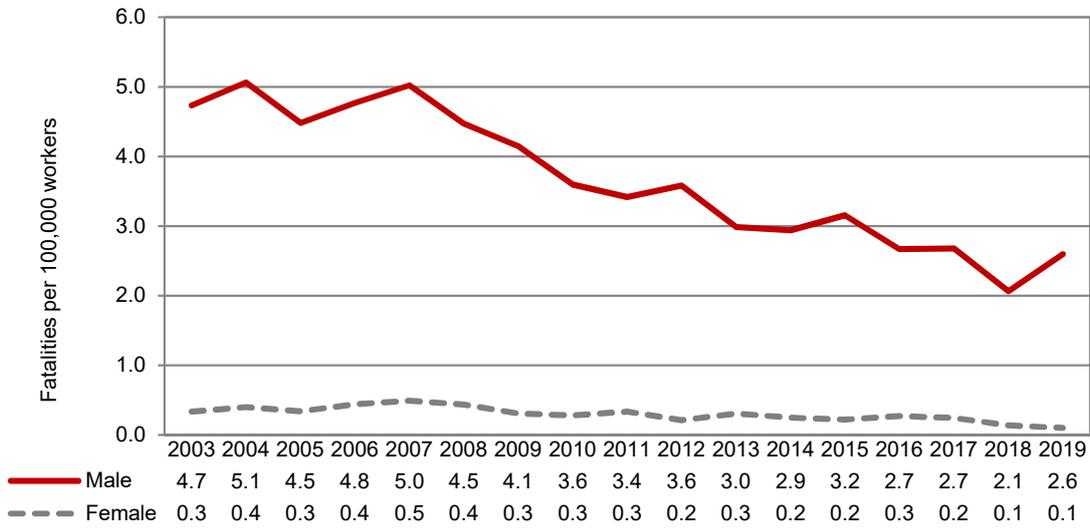
1.2. Gender²

In 2019, 97% (177 of the 183 fatalities) of workers killed were men. Despite the slight increase in fatality rate between 2018 and 2019 (from 2.1 fatalities per 100,000 male workers to 2.6), overall the fatality rate for male workers has been declining (Figure 2). In 2007 the fatality rate for male workers was 5.0 fatalities per 100,000 male workers.

Over the same period, the fatality rate for female workers has also decreased, from 0.5 fatalities per 100,000 female workers in 2007 to 0.1 fatalities per 100,000 female workers in both 2018 and 2019.

Figure 2: Worker fatalities: fatality rate by gender, 2003 to 2019

² See Glossary for more detail on gender.



1.3. Age group

Generally, the distribution of fatalities by age group has remained fairly steady over the past five years. In 2019, workers aged 55 to 64 years had the highest number of fatalities, followed by workers aged 45 to 54 years (Table 1). In 2019, the proportion of total fatalities among older workers aged 55 to 64 and 65 and over, were both above the five year average, accounting for over 40% of fatalities. (Figure 3).

The 2019 worker fatality rate for most age groups is lower or the same as the five year average (Table 2). Older workers aged 65 and over had the highest fatality rate at 5.4 fatalities per 100,000 workers aged 65 and over. This is almost four times the overall worker fatality rate (1.4 fatalities per 100,000 workers). While only accounting for 5% of the Australian workforce, older workers aged 65 and over represented 17% of all worker fatalities in 2019.

Table 1: Worker fatalities: number by age group, 2015 to 2019

Age group	2015	2016	2017	2018	2019	5 yr total
Under 25	17	16	16	20	13	82
25–34	39	33	32	24	26	154
35–44	28	24	33	26	31	142
45–54	50	39	36	27	33	185
55–64	42	48	48	31	48	217
65 & over	36	26	24	18	32	136
Total	212	186	189	146	183	916

Figure 3: Worker fatalities: proportion by age group, 2015 to 2019

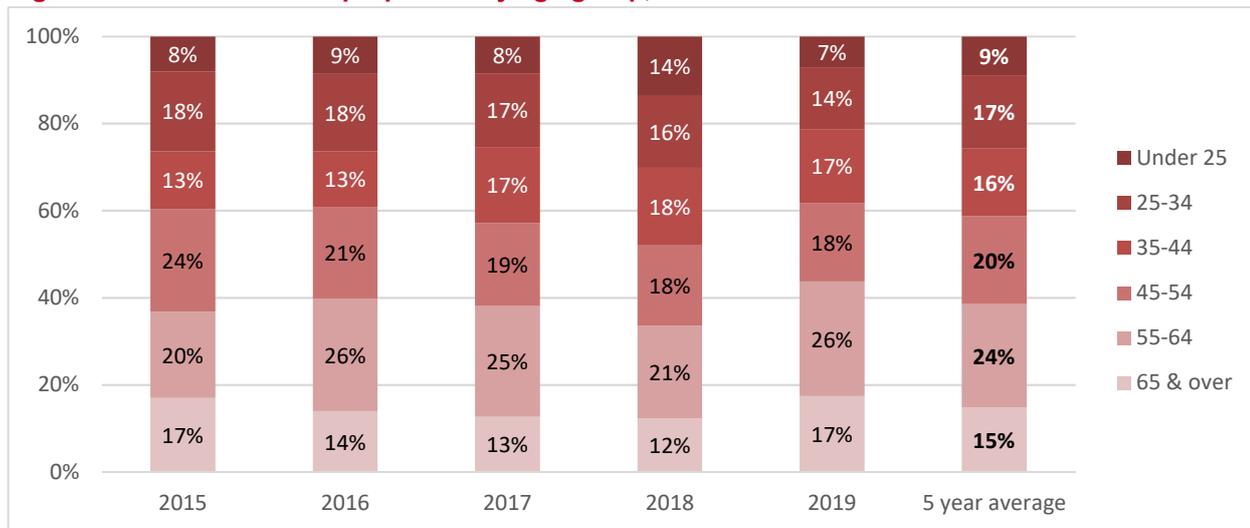


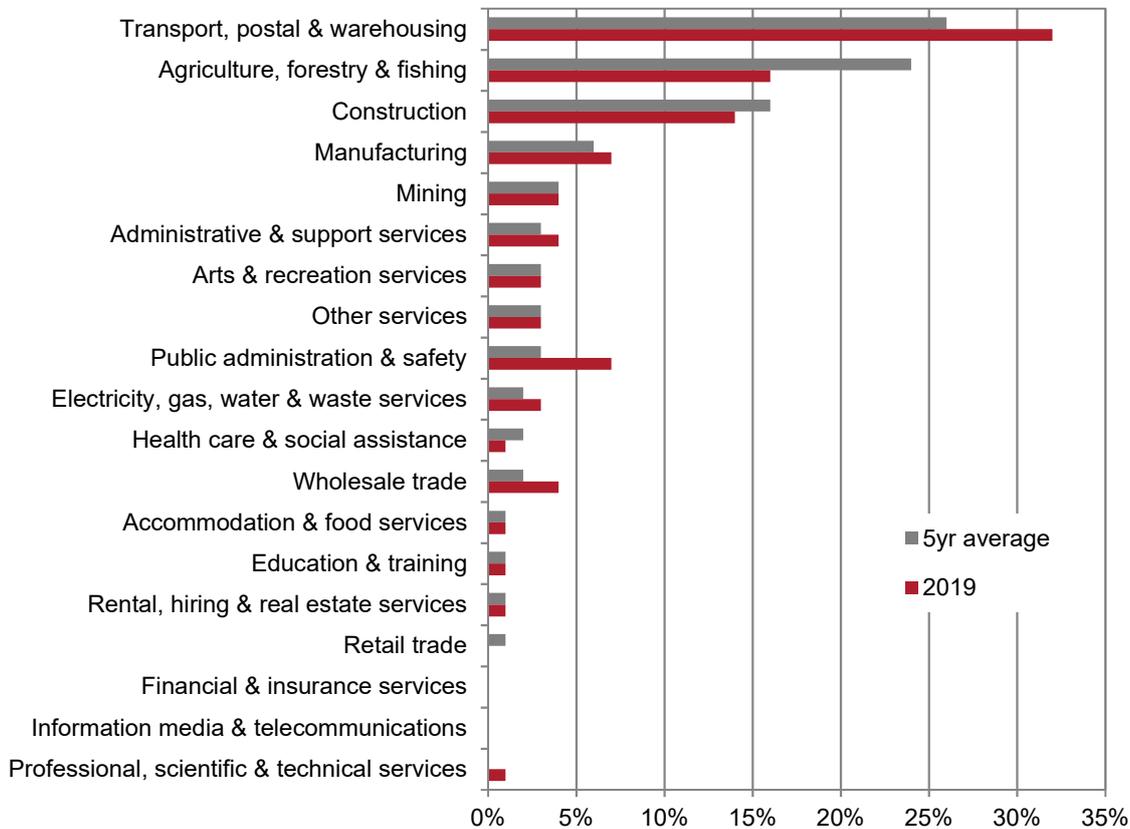
Table 2: Worker fatalities: fatality rates by age group, 2015 to 2019

Age group	2015	2016	2017	2018	2019	5yr average
Under 25	0.9	0.9	0.9	1.0	0.7	0.9
25–34	1.4	1.2	1.1	0.8	0.8	1.1
35–44	1.1	0.9	1.2	1.0	1.1	1.1
45–54	2.0	1.5	1.4	1.0	1.3	1.5
55–64	2.5	2.7	2.6	1.7	2.5	2.4
65 & over	8.3	5.7	4.9	3.3	5.4	5.4
Total	1.8	1.5	1.5	1.2	1.4	1.5

1.4. Industry

In 2019, the majority (62%) of fatalities occurred in three industries (Figure 4). Transport, postal and warehousing (58 fatalities) accounted for almost a third (32%) of fatalities in 2019. This was followed by Agriculture, forestry and fishing (30 fatalities; 16%) and Construction (26 fatalities; 14%).

Figure 4: Worker fatalities: proportion by industry of employer, 2019 and five year average (2015 to 2019) (sorted by five year average proportion)



Fatality rates, expressed as the number of fatalities per 100,000 workers, are best used when comparing data across industries. This is because it reflects the number of fatalities per number of workers employed in the industry, thus improving comparisons between industries of different sizes.

In 2019, the Agriculture, forestry and fishing industry recorded the highest fatality rate with 9.1 fatalities per 100,000 workers. This is 35% lower than the five year average of 13.9 fatalities per 100,000. The second highest fatality rate was the Transport, postal and warehousing industry with 8.7 fatalities per 100,000 workers. This is 16% higher than the five year average of 7.5 fatalities per 100,000 workers. The third highest fatality rate in 2019 was the Electricity, gas, water & waste services. While this industry had a much lower fatality rate than the top two industries, at 3.8 fatalities per 100,000 workers in 2019, this was 27% higher than the five year average for this industry.

As fatality rates are sensitive to the number of workers employed in each industry, industries which employ the fewest workers (such as the Electricity, gas, water and waste services industry) may show volatility even when small variations in the number of fatalities are recorded. Therefore, the actual number of fatalities should also be considered when interpreting the fatality rates for smaller industries (see Table 3 for numbers and fatality rates for all industries).

When considering numbers and rates of fatalities, it is also important to consider the five year average as figures can fluctuate each year.

Figure 5: Worker fatalities: fatality rates by industry of employer, 2019 and five year average (2015 to 2019) (sorted by five year average fatality rate)

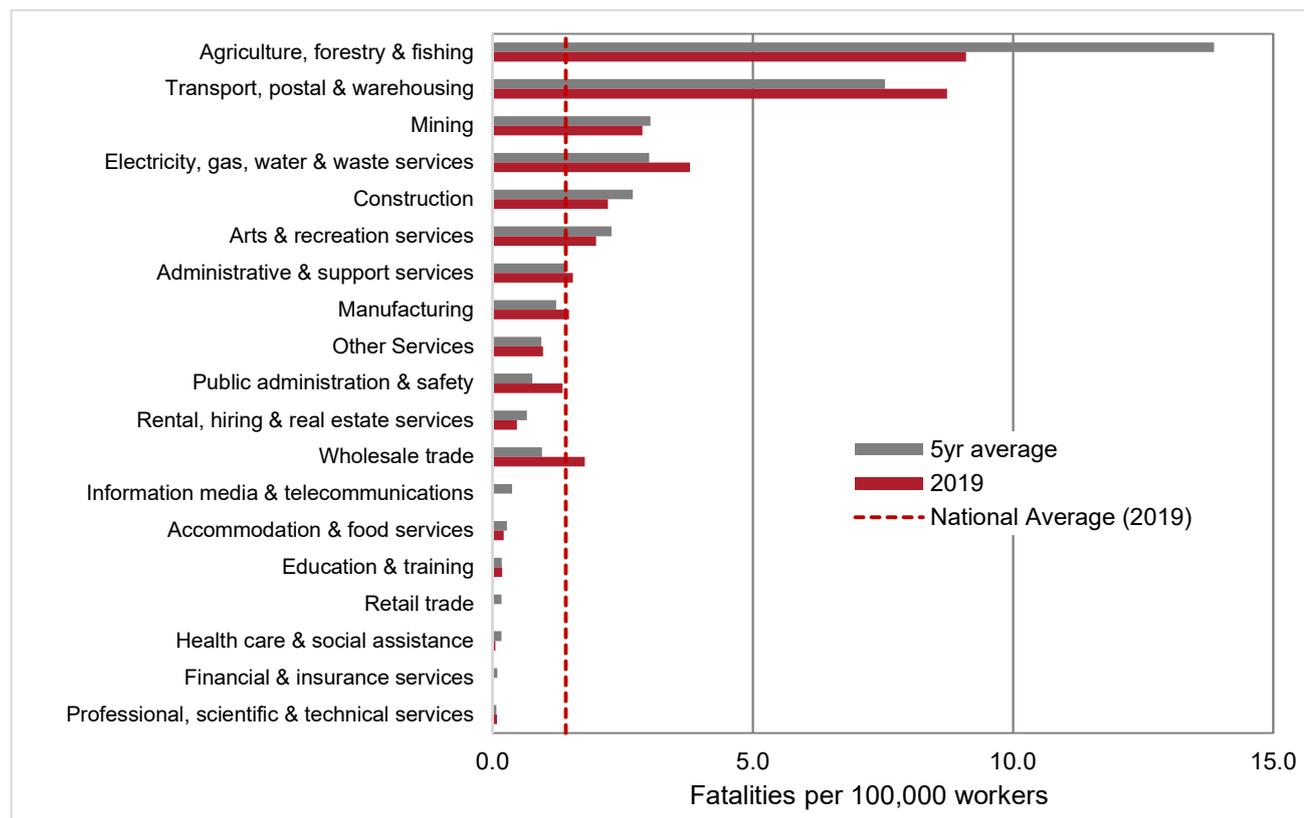


Table 3: Worker fatalities: number of fatalities and fatality rates by industry of employer, 2018, 2019 and five year average (2015 to 2019) (sorted by five year average fatality rate)

Industry of employer	Number of fatalities			Fatality rates		
	2018	2019	5yr average	2018	2019	5yr average
Agriculture, forestry & fishing	37	30	44	11.2	9.1	13.9
Transport, postal & warehousing	39	58	48	6.1	8.7	7.5
Mining	8	7	7	3.3	2.9	3.0
Electricity, gas, water & waste services	3	6	4	2.0	3.8	3.0
Construction	24	26	30	2.0	2.2	2.7
Arts & recreation services	2	5	5	0.8	2.0	2.3
Administrative & support services	3	7	6	0.7	1.5	1.4
Manufacturing	13	13	11	1.4	1.5	1.2
Wholesale trade	3	7	4	0.8	1.8	1.0
Other Services	2	5	5	0.4	1.0	0.9
Public administration & safety	3	12	6	0.4	1.3	0.8
Rental, hiring & real estate services	2	1	1	0.9	0.5	0.7
Information media & telecommunications	2	..	1	0.9	0.0	0.4
Accommodation & food services	1	2	2	0.1	0.2	0.3
Education & training	2	2	2	0.2	0.2	0.2
Retail trade	..	..	2	0.0	0.0	0.2
Health care & social assistance	2	1	3	0.1	0.1	0.2
Financial & insurance services	..	..	..	0.0	0.0	0.1
Professional, scientific & technical services	..	1	1	0.0	0.1	0.1
Total	146	183	183	1.2	1.4	1.5

.. No fatalities reported

1.5. Priority industries

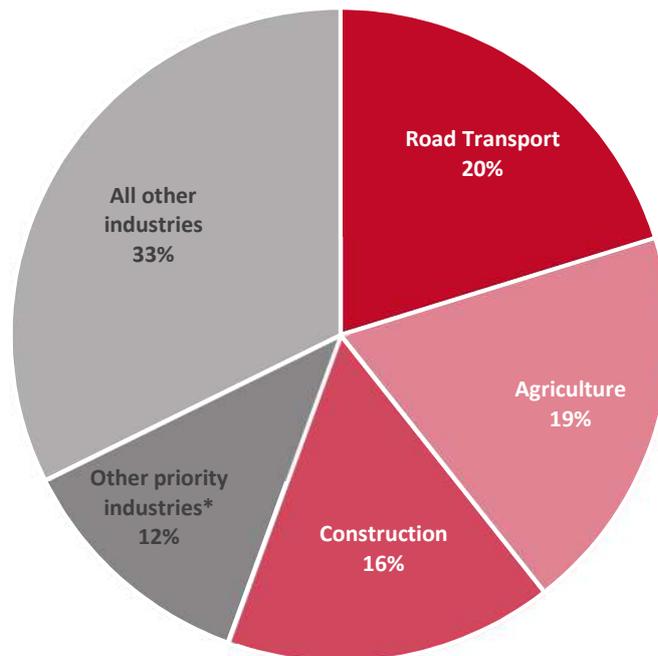
The *Australian Work Health and Safety Strategy 2012–2022* (Australian Strategy) provides a framework to drive improvements in work health and safety (WHS) in Australia. It promotes a collaborative approach between the Commonwealth, state and territory governments, industry and unions and other organisations to achieve the vision of healthy, safe and productive working lives. The Australian Strategy identifies national priority industries and conditions to help direct prevention activities to where they are needed the most.

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

- 1 Agriculture
- 2 Road transport
- 3 Manufacturing
- 4 Construction
- 5 Accommodation and food services
- 6 Public administration and safety, and
- 7 Health care and social assistance.

Figure 6 shows that three priority industries—Agriculture, Road transport and Construction—accounted for 55% of worker fatalities between 2015 and 2019.

Figure 6: Worker fatalities: proportion of fatalities by priority industry of employer, 2015–2019 (combined total)

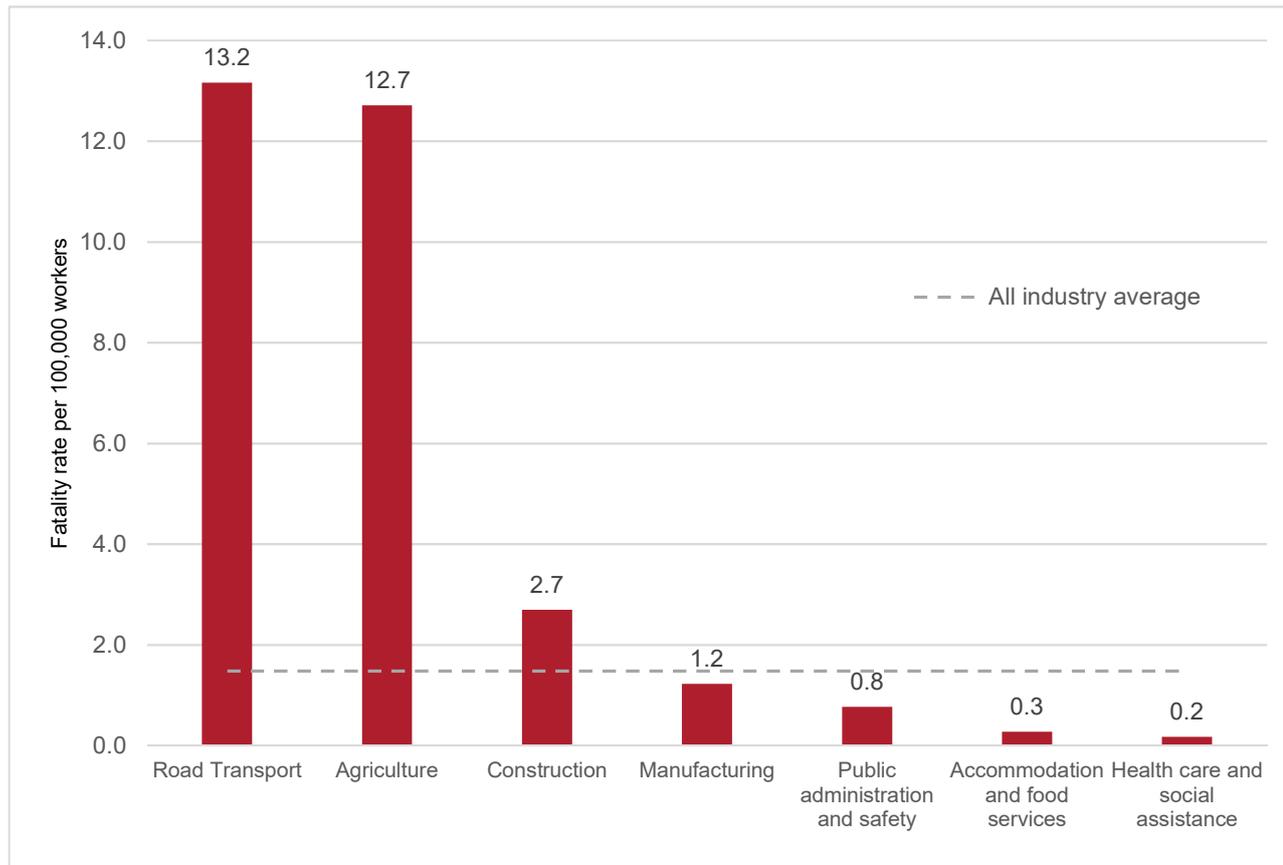


Note: *'Other priority industries' include Manufacturing, Accommodation and food services, Public administration and safety, and Health care and social assistance
The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

As noted above, the fatality rates should also be considered when comparing different sized industries. Figure 7 shows the Road Transport, Agriculture and Construction industries had the highest fatality rates. The five year average fatality rate for the Road Transport industry was 13.2 fatalities per 100,000 workers. This was followed by the Agriculture industry at 12.7 fatalities per 100,000 workers and the Construction at 2.7 fatalities per 100,000 workers. Given these higher rates, this report examines these three priority industries in further detail.

Industries such as Manufacturing, Accommodation and food services, Health care and social assistance and Public administration and safety have low fatality rates but are included as priority industries due to high non-fatal injury rates. For information on non-fatal injuries in these industries, refer to the latest [Australian Workers' Compensation Statistics](#) report.

Figure 7: Worker fatalities: fatality rates by priority industry of employer, 2015–2019 (five year average fatality rate)



1.5.1. Priority industry: Road transport

Over the period from 2015 to 2019, there were 183 worker fatalities in the Road transport industry, which accounts for 20% of all worker fatalities over the period. The vast majority (174 fatalities; 95%) occurred in the Road freight transport sub-division, with nine fatalities (5%) in the Road passenger transport industry.

The majority of fatalities in the Road transport industry over the five years to 2019 were due to vehicle collisions³ — 131 in the Road freight transport industry and six in the Road passenger transport industry (Table 4). Being hit by moving objects⁴ caused a further 15 fatalities in the Road freight transport industry.

Table 4: Worker fatalities in Road transport industry groups by mechanism of incident, 2015 to 2019 (combined total)

Industry group and mechanism of incident	No. of fatalities	% of fatalities
Road freight transport	174	95%
Vehicle collisions*	131	72%
Being hit by moving objects**	15	8%
Being hit by falling objects	8	4%
Being trapped between stationary and moving objects	6	3%
Falls from a height	3	2%
Other mechanisms	11	6%
Road passenger transport	9	5%
Vehicle collisions*	6	3%
Other mechanisms	3	2%
5 year total	183	100%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Table 5 shows that 169 worker fatalities (92%) in the Road transport industry involved a vehicle, with the majority (143 fatalities) occurring while the worker was in a moving vehicle. A further nine fatalities occurred while the worker was loading or unloading a vehicle, and six occurred while the worker was conducting repairs or maintenance on a vehicle. There were 14 fatalities in the Road transport industry which did not directly involve a vehicle.

Table 5: Worker fatalities: Road transport by vehicle involvement and activity of the deceased, 2015 to 2019 (combined total)

Vehicle involvement/Deceased activity	No. of fatalities	% of fatalities
Vehicle involved	169	92%
Driving/moving freight/people	143	78%
Loading/unloading	9	5%
Repair/maintenance	6	3%
Other	11	6%
No vehicle involved	14	8%
5 year total	183	100%

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

³ See Glossary for explanation of 'vehicle collision'

⁴ See Glossary for explanation of 'Being hit by moving objects'

1.5.2. Priority industry: Agriculture

Over the last five years (2015 to 2019), there were 174 worker fatalities in the Agriculture industry, which is 19% of all worker fatalities over the period.

Within the Agriculture industry subdivision, the Sheep, beef cattle and grain farming industry group accounted for over half (59%) of the fatalities over the five years (Table 6).

Workers aged 65 and over accounted for a third (33%) of fatalities in the Agriculture industry. This is double the proportion of fatalities across all industries (15%) over the same period and age group. This is due in part to the composition of the agriculture workforce which has a higher proportion of older workers.

Table 6: Worker fatalities: Agriculture industry groups by age group, 2015 to 2019 (combined total)

Agriculture industry group	Under 25	25–44	45–64	65 & over	5 year total
Sheep, beef cattle & grain farming	9	17	42	34	102
Fruit & tree nut growing	1	3	9	5	18
Other crop growing	1	6	4	7	18
Other livestock farming	1	2	8	4	15
Dairy cattle farming	1	..	5	2	8
Mushroom & vegetable growing	..	2	2	2	6
Other agriculture subdivision	..	1	2	4	7
5 year total	13	31	72	58	174

.. No fatalities reported

The most common mechanism of incident⁵ causing worker fatalities in the Agriculture industry over the five years was vehicle collisions⁶, which caused 27% of fatalities (Table 7). This was followed by Being hit by moving objects⁷ (16%) and Falls from a height (9%).

Table 7: Worker fatalities: Agriculture by mechanism of incident, 2015 to 2019 (combined total)

Mechanism of incident	No. of fatalities	% of fatalities
Vehicle collisions*	47	27%
Being hit by moving objects**	28	16%
Falls from a height	16	9%
Being trapped by moving machinery	14	8%
Being hit by falling objects	12	7%
Rollover of non-road vehicle	12	7%
Being trapped between stationary and moving objects	10	6%
Contact with hot objects	8	5%
Contact with electricity	6	3%
Being hit by an animal	5	3%
Other mechanisms	16	9%
5 year total	174	100%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

⁵ See Glossary for explanation of 'mechanism of incident'

⁶ See Glossary for explanation of 'vehicle collision'

⁷ See Glossary for explanation of 'Being hit by moving objects'

Over the five years to 2019, the majority of fatalities (68%) in the Agriculture industry involved a vehicle⁸ (Table 8). The most common vehicles involved were tractors (23%) and quad bikes (14%).

Table 8: Worker fatalities: Agriculture by vehicle involvement and type of vehicle, 2015 to 2019 (combined total)

Vehicle involvement and type of vehicle	No. of fatalities	% of fatalities
Vehicle involved	119	68%
Tractor	40	23%
Quad bike	25	14%
Ute or car	13	7%
Aircraft	8	5%
Truck	8	5%
Forklift	4	2%
Motorbike	4	2%
Other vehicles	17	10%
No vehicle involved	55	32%
5 year total	174	100%

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

⁸ See Glossary for explanation of 'vehicle involvement'

1.5.3. Priority industry: Construction

Over the five year period from 2015 to 2019, there were 150 worker fatalities in the Construction industry in Australia. The majority of these (57%) occurred in the Construction services industry sub-division (Table 9). Younger workers aged under 25 accounted for 15% of fatalities in the Construction industry, compared with only 9% of fatalities across all industries (Table 10).

For occupations within the Construction industry, Labourers (both Construction & mining and Miscellaneous) accounted for 36% of fatalities from 2015 to 2019 (Table 11). Electricians (14 fatalities) and Bricklayers, carpenters and joiners (13 fatalities) each accounted for a further 9% of Construction industry fatalities.

In terms of mechanism of the fatalities, between 2015 and 2019, Falls from a height was the main cause of fatalities in both the Construction services and Building construction industry sub-divisions, resulting in 49 deaths across the Construction industry (Tables 12). A third (33%) of fatalities in the Construction industry involved falls from a building or other type of structure, and almost a quarter (24%) involved a fall from a ladder (Table 13). Fatalities from Being hit by falling objects (23 fatalities) and Vehicle collisions (21 fatalities) were also common mechanisms of worker fatalities across the Construction industry (Table 12).

Table 9: Worker fatalities: Construction industry sub-divisions and groups, 2015 to 2019 (combined total)

Industry sub-divisions and groups	No. of fatalities	% of fatalities
Construction Services	86	57%
Building installation services	24	16%
Building structure services	21	14%
Other construction services	18	12%
Land development & site preparation services	12	8%
Building completion services	11	7%
Building Construction Total	46	31%
Residential building construction	27	18%
Non-residential building construction	19	13%
Heavy & Civil Engineering Construction Total	18	12%
Construction 5 year total	150	100%

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Table 10: Worker fatalities: Construction industry and all industries by age group, 2015 to 2019 (combined total)

Age group	Construction industry – No. of fatalities	Construction industry – % of fatalities	All industries – % of fatalities
Under 25	23	15%	9%
25–34	28	19%	17%
35–44	13	9%	16%
45–54	32	21%	20%
55–64	39	26%	24%
65 & over	15	10%	15%
5 year total	150	100%	100%

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Table 11: Worker fatalities: Construction industry occupations, 2015 to 2019 (combined total)

Occupation minor groups	No. of fatalities	% of fatalities
Construction and Mining Labourers	34	23%
Miscellaneous Labourers	19	13%
Electricians	14	9%
Bricklayers, and Carpenters and Joiners	13	9%
Mobile Plant Operators	8	5%
Floor Finishers and Painting Trades Workers	8	5%
Electronics and Telecommunications Trades Workers	7	5%
Plumbers	7	5%
Glaziers, Plasterers and Tilers	7	5%
Stationary Plant Operators	6	4%
Truck Drivers	6	4%
Construction, Distribution and Production Managers	5	3%
Other occupations	16	11%
Construction 5 year total	150	100%

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Table 12: Worker fatalities: Construction industry sub-divisions by mechanism of incident, 2015 to 2019 (combined total)

Construction sub-division and mechanism	No. of fatalities	% of fatalities
Construction services	86	57%
Falls from a height	27	18%
Vehicle collisions*	15	10%
Contact with electricity	12	8%
Being hit by falling objects	12	8%
Being hit by moving objects**	6	4%
Being trapped between stationary and moving objects	4	3%
Being trapped by moving machinery	3	2%
Slide or cave-in	2	1%
Exposure to environmental heat	2	1%
Other mechanisms	3	2%
Building construction	46	31%
Falls from a height	21	14%
Being hit by falling objects	9	6%
Being hit by moving objects**	5	3%
Contact with electricity	4	3%
Vehicle collisions*	2	1%
Other mechanisms	5	3%
Heavy & civil engineering construction	18	12%
Being hit by moving objects**	6	4%
Vehicle collisions*	4	3%
Being hit by falling objects	2	1%
Slide or cave-in	2	1%
Being trapped between stationary and moving objects	2	1%
Other mechanisms	2	1%
Construction 5 year total	150	100%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Table 13: Worker fatalities: Construction industry, falls from a height fatalities by breakdown agency, 2015 to 2019 (combined total)

Falls from a height: Breakdown agency	No. of fatalities	% of fatalities
Buildings and other structures	16	33%
Ladders	12	24%
Scaffolding	5	10%
Openings in floors, walls or ceilings	4	8%
Other agencies	12	24%
Construction 5 year total – falls from a height	49	100%

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

1.6. Occupation

In 2019, 72 Machinery operators and drivers were killed, accounting for the largest proportion (39%) of all worker fatalities by occupation (Table 14). This is higher than the five year average of 34% (63 fatalities). The majority (83%) of the 72 Machinery operators and drivers killed were Road and rail drivers.

In terms of other occupations, labourers accounted for a further 16% of 2019 fatalities (29 fatalities), and Technicians and trades workers accounted for 15% of fatalities (28 fatalities).

Table 14: Worker fatalities: number of fatalities by major and select sub-major occupation groups, 2018, 2019 and five year average (2015 to 2019)

Occupation	Number of fatalities		
	2018	2019	5yr average
Machinery operators and drivers	52	72	63
Road and rail drivers	37	60	48
Mobile plant operators	9	6	9
Machine and stationary plant operators	6	6	6
Labourers	36	29	41
Other labourers	13	17	15
Farm, forestry and garden workers	13	4	13
Construction and mining labourers	8	7	10
Technicians and trades workers	27	28	27
Construction trades workers	3	6	8
Electrotechnology and telecommunications trades workers	11	8	7
Automotive and engineering trades workers	5	8	6
Managers	16	25	26
Farmers and farm managers	15	23	22
Professionals	8	9	13
Design, engineering, science and transport professionals	7	7	8
Community and personal service workers	5	17	10
Sports and personal service workers	2	5	4
Protective service workers	..	10	3
Clerical & administrative workers	1	2	1
Sales workers	1	1	1
Total	146	183	183

.. No fatalities reported

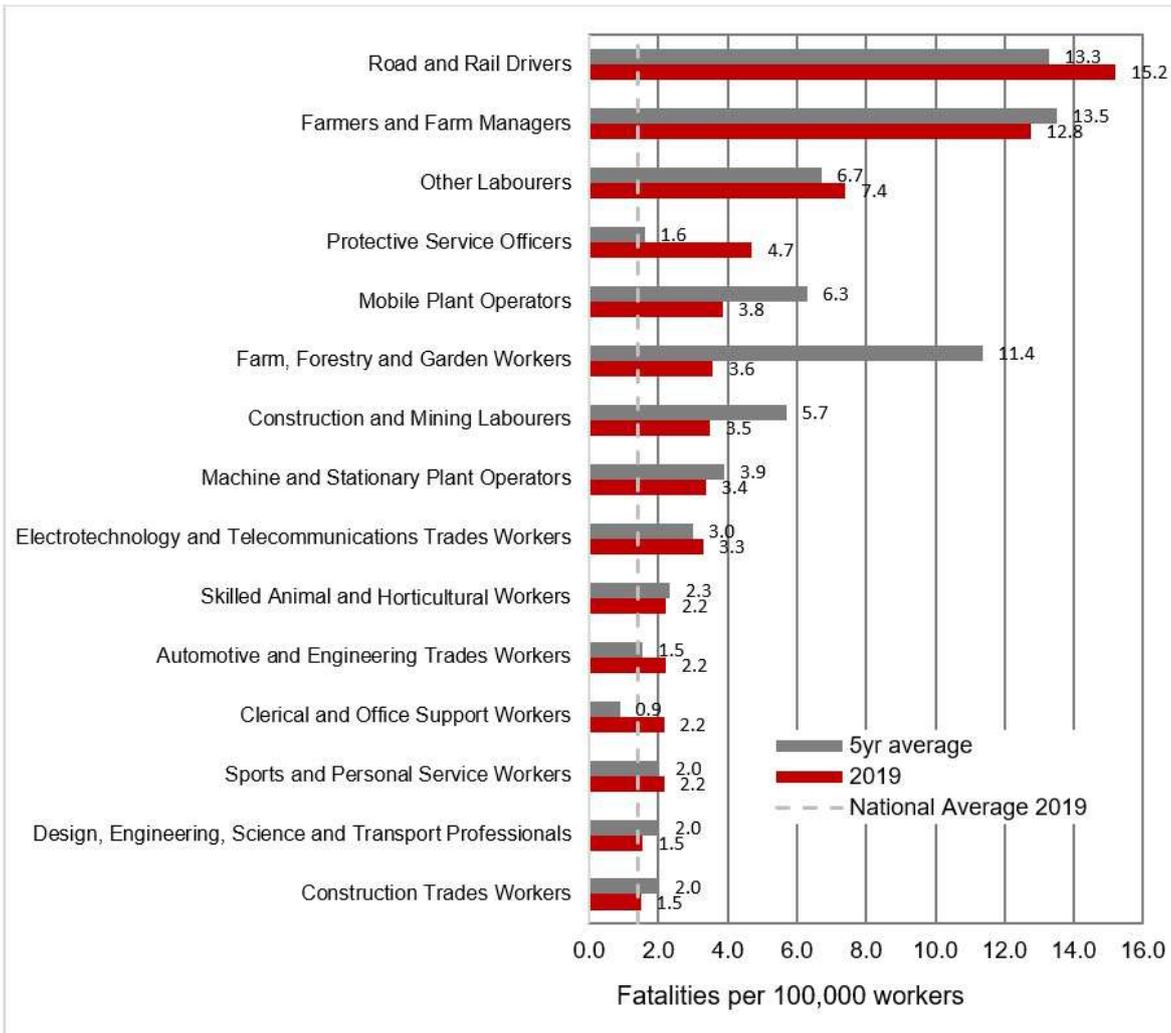
Note: Not all sub-groups have been included for each sub-major occupation group.

The averages shown in this table have been rounded to the nearest whole number; therefore the sum of the figures for the 5yr average column may not equal the total average.

Similarly to industry, fatality rates are best used when comparing data across occupations to take account of the relative number of workers within each occupational category.

Figure 8 below presents 2019 and five year average (2015 to 2019) fatality rates for the 'sub-major' classification tier of occupations. Only sub-major occupations with a 2019 fatality rate higher than the national 2019 average fatality rate of 1.4 fatalities per 100,000 workers are shown. Road and rail drivers had the highest rate in 2019 with 15.2 fatalities per 100,000 workers, followed by Farm and Farm Managers (12.8 fatalities per 100,000 workers).

Figure 8: Worker fatalities: selected occupations, 2019 and 5 year average (2015 to 2019) rates



1.7. Mechanism of incident

The mechanism of incident⁹ refers to the overall action, exposure or event that describes the circumstances that resulted in a worker fatality. Four mechanisms accounted for 74% of worker fatalities in 2019; Vehicle collisions¹⁰, Falls from a height, Being hit by moving objects¹¹ and Being hit by falling objects (Table 15).

In 2019, 43% of worker fatalities were due to a Vehicle collision, which is above the five year average of 36%. Vehicle collisions includes incidents where an occupant of a vehicle is killed following a collision with another vehicle or a stationary object. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

Being hit by moving objects and Falls from a height accounted for the next highest proportion of worker fatalities in 2019 – both 11%. This was followed by Being hit by moving objects (7%).

Table 15: Worker fatalities: number and proportion by mechanism of incident, 2018, 2019 and five year average (2015 to 2019) (sorted by five year average)

Mechanism of incident	Number of fatalities			% of fatalities		
	2018	2019	5 yr average	2018	2019	5 yr average
Vehicle collisions*	44	79	66	30%	43%	36%
Falls from a height	18	21	24	12%	11%	13%
Being hit by moving objects**	24	13	24	16%	7%	13%
Being hit by falling objects	15	21	18	10%	11%	10%
Being trapped between stationary and moving objects	8	9	8	5%	5%	4%
Being trapped by moving machinery	7	10	7	5%	5%	4%
Contact with electricity	4	8	6	3%	4%	3%
Drowning	1	5	5	1%	3%	3%
Rollover of non-road vehicle	5	4	4	3%	2%	2%
Contact with hot objects	2	2	3	1%	1%	2%
Being assaulted by a person or persons	..	2	3	0%	1%	2%
Explosion	4	2	3	3%	1%	2%
Slide or cave-in	3	3	2	2%	2%	1%
Being hit by an animal	1	..	2	1%	0%	1%
Other mechanism	10	4	8	7%	2%	4%
Total	146	183	183	100%	100%	100%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

⁹ See Glossary for explanation of 'mechanism of incident'

¹⁰ See Glossary for explanation of 'vehicle collision'

¹¹ See Glossary for explanation of 'being hit by moving objects'

1.8. Breakdown agency

The breakdown agency identifies the object, substance or circumstance principally involved at the point at which things started to go wrong and ultimately led to a worker fatality.

The breakdown agency category of Mobile plant and transport, which includes objects such as cars, tractors and excavators, accounted for over half (54%) of fatalities over the last five years (Table 16). Environmental agencies, which includes objects such as buildings and vegetation, was the second most common breakdown agency, accounting for 15% of worker fatalities over the last five years.

Table 16: Worker fatalities: number and proportion by breakdown agency, 2018, 2019 and five year average (2015 to 2019) (sorted by five year average)

Breakdown agency of incident	Number of fatalities			% of fatalities		
	2018	2019	5 yr average	2018	2019	5 yr average
Mobile plant & transport	78	100	100	53%	55%	55%
Environmental agencies	18	24	27	12%	13%	15%
Machinery & (mainly) fixed plant	16	25	17	11%	14%	9%
Non-powered handtools, appliances & equipment	11	18	15	8%	10%	8%
Animal, human & biological agencies	4	7	9	3%	4%	5%
Materials & substances	5	6	8	3%	3%	4%
Powered equipment, tools & appliances	4	2	4	3%	1%	2%
Chemicals & chemical products	7	1	2	5%	1%	1%
Other & unspecified agencies	3	..	1	2%	0%	1%
5 year total	146	183	183	100%	100%	100%

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

The following sections analyse selected mechanisms of incidents in conjunction with breakdown agencies, providing an overview of types of high-risk work that can result in worker fatalities. For a comprehensive overview of breakdown agency coding, see the [Type of Occurrence Classification System \(TOOCS\), 3rd Edition](#).

1.9. Being hit by moving objects

In 2019, 13 workers were killed as a result of Being hit by moving objects¹². This is a decrease of 46% from 24 workers in 2018 (Table 17). These fatalities involve workers who were not occupants in a vehicle – vehicle occupant fatalities are analysed further in *Section 1.11. Vehicle involvement and collisions*.

The majority of these fatalities (69%) were caused by Mobile plant and transport. Within the Mobile plant and transport category, 23% of the fatalities were caused by Tractors and agricultural vehicles accounted, 23% were caused by Trucks, semi-trailers and lorries and 15% were caused by Cars, station wagons, vans and utilities.

The second highest breakdown agency was Machinery and (mainly) fixed plant, which involves plant such as cranes and forklifts, accounting for 15% of fatalities in 2019; above the average of 11% over the past five years.

Table 17: Worker fatalities due to being hit by moving objects: number by breakdown agency, 2015 to 2019 (sorted by five year average)

Breakdown agency	2015	2016	2017	2018	2019	% of 2019	% of 5yr average
Mobile plant & transport	19	13	18	17	9	69%	62%
Trucks, semi-trailers, lorries	3	2	7	4	3	23%	16%
Tractors, agricultural or otherwise	3	3	4	5	3	23%	15%
Self-propelled plant	6	5	1	3	1	8%	13%
Cars, station wagons, vans, utilities	4	2	4	2	2	15%	11%
Other mobile plant & transport	3	1	2	3	..	0%	7%
Machinery & (mainly) fixed plant	3	2	4	2	2	15%	11%
Powered equipment, tools & appliances	3	2	3	1	1	8%	8%
Non-powered handtools, appliances & equipment	3	..	3	1	..	0%	6%
Materials & substances	..	1	3	2	..	0%	5%
Animal, human & biological agencies	1	1	2	..	..	0%	3%
Environmental agencies	2	..	1	..	1	8%	3%
Chemicals & chemical products	..	..	..	1	..	0%	1%
Other & unspecified agencies	..	1	..	..	..	0%	1%
Total – Being hit by moving objects	31	20	34	24	13	100%	100%

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Not all sub-groups have been included for each breakdown agency.

¹² See Glossary for explanation of 'being hit by moving objects'

1.10. Falls from a height

In 2019, 21 workers died as a result of a Fall from a height; a slight increase from 18 fatalities in 2018, but still lower than the five year average of 24 fatalities (Table 18). Over the last five years, Falls from a height most commonly involved falls from a ladder (16%), roof (15%), horses, donkeys and mules (8%) and trucks, semi-trailers and lorries (7%).

Table 18: Worker fatalities due to falls from a height: number by breakdown agency and selected sub-groups, 2015 to 2019 (sorted by five year average)

Breakdown agency	2015	2016	2017	2018	2019	% of 2019	% of 5yr average
Environmental agencies	12	10	11	7	5	24%	37%
Roof	6	4	3	4	1	5%	15%
Openings in floors, walls or ceilings	1	2	3	..	1	5%	6%
Non-powered handtools, appliances & equipment	7	10	6	4	10	48%	30%
Ladders	3	6	4	1	5	24%	16%
Scaffolding	2	2	..	..	2	10%	5%
Mobile plant & transport	5	3	6	2	1	5%	14%
Trucks, semi-trailers, lorries	3	1	2	2	..	0%	7%
Tractors, agricultural or otherwise	..	..	3	..	..	0%	2%
Animal, human & biological agencies	3	1	3	1	2	10%	8%
Horses, donkeys, mules	3	1	3	1	2	10%	8%
Machinery & (mainly) fixed plant	2	1	1	2	2	10%	7%
Elevating work platforms	2	..	..	1	1	5%	3%
Materials & substances	..	..	1	..	1	5%	2%
Other & unspecified agencies	..	1	..	2	..	0%	2%
Total - Falls from a height	29	26	28	18	21	100%	100%

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

Not all sub-groups have been included for each breakdown agency.

1.11.Vehicle involvement and collisions

Safe Work Australia's Traumatic Injury Fatalities database collects two sources of information relating to vehicles:

- Whether a vehicle was principally involved in the incident leading to a worker fatality, referred to as 'vehicle involvement'
- 'Vehicle collisions', where a vehicle crash occurred and an occupant of the vehicle was killed¹³

Over the five year period from 2015 to 2019, 62% of worker fatalities (566 fatalities) involved vehicles (Table 19). Of these, just under half (279 fatalities) occurred on a public road¹⁴. The majority (85%) of worker fatalities involving vehicles on public roads were the result of a vehicle collision (238 fatalities).

Table 19: Worker fatalities: number of fatalities with vehicle involvement by public road status, and proportion of fatalities involving a vehicle of all fatalities, by mechanism of incident, 2015 to 2019 (combined total)

Mechanism of incident	On a public road	Not on a public road	Total fatalities involving a vehicle	% of all fatalities
Vehicle collision*	238	93	331	36%
Being hit by moving objects**	25	57	82	9%
Being trapped between stationary and moving objects	4	27	31	3%
Being hit by falling objects***	..	29	29	3%
Rollover of non-road vehicle	1	19	20	2%
Other mechanisms	11	62	73	8%
5 year total	279	287	566	62%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

*** Being hit by falling objects includes fatalities where the worker was unloading/loading the vehicle and was hit by falling stock or was hit by the vehicle while conducting maintenance underneath it.

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

¹³ See Glossary for more detail on Vehicle collisions

¹⁴ See Glossary for a definition of public road

Worker fatalities resulting from a vehicle collision in 2019 (79 fatalities) were much higher than the number in 2018 (44 fatalities) and higher than five year average (66 fatalities).

In 2019, of the 79 workers who died in a vehicle collision, just under two thirds (61%) involved single vehicle collisions, with just over half (56%) of these involving a heavy vehicle (Table 20). There were 31 worker fatalities in 2019 due to a multi-vehicle collision, with the majority (45%) involving two heavy vehicles.

Table 20: Worker fatalities due to vehicle collision*: number by type of collision and breakdown agency, 2015 to 2019 (sorted by five year average)

Type of collision	2015	2016	2017	2018	2019	% of 2019	% of 5yr average
Single vehicle collision*	42	45	45	28	48	61%	63%
Heavy vehicle	20	21	20	15	27	34%	31%
Aircraft	5	7	13	5	8	10%	11%
Light vehicle	8	12	3	3	8	10%	10%
Quad bike	9	3	5	2	2	3%	6%
Motorbike	..	..	3	1	1	1%	2%
Agriculture vehicle	..	2	..	..	..	0%	1%
Other single vehicle	..	..	1	2	2	3%	2%
Multi vehicle collision*	25	31	20	16	31	39%	37%
Two heavy vehicles	6	10	6	10	14	18%	14%
Two light vehicles	7	9	4	..	3	4%	7%
Occupant in a light vehicle killed in collision with a heavy vehicle	6	5	5	1	2	3%	6%
Occupant in a heavy vehicle killed in collision with a light vehicle	2	4	1	4	3	4%	4%
Other multi-vehicle collision	4	3	4	1	9	11%	6%
Total – vehicle collision	67	76	65	44	79	100%	100%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

1.12. Location

The number of fatalities increased between 2018 to 2019 for most states and territories (based on the location where the fatality occurred). The exception was the Australian Capital Territory which recorded no fatalities for 2019 (Table 21).

When comparing the 2019 fatalities to the five year average, most states and territories had lower fatality numbers and rates overall. In 2019, six of the eight of the states and territories recorded lower (or equal) fatality rates than the five year average.

Please note, jurisdictional responsibility for a fatality may be different to the state or territory where the fatality occurred (see Table 23 for a breakdown by jurisdiction).

Table 21: Worker fatalities: number by location of death, 2018, 2019 and five year average (2015 to 2019)

State/Territory	Number of fatalities			Fatality rates		
	2018	2019	5yr average	2018	2019	5yr average
New South Wales	47	62	57	1.2	1.5	1.5
Queensland	39	41	44	1.6	1.6	1.8
Victoria	33	34	35	1.0	1.0	1.1
Western Australia	13	20	23	1.0	1.5	1.7
South Australia	9	14	14	1.1	1.6	1.6
Tasmania	1	6	5	0.4	2.4	2.0
Northern Territory	3	6	4	2.2	4.6	3.3
Australian Capital Territory	1	..	1	0.4	0.0	0.3
Total	146	183	183	1.2	1.4	1.5

.. No fatalities reported

Based on the location of where the fatality occurred, over the five years to 2019, the Transport, postal and warehousing industry accounted for the highest number of worker fatalities in New South Wales, Western Australia, South Australia and the Northern Territory (Table 22). Whereas the Agriculture, forestry and fishing industry accounted for the highest number of worker fatalities in Queensland, Victoria and Tasmania.

Table 22: Worker fatalities: number by location of death and industries with the highest number of fatalities, 2015 to 2019 (combined total)

Industry	New South Wales	Queensland	Victoria	Western Australia	South Australia	Tasmania	Northern Territory	National total
Transport, postal & warehousing	78	55	34	33	27	6	6	239
Agriculture, forestry & fishing	47	66	53	24	18	9	5	222
Construction	59	30	34	16	6	2	2	150
Manufacturing	22	13	11	5	2	2	..	55
Mining	4	11	1	14	3	..	2	35
Public administration & safety	16	4	5	3	1	1	2	32
Administrative & support services	6	12	4	5	2	1	..	30
Arts & recreation services	5	7	7	4	1	..	2	27
Other services	5	5	4	5	3	..	..	23
Electricity, gas, water & waste services	6	3	8	3	2	..	..	22
Other industries	38	14	16	4	3	3	3	81
5 year total	286	220	177	116	68	24	22	916

.. No fatalities reported

Note: The Australian Capital Territory was not included separately due to the low number of fatalities, however, the total includes the Australian Capital Territory.

As noted above, worker fatalities may not necessarily fall within the jurisdictional responsibility of the state or territory where the fatality occurred. The jurisdiction with the highest number of worker fatalities in 2019 was New South Wales, with 59 worker fatalities (Table 23). Of these, 34 did not occur on a public road. This was followed by Queensland (34 fatalities of which 25 did not occur on a public road) and Victoria (32 fatalities of which 20 did not occur on a public road). Aircraft incidents resulted in nine worker fatalities in 2019.

Table 23: Worker fatalities: number by jurisdiction and public road status, 2019

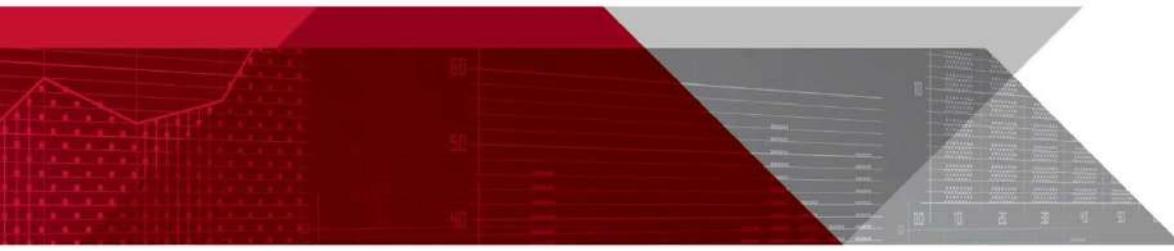
Jurisdiction*	Not on a public road	On a public road	Total
New South Wales	34	25	59
Queensland	25	9	34
Victoria	20	12	32
Western Australia	11	7	18
South Australia	4	7	11
Commonwealth**	3	6	9
Aircraft incidents***	9	..	9
Tasmania	4	2	6
Northern Territory	5	..	5
Australian Capital Territory	..	..	..
2019 total	115	68	183

* Jurisdictions may include a number of different regulatory authorities.

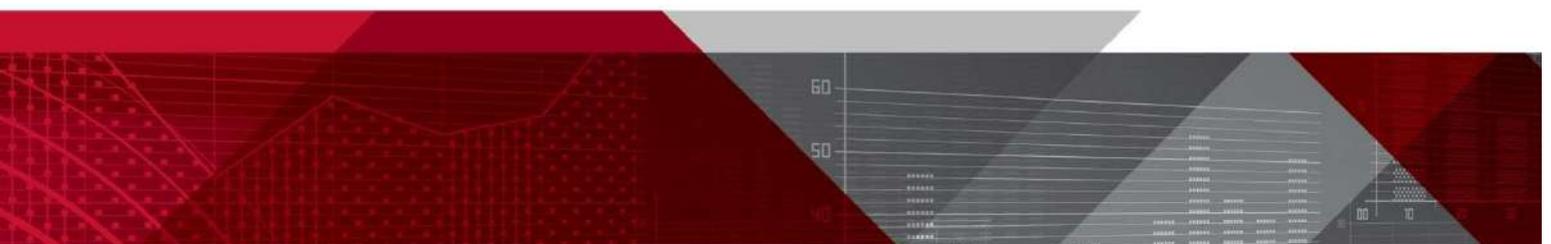
** The Commonwealth jurisdiction refers to that which falls within the Commonwealth *Work Health and Safety Act 2011* administered by Comcare. Commonwealth jurisdiction fatalities have been reported in previous reports by location of death only.

*** Worker fatalities involving aircraft incidents are not tabulated against jurisdictions.

.. No fatalities reported



Section 2: Bystander fatalities



2.1 Bystander fatalities by mechanism of incident

The actions of a worker or a fault in a workplace resulted in the deaths of 39 members of the public (referred to as bystanders) in 2019. Almost half of these (46%) were due to a vehicle collision¹⁵ (Table 24). Being hit by moving objects¹⁶ accounted for a further 18% of bystander fatalities in 2019. In many of these cases, the moving object was a vehicle.

Table 24: Bystander fatalities: number by mechanism of incident, 2015 to 2019 (sorted by five year average)

Mechanism of fatality	2015	2016	2017	2018	2019	% of 2019	% of 5yr average
Vehicle collision*	27	25	45	48	18	46%	60%
Being hit by moving objects**	12	13	13	10	7	18%	20%
Drowning	5	6	..	1	3	8%	6%
Falls from a height	3	1	4	..	4	10%	4%
Falls on the same level	2	..	1	..	3	8%	2%
Being hit by falling objects	2	3	..	..	1	3%	2%
Other mechanisms	..	5	4	3	3	8%	6%
Total	51	53	67	62	39	100%	100%

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

.. No fatalities reported

Note: The percentages shown in this table have been rounded to the nearest whole number; therefore the sum of percentage figures for each column may not equal the total.

There are a number of complexities in identifying bystander fatalities – bystanders cannot seek compensation through workers' compensation; notifications depend on the work health and safety legislation of the jurisdiction; and sufficiently detailed information on the circumstances of all parties to the death is often unavailable. Estimates of bystander fatalities in this report should therefore be regarded as an undercount and changes in the data over time interpreted with caution.

2.2 Bystander fatalities by age group

Over the last five years, there have been 34 work-related bystander fatalities involving children under 14 years of age (13% of bystander fatalities) and 60 fatalities involving people aged 65 years or older (22% of bystander fatalities).

Vehicle collisions¹¹ accounted for the highest number of work-related bystander fatalities across all age groups (Table 25). This was followed by Being hit by moving objects, where nine fatalities involved children aged 14 and over and 22 fatalities involving people aged 65 and over. Bystanders aged 65 and over accounted for 50% of fatalities caused by Falls from a height and 67% of fatalities caused by Falls on the same level.

¹⁵ See Glossary for explanation of 'vehicle collision'

¹⁶ See Glossary for explanation of 'Being hit by moving objects'

Table 25: Bystander fatalities: number by age group, 2015 to 2019 (combined total)

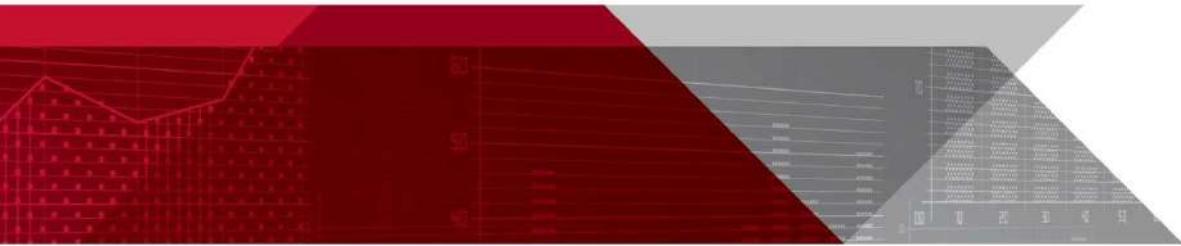
Mechanism of fatality	14 & under	15–24	25–44	45–64	65 & over
Vehicle collision*	14	19	48	59	22
Being hit by moving objects**	9	2	8	14	22
Drowning	1	5	3	3	3
Falls from a height	3	..	1	2	6
Falls on the same level	1	..	..	1	4
Being hit by falling objects	4	..	1	..	1
Other mechanisms	2	3	5	3	2
5 year total	34	29	66	82	60

* Vehicle collisions include fatalities that occurred as a direct result of a vehicle crash. Vehicles include not only road vehicles such as cars and trucks, but also machines such as aircraft, boats, loaders, tractors and quad bikes.

** Being hit by moving objects includes fatalities involving pedestrians hit by vehicles, as well as being hit by other moving equipment or objects.

.. No fatalities reported

Note: fatalities where the age is unknown have been removed from the table



Section 3: Data sources & Glossary



3.1 Data sources

The Traumatic Injury Fatalities database uses information from three datasets:

- National Data Set for Compensation-based Statistics (NDS), constructed using accepted workers' compensation claims
- Notifiable Fatalities Collection (NFC), constructed using work-related fatalities that are notified to Australian work health and safety authorities
- National Coronial Information System (NCIS), constructed using deaths reported to Australian coroners

These datasets are also supplemented by monitoring of work-related fatalities in Australian media by Safe Work Australia. Labour Force Survey data, conducted by the Australian Bureau of Statistics (ABS category number 6202.0), is used to calculate fatality rates. For more information on Safe Work Australia datasets, refer to <https://www.safeworkaustralia.gov.au/doc/explanatory-notes-traumatic-injury-fatalities-safe-work-australia>.

3.2 Glossary

Being hit by moving objects

Part of the TOOCS 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 and ultimately led to a worker fatality.

Bystander fatality

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. 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.

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 relevant 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'. The number of workers is derived from the average of all persons employed over the four quarters of the year for each sex, age group, industry, occupation, or state or territory. Labour Force Survey data, conducted by the Australian Bureau of Statistics (ABS category number 6202.0) to provide the number of workers to calculate fatality rates. See the [Explanatory notes](#) for further details.

Gender vs sex

Sex refers to the biological differences between men and women, while gender refers to the social identification of sex. Safe Work Australia's fatality data is based on multiple data sources, some of which are reported by gender and some which are reported by sex. Further, while the majority of the population identifies both their sex and gender as either male or female, a small proportion of the population identify their sex and/or gender as other than male or female; however there are no work-related fatalities in the Traumatic Injury Fatalities dataset which have been identified as belonging to this third category.

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). ANZSIC utilises four levels of industry classification—division, subdivision, group and class—and unless specified in this report, industries are presented at the 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, coded to the TOOCS classification.

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. ANZSCO utilises four levels of occupational classification—major, sub-major, minor and unit groups—and unless specified in this report, occupations are presented 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).

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.

Traumatic 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). This includes injuries arising from poisonous plants and animals, environmental conditions (e.g. frostbite), allergic reactions, and embolisms. However, it excludes deaths attributed to disease and other natural causes.

Type of occurrence classification system (TOOCS)

A suite of four classifications to code the way an injury occurred, comprising the Nature of injury/disease classification, the Bodily location of injury/disease classification, Mechanism of incident classification, and the Agency of injury/disease classification. Version 3.1 is used for coding the data presented in this report. Fatalities are only coded by Mechanism and Agency.

Vehicle collision

Part of the TOOCS Mechanism of incident classification that identifies fatalities that occurred as a direct result of a vehicle collision. In the TOOCS classification, this category is called Vehicle Incident but has been renamed in this report to vehicle collision to assist with reader understanding. Vehicle collisions include all fatalities involving a moving vehicle (rail, road, water, or air) crashing, colliding, or running out of control; with the exception of people who are struck by (or struck against) a vehicle when not travelling in one, which are included as 'Being hit by moving objects'. Vehicle collisions that occur on public roads are further classified as a public road incidents.

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.