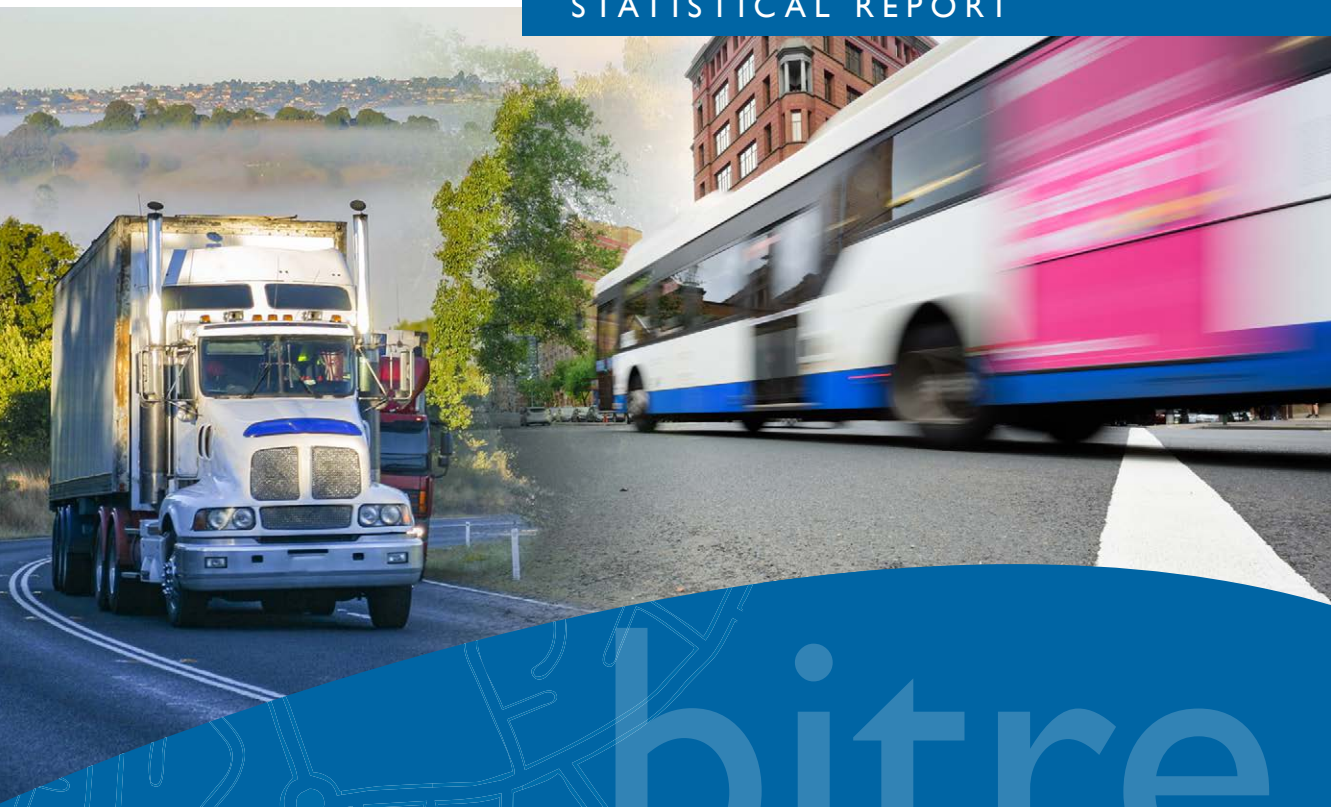
Australian Government
Department of Infrastructure, Regional Development and Cities
Bureau of Infrastructure, Transport and Regional Economics

STATISTICAL REPORT



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Safety

Road trauma involving heavy vehicles 2017 statistical summary

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Bureau of Infrastructure, Transport and Regional Economics

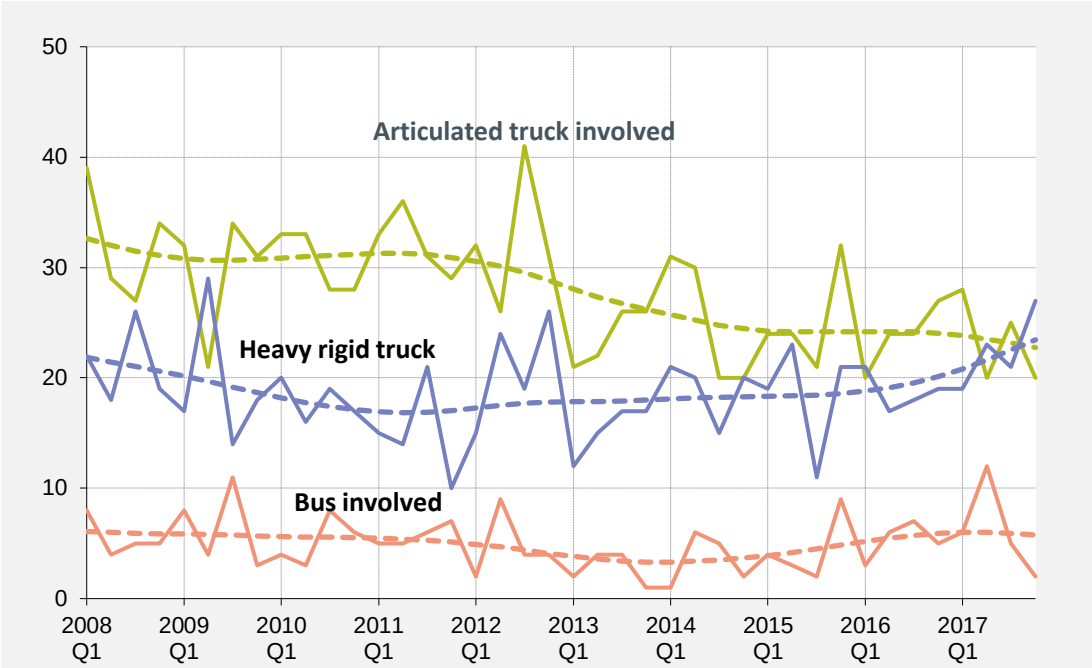
Road trauma involving heavy vehicles
2017 statistical summary

Department of Infrastructure, Regional Development and Cities
Canberra, Australia

At a glance

This report presents counts and rates of fatal crashes, fatalities and hospitalised injuries from road traffic crashes in which one or more heavy vehicles were involved. Percentage changes for the latest calendar year, and annual average changes over recent years are given.

Quarterly counts of fatal crashes, 2008 to 2017 — with trends



In 2017, 216 people died from 196 fatal crashes involving heavy vehicles (articulated truck, heavy rigid truck and/or bus). This was an increase from 2016 (207 people from 185 crashes involving a heavy vehicle).

Heavy trucks

In 2017, 192 people were killed in crashes involving heavy trucks. It represents 15.7 per cent of total road deaths. This was an increase of 2.7 per cent compared with the number of people killed in 2016 (Table 1.1, p. 3 and Figure 1.1, p. 3).

Deaths from crashes involving articulated trucks (55 per cent of the total deaths involving a heavy truck) decreased in 2017 compared with 2016, while deaths from crashes involving heavy rigid trucks increased (Table 1.1, p. 3 and Figure 1.1, p. 3).

Compared with 2016, deaths from crashes involving articulated trucks increased in NSW in 2017 (from 26 to 49) and decreased in all other jurisdictions. Deaths from crashes involving rigid trucks increased in NSW, Victoria, South Australia and Tasmania, and decreased in Queensland and Western Australia (Table 1.2, p. 5).

Over the decade, deaths from crashes involving a heavy truck decreased from 239 in 2008 to 192 in 2017. This was an estimated trend of -2.4 per cent per year. The years 2012 and to some extent 2017 were exceptions to this general downward trend. Deaths from crashes involving a heavy rigid truck showed an increasing trend over the decade (Table 1.1, p. 3).

Heavy truck occupants (driver/passenger) account for 16.8 per cent of all deaths from crashes involving a heavy truck (average for 2013-2017). Light vehicle occupants account for 59.9 per cent of the total. The remainder are pedestrians at 10.5 per cent (up on 2016), motorcyclists at 8.5 per cent (marginally up) and pedal cyclists at 3.6 per cent (down) (Table 1.8, p. 11).

Approximately 490 heavy truck occupants are hospitalised from crashes each year. Most (approximately 85 per cent) are truck drivers. 30 per cent of hospitalised occupant cases are categorised with High-threat-to-life injuries (Table 1.10, p. 13 and Figure 1.5, p.13).

Fatal crashes involving rigid trucks are more likely to occur in speed zones consistent with urban areas than crashes involving articulated trucks: 28 per cent of fatal crashes involving a heavy rigid truck occur in speed zones of 60km/h or less (unchanged over the decade). The corresponding proportion for fatal articulated truck crashes is 14 per cent. Generally fatal articulated truck crashes occur in higher speed zones (Table 2.3, p. 18).

Analysis of fatal crashes by ABS Remoteness Area for 2017 shows that most crashes involving an articulated truck were in regional areas (68 per cent) with an additional 6 per cent in remote areas. The corresponding proportions for fatal crashes involving a heavy rigid truck are 48 per cent in regional areas and 7 per cent in remote areas. These proportions have not changed appreciably over the decade (Table 2.8, p. 25).

For fatal crash rates, over the decade to 2017 there were large reductions for articulated trucks (41.7 per cent in the rate per 10,000 vehicles and 39.7 per cent in the rate per estimated billion vehicle kilometres travelled, VKT). The reductions were most consistent in New South Wales and Queensland (Table 3.1, p. 33 and Table 3.2 p. 34). Numbers of registered articulated trucks increased 24 per cent and articulated truck VKT increased 19.5 per cent.

Fatal crash rates over the decade to 2017 for heavy rigid trucks decreased nationally (5.3 per cent in the rate per 10,000 vehicles and 11.2 per cent in the rate per billion VKT). The trend was consistently increasing for New South Wales but for other jurisdictions there was no clear trend (Table 3.1, p. 33 and Table 3.2, p. 34). This was despite growth over the decade in heavy rigid truck registrations (11.8 per cent) and VKT (19.2 per cent).

Buses

In 2017, 30 people were killed in crashes involving buses. There was no clear trend over the decade, although during the last five years an increase has been apparent (Table 4.1, p. 37 and Figure 4.1, p. 37).

63 per cent of people killed in crashes involving buses (2015-2017) were occupants of a four-wheeled vehicle (either a light vehicle or the bus). Pedestrians and motorcyclists accounted for 27 per cent and 8 per cent respectively (Table 4.4, p. 40).

Compared to all fatal crashes over the last decade, those involving buses are more likely to involve a death of a child (aged 0 to 16) and more likely to involve the death of an older person (aged 65 years or over) (Table 4.3, p. 39). The proportion of older persons killed has increased in the last five years (22.3 per cent, up from 16.8 per cent 2008-2012).

Over the three years to 2014-15, approximately 250 bus occupants were hospitalised each year from crashes involving buses. Of these, approximately 20 per cent had High-threat-to-life injuries (Table 4.6, p. 41 and Figure 4.4, p. 41).

Data Sources

The tables in this report are sourced mainly on the National Crash Database (NCD), together with some data from the Australian Road Deaths Database (ARDD).

The National Crash Database is collated by BITRE using data from the states' and territories' road safety agencies. The scope is fatal and injury crashes and at present it covers the years 2008 to 2017 and is updated annually. The Australian Road Deaths Database contains basic demographic and crash information. Fatal crashes since 1989 are included and it is updated each month. The current data in spreadsheet format is available at <https://www.bitre.gov.au>. For this report, the December 2018 data was used.

Due to the timing differences in data receipt and ongoing validation by data providers, there are minor data differences between the two databases.

Non-fatal road traffic crash casualty data (referred to here as 'hospitalised injury') is collated from published reports by the Australian Institute of Health and Welfare (AIHW) and by the National Injury Surveillance Unit (NISU), as well as from unpublished National Hospital Morbidity Database reports compiled by NISU. Refer to AIHW 2008 for information regarding inclusion criteria for traffic crash hospitalised injuries.

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Australian Bureau of Statistics.

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HEAVY TRUCKS

HEAVY TRUCKS – Section 1 • People

This section presents annual counts of deaths and hospitalised injuries from crashes which involve a heavy truck (articulated truck or heavy rigid truck). Percentage changes for the latest calendar year and annual averages over the last several years are given.

Deaths in crashes involving heavy trucks

- In 2017, 192 people were killed in crashes involving heavy trucks. This represents 15.7 per cent of total road deaths. This was an increase of 2.7 per cent compared with the number of people killed in 2016 (Table 1.1, p. 3 and Figure 1.1, p. 3).

- Deaths from crashes involving articulated trucks (55 per cent of the total deaths involving a heavy truck) decreased in 2017 compared with 2016, while deaths from crashes involving heavy rigid trucks increased (Table 1.1, p. 3 and Figure 1.1, p. 3).

- Compared with 2016, deaths from crashes involving articulated trucks increased in NSW in 2017 (from 26 to 49) and decreased in all other jurisdictions. Deaths from crashes involving heavy rigid trucks increased in NSW, Victoria, South Australia and Tasmania, and decreased in Queensland and Western Australia (Table 1.2, p. 5).

- Over the decade, deaths from crashes involving a heavy truck decreased from 239 in 2008 to 192 in 2017. This was an estimated trend of -2.4 per cent per year. The years 2012 and to some extent 2017 were exceptions to this general downward trend. Deaths from crashes involving a heavy rigid truck showed an increasing trend over the decade (Table 1.1, p. 3).

- At a jurisdictional level, trends over the decade varied markedly. Queensland recorded consistent downward trends in both articulated and heavy rigid involved crashes. New South Wales recorded a downward trend for articulated crashes but a very clear upward trend in heavy rigid crashes. For other jurisdictions, no consistent trends were evident (Table 1.2, p. 5).

- Heavy truck occupants (driver/passenger) account for 16.8 per cent of all deaths from crashes involving a heavy truck (average for 2013-2017). Light vehicle occupants account for 59.9 per cent of the total. The remainder are pedestrians at 10.5 per cent (up on 2016), motorcyclists at 8.5 per cent (marginally up) and pedal cyclists at 3.6 per cent (down) (Table 1.8, p. 11).

- Over the last decade the major heavy vehicle crash types are ‘head-on’ crashes (38 per cent), ‘intersection’ crashes (24 per cent), and ‘single vehicle run-off road’ crashes (8 per cent). (Table 1.7, p. 10)

- Head-on crashes account for the biggest proportion both for articulated truck crashes and heavy rigid truck crashes. Intersection crashes account for a larger proportion of fatal heavy rigid crashes than of articulated truck crashes. Articulated trucks are more likely to be in single vehicle run off road fatal crash than rigid trucks (Table 1.7, p. 10).

Persons with hospitalised injury

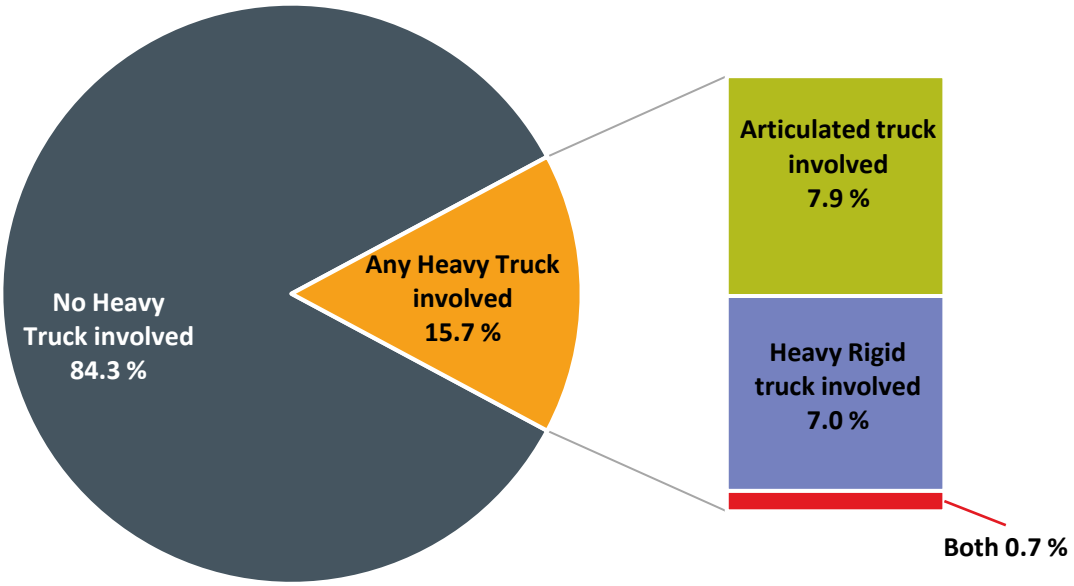
- Approximately 490 heavy truck occupants are hospitalised from crashes each year. Most (approximately 85 per cent) are truck drivers. 30 per cent of hospitalised occupant cases had High-threat-to-life injuries (Table 1.10, p. 13 and Figure 1.5, p. 13).

Table 1.1 Deaths from crashes involving heavy trucks

	Articulated truck involved	*Heavy rigid truck involved*	*Any heavy truck* [a]	*No Heavy truck*	*Total*
2008	150	91	239	1,198	1,437
2009	142	82	215	1,275	1,490
2010	141	86	217	1,133	1,350
2011	145	72	213	1,064	1,277
2012	157	94	246	1053	1,299
2013	115	66	177	1,008	1,185
2014	116	88	203	948	1,151
2015	113	83	193	1,012	1,205
2016	109	83	187	1,107	1,294
2017	106	95	192	1,034	1,226
Ave. trend change p.a.(%)					
- for last 10 calendar years	-4.2	0.3	-2.4	-2.0	-2.0
- for last 5 calendar years	-2.2	6.9	0.8	2.1	1.9
- for last 3 calendar years	-3.1	7.0	-0.3	1.1	0.9

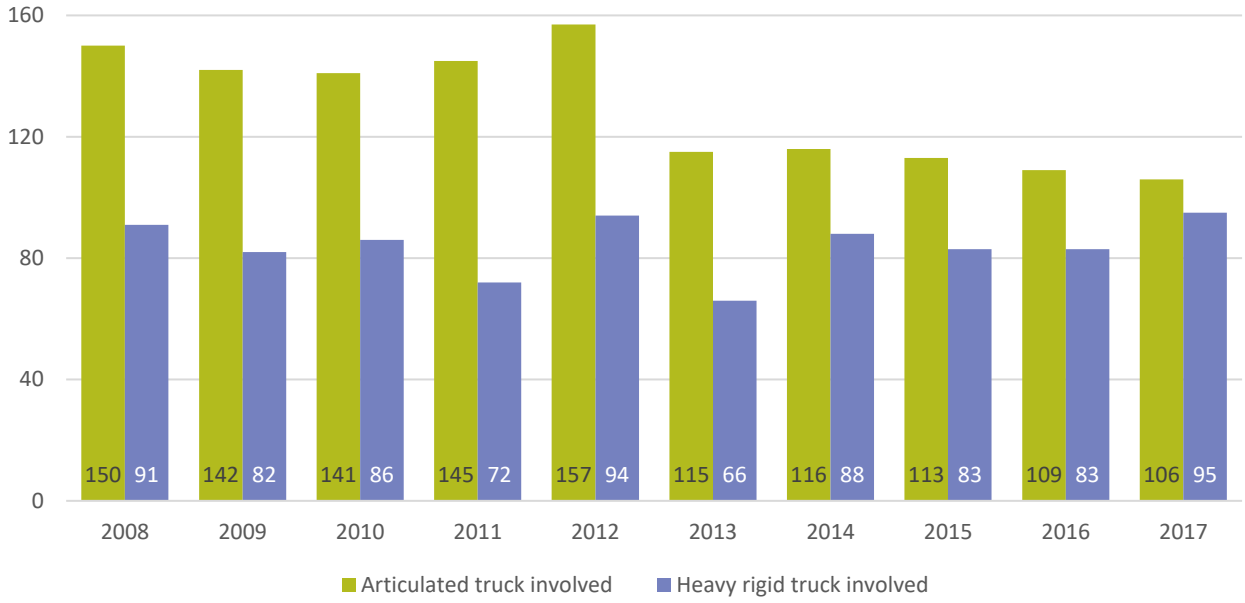
a Figures sum to more than the total because some crashes involved more than one type of heavy truck.
Source National Crash Database

Figure 1.1 2017 Snapshot – fatalities by type of heavy truck involved



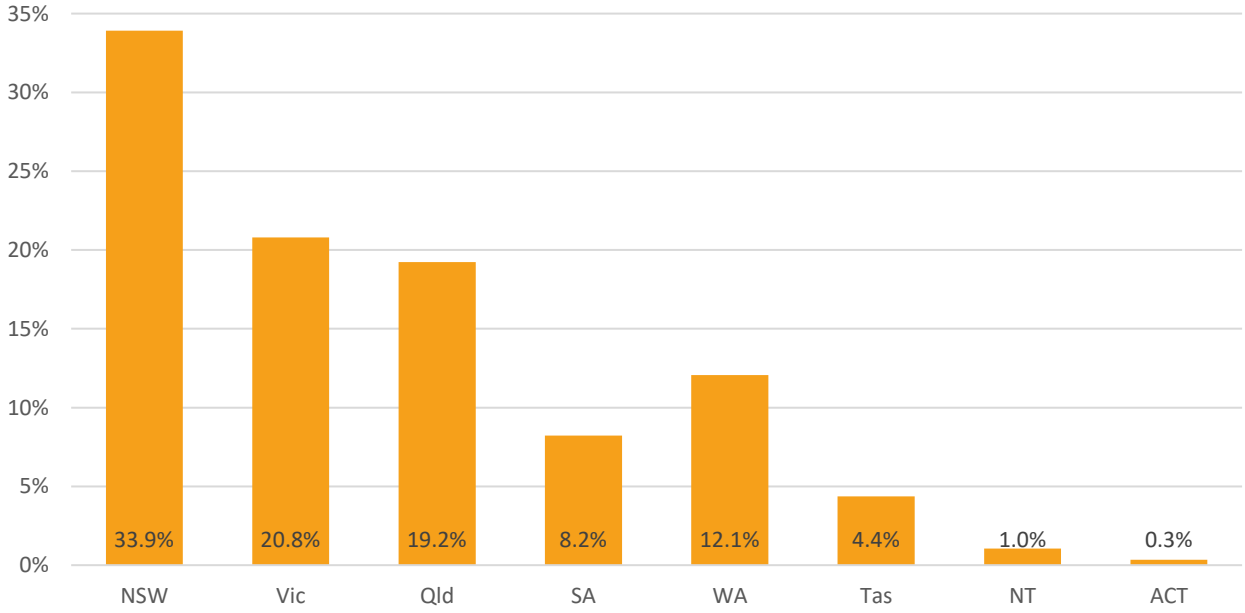
Source National Crash Database

Figure 1.2 Deaths from crashes involving heavy trucks



Source National Crash Database

Figure 1.3 Fatalities in crashes involving heavy trucks - proportion within each state/territory 2015–2017



Source National Crash Database

Table 1.2 Deaths from crashes involving heavy trucks by state/territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Articulated truck involved									
2008	53	23	46	10	10	5	3	0	150
2009	47	20	40	11	13	9	2	0	142
2010	51	37	29	7	12	3	1	1	141
2011	47	23	39	13	18	2	3	0	145
2012	50	30	45	10	17	3	2	0	157
2013	32	15	35	11	16	2	4	0	115
2014	31	27	31	12	10	3	0	2	116
2015	34	21	28	15	11	3	0	1	113
2016	26	22	25	11	13	6	5	1	109
2017	49	20	19	6	11	1	0	0	106
Ave. trend change p.a.(%)									
- for last 10 calendar years	-5.1	-2.2	-7.2	-0.6	-0.8	-9.5	-	-	-4.2
- for last 5 calendar years	7.0	3.8	-13.4	-12.2	-4.8	-6.7	-	-	-2.2
- for last 3 calendar years	20.0	-2.4	-17.6	-36.8	0.0	-42.3	-	-	-3.1
Heavy rigid truck involved									
2008	12	24	24	9	17	3	2	0	91
2009	24	21	13	2	17	3	0	2	82
2010	24	22	15	2	14	8	0	1	86
2011	17	20	14	6	6	4	4	1	72
2012	23	15	27	7	15	4	1	2	94
2013	24	13	13	4	12	0	0	0	66
2014	21	29	8	15	12	3	0	0	88
2015	25	20	16	3	11	7	1	0	83
2016	32	19	13	7	10	2	0	0	83
2017	35	20	11	5	17	7	0	0	95
Ave. trend change p.a.(%)									
- for last 10 calendar years	7.9	-1.1	-5.4	4.8	-1.8	-	-	-	0.3
- for last 5 calendar years	12.5	4.5	1.5	-3.1	5.3	-	-	-	6.9
- for last 3 calendar years	18.3	0.0	-17.1	29.1	24.3	0.0	-	-	7.0
Any heavy truck involved									
2008	65	47	68	19	27	8	5	0	239
2009	66	39	52	13	29	12	2	2	215
2010	74	57	40	8	26	9	1	2	217
2011	63	42	52	19	24	5	7	1	213
2012	72	45	70	17	31	6	3	2	246
2013	53	28	48	15	27	2	4	0	177
2014	51	56	39	27	22	6	0	2	203
2015	57	41	43	18	22	10	1	1	193
2016	56	40	38	18	22	7	5	1	187
2017	81	38	29	11	25	8	0	0	192
Ave. trend change p.a.(%)									
- for last 10 calendar years	-0.9	-1.8	-6.3	1.4	-2.3	-2.3	-	-	-2.4
- for last 5 calendar years	9.9	2.8	-9.8	-9.7	-1.5	34.0	-	-	0.8
- for last 3 calendar years	19.2	-3.7	-17.9	-21.8	6.6	-10.6	-	-	-0.3

Source National Crash Database

Table 1.3 Deaths from crashes involving heavy trucks by age group

	0 to 16	*17 to 25*	*26 to 39*	*40 to 64*	*≥65*	*Total* [a]
Articulated truck involved						
2008	8	30	31	56	25	150
2009	11	25	29	59	18	142
2010	8	27	27	55	24	141
2011	3	23	27	71	21	145
2012	6	15	47	64	24	157
2013	6	15	26	42	26	115
2014	4	23	25	47	17	116
2015	3	15	25	47	23	113
2016	3	16	27	46	17	109
2017	7	13	21	40	25	106
Ave. trend change p.a.(%) - for the last 10 years	-8.3	-7.9	-3.1	-4.3	-0.7	-4.2
Heavy rigid truck involved						
2008	4	18	24	29	15	91
2009	4	7	20	35	16	82
2010	8	14	13	35	16	86
2011	4	16	9	32	11	72
2012	3	21	20	29	21	94
2013	5	10	11	25	15	66
2014	7	10	18	36	17	88
2015	2	9	25	31	16	83
2016	2	18	15	32	16	83
2017	3	14	23	39	16	95
Ave. trend change p.a.(%) - for the last 10 years	-7.1	0.0	1.4	1.0	0.9	0.3
Any heavy truck involved						
2008	12	47	55	84	40	239
2009	15	32	45	90	33	215
2010	14	40	40	85	38	217
2011	7	39	35	100	32	213
2012	9	35	66	90	45	246
2013	11	23	36	66	41	177
2014	11	33	42	83	34	203
2015	5	24	49	76	39	193
2016	5	34	41	75	32	187
2017	9	26	41	76	40	192
Ave. trend change p.a.(%) - for the last 10 years	-8.1	-5.0	-1.4	-2.2	0.0	-2.4

a Includes deaths to persons with age not recorded.
Source National Crash Database

Table 1.4 Deaths from crashes involving heavy trucks by road user

	Driver [a]	*Passenger* [a]	*Pedestrian*	*Motorcyclist* [b]	*Pedal cyclist* [b]	*Total* [c]
Articulated truck involved						
2008	93	23	17	11	4	150
2009	96	24	19	3	0	142
2010	78	36	14	7	6	141
2011	90	27	20	6	2	145
2012	99	32	18	8	0	157
2013	73	21	13	6	2	115
2014	75	20	9	9	3	116
2015	77	19	9	5	3	113
2016	72	20	6	7	4	109
2017	66	24	10	5	1	106
Ave. trend change p.a.(%) - for the last 10 years	-3.6	-3.2	-10.2	-1.2	-	-4.2
Heavy rigid truck involved						
2008	47	14	15	13	2	91
2009	46	14	10	9	3	82
2010	41	23	7	9	6	86
2011	35	14	13	6	4	72
2012	50	15	14	12	3	94
2013	32	9	13	6	6	66
2014	46	15	11	12	4	88
2015	50	12	8	7	6	83
2016	54	10	7	10	2	83
2017	53	9	15	15	3	95
Ave. trend change p.a.(%) - for the last 10 years	2.2	-5.8	-1.4	1.3	0.9	0.3
Any heavy truck involved						
2008	138	37	32	24	6	239
2009	135	38	27	12	3	215
2010	117	53	19	16	12	217
2011	122	41	32	12	6	213
2012	145	47	31	20	3	246
2013	101	30	26	12	8	177
2014	120	35	20	21	7	203
2015	124	31	17	12	9	193
2016	121	30	13	17	6	187
2017	114	31	24	19	4	192
Ave. trend change p.a.(%) - for the last 10 years	-1.6	-4.1	-5.8	0.0	-	-2.4

a Includes drivers/passengers of light and heavy vehicles.
b Includes pillion passengers.
c Includes road users not separately specified.
Source National Crash Database

Table 1.5 Deaths by crash type[a] for crashes involving heavy trucks

	Single vehicle	Multiple vehicle	Pedestrian
Articulated truck involved			
2008	23	110	17
2009	27	96	19
2010	15	112	14
2011	21	104	20
2012	23	115	19
2013	8	94	13
2014	18	89	9
2015	18	86	9
2016	13	90	6
2017	13	83	10
Ave. trend change p.a.(%)			
- for last 10 calendar years	-6.4	-3.0	-10.2
- for last 5 calendar years	6.7	-2.3	-8.9
- for last 3 calendar years	-15.0	-1.8	5.4

	Single vehicle	Multiple vehicle	Pedestrian
Heavy rigid truck involved			
2008	8	68	15
2009	8	64	10
2010	7	72	7
2011	6	53	13
2012	3	77	14
2013	3	50	13
2014	6	71	11
2015	8	67	8
2016	9	67	7
2017	12	68	15
	3.2	0.2	-1.4
	37.4	5.7	-1.6
	22.5	0.7	36.9

	Single vehicle	Multiple vehicle	Pedestrian
Any heavy truck involved			
2008	31	176	32
2009	35	153	27
2010	22	176	19
2011	27	154	32
2012	26	188	32
2013	11	140	26
2014	24	159	20
2015	26	150	17
2016	22	152	13
2017	25	143	24
Ave. trend change p.a.(%)			
- for last 10 calendar years	-1.7	-5.8	-5.8
- for last 5 calendar years	0.0	-5.7	-5.7
- for last 3 calendar years	-2.4	18.8	18.8

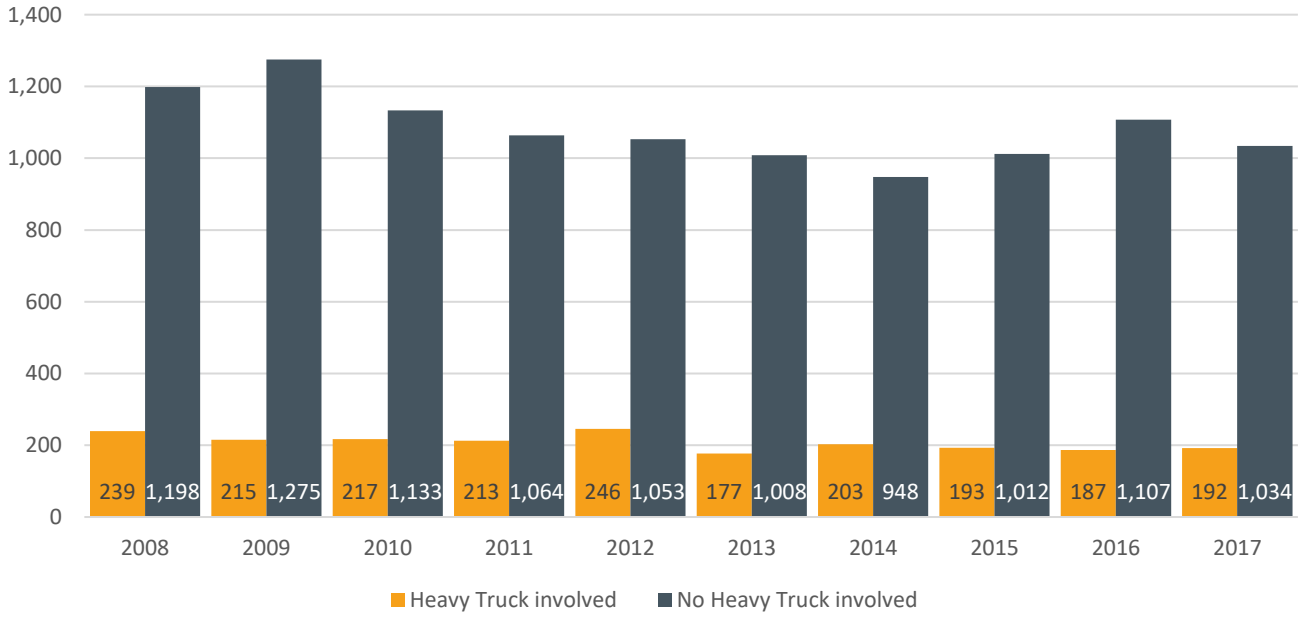
a 'Single' and 'Multiple' refer to the number of vehicles involved in a fatal crash where there is no pedestrian killed.
Source National Crash Database

Table 1.6 Deaths by crash type for crashes involving heavy trucks and crashes not involving heavy trucks

	Single vehicle		Multiple vehicle		Pedestrian		Total		Grand Total[a]
	Heavy	Non-heavy	Heavy	Non-heavy	Heavy	Non-heavy	Heavy	Non-heavy	
2008	31	649	176	390	32	159	239	1,198	1,437
2009	35	664	153	442	27	169	215	1,275	1,490
2010	22	561	176	418	19	154	217	1,133	1,350
2011	27	527	154	384	32	153	213	1,064	1,277
2012	26	525	188	386	32	142	246	1,053	1,299
2013	11	536	140	336	26	136	177	1,008	1,185
2014	24	475	159	340	20	133	203	948	1,151
2015	26	501	150	366	17	145	193	1,012	1,205
2016	22	550	152	388	13	169	187	1,107	1,294
2017	25	496	143	394	24	144	192	1,034	1,226
Ave. trend change p.a.(%) - for the last 10 years	-3.3	-2.7	-1.7	-1.2	-5.8	-1.0	-2.4	-2.0	-2.0

a Includes deaths with undetermined vehicle type.
Source National Crash Database

Figure 1.4 Deaths in crashes involving heavy trucks and crashes not involving heavy trucks



Source National Crash Database

Table 1.7 Deaths from crashes involving heavy trucks by common crash sub–types[a]

	Intersection	*Head-on*	*Single vehicle run-off road*[b]	*Total*[c]
Articulated truck involved				
2008	30	65	15	150
2009	20	48	20	142
2010	34	57	13	141
2011	31	50	16	145
2012	27	70	17	157
2013	28	50	5	115
2014	20	39	14	116
2015	25	43	10	113
2016	18	54	6	109
2017	21	40	11	106
Heavy rigid truck involved				
2008	27	35	4	91
2009	28	29	7	82
2010	23	37	4	86
2011	30	18	4	72
2012	24	37	2	94
2013	17	23	3	66
2014	28	27	4	88
2015	23	25	4	83
2016	22	37	7	83
2017	24	27	11	95
Any heavy truck involved				
2008	57	98	19	239
2009	47	72	27	215
2010	56	89	17	217
2011	60	67	20	213
2012	51	106	19	246
2013	44	71	8	177
2014	48	66	18	203
2015	47	68	14	193
2016	40	87	13	187
2017	42	65	22	192

a Categories not mutually exclusive, nor exhaustive.
b Excludes South Australia.
c Includes all other crash types.
Source National Crash Database

Table 1.8 Vehicle type and road user type of killed person from crashes involving heavy trucks

	Heavy truck Occupant	Light vehicle [a] Occupant	Pedestrian	Motor–[b] cyclist	Pedal [b] cyclist	Total [c]
Articulated truck involved						
2008	37	79	17	11	4	150
2009	39	81	19	3	0	142
2010	24	90	14	7	6	141
2011	27	90	20	6	2	145
2012	37	94	18	8	0	157
2013	21	73	13	6	2	115
2014	25	70	9	9	3	116
2015	29	67	9	5	3	113
2016	23	69	6	7	4	109
2017	22	68	10	5	1	106
Heavy rigid truck involved						
2008	12	49	15	13	2	91
2009	17	43	10	9	3	82
2010	12	52	7	9	6	86
2011	8	40	13	6	4	72
2012	7	57	14	12	3	94
2013	7	34	13	6	6	66
2014	11	50	11	12	4	88
2015	9	53	8	7	6	83
2016	16	47	7	10	2	83
2017	16	46	15	15	3	95
Any heavy truck involved						
2008	47	128	32	24	6	239
2009	52	121	27	12	3	215
2010	34	136	19	16	12	217
2011	34	128	32	12	6	213
2012	40	149	31	20	3	246
2013	25	106	26	12	8	177
2014	35	119	20	21	7	203
2015	34	120	17	12	9	193
2016	35	115	13	17	6	187
2017	31	110	24	19	4	192

a Includes passenger car, light commercial vehicle, utility, panel van, cab chassis, goods carrying van, light rigid truck and other not specified vehicle.
b Includes pillion passengers.
c Includes deaths in vehicles not listed.
Source National Crash Database

Table 1.9 The number of deaths from heavy truck involved crashes – restraint use of killed-occupants

	Restraint used		Not used		Unknown		Total[a]	
	Heavy truck	Light vehicle	Heavy truck	Light vehicle	Heavy truck	Light vehicle	Heavy truck	Light vehicle
Articulated truck involved								
2008	5	45	11	13	21	20	37	78
2009	9	54	16	8	14	19	39	81
2010	7	57	4	6	13	26	24	89
2011	7	55	7	11	13	24	27	90
2012	9	62	11	3	15	28	35	93
2013	8	50	4	4	9	16	21	70
2014	2	43	6	6	16	19	24	68
2015	7	53	7	6	14	8	28	67
2016	9	46	3	6	11	16	23	68
2017	9	44	3	9	6	14	18	67
Heavy rigid truck involved								
2008	3	36	6	2	3	11	12	49
2009	6	29	8	6	3	8	17	43
2010	7	35	2	3	3	14	12	52
2011	1	27	4	7	3	6	8	40
2012	2	40	2	4	3	12	7	56
2013	3	26	2	2	2	6	7	34
2014	6	36	3	4	2	10	11	50
2015	5	39	1	5	3	8	9	52
2016	10	39	3	2	3	6	16	47
2017	10	32	1	5	5	8	16	45
Any heavy truck involved								
2008	7	81	17	15	23	31	47	127
2009	13	80	23	14	16	27	52	121
2010	13	89	6	9	15	37	34	135
2011	8	80	10	18	16	30	34	128
2012	10	102	13	7	17	38	40	147
2013	10	76	5	5	10	22	25	103
2014	8	79	9	10	18	28	35	117
2015	10	92	8	11	16	16	34	119
2016	15	85	6	8	14	21	35	114
2017	16	75	4	14	11	19	31	108

a Includes any non-applicable cases.
Source National Crash Database

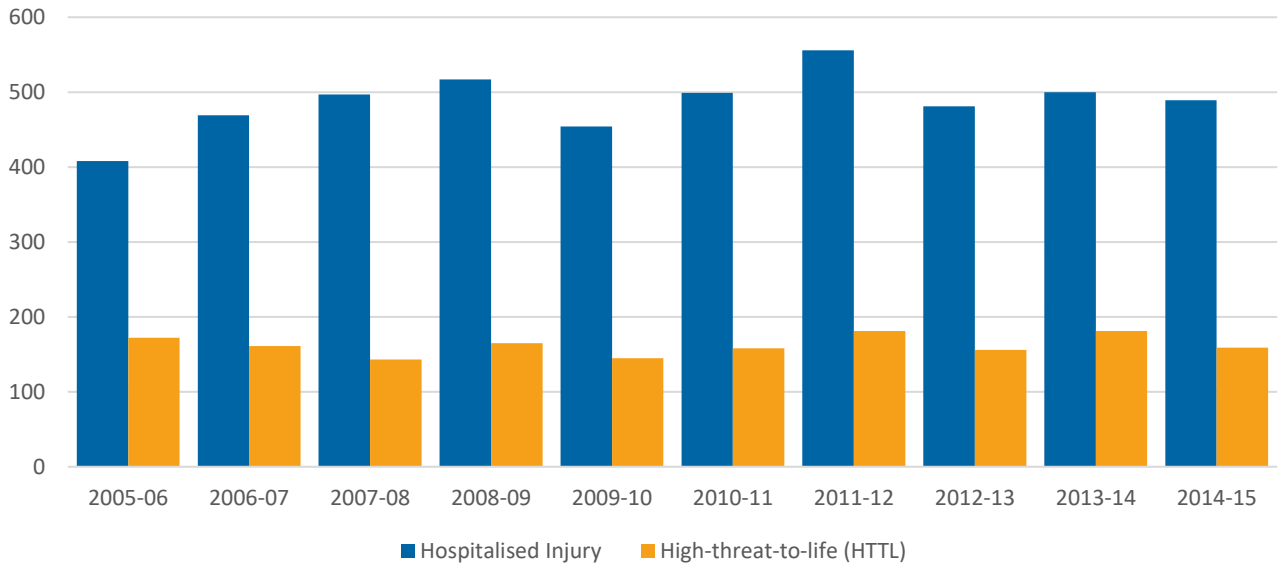
Table 1.10 Hospitalised injury and High-threat-to-life (HTTL) cases due to road vehicle traffic crashes involving heavy trucks: heavy truck occupants

	Hospitalised Injury		*High-threat-to-life (HTTL)*	
Financial year	*Heavy truck occupants (drivers and passengers)*	*% of total hospitalised injury*	*Heavy truck occupants (drivers and passengers)*	*% of total High-threat-to-life (HTTL)*
2005-06	408	1.3%	172	1.8%
2006-07	469	1.4%	161	1.7%
2007-08	497	1.5%	143	1.7%
2008-09	517	1.5%	165	1.9%
2009-10	454	1.4%	145	1.6%
2010-11	499	1.5%	158	1.8%
2011-12	556	1.6%	181	2.0%
2012-13 [a]	481	1.4%	156	1.7%
2013-14 [a]	500	1.4%	181	2.0%
2014-15 [a]	489	1.3%	159	1.8%

a Data for 2012-13 is not directly comparable with previous years due to a break in the hospitalised injury series in 2012. Victoria changed case inclusion criteria to exclude cases cared for solely in Emergency Departments from 1 July 2012. NISU estimates this decreased admitted case counts in Australia by 2000 cases (-5.6 per cent) in 2012-13 compared to 2011-12. The estimated decrease in 2012 was approximately 1000 cases, or -2.8 per cent, with the reduction likely to differ by road user group.

Sources AIHW and BITRE 2018

Figure 1.5 Hospitalised injury and High-threat-to-life (HTTL) cases due to road vehicle traffic crashes involving heavy trucks: heavy truck occupants



a Data for 2012-13 is not directly comparable with previous years due to a break in the hospitalised injury series in 2012. Victoria changed case inclusion criteria to exclude cases cared for solely in Emergency Departments from 1 July 2012. NISU estimates this decreased admitted case counts in Australia by 2000 cases (-5.6 per cent) in 2012-13 compared to 2011-12. The estimated decrease in 2012 was approximately 1000 cases, or -2.8 per cent, with the reduction likely to differ by road user group.

Sources AIHW and BITRE 2018

HEAVY TRUCKS – Section 2 • Crashes

This section focuses on counts and characteristics of fatal crashes involving heavy trucks. Percentage changes for the latest calendar years and annual averages over the last several years are given.

Fatal crashes involving heavy trucks

- In 2017, there were 175 fatal crashes involving a heavy truck, an increase of 5.4 per cent compared to 2016. Over the last decade the annual number of fatal crashes involving a heavy truck has decreased at an average estimated trend of 2.0 per cent per year (Table 2.1, p. 15). The comparative trends for articulated trucks and heavy rigid trucks are similar to those for fatalities.

- Fatal crashes involving heavy rigid trucks are more likely to occur in speed zones consistent with urban areas than crashes involving articulated trucks: 28 per cent of fatal crashes involving a heavy rigid truck occur in speed zones of 60km/h or less (unchanged over the decade). The corresponding proportion for fatal articulated truck crashes is 14% per cent. Generally fatal articulated truck crashes occur in higher speed zones (Table 2.3, p. 18).

- The trends in crashes by jurisdiction over the last ten years are similar to those for fatalities. Small numbers of crashes make it difficult to identify trends in some jurisdictions (Table 2.2, p. 17):
    - For fatal articulated truck crashes, Queensland's and Tasmania's annual counts declined most consistently, New South Wales generally declined but increased significantly in 2017.
    - For fatal heavy rigid truck crashes, New South Wales recorded increases, Victoria and Queensland recorded slight declines over the decade.

- The most common heavy truck crash types sub-groups (2015-2017) were 'opposing direction – head-on' (34.6 per cent), 'same direction – rear-end' (9.5 per cent) and 'pedestrian involved (9.7 per cent) (Table 2.5, p. 21).

- Analysis by PSMA road types shows that between 2013 and 2017 National/State Highways accounted for 51 per cent of crashes involving a heavy truck. However, a much higher proportion (62) per cent) of fatal articulated truck crashes occurred on National/State Highways (Table 2.7, p. 23). Over this same period, arterial/sub-arterial roads accounted for 34 per cent while local roads accounted for 10 per cent of fatal crashes involving a heavy truck.

- Analysis of fatal crashes by ABS Remoteness Area for 2017 shows that most crashes involving an articulated truck were in regional areas (68 per cent) with an additional 6 per cent in remote areas. The corresponding proportions for fatal crashes involving a heavy rigid truck are 48 per cent in regional areas and 7 per cent in remote areas. These proportions have not changed appreciably over the decade (Table 2.8, p. 25).

Table 2.1 Fatal crashes involving heavy trucks

	Articulated truck involved	*Heavy rigid truck involved*	*Any heavy truck* [a]	*No Heavy truck*	*Total*
2008	129	85	212	1,103	1,315
2009	118	78	187	1,159	1,346
2010	122	72	186	1,044	1,230
2011	129	60	185	966	1,151
2012	130	84	209	981	1,190
2013	95	61	152	947	1,099
2014	101	76	176	875	1,051
2015	101	74	173	928	1,101
2016	95	75	166	1,035	1,201
2017	93	90	175	955	1,130
Ave. trend change p.a.(%)					
- for last 10 calendar years	-3.8	0.5	-2.0	-1.8	-1.8
- for last 5 calendar years	-1.0	7.9	2.3	1.9	1.9
- for last 3 calendar years	-4.0	10.3	0.6	1.4	1.3

a Figures sum to more than the total because some crashes involved more than one type of heavy truck.
Source National Crash Database

Figure 2.1 2017 Snapshot – fatal crashes by type of heavy truck involved

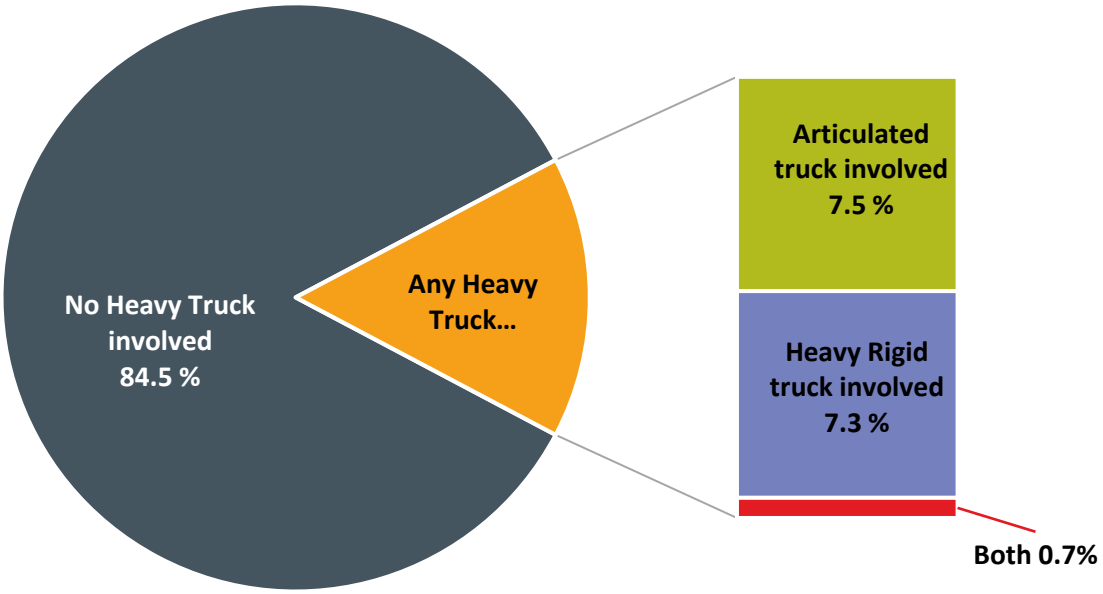
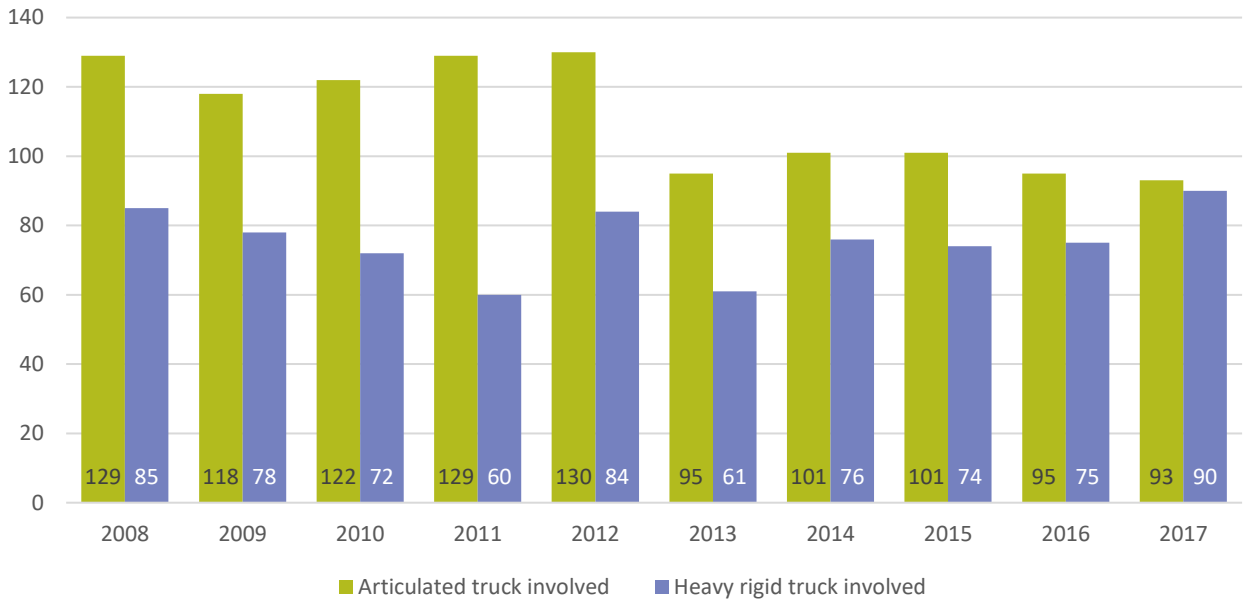
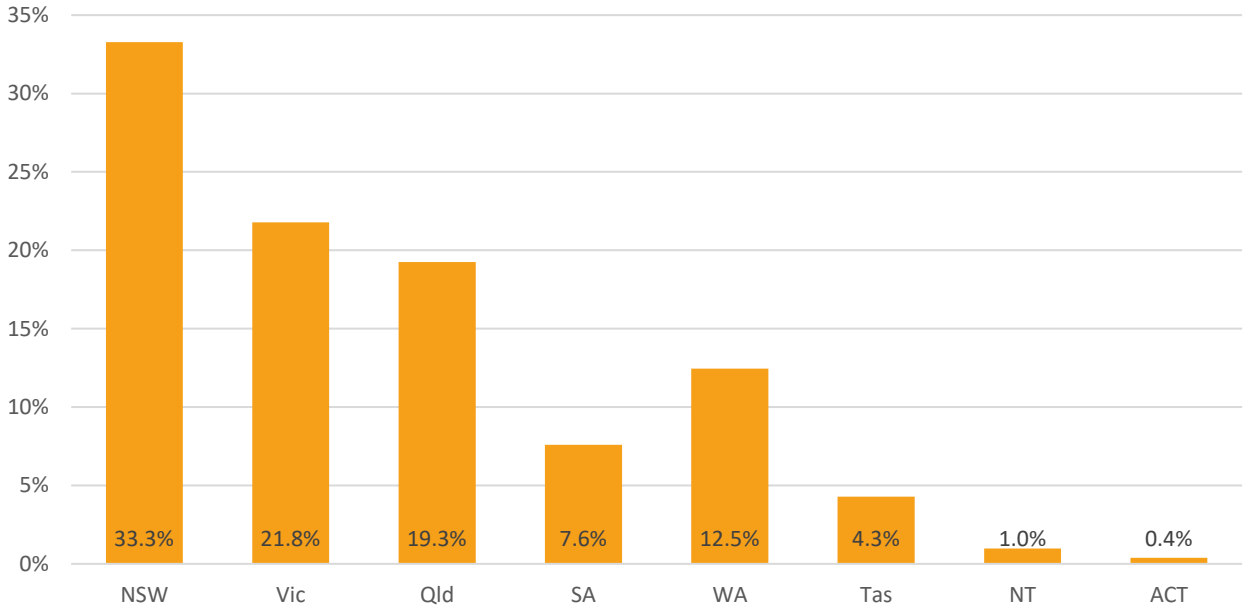


Figure 2.2 Fatal crashes involving heavy trucks



Source National Crash Database

Figure 2.3 Distribution of fatal crashes involving heavy trucks by state/territory 2015-2017



Source National Crash Database

Table 2.2 Fatal crashes involving heavy trucks by state/territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Articulated truck involved									
2008	47	22	35	9	8	5	3	0	129
2009	33	17	38	9	11	8	2	0	118
2010	41	32	25	7	12	3	1	1	122
2011	43	21	32	12	16	2	3	0	129
2012	39	29	35	9	13	3	2	0	130
2013	30	13	26	8	13	2	3	0	95
2014	28	25	25	10	9	2	0	2	101
2015	31	21	23	12	11	2	0	1	101
2016	22	20	23	10	11	4	4	1	95
2017	39	20	17	6	10	1	0	0	93
Ave. trend change p.a.(%)									
- for last 10 calendar years	-4.4	-1.3	-6.7	-0.5	-0.1	-12.4	-	-	-3.8
- for last 5 calendar years	2.9	6.6	-8.9	-5.6	-3.2	-6.7	-	-	-1.0
- for last 3 calendar years	12.2	-2.4	-14.0	-29.3	-4.7	-29.3	-	-	-4.0
Heavy rigid truck involved									
2008	12	23	21	8	16	3	2	0	85
2009	23	20	13	2	15	3	0	2	78
2010	20	19	12	2	11	7	0	1	72
2011	15	14	13	6	5	4	2	1	60
2012	22	14	23	6	14	2	1	2	84
2013	22	12	11	4	12	0	0	0	61
2014	21	23	8	10	11	3	0	0	76
2015	22	18	15	2	9	7	1	0	74
2016	30	17	12	4	10	2	0	0	75
2017	31	19	11	5	17	7	0	0	90
Ave. trend change p.a.(%)									
- for last 10 calendar years	7.5	-1.1	-4.4	1.1	-0.7	-	-	-	0.5
- for last 5 calendar years	11.0	6.4	4.1	-4.6	6.2	-	-	-	7.9
- for last 3 calendar years	18.7	2.7	-14.4	58.1	37.4	0.0	-	-	10.3
Any heavy truck involved									
2008	59	45	54	17	24	8	5	0	212
2009	51	35	50	11	25	11	2	2	187
2010	60	49	35	8	23	8	1	2	186
2011	57	34	44	18	21	5	5	1	185
2012	60	43	56	15	26	4	3	2	209
2013	49	25	37	12	24	2	3	0	152
2014	48	48	33	20	20	5	0	2	176
2015	52	39	37	14	20	9	1	1	173
2016	51	36	35	14	20	5	4	1	166
2017	68	37	27	11	24	8	0	0	175
Ave. trend change p.a.(%)									
- for last 10 calendar years	-0.1	-1.3	-5.7	0.4	-1.5	-3.4	-	-	-2.0
- for last 5 calendar years	7.4	5.1	-5.6	-5.2	0.0	32.0	-	-	2.3
- for last 3 calendar years	14.4	-2.6	-14.6	-11.4	9.5	-5.7	-	-	0.6

Source National Crash Database

Table 2.3 Fatal crashes involving heavy trucks by speed zone

	40 km/h	50 km/h	60 km/h	70 to 90 km/h	100 km/h	≥110 km/h	Total[a]
Articulated truck involved							
2008	0	7	18	27	55	22	129
2009	0	6	7	19	59	27	118
2010	1	4	17	22	58	19	122
2011	2	5	11	31	51	28	129
2012	2	3	14	23	58	30	130
2013	1	2	11	18	41	22	95
2014	0	1	12	14	50	22	101
2015	0	3	13	16	46	20	101
2016	0	3	5	20	41	24	95
2017	1	5	7	17	39	23	93
Ave. trend change p.a.(%) - for the last 10 years	-	-8.4	-7.1	-4.7	-4.3	-0.7	-3.8
Heavy rigid truck involved							
2008	0	1	20	31	27	6	85
2009	0	7	11	20	27	10	78
2010	0	7	13	16	27	7	72
2011	1	6	11	17	19	5	60
2012	2	9	19	13	25	11	84
2013	0	4	18	14	22	3	61
2014	0	4	19	17	23	12	76
2015	3	4	13	20	27	4	74
2016	1	4	10	29	22	9	75
2017	3	13	12	24	26	11	90
Ave. trend change p.a.(%) - for the last 10 years	-	9.1	-2.2	0.9	-0.8	2.0	0.5
Any heavy truck involved							
2008	0	8	38	58	80	28	212
2009	0	13	18	35	82	36	187
2010	1	11	28	37	80	26	186
2011	3	11	22	47	68	32	185
2012	3	12	33	36	80	40	209
2013	1	6	28	32	62	23	152
2014	0	5	30	31	73	34	176
2015	3	7	26	36	71	24	173
2016	1	7	15	48	60	33	166
2017	4	18	19	38	62	32	175
Ave. trend change p.a.(%) - for the last 10 years	-	-1.4	-4.2	-1.9	-3.1	-0.1	-2.0

a Includes crashes where speed limit is unknown or where the posted speed limit is 30km/hr or less.

Source National Crash Database

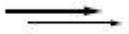
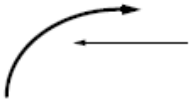
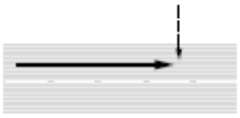
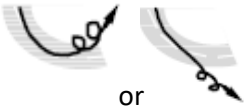
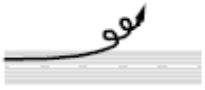
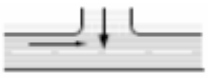
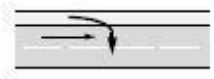
Table 2.4 Fatal crashes involving heavy trucks by crash type[a]

	Single vehicle	*Multiple vehicle*	*Pedestrian involved*	*Total*
Articulated truck involved				
2008	21	91	17	129
2009	25	76	17	118
2010	15	93	14	122
2011	19	91	19	129
2012	21	91	18	130
2013	8	75	12	95
2014	17	75	9	101
2015	17	75	9	101
2016	12	77	6	95
2017	13	70	10	93
Ave. trend change p.a.(%) - for the last 10 years	-6.0	-2.5	-9.7	-3.8
Heavy rigid truck involved				
2008	7	63	15	85
2009	8	60	10	78
2010	7	58	7	72
2011	5	42	13	60
2012	3	68	13	84
2013	3	45	13	61
2014	6	59	11	76
2015	7	59	8	74
2016	9	59	7	75
2017	11	64	15	90
Ave. trend change p.a.(%) - for the last 10 years	3.4	0.4	-1.4	0.5
Any heavy truck involved				
2008	28	152	32	212
2009	33	129	25	187
2010	22	145	19	186
2011	24	130	31	185
2012	24	155	30	209
2013	11	116	25	152
2014	23	133	20	176
2015	24	132	17	173
2016	21	132	13	166
2017	24	127	24	175
Ave. trend change p.a.(%) - for the last 10 years	-3.0	-1.3	-5.4	-2.0

a 'Single' and 'Multiple' refer to the number of vehicles involved in a fatal crash where there is no pedestrian killed

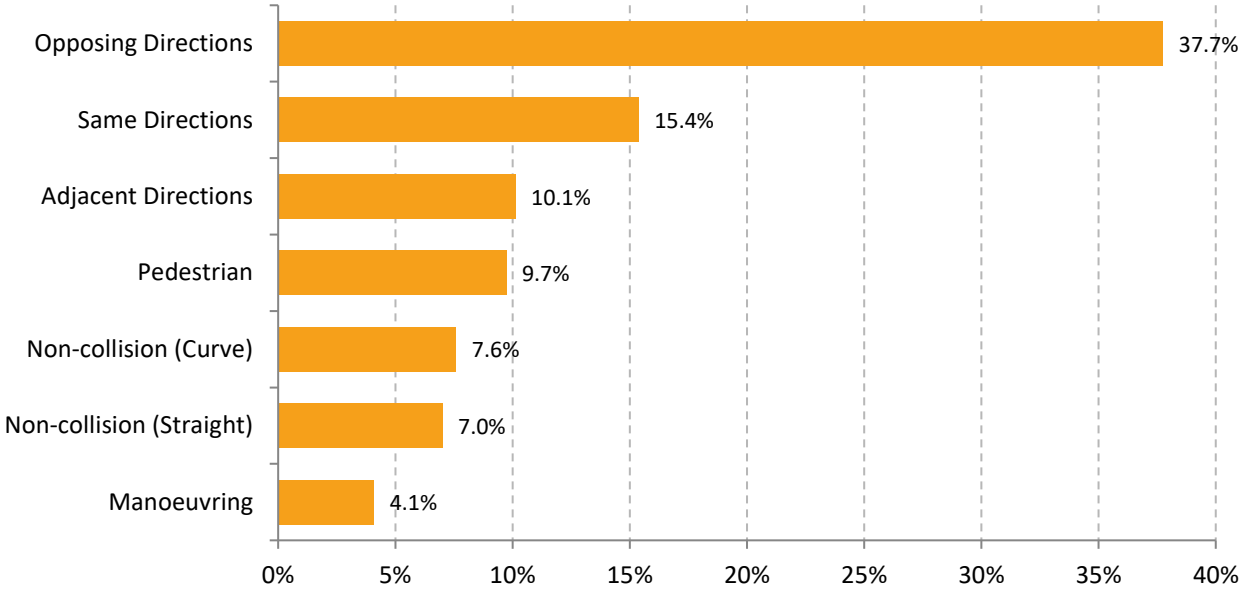
Source National Crash Database

Figure 2.4 Common crash type (sub-groups) for fatal crashes involving a heavy truck 2015–2017

Main Crash Type	*Sub-group*		
Opposing directions	 Opposing directions Head on	 Opposing directions Right thru	
Same direction	 Same direction Rear end	 Same direction Side Swipe	
Adjacent directions	 Adjacent directions Cross traffic	 Adjacent directions Right Near	
Pedestrian	 Pedestrian Near side	 Pedestrian Play/Work	
Non-collision (Curve)	 or Non-collision (Curve) - Off Car/way at left bend	 or Non-collision (Curve) - Off Car/way at right bend	
Non-collision (Straight)	 Non-collision (Straight) - Off Left	 Non-collision (Straight) - Off Right	
Manoeuvring	 Manoeuvring Emerge from Driveway	 Manoeuvring From Footpath	 Manoeuvring U-turn

Source Austroads 2009

Figure 2.5 Common crash type (main groups) for fatal crashes involving a heavy truck 2015–2017



Source Austroads 2009; National Crash Database

Table 2.5 Common crash type (sub-groups) for fatal crashes involving a heavy truck 2015–2017

Crash type (Main)	*Total %*	*Crash type (Sub-group)*	*%*
Opposing directions	37.7	*Head on*	34.6
		Right thru	2.7
Same directions	15.4	*Rear-end*	9.5
		Side-swipe	3.9
Adjacent directions	10.1	*Cross traffic*	4.7
		Right near	3.5
Pedestrian	9.7	*Nearside*	2.7
		Play/Work	1.8
Non-collision (Curve)	7.6	*Off carriageway at left bend*	2.9
		Off carriageway at right bend	2.7
Non-collision (Straight)	7.0	*Off left*	3.7
		Off right	2.1
Manoeuvring	4.1	*Emerge from Driveway*	1.6
		From footway	1.4

Note The data in Figure 2.5 and Table 2.5 are based on state and territory Road User Movement (RUM) and DCA Definitions for Coding Accidents (DCA) codes. Data from each jurisdiction has been collated into a national system using the diagrams in (Austroads 2009). In these coding systems there are 10 main crash type groups; within each main group there are several sub-groups.
Not shown in this table are 'On path', 'Miscellaneous', 'Overtaking' and 'Unknown' crash types, which together account for 8% of the total.

Source Austroads 2009; National Crash Database

Table 2.6 Fatal crashes involving heavy trucks by common crash sub–types[a]

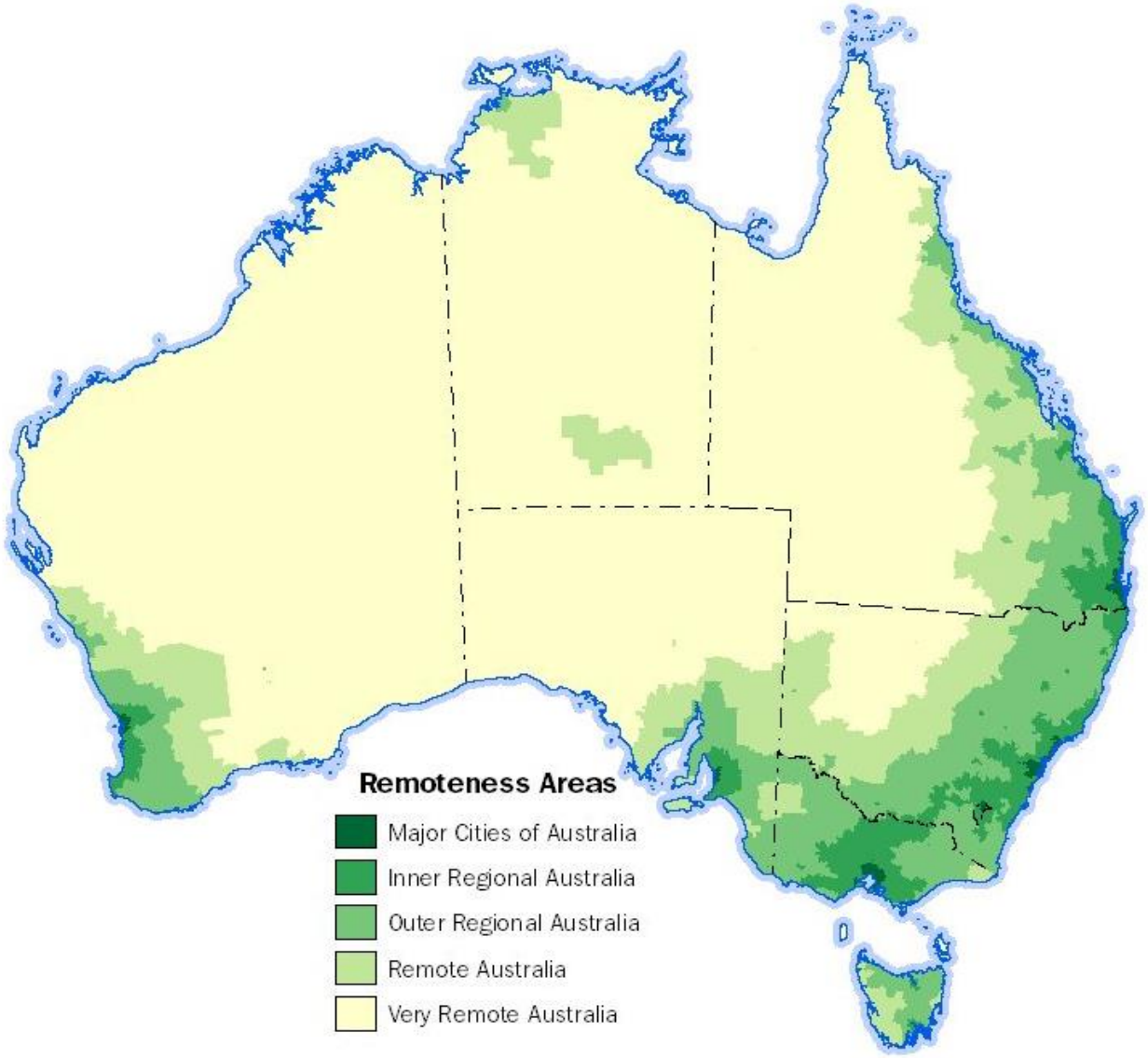
	Intersection	*Head-on*	*Single vehicle run-off road*[b]
Articulated truck involved			
2008	27	51	15
2009	17	40	19
2010	29	43	13
2011	28	45	14
2012	24	51	15
2013	20	40	5
2014	18	34	13
2015	24	36	9
2016	16	45	6
2017	19	32	11
Heavy rigid truck involved			
2008	26	32	4
2009	28	26	7
2010	21	27	4
2011	23	16	4
2012	22	31	2
2013	16	21	3
2014	20	24	4
2015	20	22	4
2016	22	29	7
2017	23	24	10
Any heavy truck involved			
2008	53	81	19
2009	44	61	26
2010	49	67	17
2011	50	60	18
2012	46	81	17
2013	35	59	8
2014	38	58	17
2015	43	58	13
2016	38	71	13
2017	40	54	21

Table 2.7 Fatal crashes involving heavy trucks by road type

	National or State highway	Arterial	Sub-arterial	Collector	Local	Other[a]	Total[b]
Articulated truck involved							
2008	81	20	13	8	5	1	129
2009	67	22	16	1	11	1	118
2010	77	19	11	2	12	0	122
2011	81	23	14	1	8	1	129
2012	89	19	7	4	10	1	130
2013	60	19	4	4	7	1	95
2014	64	18	12	4	2	1	101
2015	63	19	10	3	6	0	101
2016	56	18	10	4	6	1	95
2017	56	18	5	3	11	0	93
Heavy rigid truck involved							
2008	34	12	19	8	9	1	85
2009	34	15	12	3	14	0	78
2010	35	18	4	7	8	0	72
2011	19	17	9	3	12	0	60
2012	32	18	10	5	17	0	84
2013	28	14	9	3	5	1	61
2014	25	26	10	5	10	0	76
2015	27	19	9	8	10	1	74
2016	28	24	11	3	9	0	75
2017	34	27	10	2	16	1	90
Any heavy truck involved							
2008	113	32	32	16	14	2	212
2009	94	36	27	4	25	1	187
2010	106	36	15	9	19	0	186
2011	97	40	23	4	19	1	185
2012	117	36	17	9	27	1	209
2013	85	33	13	6	12	2	152
2014	89	43	22	9	12	1	176
2015	88	38	19	11	16	1	173
2016	82	41	21	6	15	1	166
2017	85	42	15	5	27	1	175

a Includes Access road, Path, Busway and Pedestrian thoroughfare.
b Includes crashes with undetermined road type.
Source National Crash Database; PSMA 2015

Figure 2.6 ASGS[a] Remoteness Areas 2011 and selected cities and towns



a ASGS: Australian Statistical Geography Standard
Source Australian Bureau of Statistics 2016

Table 2.8 Fatal crashes involving heavy trucks by Remoteness Area[a]

	Major cities	*Inner regional*	*Outer regional*	*Remote*	*Very remote*	*Total*[b]
Articulated truck involved						
2008	27	53	39	4	5	129
2009	25	35	39	14	5	118
2010	26	44	41	7	4	122
2011	35	44	38	6	6	129
2012	23	52	41	8	6	130
2013	19	36	24	9	7	95
2014	17	44	31	5	4	101
2015	18	42	30	6	5	101
2016	20	29	35	5	6	95
2017	24	31	32	2	4	93
Heavy rigid truck involved						
2008	42	25	14	2	1	85
2009	37	23	14	2	2	78
2010	31	25	14	1	1	72
2011	20	25	12	2	1	60
2012	27	29	20	2	4	84
2013	36	14	9	1	1	61
2014	34	24	16	1	1	76
2015	29	23	17	4	1	74
2016	35	25	11	1	3	75
2017	41	26	17	4	2	90
Any heavy truck involved						
2008	69	76	53	6	6	212
2009	60	52	52	16	7	187
2010	55	67	52	8	4	186
2011	54	67	49	8	7	185
2012	50	78	59	10	10	209
2013	54	49	32	10	7	152
2014	50	68	47	6	5	176
2015	47	64	46	10	6	173
2016	53	54	44	6	9	166
2017	61	54	48	6	6	175

a Remoteness regions are classified as per Australian Statistical Geography Standard (ASGS).
b Includes undetermined Remoteness Area.
c This is not the total of three individual heavy vehicle counts. The categories are not mutually exclusive.
Source National Crash Database; Australian Bureau of Statistics 2016

Table 2.9 Fatal crashes by Significant Urban Area (SUA)[a,b]

	Urban area	*Non-urban area*
Articulated truck involved		
2008	38	91
2009	38	80
2010	47	75
2011	46	83
2012	35	95
2013	28	67
2014	27	74
2015	34	67
2016	33	62
2017	33	60
Heavy rigid truck involved		
2008	53	32
2009	44	34
2010	44	28
2011	27	33
2012	43	39
2013	38	23
2014	37	39
2015	41	33
2016	49	26
2017	53	37
Any heavy truck involved		
2008	91	121
2009	79	108
2010	88	98
2011	71	114
2012	77	130
2013	65	87
2014	63	113
2015	75	98
2016	79	87
2017	81	94

a 'Urban' refers to Significant Urban Area. Significant Urban Areas (SUA) represent aggregations of whole Statistical Area Level 2 (SA2) boundaries and are used to define and contain major urban and near-urban concentrations of over 10,000 people. They include the urban population, any immediately associated populations, and may also incorporate one or more closely associated Urban Centres and Localities and the areas between. They are designed to incorporate any likely growth over the next 20 years. Significant Urban Areas do not cover the whole of Australia, and may cross state or territory boundaries.

b Excludes crashes with unknown location.

Sources National Crash Database; Australian Bureau of Statistics 2016

Table 2.10 Fatal crashes by Urban Centre and Locality (UCL)[a,b]

	UCL	*Remainder*
Articulated truck involved		
2008	44	85
2009	33	85
2010	37	85
2011	40	89
2012	35	95
2013	25	70
2014	21	80
2015	25	76
2016	26	69
2017	25	68
Heavy rigid truck involved		
2008	49	36
2009	36	42
2010	36	36
2011	29	31
2012	40	44
2013	36	25
2014	35	41
2015	32	42
2016	39	36
2017	43	47
Any heavy truck involved		
2008	93	119
2009	68	119
2010	71	115
2011	68	117
2012	74	135
2013	59	93
2014	55	121
2015	57	116
2016	63	103
2017	64	111

a 'UCL' refers to Urban Centre and Locality. An 'Urban Centre' is generally defined as a population centre with a 'co population' of 1,000 or more people. A 'Locality' is generally defined as a population centre of between 200 and 9 People living in Urban Centres are classified as urban for statistical purposes while those in 'Localities' are classifi as rural, that is, non-urban.

b Not listed are those crashes (< 1%) with unknown location

Sources National Crash Database; Australian Bureau of Statistics 2016

Table 2.11 Fatal crashes involving heavy trucks – validity of heavy truck driver's licence (excludes WA)

	All valid	*Any invalid*	*Unknown*	*Total*
Articulated truck involved				
2008	106	3	9	118
2009	94	0	9	103
2010	86	2	19	107
2011	101	3	8	112
2012	101	1	12	114
2013	75	0	7	82
2014	77	1	13	91
2015	75	0	11	86
2016	74	2	7	83
2017	69	0	10	79
Heavy rigid truck involved				
2008	63	3	0	66
2009	55	1	1	57
2010	49	4	2	55
2011	49	1	3	53
2012	64	2	3	69
2013	44	0	3	47
2014	64	0	0	64
2015	58	2	2	62
2016	59	1	2	62
2017	60	0	10	70
Any heavy truck involved				
2008	168	6	8	182
2009	141	1	10	152
2010	129	6	21	156
2011	147	4	11	162
2012	161	3	15	179
2013	116	0	10	126
2014	140	1	13	154
2015	131	2	13	146
2016	130	3	9	142
2017	126	0	20	146

Source National Crash Database

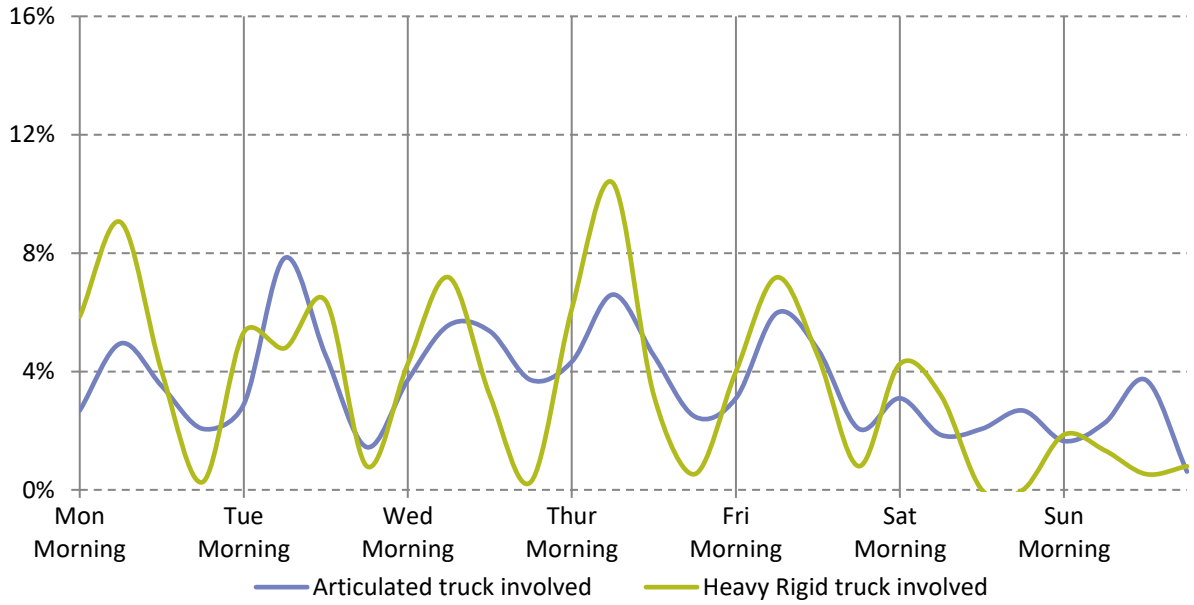
Table 2.12 Fatal crashes involving heavy trucks by weekly time block 2013–2017

Crash time of week		*Articulated truck involvement*	*Heavy rigid truck involvement*	*Any Heavy truck*
Monday	*Morning*	13	22	35
	Midday	24	34	58
	Evening	17	15	31
	Night	10	1	11
Tuesday	*Morning*	14	20	33
	Midday	38	18	52
	Evening	22	24	44
	Night	7	3	10
Wednesday	*Morning*	18	16	34
	Midday	27	27	54
	Evening	26	12	36
	Night	18	1	19
Thursday	*Morning*	21	23	44
	Midday	32	39	67
	Evening	22	12	34
	Night	12	2	14
Friday	*Morning*	15	15	29
	Midday	29	27	54
	Evening	23	17	40
	Night	10	3	13
Saturday	*Morning*	15	16	30
	Midday	9	12	21
	Evening	10	0	10
	Night	13	0	13
Sunday	*Morning*	8	7	14
	Midday	11	5	16
	Evening	18	2	20
	Night	3	3	6

Morning 3 am to 8:59 am **Evening** 3 pm to 8:59 pm
Midday 9 am to 2:59 pm **Night** 9 pm to 2:59 am

a Excludes crashes with unrecorded time.
Source National Crash database

Figure 2.7 **Fatal crashes involving heavy trucks by weekly time block 2013–2017**



Morning	3 am to 8:59 am	**Evening**	3 pm to 8:59 pm
Midday	9 am to 2:59 pm	**Night**	9 pm to 2:59 am

Source National Crash database

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HEAVY TRUCKS – Section 3 • Rates

This section presents standardised rates of counts of fatal crashes per 10,000 registered vehicles and per billion kilometres travelled.

Rates of fatal crashes involving heavy trucks

- For fatal crash rates, over the decade to 2017 there were large reductions for articulated trucks (41.7 per cent in the rate per 10,000 vehicles and 39.7 per cent in the rate per estimated billion vehicle kilometres travelled, VKT). The reductions were most consistent in New South Wales and Queensland (Table 3.1, p. 33 and Table 3.2 p. 34). Numbers of registered articulated trucks increased 24 per cent and articulated truck VKT increased 19.5 per cent.

- Fatal crash rates over the decade to 2017 for heavy rigid trucks decreased nationally (5.3 per cent in the rate per 10,000 vehicles and 11.2 per cent in the rate per billion VKT). The trend was consistently increasing for New South Wales but for other jurisdictions there was no clear trend (Table 3.1, p. 33 and Table 3.2, p. 34). This was despite growth over the decade in heavy rigid truck registrations (11.8 per cent) and VKT (19.2 per cent).

Table 3.1 Heavy truck involved fatal crash rates per 10,000 heavy truck registrations by state/territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Articulated truck involved									
2008	28.1	9.3	19.5	13.0	7.2	31.4	32.4	0.0	16.3
2009	19.5	7.1	20.6	12.8	9.2	47.6	21.1	0.0	14.5
2010	24.3	13.1	13.4	9.6	9.8	18.3	9.7	51.0	14.8
2011	23.1	8.4	16.9	15.3	12.7	11.9	28.1	0.0	15.0
2012	20.5	11.5	17.9	11.2	9.8	18.5	18.2	0.0	14.8
2013	15.4	5.1	12.5	10.0	9.1	12.8	25.4	0.0	10.5
2014	14.1	9.6	11.6	12.0	6.0	12.6	0.0	136.1	10.8
2015	15.0	8.0	10.9	14.2	7.0	12.1	0.0	69.9	10.6
2016	10.3	7.5	11.1	11.9	7.0	23.2	31.8	62.5	9.9
2017	17.4	7.3	8.0	6.9	6.6	5.5	0.0	0.0	9.5
Ave. trend change p.a.(%) - for the last 10 years	-7.6	-2.8	-8.6	-3.0	-4.0	-13.0	-	-	-6.2
Heavy rigid truck involved									
2008	1.5	3.1	3.1	3.6	3.5	3.7	5.8	0.0	2.8
2009	2.8	2.6	1.9	0.9	3.2	3.7	0.0	11.8	2.5
2010	2.4	2.5	1.7	0.9	2.3	8.3	0.0	5.9	2.3
2011	1.8	1.8	1.9	2.5	1.0	4.7	4.9	5.8	1.9
2012	2.6	1.8	3.3	2.5	2.8	2.3	2.4	11.5	2.6
2013	2.6	1.5	1.5	1.7	2.3	0.0	0.0	0.0	1.9
2014	2.4	2.9	1.1	4.3	2.0	3.4	0.0	0.0	2.3
2015	2.5	2.3	2.1	0.9	1.7	8.0	2.2	0.0	2.2
2016	3.3	2.1	1.7	1.7	1.8	2.3	0.0	0.0	2.2
2017	3.3	2.3	1.5	2.2	3.2	7.8	0.0	0.0	2.6
Ave. trend change p.a.(%) - for the last 10 years	5.8	-1.8	-5.1	0.9	-2.7	-	-	-	-0.7
Any heavy truck involved									
2008	6.0	4.6	6.3	5.8	4.3	8.3	11.4	0.0	5.5
2009	5.2	3.5	5.7	3.7	4.2	11.2	4.3	10.4	4.8
2010	6.0	4.8	3.9	2.6	3.8	8.0	2.0	10.6	4.7
2011	5.5	3.3	5.0	5.7	3.4	4.9	9.6	5.2	4.6
2012	5.8	4.2	6.2	4.7	4.1	3.9	5.7	10.4	5.1
2013	4.7	2.4	4.0	3.8	3.6	1.9	5.4	0.0	3.6
2014	4.5	4.6	3.5	6.4	2.9	4.9	0.0	10.8	4.2
2015	4.7	3.7	4.0	4.5	2.9	8.6	1.7	5.6	4.1
2016	4.5	3.4	3.8	4.5	2.9	4.7	6.7	5.6	3.9
2017	5.8	3.4	2.9	3.5	3.5	7.4	0.0	0.0	4.0
Ave. trend change p.a.(%) - for the last 10 years	-1.9	-2.3	-6.6	-0.4	-3.9	-4.3	-	-	-3.4

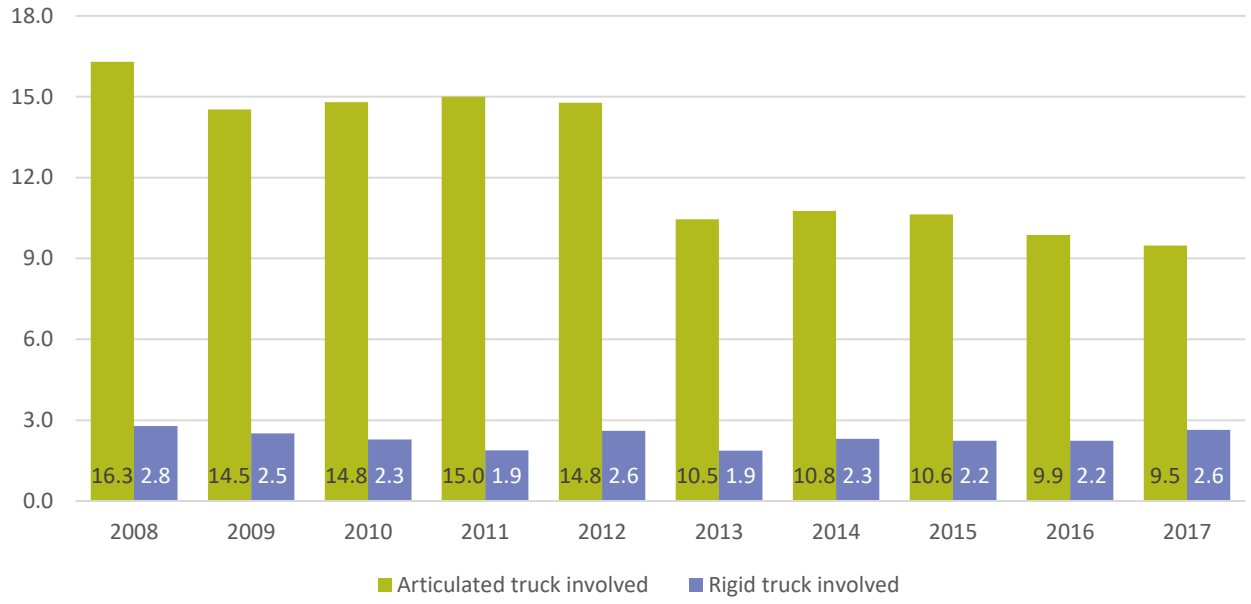
Source National Crash Database; Australian Bureau of Statistics 2018

Table 3.2 Heavy truck involved fatal crash rates per billion vehicle kilometres travelled (VKT) by state/territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Articulated truck involved									
2008	20.6	13.6	23.8	15.1	11.2	33.6	41.9	0.0	18.7
2009	14.6	10.7	26.2	15.2	15.3	54.3	28.2	0.0	17.3
2010	18.0	19.8	17.0	11.7	16.1	20.2	13.9	63.2	17.6
2011	18.3	12.6	20.9	19.2	20.1	13.2	41.4	0.0	17.9
2012	16.3	16.9	21.7	13.9	15.3	20.0	27.1	0.0	17.4
2013	12.3	7.5	15.4	12.2	14.4	13.5	39.5	0.0	12.4
2014	11.3	14.1	14.4	15.1	9.5	13.5	0.0	116.1	12.9
2015	12.0	11.7	13.3	18.2	11.6	13.0	0.0	55.7	12.7
2016	8.3	11.0	13.1	14.8	11.7	25.4	51.3	53.3	11.7
2017	14.3	10.8	9.5	8.7	10.6	6.2	0.0	0.0	11.3
Ave. trend change p.a.(%) - for the last 10 years	-6.5	-3.0	-9.1	-2.3	-3.7	-13.0	-	-	-6.0
Heavy rigid truck involved									
2008	4.2	11.4	10.3	14.7	15.3	13.9	23.4	0.0	9.6
2009	8.3	10.1	6.4	3.7	14.3	13.9	0.0	27.8	8.9
2010	7.1	9.2	5.8	3.6	10.0	32.2	0.0	13.8	8.0
2011	5.2	6.6	6.1	10.5	4.4	18.1	23.0	13.2	6.5
2012	7.5	6.4	10.3	10.3	12.3	9.1	11.3	25.7	8.9
2013	7.4	5.4	4.8	6.9	10.1	0.0	0.0	0.0	6.3
2014	7.0	10.1	3.4	17.0	8.9	13.5	0.0	0.0	7.7
2015	7.1	7.8	6.3	3.4	7.2	31.1	10.7	0.0	7.4
2016	9.4	7.1	4.9	6.7	7.8	8.7	0.0	0.0	7.3
2017	9.5	7.8	4.4	8.3	12.8	30.1	0.0	0.0	8.5
Ave. trend change p.a.(%) - for the last 10 years	5.6	-3.3	-6.8	-0.1	-3.4	-	-	-	-1.6
Any heavy truck involved									
2008	11.6	12.4	15.3	14.9	13.6	22.0	31.8	0.0	13.4
2009	10.1	9.8	14.4	9.7	14.2	30.3	12.8	22.8	12.0
2010	11.7	13.3	9.9	6.9	12.5	21.9	6.3	22.7	11.7
2011	10.9	9.0	12.0	15.1	10.9	13.4	31.3	10.9	11.3
2012	11.3	11.0	14.6	12.2	13.1	10.8	18.5	21.2	12.4
2013	9.1	6.3	9.3	9.7	11.5	5.4	18.1	0.0	8.8
2014	8.7	11.9	8.1	16.0	9.2	13.5	0.0	20.6	10.0
2015	9.2	9.5	9.0	11.2	9.1	23.8	5.8	10.0	9.6
2016	8.7	8.6	8.3	11.0	9.0	12.9	23.4	9.7	9.0
2017	11.3	8.6	6.3	8.5	10.6	20.4	0.0	0.0	9.3
Ave. trend change p.a.(%) - for the last 10 years	-2.0	-3.4	-8.1	-1.1	-4.6	-4.1	-	-	-4.2

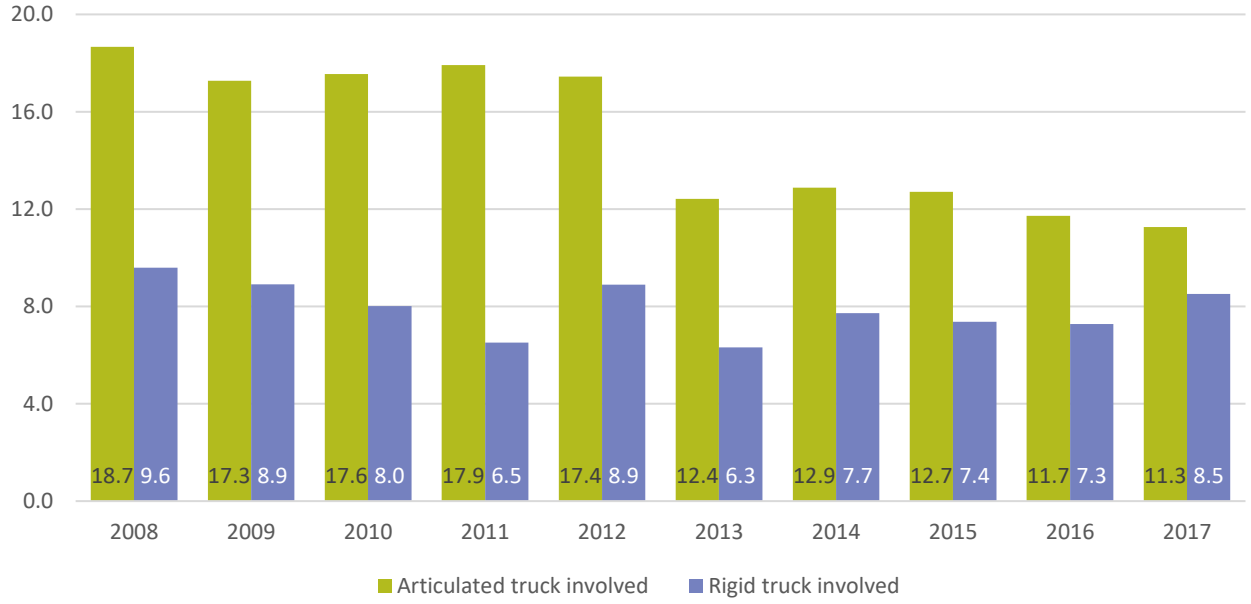
Source National Crash Database; Bureau of Infrastructure, Transport and Regional Economics Unpublished

Figure 3.1 Heavy truck involved fatal crash rates per 10,000 heavy truck registrations



Source National Crash Database; Australian Bureau of Statistics 2018

Figure 3.2 Heavy truck involved fatal crash rates per billion vehicle kilometres travelled (VKT)



Source National Crash Database; Bureau of Infrastructure, Transport and Regional Economics Unpublished

BUSES

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BUSES – Section 4 • People

This section presents annual counts of deaths and hospitalised injuries from crashes which involve a bus. Percentage changes for the latest calendar years and annual averages over the last several years are given.

Deaths in crashes involving buses

- In 2017, 30 people were killed in crashes involving buses. There was no clear trend over the decade, although during the last five years an increase has been apparent. (Table 4.1, p. 37 and Figure 4.1, p. 37).

- 63 per cent of people killed in crashes involving buses (2015-2017) were occupants of a four-wheeled vehicle (either a light vehicle or the bus). Pedestrians and motorcyclists accounted for 27 per cent and 8 per cent respectively (Table 4.4, p. 40).

- Compared to all fatal crashes over the last decade, those involving buses are more likely to involve a death of a child (aged 0 to 16) and more likely to involve the death of an older person (aged 65 years or over) (Table 4.3, p. 39). The proportion of older persons killed has increased in the last five years (22.3 per cent, up from 16.8 per cent 2008-2012).

Persons with hospitalised injury

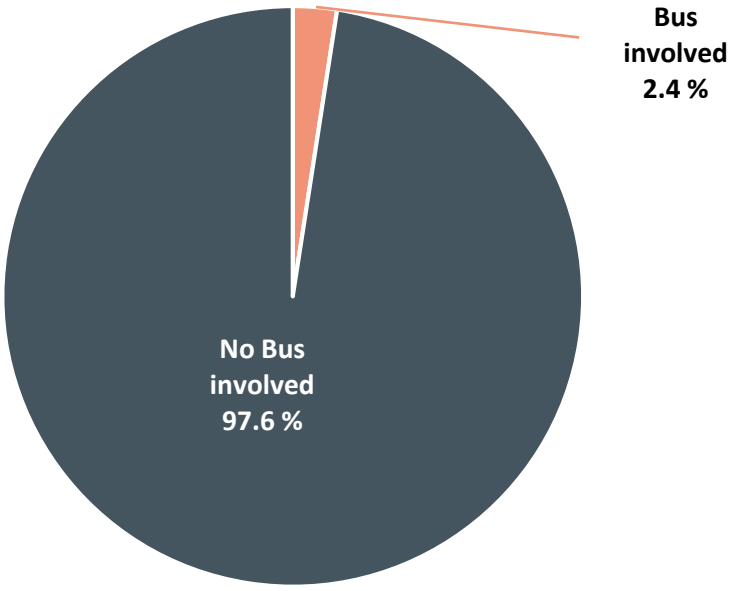
- Over the three years to 2014-15, approximately 250 bus occupants were hospitalised each year from crashes involving buses. Of these, approximately 20 per cent were categorised as having with high-threat-to-life injuries (Table 4.6, p. 41 and Figure 4.4, p.41).

Table 4.1 Deaths from crashes involving buses

	Bus involved	*No Bus involved*	*Australia*
2008	23	1,414	1,437
2009	32	1,458	1,490
2010	22	1,328	1,350
2011	24	1,253	1,277
2012	22	1,277	1,299
2013	12	1,173	1,185
2014	18	1,133	1,151
2015	21	1,184	1,205
2016	22	1,272	1,294
2017	30	1,196	1,226
Ave. trend change p.a.(%)			
- for last 10 calendar years	-1.2	-2.1	-2.0
- for last 5 calendar years	22.5	1.6	1.9
- for last 3 calendar years	19.5	0.5	0.9

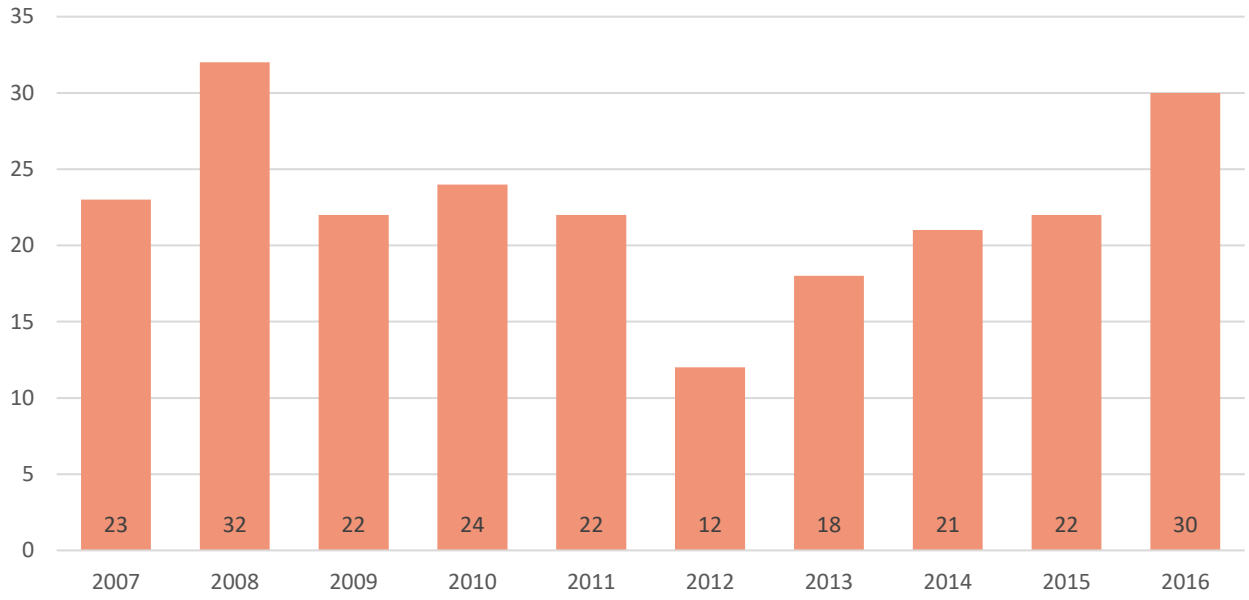
Source National Crash Database

Figure 4.1 2017 Snapshot – Bus involved fatalities



Source National Crash Database

Figure 4.2 Deaths from crashes involving buses



Source National Crash Database

Figure 4.3 Fatalities in crashes involving buses - proportion within each state/territory 2015–2017

Source National Crash Database

Table 4.2 Deaths from crashes involving buses by state/territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Bus involved									
2008	5	4	9	1	4	0	0	0	23
2009	9	9	10	2	1	1	0	0	32
2010	9	2	4	3	1	1	1	1	22
2011	11	4	8	0	1	0	0	0	24
2012	6	3	7	1	5	0	0	0	22
2013	2	3	6	0	0	0	1	0	12
2014	6	4	1	1	6	0	0	0	18
2015	5	7	2	1	2	1	3	0	21
2016	9	2	3	3	2	1	2	0	22
2017	6	10	10	0	2	1	1	0	30
Ave. trend change p.a.(%)									
- for last 10 calendar years	-2.5	2.4	-	-	-	-	-	-	-1.2
- for last 5 calendar years	29.7	18.7	23.6	-	-	-	-	-	22.5
- for last 3 calendar years	9.5	19.5	123.6	-	0.0	0.0	-42.3	-	19.5

Source National Crash Database

Table 4.3 Deaths from crashes involving buses by age group

	0 to 16	17 to 25	26 to 39	40 to 64	≥65	Total [a]
Bus involved						
2008	3	6	5	6	3	23
2009	4	9	3	10	5	32
2010	0	4	9	6	3	22
2011	2	3	6	8	5	24
2012	1	3	3	7	8	22
2013	1	1	2	6	2	12
2014	4	2	4	7	1	18
2015	1	1	6	8	5	21
2016	0	2	5	7	8	22
2017	2	4	4	6	14	30
Ave. trend change p.a.(%) - for the last 10 years	-	-13.2	-1.3	-1.0	8.5	-1.2

a Includes deaths to persons with age not recorded.
Source National Crash Database

Table 4.4 Deaths from crashes involving buses by road user

	Driver [a]	*Passenger* [a]	*Pedestrian*	*Motorcyclist* [b]	*Pedal cyclist* [b]	*Total* [c]
Bus involved						
2008	3	7	5	7	1	23
2009	9	12	8	2	1	32
2010	8	2	3	8	1	22
2011	4	3	13	2	2	24
2012	8	6	6	2	0	22
2013	5	1	1	2	3	12
2014	2	8	4	1	3	18
2015	10	7	2	2	0	21
2016	8	3	8	3	0	22
2017	5	13	10	1	1	30
Ave. trend change p.a.(%) - for the last 10 years	1.4	2.0	-0.7	-13.4	-	-1.2

a Includes drivers/passengers of light and heavy vehicles.
b Includes pillion passengers.
c Includes road users not separately specified.
Source National Crash Database

Table 4.5 Deaths by crash type[a] for crashes involving buses

	Single vehicle	*Multiple vehicle*	*Pedestrian*
Bus involved			
2008	6	12	5
2009	9	15	8
2010	3	16	3
2011	1	10	13
2012	2	14	6
2013	0	11	1
2014	4	10	4
2015	1	18	2
2016	2	12	8
2017	5	15	10
Ave. trend change p.a.(%)			
- for last 10 calendar years	-	0.5	-0.7
- for last 5 calendar years	-	8.4	69.9
- for last 3 calendar years	123.6	-8.7	123.6

a 'Single' and 'Multiple' refer to the number of vehicles involved in a fatal crash where there is no pedestrian killed.
Source National Crash Database

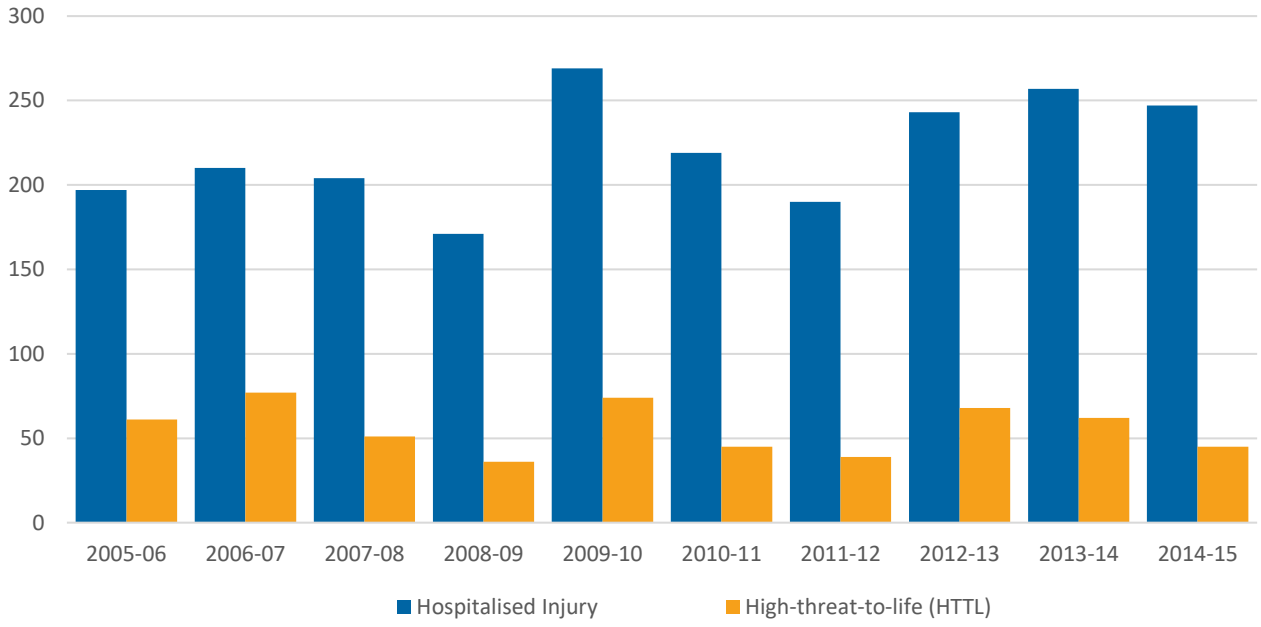
Table 4.6 Hospitalised injury and High-threat-to-life (HTTL) cases due to road vehicle traffic crashes involving buses: bus occupants

	Hospitalised Injury		*High-threat-to-life (HTTL)*	
Financial year	*Bus occupants (drivers and passengers)*	*% of total hospitalised injury*	*Bus occupants (drivers and passengers)*	*% of total High-threat-to-life (HTTL)*
2005-06	197	0.6%	61	0.7%
2006-07	210	0.6%	77	0.8%
2007-08	204	0.6%	51	0.6%
2008-09	171	0.5%	36	0.4%
2009-10	269	0.8%	74	0.8%
2010-11	219	0.7%	45	0.5%
2011-12	190	0.5%	39	0.4%
2012-13 [a]	243	0.7%	68	0.7%
2013-14 [a]	257	0.7%	62	0.7%
2014-15 [a]	247	0.7%	45	0.5%

a Data for 2012-13 is not directly comparable with previous years due to a break in the hospitalised injury series in 2012. Victoria changed case inclusion criteria to exclude cases cared for solely in Emergency Departments from 1 July 2012. NISU estimates this decreased admitted case counts in Australia by 2000 cases (-5.6 per cent) in 2012-13 compared to 2011-12. The estimated decrease in 2012 was approximately 1000 cases, or -2.8 per cent, with the reduction likely to differ by road user group.

Sources AIHW and BITRE 2018

Figure 4.4 Hospitalised injury and High-threat-to-life (HTTL) cases due to road vehicle traffic crashes involving buses: bus occupants



a Data for 2012-13 is not directly comparable with previous years due to a break in the hospitalised injury series in 2012. Victoria changed case inclusion criteria to exclude cases cared for solely in Emergency Departments from 1 July 2012. NISU estimates this decreased admitted case counts in Australia by 2000 cases (-5.6 per cent) in 2012-13 compared to 2011-12. The estimated decrease in 2012 was approximately 1000 cases, or -2.8 per cent, with the reduction likely to differ by road user group.

Sources AIHW and BITRE 2018

BUSES – Section 5 • Crashes

This section focuses on counts and characteristics of fatal crashes involving buses.

Fatal crashes involving buses

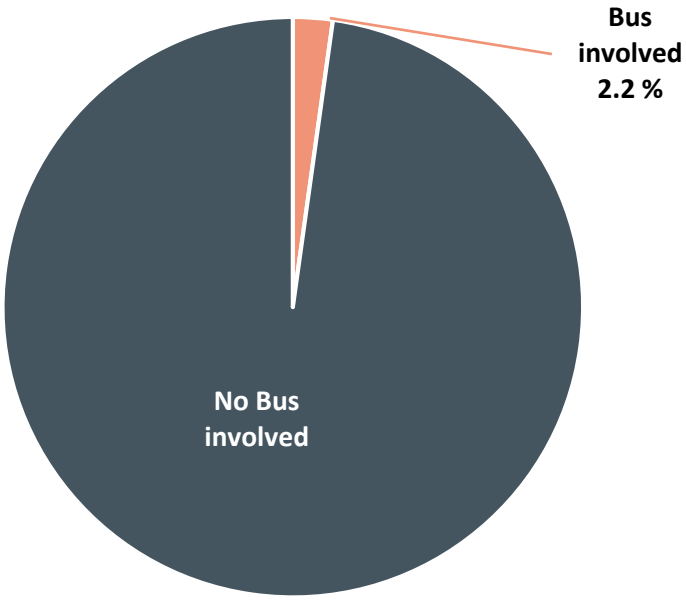
- The annual numbers of fatal crashes involving buses follow a similar trend to annual fatalities. Over the decade they have shown some volatility around an unchanging trend (Table 5.1, p. 43).
- Compared to general fatal crashes, those involving a bus are more likely to occur, in lower speed zones, and involve a killed pedestrian (Tables 5.3, p. 45 and Table 5.4, p. 46).
- Common crash types sub-groups over the three years to 2017 were 'Pedestrian-involved' (30 per cent), 'Opposing Directions' (27 per cent) and 'Adjacent Directions' (13 per cent) (Table 5.5, p. 48).

Table 5.1 Fatal crash involving buses

	Bus involved	*No Bus involved*	*Australia*
2008	22	1,293	1,315
2009	26	1,320	1,346
2010	21	1,209	1,230
2011	23	1,128	1,151
2012	19	1,171	1,190
2013	11	1,088	1,099
2014	14	1,037	1,051
2015	18	1,083	1,101
2016	21	1,180	1,201
2017	25	1,105	1,130
Ave. trend change p.a.(%)			
- for last 10 calendar years	-1.9	-1.8	-1.8
- for last 5 calendar years	22.7	1.6	1.9
- for last 3 calendar years	17.9	1.0	1.3

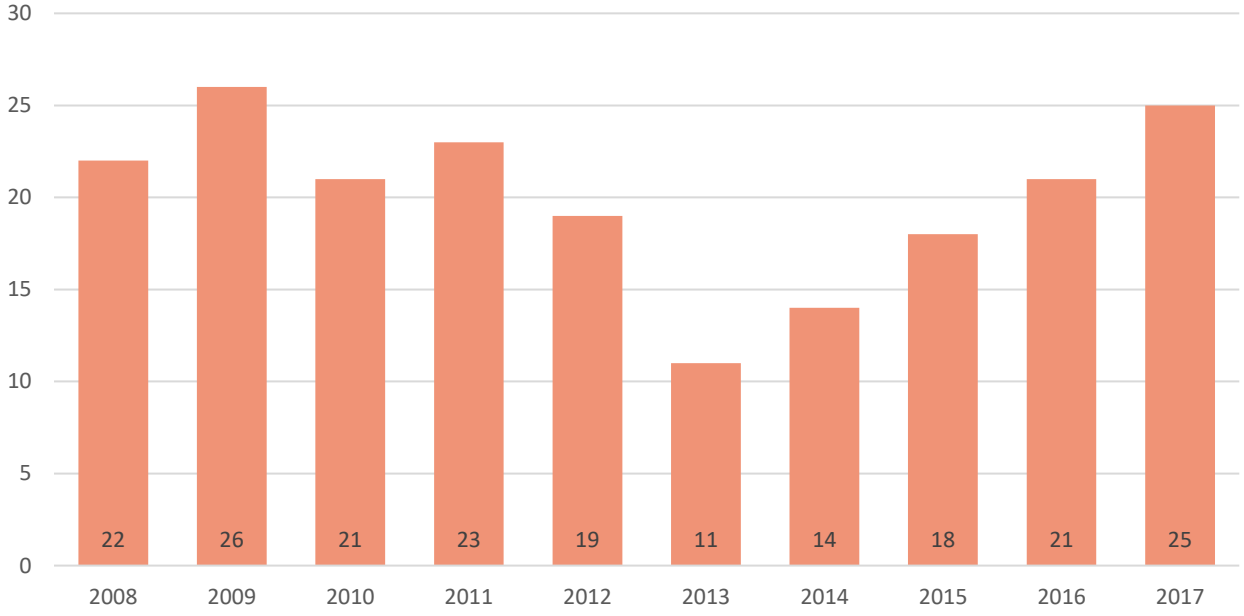
Source National Crash Database

Figure 5.1 2017 Snapshot – Bus involved fatal crashes



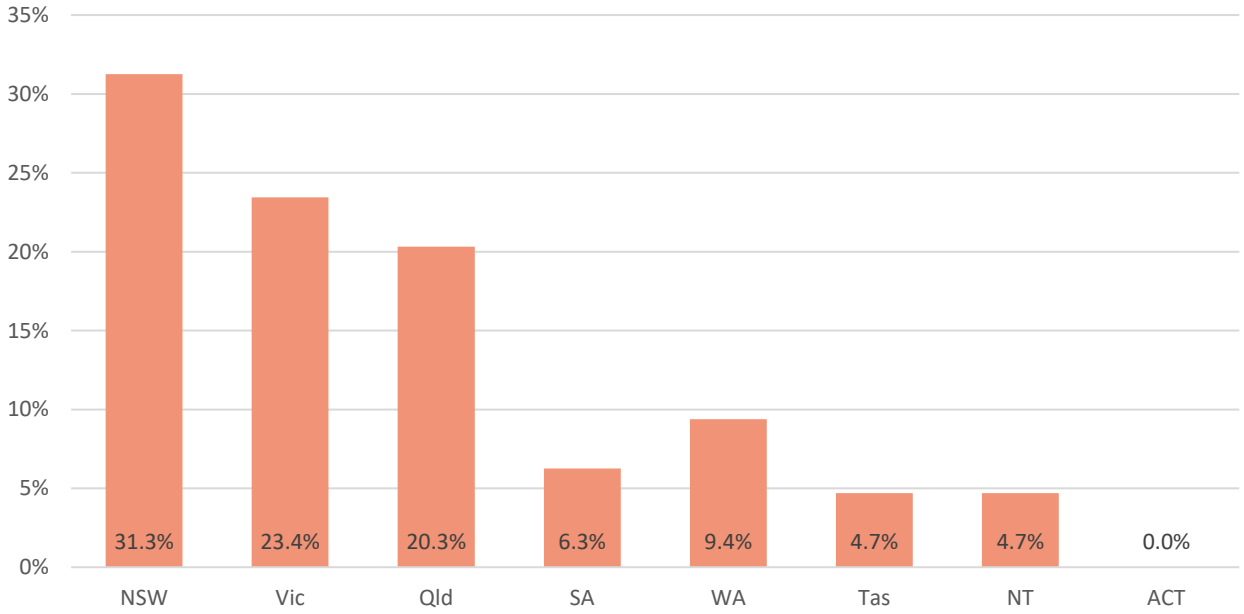
Source National Crash Database

Figure 5.2 Fatal crashes involving buses



Source National Crash Database

Figure 5.3 Distribution of fatal crashes involving buses by state/territory 2015–2017



Source National Crash Database

Table 5.2 Fatal crashes involving buses by state/territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Bus involved									
2008	5	4	8	1	4	0	0	0	22
2009	8	6	8	2	1	1	0	0	26
2010	9	2	3	3	1	1	1	1	21
2011	11	4	7	0	1	0	0	0	23
2012	6	3	6	1	3	0	0	0	19
2013	2	3	5	0	0	0	1	0	11
2014	6	3	1	1	3	0	0	0	14
2015	5	6	2	1	2	1	1	0	18
2016	9	2	3	3	2	1	1	0	21
2017	6	7	8	0	2	1	1	0	25
Ave. trend change p.a.(%)									
- for last 10 calendar years	-2.0	1.2	-8.6	-	-	-	-	-	-1.9
- for last 5 calendar years	29.7	13.8	22.6	-	-	-	-	-	22.7
- for last 3 calendar years	9.5	8.0	100.0	-	0.0	0.0	0.0	-	17.9

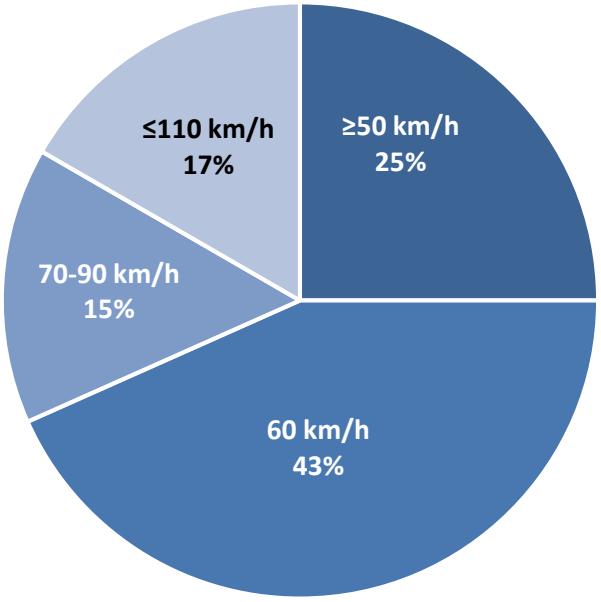
Source National Crash Database

Table 5.3 Fatal crashes involving buses by speed zone

	40 km/h	50 km/h	60 km/h	70-90 km/h	100 km/h	≥110 km/h	Total[a]
Bus involved							
2008	0	3	9	6	2	0	22
2009	0	5	8	9	3	0	26
2010	0	2	9	6	3	0	21
2011	2	9	6	2	3	0	23
2012	1	3	9	3	1	0	19
2013	1	1	6	0	1	0	11
2014	0	2	6	1	3	0	14
2015	1	0	8	3	3	0	18
2016	1	5	11	1	2	0	21
2017	2	6	7	5	5	0	25
Ave. trend change p.a.(%) - for the last 10 years	-	-	-0.6	-	3.3	-	-1.9

a Includes crashes where speed limit is unknown.
Source National Crash Database

Figure 5.4 Fatal crashes involving buses by speed zone 2015-2017



Source National Crash Database

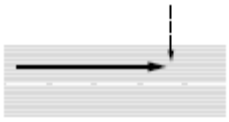
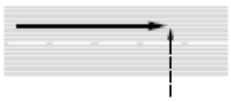
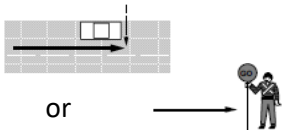
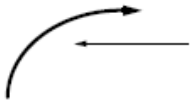
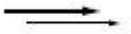
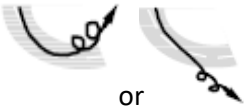
Table 5.4 Fatal crashes involving buses by crash type[a]

	Single vehicle	*Multiple vehicle*	*Pedestrian involved*	*Total*
Bus involved				
2008	5	12	5	22
2009	5	14	7	26
2010	3	15	3	21
2011	1	9	13	23
2012	2	11	6	19
2013	0	10	1	11
2014	3	7	4	14
2015	1	15	2	18
2016	2	11	8	21
2017	4	11	10	25
Ave. trend change p.a.(%) - for the last 10 years	-	-2.0	-0.1	-1.9

a 'Single' and 'Multiple' refer to the number of vehicles involved in a fatal crash where there is no pedestrian killed

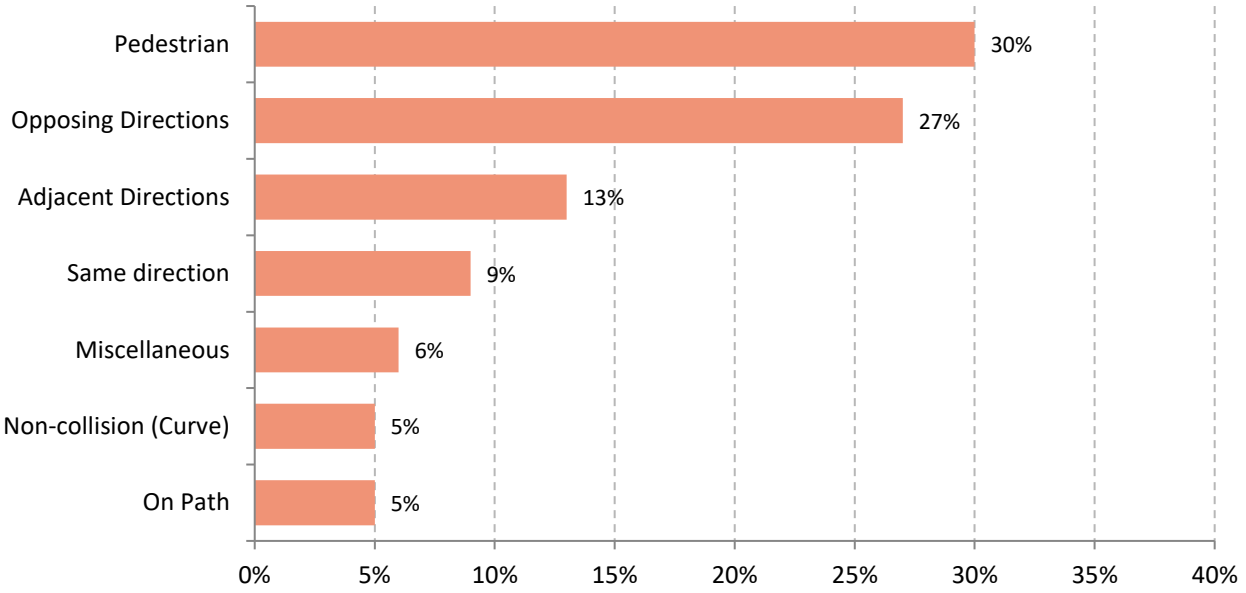
Source National Crash Database

Figure 5.5 Common crash type (sub-groups) for fatal crashes involving a bus 2015–2017

Main Crash Type	*Sub-group*		
Pedestrian	 Pedestrian Near side	 Pedestrian Far side	 or Pedestrian Emerge Or Play/Work
Opposing directions	Opposing directions Head on	 Opposing directions Right thru	
Adjacent directions	 Adjacent directions Cross traffic	 Adjacent directions Right Near	
Same direction	Same direction Rear end	 Same direction Side Swipe	
Miscellaneous	 Fell from vehicle		
Non-collision (Curve)	 or Non-collision (Curve) - Off Car/way at left bend	 or Non-collision (Curve) - Off Car/way at right bend	 Non-collision (Curve) - Out of Control
On Path	 Parked		

Source Austroads 2009; National Crash Database

Figure 5.6 Common crash type (main groups) for fatal crashes involving a bus 2015–2017



Source Austroads 2009; National Crash Database

Table 5.5 Common crash type (sub-groups) for fatal crashes involving a bus 2015–2017

Crash type (Main)	*Total %*	*Crash type (Sub-group)*	*%*
Pedestrian	30	*Near side*	13
		Far side	9
		Emerge or Play/Work	6
Opposing Directions	27	*Head on*	22
		Right thru	5
Adjacent directions	13	*Cross traffic*	9
		Right near	3
Same direction	9.0	*Rear end*	8
		Side Swipe	2
Miscellaneous	6	*Fell from vehicle*	6
Non-collision (Curve)	5	*Off left*	1.6
		Off right	1.6
		Out of control	1.6
On Path	5	*Parked*	4.7

Note The data in Figure 2.5 and Table 2.5 are based on state and territory Road User Movement (RUM) and DCA Definitions for Coding Accidents (DCA) codes. Data from each jurisdiction has been collated into a national system using the diagrams in (Austroads 2009). In these coding systems there are 10 main crash type groups; within each main group there are several sub-groups.
Not shown in this table are 'Non-collision (Straight)', Manoeuvring' and 'Overtaking' crash types, which together account for 5% of the total.

Source Austroads 2009; National Crash Database

Table 5.6 Fatal crashes involving buses by common crash sub–types[a]

	Intersection	*Head-on*	*Single vehicle run-off road*[b]
Buses			
2008	11	1	2
2009	9	5	3
2010	6	7	3
2011	12	4	1
2012	7	4	1
2013	5	3	0
2014	5	3	1
2015	4	9	1
2016	6	4	1
2017	12	2	2

a Categories not mutually exclusive, nor exhaustive.
b Excludes South Australia.
Source National Crash Database

Table 5.7 Fatal crashes involving buses by road type

	National or State highway	*Arterial*	*Sub-arterial*	*Collector*	*Local*	*Other*[a]	*Total*[b]
Buses							
2008	4	7	3	3	5	0	22
2009	5	7	3	1	9	1	26
2010	1	9	4	6	1	0	21
2011	4	4	3	7	4	1	23
2012	4	5	4	2	4	0	19
2013	2	3	3	0	3	0	11
2014	3	5	1	1	3	1	14
2015	6	3	2	2	4	1	18
2016	3	11	4	1	2	0	21
2017	4	6	3	5	7	0	25

a Includes Access road, Path, Busway and Pedestrian thoroughfare.
b Includes crashes with undetermined road type.
Source National Crash Database; PSMA 2015

Table 5.8 Fatal crashes involving buses by Remoteness Area[a]

	Major cities	*Inner regional*	*Outer regional*	*Remote*	*Very remote*	*Total*[b]
Buses						
2008	13	4	4	1	0	22
2009	9	9	7	1	0	26
2010	12	6	3	0	0	21
2011	18	3	1	1	0	23
2012	14	1	2	1	1	19
2013	6	3	1	0	1	11
2014	8	0	4	0	2	14
2015	8	4	6	0	0	18
2016	16	2	2	0	1	21
2017	18	3	2	1	1	25

a Remoteness regions are classified as per Australian Statistical Geography Standard (ASGS).
b Includes undetermined Remoteness Area.
c This is not the total of three individual heavy vehicle counts. The categories are not mutually exclusive.
Source National Crash Database; Australian Bureau of Statistics 2016

Table 5.9 Fatal crashes by Significant Urban Area (SUA)[a,b]

	Urban area	*Non-urban area*
Buses		
2008	15	7
2009	15	11
2010	15	6
2011	21	2
2012	16	3
2013	9	2
2014	8	6
2015	12	6
2016	17	4
2017	19	6

a 'Urban' refers to Significant Urban Area. Significant Urban Areas (SUA) represent aggregations of whole Statistical Area Level 2 (SA2) boundaries and are used to define and contain major urban and near-urban concentrations of over 10,00 people. They include the urban population, any immediately associated populations, and may also incorporate one or more closely associated Urban Centres and Localities and the areas between. They are designed to incorporate any likely growth over the next 20 years.
Significant Urban Areas do not cover the whole of Australia, and may cross state or territory boundaries.
b Excludes crashes with unknown location.
Sources National Crash Database; Australian Bureau of Statistics 2016

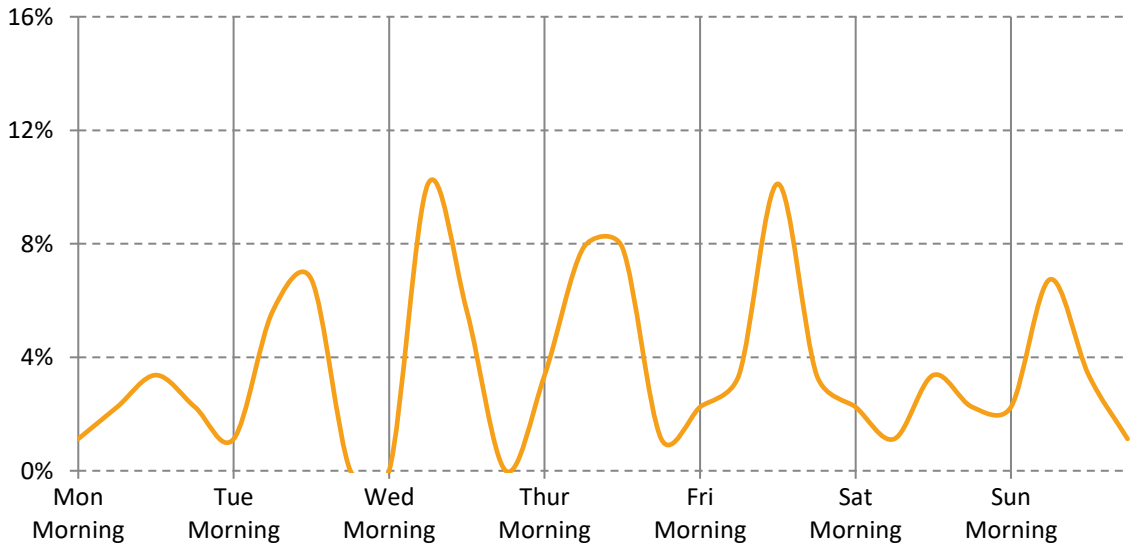
Table 5.10 Fatal crashes involving buses by weekly time block 2013–2017

Crash time of week		Bus involvement
Monday	*Morning*	1
	Midday	2
	Evening	3
	Night	2
Tuesday	*Morning*	1
	Midday	5
	Evening	6
	Night	0
Wednesday	*Morning*	0
	Midday	9
	Evening	5
	Night	0
Thursday	*Morning*	3
	Midday	7
	Evening	7
	Night	1
Friday	*Morning*	2
	Midday	3
	Evening	9
	Night	3
Saturday	*Morning*	2
	Midday	1
	Evening	3
	Night	2
Sunday	*Morning*	2
	Midday	6
	Evening	3
	Night	1

Morning 3 am to 8:59 am
Midday 9 am to 2:59 pm
Evening 3 pm to 8:59 pm
Night 9 pm to 2:59 am

a Excludes crashes with unrecorded time.
Source National Crash Database

Figure 5.6 Fatal crashes involving buses by weekly time block 2013–2017



Source National Crash Database

BUSES - Section 6 • Rates

Presented are standardised rates of counts of fatal crashes per registered vehicle and per kilometres travelled.

Rates of fatal crashes involving buses

- Over the decade the number of registered buses in Australia increased by 20 per cent. In most jurisdictions the increase was 17 per cent or more.
- Crash rates involving buses per registered vehicle were volatile and trends were unclear. Overall, rates per registered vehicle have increased from the low recorded in 2013 (Table 6.1, p. 53).
- Over the decade vehicles-kilometres-travelled (VKT) by buses increased by 22 per cent.
- The rate of fatal crashes per billion VKT declined substantially over the decade for New South Wales, Queensland, South Australia and Western Australia. Victoria was unchanged and other trends were too volatile to estimate (Table 6.2, p. 53).
- Nationally, the crash rate per billion VKT for fatal crashes involving buses is approximately 1.7 to 2.3 times higher than the rate for all vehicles combined (passenger cars/ trucks/buses/ motorcycle/ light-commercial vehicles) for the last three years (Table 6.2, p.53).

Table 6.1 Bus involved fatal crash rates per 10,000 bus registrations

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2008	2.3	2.3	4.4	2.1	3.3	0.0	0.0	0.0	2.7
2009	3.6	3.3	4.2	4.1	0.8	4.1	0.0	0.0	3.1
2010	3.9	1.1	1.5	5.9	0.7	3.9	2.8	9.7	2.4
2011	4.7	2.1	3.6	0.0	0.7	0.0	0.0	0.0	2.6
2012	2.5	1.6	3.0	1.8	2.1	0.0	0.0	0.0	2.1
2013	0.8	1.5	2.4	0.0	0.0	0.0	2.6	0.0	1.2
2014	2.4	1.5	0.5	1.8	2.0	0.0	0.0	0.0	1.5
2015	2.0	3.0	0.9	1.8	1.3	3.7	2.6	0.0	1.9
2016	3.5	1.0	1.4	5.3	1.3	3.5	2.5	0.0	2.2
2017	2.2	3.4	3.7	0.0	1.4	3.5	2.7	0.0	2.6
Ave. trend change p.a.(%) - for the last 10 years	-4.1	-0.5	-10.3	-	-	-	-	-	-3.8

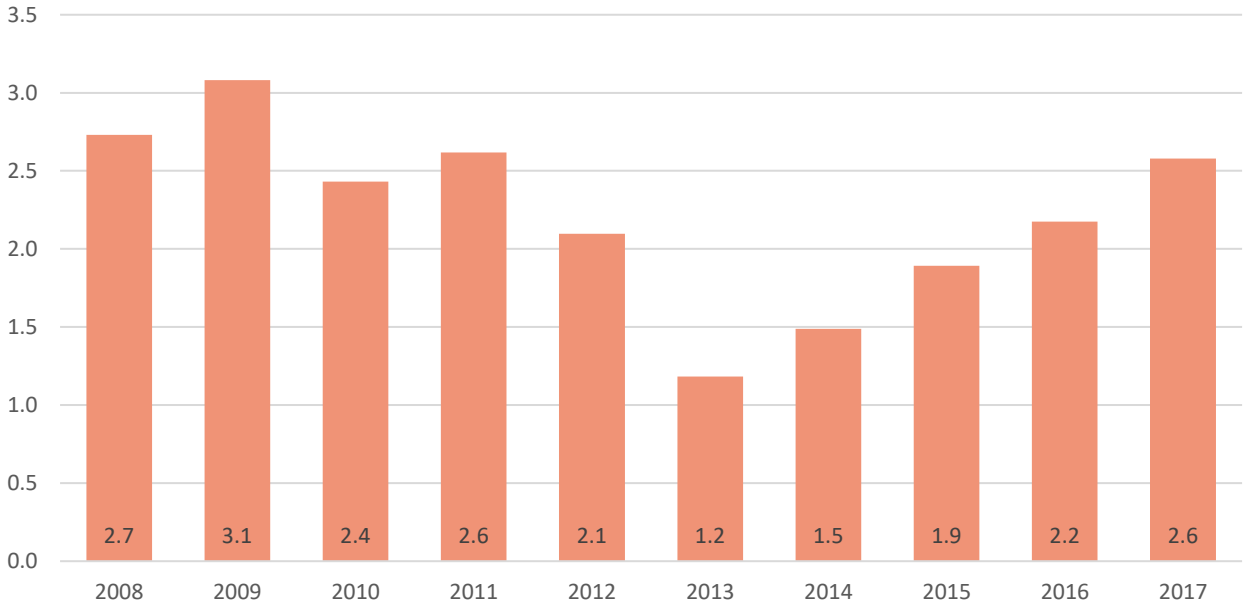
Source National Crash Database; Australian Bureau of Statistics 2018

Table 6.2 Buses involved fatal crash rates per billion vehicle kilometres travelled (VKT) by state/terrorises

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Buses									
2008	9.0	10.4	16.1	6.7	12.7	0.0	0.0	0.0	10.7
2009	13.9	14.8	15.5	13.2	3.1	20.6	0.0	0.0	12.2
2010	15.4	4.7	5.6	19.3	3.0	20.6	11.6	31.8	9.5
2011	18.4	8.9	12.5	0.0	3.0	0.0	0.0	0.0	10.1
2012	9.7	6.2	10.3	6.3	8.6	0.0	0.0	0.0	8.1
2013	3.2	6.4	8.2	0.0	0.0	0.0	10.9	0.0	4.6
2014	9.6	6.3	1.6	6.3	7.9	0.0	0.0	0.0	5.7
2015	7.8	12.6	3.2	6.2	5.2	19.6	10.5	0.0	7.3
2016	13.9	4.2	4.8	18.4	5.2	19.4	10.3	0.0	8.5
2017	9.1	14.3	12.8	0.0	5.2	19.2	10.4	0.0	10.0
Ave. trend change p.a.(%) - for the last 10 years	-3.8	-1.3	-11.0	-	-	-	-	-	-4.0

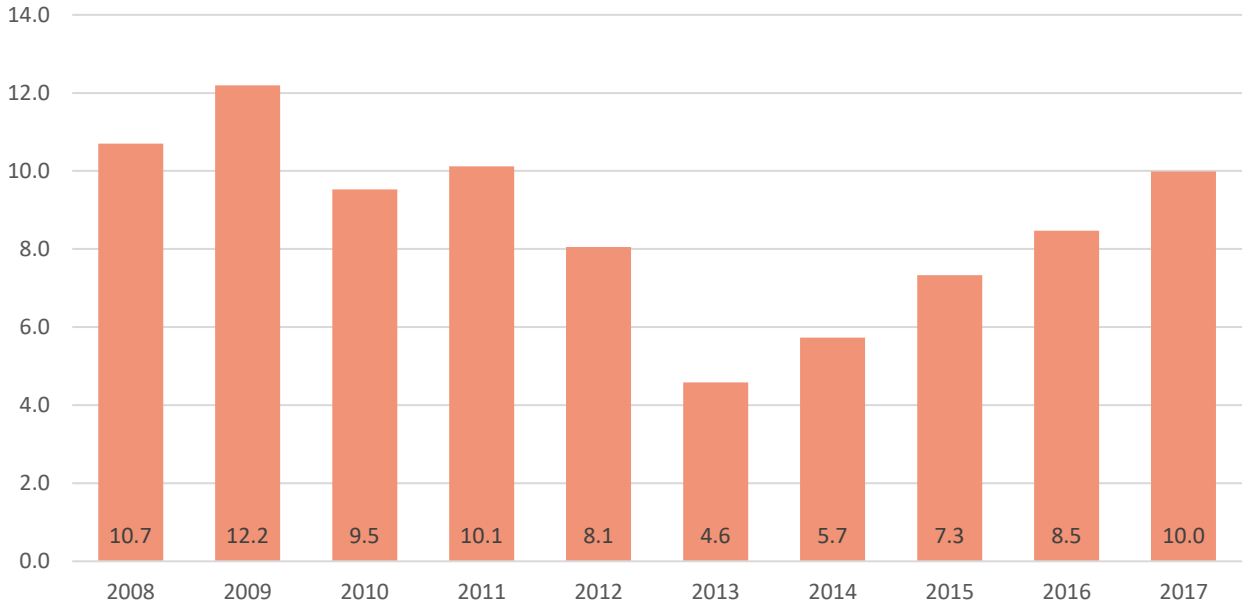
Source National Crash Database; Bureau of Infrastructure, Transport and Regional Economics Unpublished

Figure 6.1 Bus involved fatal crash rates per 10,000 bus registrations



Source National Crash Database; Australian Bureau of Statistics 2018

Figure 6.2 Bus involved fatal crash rates per billion vehicle kilometres travelled (VKT)



Source National Crash Database; Bureau of Infrastructure, Transport and Regional Economics Unpublished

Glossary

The following definitions are general explanations only. The precise definitions vary across the organisations that provide the source data. These differences may result in minor inconsistencies between jurisdictions for some variables.

Road deaths from recent months are preliminary and subject to revision.

Articulated truck	A motor vehicle primarily for load carrying, consisting of a prime mover that has no significant load carrying area but with a turntable device which can be linked to one or more trailers.
Bus	A motor vehicle constructed for the carriage of passengers which has at least 10 seats, including the driver's seat.
Crash	Any apparently unpremeditated event reported to police, or other relevant authority, and resulting in death, injury or property damage attributable to the movement of a road vehicle on a public road.
Fatal crash	A crash for which there is at least one death.
Fatal crash involving heavy vehicles	Fatal road traffic crashes in which one or more heavy vehicles were involved (articulated truck, heavy rigid truck or bus).
Gross Vehicle Mass (GVM)	Tare weight (i.e. unladen weight) of the motor vehicle plus its maximum carrying capacity excluding trailers.
Heavy rigid truck	A motor vehicle of GVM greater than 4.5 tonnes constructed with a load carrying area. Includes a rigid truck with a tow bar, draw bar or other non-articulated coupling on the rear of the vehicle.
Heavy truck	A heavy rigid truck or an articulated truck
High threat to life injury	'High threat to life' hospitalised injury cases are a subset of all hospitalised injury cases, referred to also as 'life-threatening' injuries. They are selected on the basis of having an ICD Injury severity Score (ICISS) of less than 0.941. See Henley G & Harrison JE 2015 for definition and discussion.
Hospitalised injury	A person admitted to hospital from a crash occurring in 'traffic', which is defined here as excluding off-road and unknown locations.
Road death or fatality	A person who dies within 30 days of a crash as a result of injuries received in that crash.

Trend estimation

In this report, the figures for the 'average trend change p.a.(%)' are calculated by fitting an exponential trend line to the set of data points. The Excel function LOGEST performs the fit. The resulting trend line represents a constant annual percent change over the period. Notes: (i) The occurrence of a *zero* in the original series precludes trend estimation by this method; (ii) When fitted to a series containing small numbers, the result may not be a reliable indicator of a stable trend.

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