

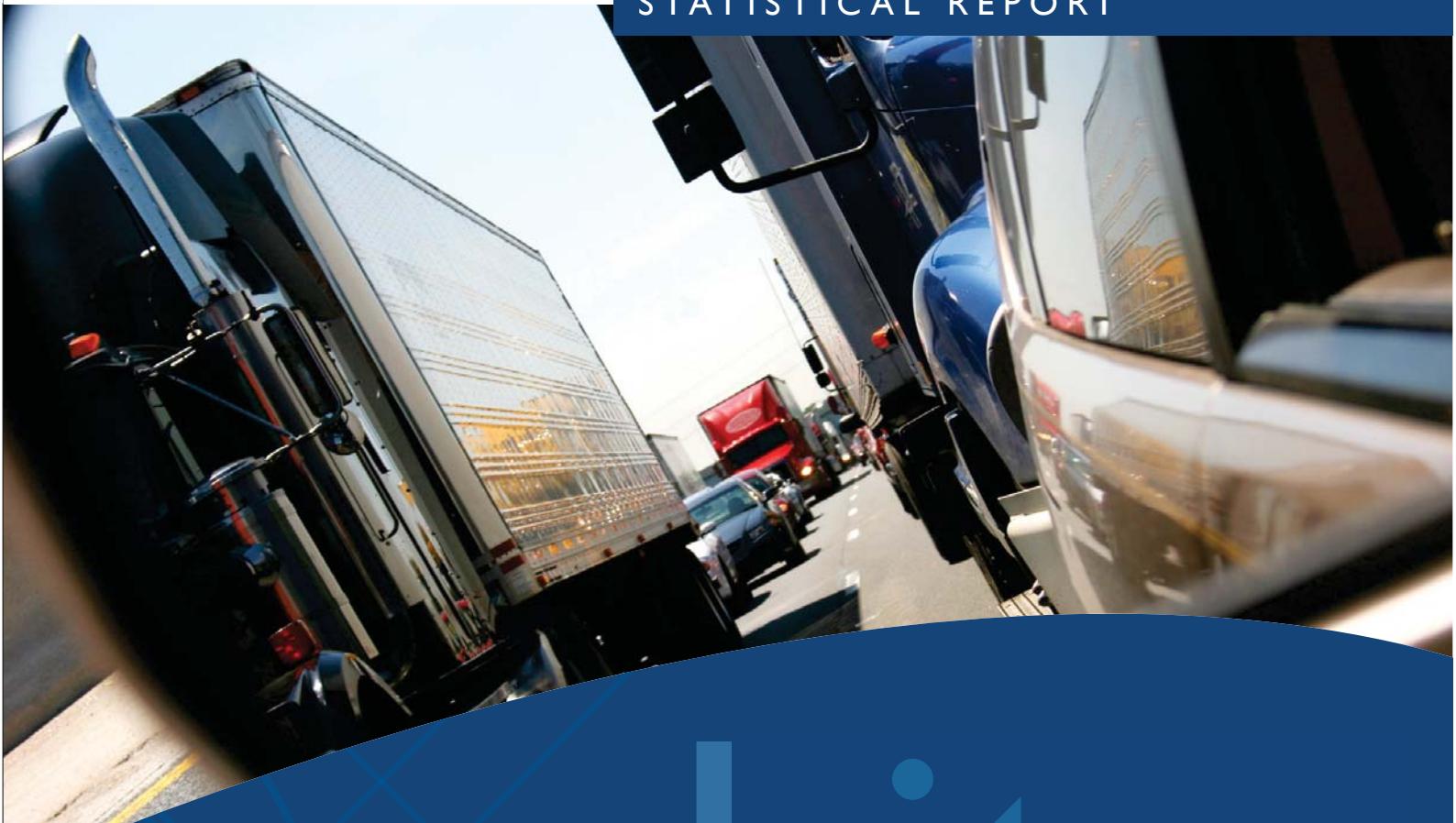


Australian Government

Department of Infrastructure and Regional Development

Bureau of Infrastructure, Transport and Regional Economics

STATISTICAL REPORT



bitre  
Safety

Road trauma involving  
heavy vehicles: crash statistics

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Bureau of Infrastructure, Transport and Regional Economics

## Road trauma involving heavy vehicles: crash statistics

Department of Infrastructure and Regional Development  
Canberra, Australia

# At a glance

This report presents counts and rates of fatal crashes, fatalities and serious injuries from road traffic crashes in which a heavy vehicle is involved. The data covers the last 25 years with a focus on the last five and ten years, including calendar year 2013.

Over the last decade, annual deaths from crashes involving a heavy vehicle (articulated truck, heavy rigid truck or bus) decreased by 32.7 per cent, from 281 to 189. The estimated trend is a reduction of 3.2 per cent per year (Table 1.1, p.2).

Vehicle occupants (driver or passenger) account for 74.5 per cent of fatalities from crashes involving a heavy vehicle. The remainder are pedestrians (14.0 %), motorcyclists (8.2 %) and pedal cyclists (2.7 %) (Table 1.8, p.13).

Of the vehicle occupants killed, 71.5 per cent are light vehicle occupants and 28.5 per cent are heavy vehicle occupants (Table 1.8, p.13).

Counts of persons hospitalised from fatal crashes involving a heavy vehicle are approximately 1,500 per year (Table 1.12, p.17).

Between 2008 to 2012, the majority (65%) of fatal crashes involving an articulated truck occurred on national or state highways. Local roads account for 7.2 %. For heavy rigid truck involvement, the proportion on national highways is 41% (Table 2.7, p.30).

Twenty per cent of fatal articulated truck crashes occur in a major city. The proportion for heavy rigid truck fatal crashes is 42 per cent (Table 2.6, p.29).

When standardised by the number of vehicle registrations over the last decade, the rates for articulated truck involvement and heavy rigid truck involvement show average declines of 6.8 per cent per annum and 4.1 per cent per annum respectively (Table 2.9, p.32).

# Data Sources

The tables in this report are based on two databases: the Australian Road Deaths Database (ARDD) and the National Crash Database (NCD).

The ARDD contains national road crash fatality data comprising 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 May 2014 data was used.

The scope of the NCD is national fatal and injury crashes and at present it covers the years 2008 to 2012. It is updated annually. The next publication in this series is expected to contain 2013 NCD data.

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

# Acknowledgements

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Northern Territory Department of lands, Planning and the Environment;  
Department of Transport;  
Territory and Municipal Services Australian Capital Territory.

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## Section I

### People

- This section presents annual counts of deaths and serious injuries from crashes that involved a heavy vehicle (articulated truck, heavy rigid truck or bus). Percentage changes for the latest year and annual averages over the decade are given.
- Over the last decade, total annual deaths from fatal crashes involving a heavy vehicle decreased by 32.7 per cent. The estimated trend is an average reduction of 3.2 per cent per year (Table I.1, p.2).
- For articulated truck involvement, fatality counts during the second half of the decade compared to the first half saw reductions in New South Wales, Victoria, South Australia, Western Australia and Tasmania. No clear trend was evident in Queensland (Table I.2, p.4).
- For heavy rigid truck involvement, reductions were seen in New South Wales, Victoria and South Australia. Western Australia recorded an increase and in Queensland there was no clear trend (Table I.2, p.4).
- Vehicle occupants (driver or passenger) account for 74.5 per cent of fatalities from crashes involving a heavy vehicle. The remainder are pedestrians (14.0 %), motorcyclists (8.2 %) and pedal cyclists (2.7 %) (Table I.8, p.13).
- Of the occupants killed from fatal crashes involving a heavy vehicle, 73 per cent are light vehicle occupants and 27 per cent are heavy vehicle occupants (Table I.8, p.13).
- Counts of persons hospitalised from fatal crashes involving a heavy vehicle are approximately 1,500 per year (Table I.12, p.17).

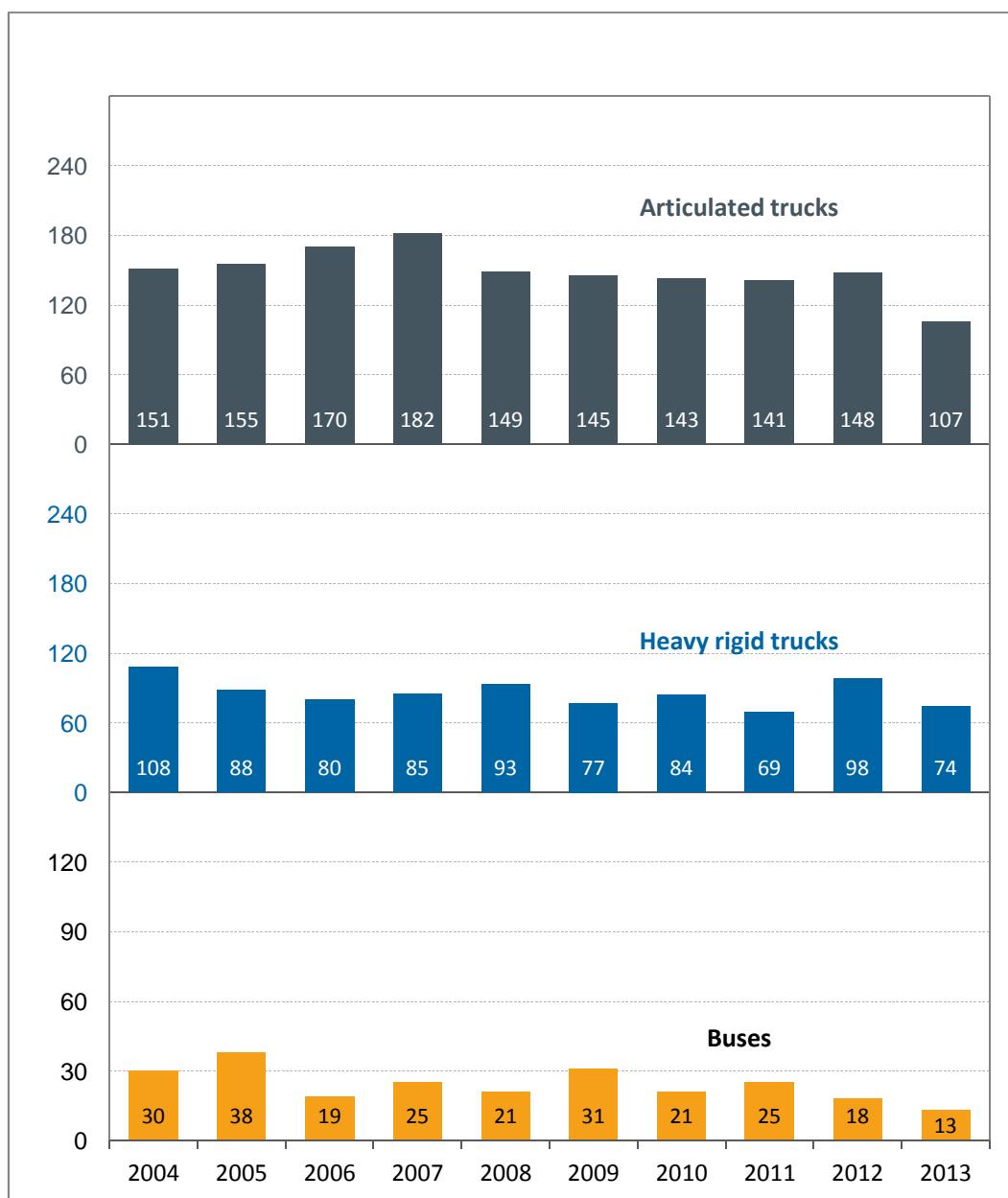
**Table I.1 Deaths from crashes involving heavy vehicles**

	<i>Articulated trucks</i>	<i>Heavy rigid trucks<sup>a</sup></i>	<i>Buses</i>	<i>Total<sup>b</sup></i>
1989	335	-	104	-
1990	263	-	46	-
1991	183	-	32	-
1992	181	-	39	-
1993	204	-	49	-
1994	179	-	40	-
1995	199	-	23	-
1996	194	-	38	-
1997	171	-	27	-
1998	179	-	29	-
1999	191	-	32	-
2000	208	-	24	-
2001	178	-	32	-
2002	200	-	36	-
2003	171	-	29	-
2004	151	108	30	281
2005	155	88	38	276
2006	170	80	19	265
2007	182	85	25	285
2008	149	93	21	260
2009	145	77	31	245
2010	143	84	21	237
2011	141	69	25	230
2012	148	98	18	256
2013	107	74	13	189
Ave. trend change p.a. (%) - for last 10 years	-3.0	-2.2	-6.7	-3.2

a Only available from 2004.

b Figures sum to more than the total because some crashes involved more than one type of heavy vehicle.

Source: Australian Road Deaths Database

**Figure I.1 Deaths from crashes involving heavy vehicles**

Source: Australian Road Deaths Database

**Table 1.2 Deaths from crashes involving heavy vehicles by state/territory**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Articulated trucks</b>									
1989	143	68	60	31	20	9	3	1	335
1990	94	68	37	26	17	13	8	0	263
1991	78	40	26	22	12	4	1	0	183
1992	84	32	38	14	10	1	2	0	181
1993	69	50	42	18	21	3	1	0	204
1994	67	38	41	15	16	1	1	0	179
1995	63	38	55	19	14	5	4	1	199
1996	56	39	42	25	26	2	2	2	194
1997	71	27	35	18	14	4	2	0	171
1998	71	32	33	24	13	2	2	2	179
1999	64	39	38	21	23	2	3	1	191
2000	84	40	40	19	13	6	6	0	208
2001	60	45	33	18	14	5	0	3	178
2002	86	49	28	13	14	3	7	0	200
2003	63	41	35	13	17	1	1	0	171
2004	64	37	13	13	18	4	2	0	151
2005	52	32	35	17	13	5	1	0	155
2006	69	31	37	10	14	7	2	0	170
2007	59	48	41	7	20	5	2	0	182
2008	53	23	46	10	8	6	3	0	149
2009	47	20	40	11	12	11	2	2	145
2010	51	36	29	7	15	3	1	1	143
2011	47	23	39	13	14	2	3	0	141
2012	50	30	45	10	8	3	2	0	148
2013	32	15	35	11	11	2	1	0	107
Ave. trend change p.a. (%) - for the last 10 years	-5.3	-6.5	-	-	-4.9	-	-	-	-3.0
<b>Heavy rigid trucks (Only available from 2004)</b>									
2004	38	30	22	7	7	4	0	0	108
2005	28	33	13	3	7	2	1	1	88
2006	30	15	16	5	9	3	1	1	80
2007	29	26	11	5	10	1	2	1	85
2008	12	25	24	9	19	2	2	0	93
2009	24	19	13	2	18	1	0	0	77
2010	24	24	15	2	13	5	0	1	84
2011	17	20	14	6	6	2	4	0	69
2012	23	17	27	7	18	4	1	1	98
2013	26	16	13	4	15	0	0	0	74
Ave. trend change p.a. (%) - for the last 10 years	-4.4	-5.5	-	-	7.7	-	-	-	-2.2

**Table 1.2 Deaths from crashes involving heavy vehicles by state/territory (continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Buses</b>									
1989	84	5	9	2	1	0	0	3	104
1990	16	6	15	5	3	0	1	0	46
1991	7	6	13	3	1	1	0	1	32
1992	20	4	4	3	2	5	0	1	39
1993	15	15	8	2	6	1	1	1	49
1994	8	7	19	0	3	1	1	1	40
1995	9	3	6	2	2	1	0	0	23
1996	18	5	9	0	3	1	0	2	38
1997	14	1	3	0	5	2	1	1	27
1998	15	2	10	0	0	1	1	0	29
1999	13	2	12	2	1	1	0	1	32
2000	13	3	6	1	0	1	0	0	24
2001	12	7	4	2	0	5	0	2	32
2002	16	6	7	5	2	0	0	0	36
2003	15	3	4	3	2	1	1	0	29
2004	15	6	6	2	0	0	0	1	30
2005	21	5	9	1	2	0	0	0	38
2006	7	3	5	1	1	1	1	0	19
2007	11	4	7	1	2	0	0	0	25
2008	5	4	9	1	2	0	0	0	21
2009	9	9	10	2	0	1	0	0	31
2010	9	2	4	3	0	1	1	1	21
2011	11	5	8	0	1	0	0	0	25
2012	6	3	7	1	1	0	0	0	18
2013	3	3	6	0	0	0	1	0	13
Ave. trend change p.a. (%) - for last 10 years	-	-	-	-	-	-	-	-	-6.7

Source: Australian Road Deaths Database

**Table 1.3 Deaths from crashes involving heavy vehicles by age group**

	<i>0 to 16</i>	<i>17 to 25</i>	<i>26 to 39</i>	<i>40 to 54</i>	<i>55 to 64</i>	$\geq 65$	<i>Total<sup>a</sup></i>
<b>Articulated trucks</b>							
1989	28	91	103	58	24	27	335
1990	17	81	67	46	24	28	263
1991	13	49	56	24	11	29	183
1992	7	42	58	43	14	17	181
1993	7	35	73	50	20	19	204
1994	16	42	47	34	18	22	179
1995	13	46	54	38	22	26	199
1996	11	38	61	40	15	29	194
1997	18	27	50	36	13	25	171
1998	11	35	52	44	15	20	179
1999	15	30	68	33	14	31	191
2000	11	43	67	54	14	19	208
2001	13	36	39	43	16	31	178
2002	12	43	59	44	18	24	200
2003	14	40	25	51	17	23	171
2004	8	29	42	33	23	16	151
2005	10	41	42	24	12	25	155
2006	11	26	52	40	19	22	170
2007	10	31	48	45	22	26	182
2008	8	29	31	42	14	25	149
2009	11	25	29	48	14	18	145
2010	8	25	28	33	24	25	143
2011	3	23	27	50	19	19	141
2012	6	12	45	37	23	24	148
2013	5	14	24	26	13	25	107
Ave. trend change p.a. (%) - for the last 10 years	-8.5	-9.6	-5.6	0.7	-0.2	1.6	-3.0
<b>Heavy rigid trucks (Only available from 2004)</b>							
2004	7	20	20	30	13	18	108
2005	9	19	10	19	14	17	88
2006	7	19	12	17	10	15	80
2007	7	14	24	22	6	12	85
2008	5	19	23	22	7	17	93
2009	4	7	19	16	15	16	77
2010	8	14	12	21	13	16	84
2011	4	15	9	17	14	10	69
2012	3	24	22	16	12	21	98
2013	7	10	12	21	8	16	74
Ave. trend change p.a. (%) - for the last 10 years	-6.1	-4.0	-1.7	-2.9	-0.4	-0.5	-2.2

**Table 1.3 Deaths from crashes involving heavy vehicles by age group (continued)**

	0 to 16	17 to 25	26 to 39	40 to 54	55 to 64	≥65	Total <sup>a</sup>
<b>Buses</b>							
1989	12	23	22	20	9	13	104
1990	6	7	8	3	3	19	46
1991	7	7	3	5	0	10	32
1992	3	7	7	6	8	8	39
1993	3	12	10	11	6	7	49
1994	9	7	3	3	2	16	40
1995	0	7	5	3	1	7	23
1996	4	6	6	7	5	10	38
1997	3	2	10	4	4	4	27
1998	3	6	6	5	2	7	29
1999	0	11	4	8	3	6	32
2000	5	4	5	4	3	3	24
2001	2	6	9	3	4	8	32
2002	2	10	5	9	0	10	36
2003	1	5	3	4	9	7	29
2004	3	4	5	5	3	10	30
2005	2	8	8	4	2	12	38
2006	2	1	4	7	0	5	19
2007	1	2	7	6	4	5	25
2008	2	6	5	2	3	3	21
2009	5	9	2	8	2	5	31
2010	0	4	9	4	2	2	21
2011	2	3	7	5	3	5	25
2012	1	1	2	3	4	7	18
2013	1	1	2	2	5	2	13
Ave. trend change p.a. (%) - for the last 10 years	-	-	-	-	-	-	-6.7

a Includes deaths to persons with age not recorded.

Source: Australian Road Deaths Database

**Table 1.4 Deaths from crashes involving heavy vehicles by road user**

	<i>Driver<sup>a</sup></i>	<i>Passenger<sup>a</sup></i>	<i>Pedestrian</i>	<i>Motorcyclist<sup>b</sup></i>	<i>Pedal cyclist<sup>b</sup></i>	<i>Total<sup>c</sup></i>
<b>Articulated trucks</b>						
1989	178	103	32	14	8	335
1990	161	69	15	9	9	263
1991	108	41	12	15	7	183
1992	112	43	15	11	0	181
1993	132	47	15	6	4	204
1994	110	45	15	4	5	179
1995	115	50	15	18	1	199
1996	126	44	13	7	4	194
1997	104	42	11	9	5	171
1998	108	43	16	7	5	179
1999	117	38	17	15	4	191
2000	128	48	18	7	3	208
2001	110	39	18	5	6	178
2002	123	42	16	15	4	200
2003	104	40	13	13	1	171
2004	111	20	14	3	3	151
2005	99	32	11	9	4	155
2006	101	35	20	8	6	170
2007	104	44	19	10	5	182
2008	94	23	17	11	4	149
2009	97	25	20	3	0	145
2010	80	36	14	7	6	143
2011	87	26	20	6	2	141
2012	93	30	16	8	0	148
2013	70	21	7	7	2	107
Ave. trend change p.a. (%)	-3.6	-1.2	-2.6	-	-	-3.0
<i>- for the last 10 years</i>						
<b>Heavy rigid trucks (Only available from 2004)</b>						
2004	61	18	15	8	6	108
2005	40	24	11	10	3	88
2006	40	17	12	10	1	80
2007	48	10	12	8	7	85
2008	50	13	15	11	3	93
2009	43	12	10	9	3	77
2010	40	23	7	9	5	84
2011	32	13	14	6	4	69
2012	54	16	12	12	4	98
2013	36	10	17	5	6	74
Ave. trend change p.a. (%)	-2.7	-4.2	0.3	-	-	-2.2
<i>- for the last 10 years</i>						

**Table 1.4 Deaths from crashes involving heavy vehicles by road user (continued)**

	<i>Driver<sup>a</sup></i>	<i>Passenger<sup>a</sup></i>	<i>Pedestrian</i>	<i>Motorcyclist<sup>b</sup></i>	<i>Pedal cyclist<sup>b</sup></i>	<i>Total<sup>c</sup></i>
<b>Buses</b>						
1989	18	65	14	6	1	104
1990	8	24	8	1	5	46
1991	7	6	11	6	2	32
1992	8	18	10	1	2	39
1993	16	17	10	4	2	49
1994	9	18	10	1	2	40
1995	9	4	8	1	1	23
1996	9	14	14	1	0	38
1997	11	8	6	0	2	27
1998	8	8	7	5	1	29
1999	16	5	9	1	1	32
2000	2	9	12	1	0	24
2001	9	9	11	1	2	32
2002	7	13	13	2	1	36
2003	11	7	7	4	0	29
2004	9	5	7	6	3	30
2005	13	14	9	2	0	38
2006	4	2	9	3	1	19
2007	10	3	7	2	3	25
2008	2	7	4	7	1	21
2009	9	12	7	2	1	31
2010	7	2	3	8	1	21
2011	3	5	13	2	2	25
2012	6	4	5	3	0	18
2013	6	1	1	2	3	13
Ave. trend change p.a. (%) - for the last 10 years	-5.9	-11.1	-12.4	-	-	-6.7

a Includes drivers/passengers of light and heavy vehicles.

b Includes pillion passengers.

c Includes road users not separately specified.

Source: Australian Road Deaths Database

**Table 1.5 Deaths by crash type for crashes involving heavy vehicles**

	<i>Single vehicle</i>	<i>Pedestrian</i>	<i>Multiple vehicle</i>		<i>Single vehicle</i>	<i>Pedestrian</i>	<i>Multiple vehicle</i>
<b>Articulated trucks</b>							
1989	44	34	257		2	14	88
1990	45	15	203		14	8	24
1991	30	12	141		1	11	20
1992	33	15	133		7	10	22
1993	31	15	158		1	10	38
1994	24	15	140		14	10	16
1995	35	15	149		1	8	14
1996	24	13	157		2	14	22
1997	31	11	129		6	6	15
1998	34	16	129		3	7	19
1999	20	17	154		1	9	22
2000	25	18	165		1	12	11
2001	18	18	142		4	11	17
2002	31	16	153		8	13	15
2003	20	13	138		4	7	18
2004	27	14	110		1	7	22
2005	28	11	116		8	9	21
2006	24	21	125		2	9	8
2007	33	19	130		1	7	17
2008	25	17	107		6	4	11
2009	31	20	94		9	7	15
2010	15	14	114		3	3	15
2011	21	20	100		3	13	9
2012	19	17	112		2	5	11
2013	8	7	92		0	2	11
Ave. trend change p.a. (%) - for the last 10 years	-9.5	-2.5	-2.1		-	-9.0	-6.0

**Heavy rigid trucks (Only available from 2004)**

2004	11	15	82
2005	7	11	70
2006	8	12	60
2007	6	12	67
2008	12	15	66
2009	7	10	60
2010	10	7	67
2011	5	14	50
2012	5	12	81
2013	5	17	52

Ave. trend change p.a. (%)  
- for the last 10 years

Source: Australian Road Deaths Database

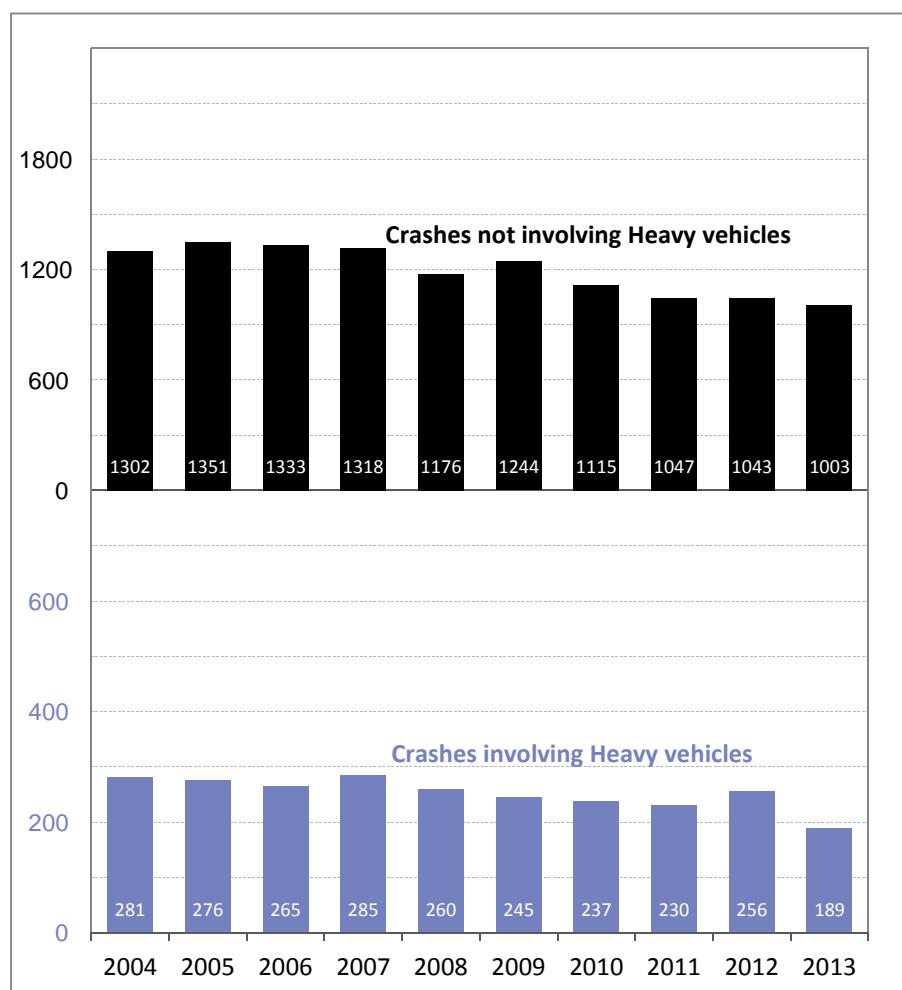
**Table 1.6 Deaths by crash type for crashes involving heavy vehicles and crashes not involving heavy vehicles**

	Single vehicle		Pedestrian		Multiple vehicle		Total		Grand Total <sup>a</sup>
	Heavy	Non-heavy	Heavy	Non-heavy	Heavy	Non-heavy	Heavy	Non-heavy	
2004	39	653	36	184	206	465	281	1,302	1,583
2005	43	661	30	198	203	492	276	1,351	1,627
2006	34	702	41	189	190	442	265	1,333	1,598
2007	40	701	38	166	207	451	285	1,318	1,603
2008	43	644	36	153	181	379	260	1,176	1,437
2009	47	653	35	161	163	430	245	1,244	1,491
2010	28	556	22	149	187	410	237	1,115	1,353
2011	29	525	45	141	156	381	230	1,047	1,277
2012	26	530	32	138	198	375	256	1,043	1,299
2013	13	543	26	132	150	328	189	1,003	1,192
Ave. trend change p.a. (%)	-8.8	-3.2	-2.2	-4.3	-2.6	-3.5	-3.2	-3.5	-3.4

Source: Australian Road Deaths Database

a Includes deaths with undetermined vehicle type.

**Figure 1.2 Annual deaths by crash type for crashes involving heavy vehicles and crashes not involving heavy vehicles**



**Table 1.7 Deaths from crashes involving heavy vehicles by common crash sub-types<sup>a</sup>**

	<i>Intersection</i>	<i>Head-on</i>	<i>Single vehicle run-off road<sup>b</sup></i>
<b>Articulated trucks</b>			
2008	30	65	15
2009	20	48	20
2010	34	56	13
2011	31	50	16
2012	25	70	17
<b>Heavy rigid trucks</b>			
2008	27	35	4
2009	26	25	6
2010	22	33	4
2011	29	17	3
2012	24	34	2
<b>Buses</b>			
2008	11	1	3
2009	9	6	6
2010	7	7	3
2011	12	5	1
2012	11	6	1

a Categories not mutually exclusive, nor exhaustive.

b Excludes South Australia.

Source: *National Crash Database*

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

	<i>Heavy vehicle</i>		<i>Light vehicle<sup>a</sup></i>		<i>Motor<sup>b</sup> cyclist</i>	<i>Pedal<sup>b</sup> cyclist</i>	<i>Pedestrian cyclist</i>	<i>Total<sup>c</sup></i>
	<i>Driver</i>	<i>Passenger</i>	<i>Driver</i>	<i>Passenger</i>				
<b>Articulated trucks</b>								
2008	34	3	56	20	11	4	16	147
2009	36	3	58	20	3	0	18	138
2010	20	4	56	31	7	6	14	139
2011	24	3	65	24	6	2	19	143
2012	32	5	67	26	8	0	15	154
<b>Heavy rigid trucks</b>								
2008	9	3	35	11	13	2	15	88
2009	16	0	25	10	9	3	10	73
2010	10	2	28	19	7	5	6	77
2011	6	2	25	12	6	4	12	67
2012	5	3	44	9	11	3	13	89
<b>Buses</b>								
2008	0	6	3	1	7	1	5	23
2009	2	8	7	3	2	1	8	31
2010	2	2	6	0	8	1	3	22
2011	1	1	3	2	2	2	13	24
2012	3	5	6	3	2	0	7	26

a Includes utility, panel van, cab chassis, goods carrying van, light rigid truck and other not specified light commercial vehicle.

b Includes pillion passengers.

c Includes deaths in vehicles not listed.

Source: National Crash Database

**Table 1.9 Deaths from crashes involving heavy vehicles — Validity of heavy vehicle driver's licence**

	<i>All valid</i>	<i>Any invalid</i>	<i>Unknown</i>	<i>Total</i>
<b><i>Articulated trucks</i></b>				
2008	132	5	10	147
2009	129	0	9	138
2010	111	2	26	139
2011	129	3	11	143
2012	135	2	17	154
<b><i>Heavy rigid trucks</i></b>				
2008	82	3	3	88
2009	70	1	2	73
2010	69	4	4	77
2011	54	1	12	67
2012	83	2	4	89
<b><i>Buses</i></b>				
2008	22	0	1	23
2009	30	0	1	31
2010	21	0	1	22
2011	22	1	1	24
2012	23	0	3	26

Source: *National Crash Database*

**Table I.10 Deaths from crashes involving heavy vehicles — BAC of heavy vehicle driver (excludes Victoria and ACT)**

	<i>Any fail</i>	<i>All pass</i>	<i>Unknown</i>	<i>Total</i>
<b>Articulated trucks</b>				
2008	5	66	54	125
2009	0	79	39	118
2010	2	65	36	103
2011	2	73	45	120
2012	2	74	50	126
<b>Heavy rigid trucks</b>				
2008	4	37	24	65
2009	1	37	14	52
2010	4	33	17	54
2011	1	24	20	45
2012	0	42	29	71
<b>Buses</b>				
2008	0	8	11	19
2009	0	12	10	22
2010	1	12	6	19
2011	1	12	7	20
2012	0	13	10	23

Source : National Crash Database

**Table 1.11 Deaths from crashes involving heavy vehicles — Restraint use of killed vehicle occupants**

	Restraint used		Not used		Unknown		Total <sup>a</sup>	
	Heavy vehicle	Light vehicle	Heavy vehicle	Light vehicle	Heavy vehicle	Light vehicle	Heavy vehicle	Light vehicle
<b>Articulated trucks</b>								
2008	5	45	11	12	21	19	37	76
2009	9	52	16	7	14	19	39	78
2010	7	56	4	6	13	25	24	87
2011	7	54	7	11	11	24	27	89
2012	10	62	11	3	14	26	37	93
<b>Heavy rigid trucks</b>								
2008	3	35	6	1	3	10	12	46
2009	6	26	7	2	3	7	16	35
2010	7	31	2	3	3	13	12	47
2011	1	25	4	6	3	5	7	37
2012	2	38	3	4	2	10	8	53
<b>Buses</b>								
2008	0	2	3	0	3	1	6	4
2009	4	8	2	1	4	1	10	10
2010	0	6	3	0	1	0	4	6
2011	0	4	2	0	0	1	2	5
2012	5	6	1	0	2	3	8	9

a Includes any non-applicable cases.

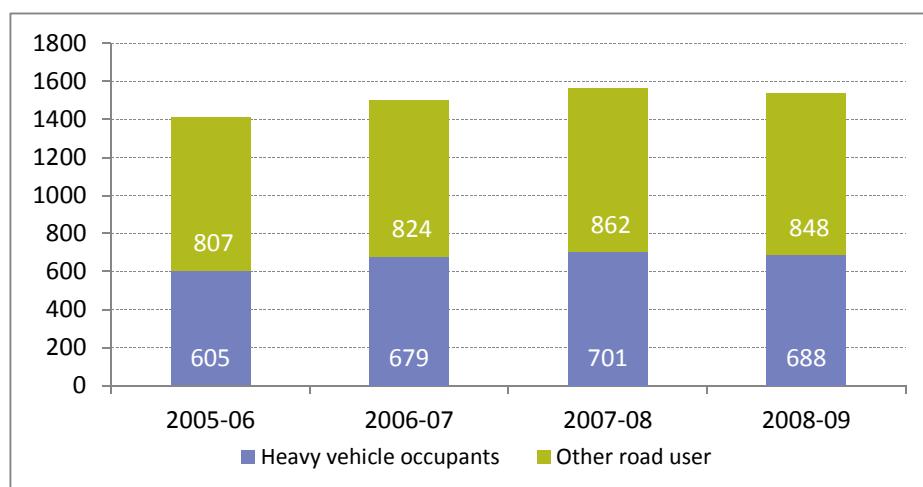
Source : National Crash Database

**Table I.12 Hospitalised injury due to road vehicle traffic crashes involving a heavy vehicle**

	<i>Heavy vehicle occupants (drivers and passengers)</i>	<i>Other road user</i>	<i>All involved persons</i>
2005-06		605	807
2006-07		679	824
2007-08		701	862
2008-09		688	848

Source: AIHW (2008), AIHW (2009), AIHW (2012) and AIHW (2012b)

**Figure I.3 Hospitalised injury due to road vehicle traffic crashes involving a heavy vehicle**



**Table I.13 High threat to life in a road traffic crash involving a heavy vehicle by state/territory**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2000-01	149	125	80	52	32	7	7	6	468
2001-02	139	104	79	43	37	8	6	7	429
2002-03	129	128	87	40	30	8	-	-	439
2003-04	153	115	87	31	29	13	-	-	445
2004-05	139	125	114	28	23	12	-	-	463
2005-06	157	124	98	47	48	14	6	5	516
2006-07	171	114	107	45	44	17	-	-	520
2007-08	159	118	104	43	61	9	5	8	514
2008-09	175	138	112	37	41	16	12	7	551
Ave. trend change p.a. (%) - for the last 9 years	2.8	1.0	4.6	-1.2	6.5	9.1	-	-	2.8

Source: AIHW (2012c)

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## Section 2

### Crashes and Rates

- This section focuses on counts, standardised rates and characteristics of fatal crashes involving heavy vehicles. Tabulations include counts by number of vehicles involved, posted speed limit, road type and time of the day.
- Compared to multi vehicle and pedestrian involved crashes, single vehicle crashes show the strongest decline (Table 2.4, p.26).
- The majority (65%) of fatal crashes involving an articulated truck occur on national or state highways. For heavy rigid truck involvement, the proportion is 41% (see Table 2.7, p.30).
- The distribution by times of fatal crashes across the week is largely similar for all three heavy vehicle types. Peaks generally occur in the afternoon of a weekday (Figure 2.2, p.31).
- Looking at geographical region, 20 per cent of fatal articulated truck crashes occur in a major city. The proportion for heavy rigid truck fatal crashes is 42 per cent (Table 2.6, p.29).
- The distributions of fatal crashes by posted speed limit vary as well : approximately 64 per cent of articulated fatal crashes occur in zones of 100km/h per hour or greater, whereas only 44 per cent heavy vehicle truck fatal crashes occur in these zones (Table 2.3, p.24).
- When standardised by vehicle registration counts, the rates over the decade for fatal crashes involving heavy vehicles have trended down consistently (Table 2.9, p32).
- Fatal crashes involving an articulated truck are more likely to be head-on or single vehicle run-off road crashes than those involving a heavy rigid truck (Table 2.5, p.28).
- Fatal crash rates per VKT are nearly twice as high for articulated truck involved crashes as for heavy rigid involved fatal crashes. (Table 2.10, p.34).

**Table 2.1 Fatal crashes involving heavy vehicles**

	<i>Articulated trucks</i>	<i>Heavy rigid trucks<sup>a</sup></i>	<i>Buses</i>	<i>Total<sup>b</sup></i>
1989	250	-	45	-
1990	205	-	32	-
1991	156	-	30	-
1992	154	-	28	-
1993	171	-	36	-
1994	151	-	28	-
1995	165	-	22	-
1996	161	-	31	-
1997	146	-	24	-
1998	151	-	23	-
1999	163	-	29	-
2000	165	-	23	-
2001	146	-	28	-
2002	171	-	28	-
2003	142	-	26	-
2004	138	92	30	253
2005	132	78	29	236
2006	145	72	19	232
2007	147	80	25	245
2008	129	87	20	233
2009	121	73	25	211
2010	123	69	20	203
2011	125	57	24	201
2012	124	86	17	219
2013	88	69	11	163
Ave. trend change p.a.(%) - for the last 10 years	-3.5	-2.2	-7.0	-3.5

a Only available from 2004.

b Figures sum to more than the total because some crashes involved more than one type of heavy vehicle.

Source: Australian Road Deaths Database

**Figure 2.1 Fatal crashes involving heavy vehicles**

Source: Australian Road Deaths Database

**Table 2.2 Fatal crashes involving heavy vehicles by state/territory**

	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas</i>	<i>NT</i>	<i>ACT</i>	<i>Australia</i>
<b>Articulated trucks</b>									
1989	99	57	45	23	18	4	3	1	250
1990	77	51	31	18	15	10	3	0	205
1991	64	35	23	18	11	4	1	0	156
1992	73	27	34	8	10	1	1	0	154
1993	60	34	38	17	18	3	1	0	171
1994	52	36	34	14	13	1	1	0	151
1995	49	31	47	17	12	4	4	1	165
1996	48	33	34	19	23	2	1	1	161
1997	60	26	29	12	13	4	2	0	146
1998	58	30	28	18	12	2	2	1	151
1999	55	35	30	17	20	2	3	1	163
2000	69	32	28	15	12	6	3	0	165
2001	48	32	31	17	11	4	0	3	146
2002	76	41	24	12	12	3	3	0	171
2003	50	33	31	13	13	1	1	0	142
2004	57	35	13	10	17	4	2	0	138
2005	45	28	27	15	11	5	1	0	132
2006	57	26	34	9	12	5	2	0	145
2007	53	30	38	6	14	4	2	0	147
2008	47	22	35	9	7	6	3	0	129
2009	33	17	38	9	10	10	2	2	121
2010	41	31	25	7	14	3	1	1	123
2011	43	21	32	12	12	2	3	0	125
2012	39	29	35	9	7	3	2	0	124
2013	30	13	26	8	8	2	1	0	88
Ave. trend change p.a. (%) - for the last 10 years	-5.5	-5.8	-	-2.2	-5.6	-8.6	-	-	-3.5

**Heavy rigid trucks (Only available from 2004)**

2004	30	25	19	7	7	4	0	0	92
2005	26	28	10	3	7	2	1	1	78
2006	24	15	15	5	8	3	1	1	72
2007	28	24	10	5	10	1	1	1	80
2008	12	24	21	8	18	2	2	0	87
2009	23	18	13	2	16	1	0	0	73
2010	20	19	12	2	11	4	0	1	69
2011	15	14	13	6	5	2	2	0	57
2012	22	16	23	6	15	2	1	1	86
2013	24	15	11	4	15	0	0	0	69
Ave. trend change p.a. (%) - for the last 10 years	-3.5	-5.8	-	-	6.3	-	-	-	-2.2

**Table 2.2 Fatal crashes involving heavy vehicles by state/territory (continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Buses</b>									
1989	25	5	9	2	1	0	0	3	45
1990	14	6	4	4	3	0	1	0	32
1991	6	6	12	3	1	1	0	1	30
1992	11	4	4	3	2	3	0	1	28
1993	14	5	7	2	5	1	1	1	36
1994	8	7	7	0	3	1	1	1	28
1995	9	3	6	1	2	1	0	0	22
1996	15	4	6	0	3	1	0	2	31
1997	13	1	2	0	5	1	1	1	24
1998	12	2	7	0	0	1	1	0	23
1999	10	2	12	2	1	1	0	1	29
2000	13	3	5	1	0	1	0	0	23
2001	11	7	4	2	0	2	0	2	28
2002	13	6	6	2	1	0	0	0	28
2003	13	3	4	2	2	1	1	0	26
2004	15	6	6	2	0	0	0	1	30
2005	15	4	7	1	2	0	0	0	29
2006	7	3	5	1	1	1	1	0	19
2007	11	4	7	1	2	0	0	0	25
2008	5	4	8	1	2	0	0	0	20
2009	8	6	8	2	0	1	0	0	25
2010	9	2	3	3	0	1	1	1	20
2011	11	5	7	0	1	0	0	0	24
2012	6	3	6	1	1	0	0	0	17
2013	2	3	5	0	0	0	1	0	11
Ave. trend change p.a. (%) - for the last 10 years	-	-	-	-	-	-	-	-	-7.0

Source: Australian Road Deaths Database

**Table 2.3 Fatal crashes involving heavy vehicles by speed zone**

	<i>0 to 60 km/h</i>	<i>70 to 90 km/h</i>	<i>100 km/h</i>	<i>≥110 km/h</i>	<i>Total<sup>a</sup></i>
<b>Articulated trucks</b>					
1989	62	22	129	34	250
1990	43	37	99	24	205
1991	30	21	81	22	156
1992	33	24	78	18	154
1993	32	24	83	30	171
1994	26	29	71	25	151
1995	31	24	83	25	165
1996	31	22	69	38	161
1997	27	19	64	36	146
1998	20	27	72	31	151
1999	36	29	64	33	163
2000	25	22	85	33	165
2001	28	19	66	29	146
2002	24	35	80	32	171
2003	20	39	59	24	142
2004	17	35	56	29	138
2005	18	31	60	23	132
2006	22	26	68	29	145
2007	26	24	68	28	147
2008	25	27	55	21	129
2009	14	21	59	27	121
2010	22	23	58	20	123
2011	17	32	50	25	125
2012	18	22	57	27	124
2013	15	14	40	19	88
Ave. trend change p.a. (%) - for the last 10 years	-2.1	-5.9	-3.2	-2.5	-3.5
<b>Heavy rigid trucks (Only available from 2004)</b>					
2004	24	22	38	7	92
2005	25	23	26	3	78
2006	23	20	20	8	72
2007	25	17	27	10	80
2008	21	29	28	8	87
2009	16	20	26	11	73
2010	19	17	24	9	69
2011	18	15	19	5	57
2012	31	16	26	12	86
2013	23	17	24	4	69
Ave. trend change p.a. (%) - for the last 10 years	-0.7	-4.0	-2.9	-	-2.2

**Table 2.3 Fatal crashes involving heavy vehicles by speed zone (continued)**

	<i>0 to 60 km/h</i>	<i>70 to 90 km/h</i>	<i>100 km/h</i>	<i>≥110 km/h</i>	<i>Total<sup>a</sup></i>
<b>Buses</b>					
1989	23	4	14	1	45
1990	19	4	6	3	32
1991	22	1	6	0	30
1992	18	3	6	0	28
1993	19	3	10	3	36
1994	18	3	3	3	28
1995	8	5	7	2	22
1996	18	6	5	0	31
1997	13	3	5	2	24
1998	13	4	6	0	23
1999	15	8	5	0	29
2000	16	4	3	0	23
2001	14	6	6	0	28
2002	18	7	1	1	28
2003	13	5	5	3	26
2004	14	5	7	3	30
2005	15	8	4	2	29
2006	15	1	1	2	19
2007	13	6	5	1	25
2008	10	6	2	1	20
2009	13	8	3	1	25
2010	11	6	3	0	20
2011	19	1	4	0	24
2012	13	3	1	0	17
2013	8	0	1	2	11
Ave. trend change p.a. (%) - for the last 10 years	-	-	-	-	-7.0

a Includes crashes where speed limit is unknown.

Source: Australian Road Deaths Database

**Table 2.4 Fatal crashes involving heavy vehicles by crash type**

	<i>Single vehicle</i>	<i>Pedestrian involved</i>	<i>Multiple vehicle</i>	<i>Total</i>
<b>Articulated trucks</b>				
1989	41	30	179	250
1990	41	15	149	205
1991	27	12	117	156
1992	30	15	109	154
1993	29	14	128	171
1994	24	15	112	151
1995	33	15	117	165
1996	24	13	124	161
1997	31	11	104	146
1998	32	16	103	151
1999	18	17	128	163
2000	25	18	122	165
2001	17	18	111	146
2002	30	16	125	171
2003	20	13	109	142
2004	27	14	97	138
2005	26	11	95	132
2006	21	20	104	145
2007	31	19	97	147
2008	23	17	89	129
2009	29	18	74	121
2010	15	14	94	123
2011	19	19	87	125
2012	18	16	90	124
2013	8	7	73	88
Ave. trend change p.a. (%) - for the last 10 years	-9.2	-2.8	-2.5	-3.5
<b>Heavy rigid trucks (Only available from 2004)</b>				
2004	10	15	67	92
2005	7	11	60	78
2006	8	11	53	72
2007	6	12	62	80
2008	11	15	61	87
2009	7	10	56	73
2010	8	7	54	69
2011	4	14	39	57
2012	5	11	70	86
2013	5	17	47	69
Ave. trend change p.a. (%) - for the last 10 years	-6.8	0.2	-2.5	-2.2

**Table 2.4 Fatal crashes involving heavy vehicles by crash type (continued)**

	<i>Single vehicle</i>	<i>Pedestrian involved</i>	<i>Multiple vehicle</i>	<i>Total</i>
<b>Buses</b>				
1989	2	14	29	45
1990	4	8	20	32
1991	1	11	18	30
1992	3	9	16	28
1993	1	10	25	36
1994	3	10	15	28
1995	1	8	13	22
1996	2	14	15	31
1997	5	6	13	24
1998	3	7	13	23
1999	1	9	19	29
2000	1	12	10	23
2001	1	11	16	28
2002	4	13	11	28
2003	4	7	15	26
2004	1	7	22	30
2005	5	9	15	29
2006	2	9	8	19
2007	1	7	17	25
2008	5	4	11	20
2009	5	6	14	25
2010	3	3	14	20
2011	3	13	8	24
2012	2	5	10	17
2013	0	1	10	11
Ave. trend change p.a. (%) - for the last 10 years	-	-	-6.0	-7.0

Source: Australian Road Deaths Database

**Table 2.5 Fatal crashes involving heavy vehicles by common crash sub-types<sup>a</sup>**

	<i>Intersection</i>	<i>Head-on</i>	<i>Single vehicle run-off road<sup>b</sup></i>
<b>Articulated trucks</b>			
2008	27	51	15
2009	17	40	19
2010	29	42	13
2011	28	45	14
2012	22	51	15
<b>Heavy rigid trucks</b>			
2008	26	32	4
2009	26	23	6
2010	20	23	4
2011	22	15	3
2012	22	30	2
<b>Buses</b>			
2008	11	1	2
2009	8	5	3
2010	6	7	3
2011	12	4	1
2012	8	4	1
<b>Crash involving any heavy vehicle</b>			
	<i>Intersection</i>	<i>Head-on</i>	<i>Single vehicle run-off road<sup>b</sup></i>
2008	64	82	21
2009	50	63	28
2010	54	70	20
2011	61	62	18
2012	51	82	18

a Categories not mutually exclusive.

b Excludes South Australia.

Source: National Crash Database

**Table 2.6 Fatal crashes involving heavy vehicles by remoteness region**

	<i>Major cities</i>	<i>Inner regional</i>	<i>Outer regional</i>	<i>Remote</i>	<i>Very remote</i>	<i>Total<sup>a</sup></i>
<b><i>Articulated trucks</i></b>						
2008	25	52	39	3	6	126
2009	21	36	39	13	5	114
2010	25	43	40	8	4	120
2011	32	46	37	6	6	127
2012	22	49	42	8	6	127
<b><i>Heavy rigid trucks</i></b>						
2008	40	24	14	2	1	82
2009	32	23	14	1	0	70
2010	31	22	8	2	1	64
2011	19	21	12	2	1	55
2012	26	28	19	2	4	81
<b><i>Buses</i></b>						
2008	13	5	2	2	0	22
2009	10	8	6	1	0	25
2010	12	6	3	0	0	21
2011	18	3	1	1	0	23
2012	14	1	4	1	1	21

***Crash involving any heavy vehicle***

	<i>Major cities</i>	<i>Inner regional</i>	<i>Outer regional</i>	<i>Remote</i>	<i>Very remote</i>	<i>Total<sup>a</sup></i>
2008	78	79	55	7	7	230
2009	61	61	58	15	5	200
2010	65	69	50	10	4	198
2011	68	68	50	9	7	202
2012	61	74	63	10	11	223

a Includes undetermined remoteness regions.

Source: National Crash Database

**Table 2.7 Fatal crashes involving heavy vehicles by road type**

<i>National or State highway</i>	<i>Arterial</i>	<i>Sub-arterial</i>	<i>Local</i>	<i>Other<sup>a</sup></i>	<i>Total<sup>b</sup></i>
<b>Articulated trucks</b>					
2008	82	17	11	7	8
2009	68	21	14	9	2
2010	79	15	11	12	2
2011	81	21	14	8	2
2012	89	20	7	8	3
<b>Heavy rigid trucks</b>					
2008	35	11	19	9	6
2009	33	14	11	10	2
2010	32	14	4	7	7
2011	14	16	9	13	3
2012	31	18	10	16	4
<b>Buses</b>					
2008	4	7	3	6	2
2009	6	6	3	8	2
2010	1	8	4	1	7
2011	4	5	3	4	7
2012	4	6	4	5	2
<b>Crash involving any heavy vehicle</b>					
<i>National or State highway</i>	<i>Arterial</i>	<i>Sub-arterial</i>	<i>Local</i>	<i>Other<sup>a</sup></i>	<i>Total<sup>b</sup></i>
2008	119	35	33	22	0
2009	100	40	27	27	0
2010	108	36	19	19	0
2011	98	41	26	24	0
2012	118	43	21	28	0

a Includes Collector road, Access road, Path and Busway.

b Includes crashes with undetermined road type.

Source: *National Crash Database*

**Table 2.8 Fatal crashes involving heavy vehicles by weekly time-block – five years 2009–2013**

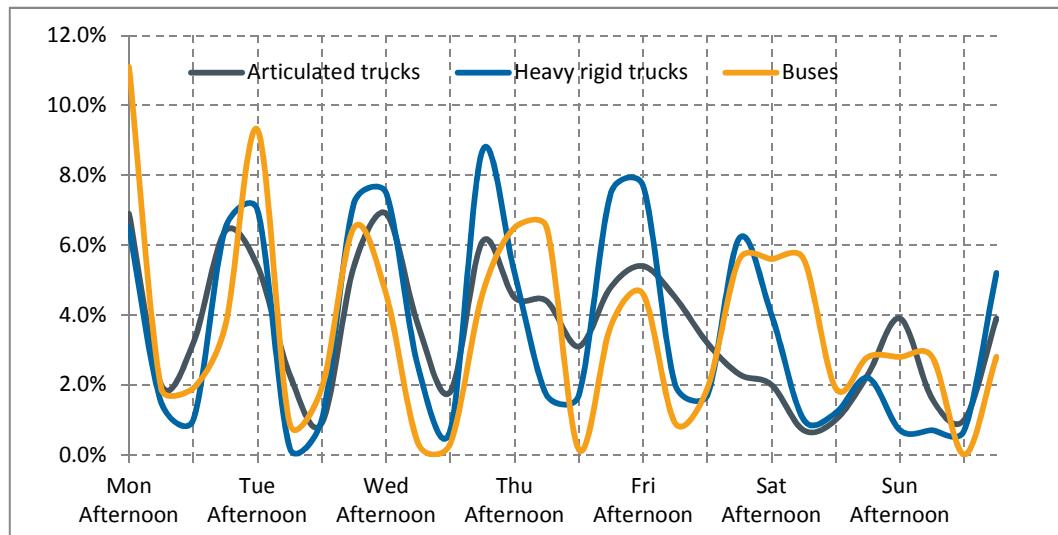
<i>Crash time of Week</i>		<i>Articulated trucks involvement</i>	<i>Heavy rigid trucks involvement</i>	<i>Bus involvement</i>
Monday	<i>Early</i>	7	3	0
	<i>Morning</i>	27	21	3
	<i>Afternoon</i>	47	26	12
	<i>Evening</i>	14	6	2
Tuesday	<i>Early</i>	22	4	2
	<i>Morning</i>	44	26	4
	<i>Afternoon</i>	37	28	10
	<i>Evening</i>	16	1	1
Wednesday	<i>Early</i>	6	4	2
	<i>Morning</i>	37	29	7
	<i>Afternoon</i>	47	30	5
	<i>Evening</i>	25	10	0
Thursday	<i>Early</i>	12	3	0
	<i>Morning</i>	42	35	5
	<i>Afternoon</i>	31	21	7
	<i>Evening</i>	30	7	7
Friday	<i>Early</i>	21	7	0
	<i>Morning</i>	33	30	4
	<i>Afternoon</i>	37	31	5
	<i>Evening</i>	31	8	1
Saturday	<i>Early</i>	22	7	2
	<i>Morning</i>	16	25	6
	<i>Afternoon</i>	14	16	6
	<i>Evening</i>	5	4	6
Sunday	<i>Early</i>	7	5	2
	<i>Morning</i>	16	9	3
	<i>Afternoon</i>	27	3	3
	<i>Evening</i>	11	3	3

a Excludes crashes with unrecorded time.

Source: Australian Road Deaths Database

Early Morning      Midnight - 6am  
Morning 6am - Noon      Afternoon Evening      Noon - 6pm  
Afternoon 6pm - Midnight

**Figure 2.2 Fatal crashes involving heavy vehicles by weekly-time-block – five years 2009–2013**



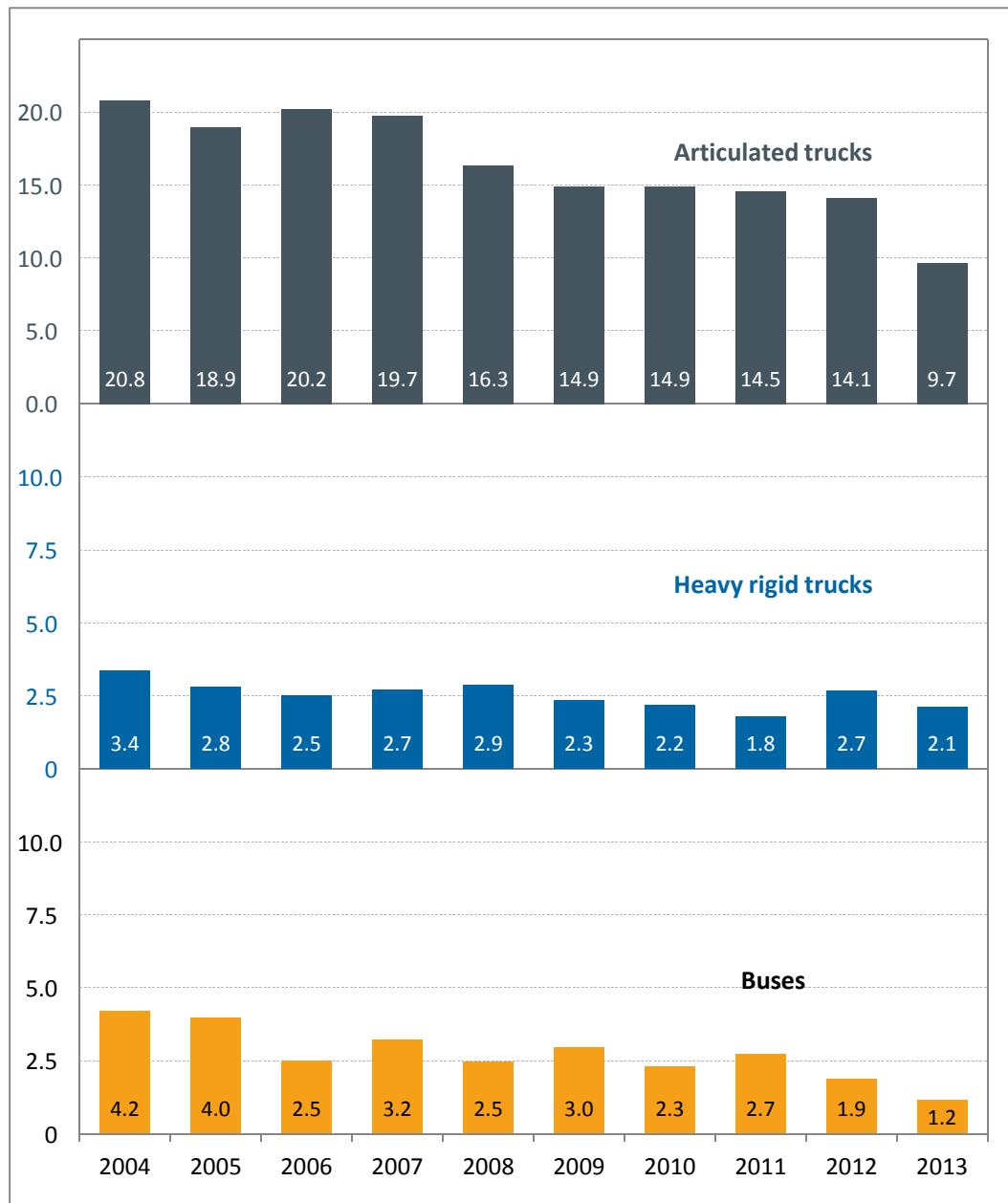
**Table 2.9 Heavy vehicle involved fatal crash rates per 10,000 heavy vehicle registrations**

	<i>Articulated trucks</i>	<i>Heavy rigid trucks<sup>a</sup></i>	<i>Buses</i>
1989	48.7	-	4.7
1990	40.4	-	3.2
1991	30.5	-	6.1
1992	30.4	-	5.3
1993	33.5	-	6.6
1994	28.4	-	4.9
1995	28.3	-	4.2
1996	27.6	-	5.3
1997	24.6	-	3.9
1998	24.2	-	3.6
1999	25.8	-	4.4
2000	-	-	-
2001	23.3	-	4.1
2002	26.8	-	4.0
2003	22.1	-	3.7
2004	20.8	3.4	4.2
2005	18.9	2.8	4.0
2006	20.2	2.5	2.5
2007	19.7	2.7	3.2
2008	16.3	2.9	2.5
2009	14.9	2.3	3.0
2010	14.9	2.2	2.3
2011	14.5	1.8	2.7
2012	14.1	2.7	1.9
2013	9.7	2.1	1.2
Ave. trend change p.a. (%) - for the last 10 years	-6.8	-4.1	-9.9

a Only available from 2004.

Source: Australian Road Deaths Database

**Figure 2.3 Heavy vehicle involving fatal crash rates per 10,000 heavy vehicle registrations**



Source: Australian Road Deaths Database

ABS (2013)

**Table 2.10 Heavy vehicle involved fatal crash rates per billion vehicle-kilometres-travelled (VKT) by state**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Articulated trucks</b>									
1989	71.9	58.8	63.8	58.3	47.1	34.6	34.9	65.1	61.8
1990	55.8	50.5	42.6	44.9	38.2	83.8	35.2	0.0	49.6
1991	48.1	34.4	31.8	45.6	28.3	34.3	12.3	0.0	38.4
1992	55.3	26.0	45.9	20.2	25.4	8.6	12.5	0.0	37.6
1993	42.6	30.6	47.2	40.3	42.6	24.2	12.0	0.0	38.9
1994	35.6	31.8	40.5	32.5	29.8	7.9	12.1	0.0	33.4
1995	31.0	26.1	52.2	37.6	25.8	30.6	47.0	65.4	34.3
1996	28.7	27.0	36.0	40.9	47.5	15.3	11.8	64.9	32.1
1997	34.1	20.7	29.4	25.0	25.7	30.6	23.6	0.0	28.0
1998	31.5	23.3	27.3	36.4	22.8	15.4	23.8	64.0	27.9
1999	28.8	26.9	28.2	33.5	36.7	15.5	36.0	63.8	29.3
2000	34.8	24.1	25.6	29.1	21.5	46.4	36.6	0.0	28.9
2001	24.4	24.5	28.7	33.9	20.0	31.9	0.0	202.2	26.0
2002	37.8	30.3	21.2	23.2	21.1	23.3	39.0	0.0	29.5
2003	24.5	23.6	26.1	24.4	22.0	7.5	13.1	0.0	23.8
2004	27.3	24.2	10.5	18.3	27.8	29.1	26.4	0.0	22.4
2005	21.1	18.9	21.0	26.9	17.5	35.7	13.4	0.0	20.9
2006	26.4	17.2	25.2	15.9	18.6	35.3	27.4	0.0	22.4
2007	23.8	19.1	26.7	10.3	20.5	27.5	27.5	0.0	21.9
2008	20.3	13.7	23.1	14.8	10.0	38.7	41.4	0.0	18.5
2009	14.1	10.4	26.0	15.1	14.0	67.7	28.7	127.6	17.3
2010	16.7	18.4	17.1	11.4	19.7	21.1	14.3	63.2	17.2
2011	16.4	11.5	21.2	18.5	16.1	13.9	43.8	0.0	16.5
2012	14.4	14.7	21.5	13.3	9.3	21.2	28.8	0.0	15.6
Ave. trend change p.a. (%) - for the last 10 years	-7.6	-6.4	-	-	-7.8	-	-	-	-4.8
<b>Heavy rigid trucks (Only available from 2004)</b>									
2004	12.0	14.1	10.8	14.2	7.7	22.3	0.0	0.0	11.9
2005	10.4	15.2	5.4	5.9	7.4	10.4	12.7	15.5	9.8
2006	9.4	7.9	7.8	9.6	8.1	14.8	12.3	14.7	8.7
2007	10.8	12.3	5.1	9.5	9.9	4.8	12.2	14.1	9.5
2008	4.6	12.2	10.2	14.6	17.6	8.9	24.0	0.0	10.1
2009	8.9	9.1	6.7	3.7	15.6	4.7	0.0	0.0	8.6
2010	7.5	9.5	6.3	3.6	11.0	19.5	0.0	13.8	8.1
2011	5.4	6.5	6.7	10.4	4.8	9.7	24.2	0.0	6.4
2012	7.8	6.9	11.1	10.0	14.4	9.8	11.8	12.6	9.4
Ave. trend change p.a. (%) - for the last 10 years	-6.9	-8.5	-	-	3.8	-	-	-	-4.0

**Table 2.10 Heavy vehicle involved fatal crash rates per billion vehicle-kilometres-travelled (VKT) by state (continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Buses</b>									
1989	56.7	17.9	30.2	17.9	4.7	0.0	0.0	144.0	30.8
1990	30.4	20.3	12.6	33.1	13.0	0.0	15.9	0.0	20.6
1991	13.3	21.3	38.7	25.5	4.5	24.0	0.0	46.3	19.9
1992	25.0	14.6	12.9	25.8	9.2	72.7	0.0	46.6	18.9
1993	31.8	18.0	22.2	17.4	22.8	24.0	16.5	47.1	24.2
1994	17.4	24.2	21.2	0.0	13.1	23.2	16.0	47.5	18.0
1995	19.1	10.1	17.4	8.2	8.5	22.8	0.0	0.0	13.8
1996	31.3	13.1	17.0	0.0	12.2	22.4	0.0	78.6	18.8
1997	27.1	3.3	5.6	0.0	20.5	22.6	14.6	37.4	14.5
1998	24.5	6.5	19.0	0.0	0.0	22.4	14.1	0.0	13.6
1999	20.0	6.3	32.3	15.6	3.9	22.2	0.0	38.6	16.9
2000	25.5	9.3	12.9	7.7	0.0	21.8	0.0	0.0	13.0
2001	21.2	21.2	10.1	15.0	0.0	43.3	0.0	78.8	15.5
2002	25.0	18.0	14.8	14.9	3.5	0.0	0.0	0.0	15.3
2003	24.5	8.9	9.5	14.6	6.9	21.3	12.4	0.0	13.9
2004	28.3	17.5	14.0	14.5	0.0	0.0	0.0	35.6	15.9
2005	27.8	11.7	16.1	7.2	6.7	0.0	0.0	0.0	15.2
2006	13.0	8.6	10.9	6.9	3.2	20.9	12.0	0.0	9.7
2007	20.0	11.1	15.0	6.9	6.4	0.0	0.0	0.0	12.5
2008	8.9	11.0	16.0	6.6	6.3	0.0	0.0	0.0	9.7
2009	13.8	16.3	16.3	13.4	0.0	20.3	0.0	0.0	12.0
2010	14.8	5.3	6.0	19.6	0.0	20.6	11.4	32.5	9.4
2011	16.7	12.4	13.6	0.0	3.2	0.0	0.0	0.0	10.8
2012	8.7	7.0	10.8	6.1	3.3	0.0	0.0	0.0	7.3
Ave. trend change p.a. (%) - for the last 10 years	-	-	-	-	-	-	-	-	-6.8

Source: Australian Road Deaths Database  
BITRE (2012)

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## Appendix

### Exposure Data

The footnotes for Table A.I have been revised in order to clarify several issues relating to data collection and definitions that affected vehicle registration data during the period 1990 to 1996.

**Table A.1 Motor vehicles on register, heavy vehicles, by state/territory**

	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas</i>	<i>NT</i>	<i>ACT</i>	<i>Australia</i>
<b>Articulated trucks</b>									
1989	16,700	13,100	10,200	4,400	5,300	-	1,300	400	51,300
1990	16,800	14,200	10,600	2,100	5,700	-	1,200	300	50,800
1991	14,900	14,600	8,900	3,800	5,800	1,600	1,200	300	51,100
1992	15,300	14,300	10,400	3,700	5,600	-	1,100	300	50,700
1993	14,100	14,600	10,700	4,700	5,800	1,600	900	300	51,000
1994	14,500	15,300	11,300	4,700	6,100	-	900	400	53,200
1995	15,028	16,516	11,710	5,309	6,748	1,646	1,069	296	58,322
1996	15,100	16,800	11,500	5,100	6,900	1,600	994	300	58,352
1997	15,800	17,100	11,800	5,100	7,000	1,500	800	300	59,300
1998	16,800	17,300	12,400	5,900	7,300	1,500	800	300	62,300
1999	16,300	18,100	12,800	5,900	7,600	1,500	800	200	63,300
2000	-	-	-	-	-	-	-	-	-
2001	15,253	18,262	12,921	6,077	7,672	1,489	665	258	62,597
2002	15,294	18,553	13,285	6,394	7,981	1,483	653	262	63,905
2003	14,766	19,254	13,823	6,436	7,653	1,382	697	250	64,261
2004	15,300	20,200	14,100	6,200	8,000	1,500	700	200	66,300
2005	15,951	21,183	15,093	6,344	8,602	1,571	741	238	69,723
2006	16,234	21,508	15,802	6,389	9,260	1,498	754	235	71,680
2007	16,342	22,389	16,734	6,446	9,985	1,491	832	233	74,452
2008	16,735	23,690	17,940	6,914	11,111	1,591	927	224	79,132
2009	16,893	24,069	18,420	7,047	11,944	1,679	949	216	81,217
2010	16,907	24,476	18,648	7,310	12,229	1,637	1,033	196	82,436
2011	18,578	25,134	18,899	7,835	12,590	1,677	1,069	183	85,965
2012	19,009	25,265	19,595	8,016	13,217	1,625	1,099	169	87,995
2013	19,505	25,560	20,720	7,988	14,226	1,563	1,181	161	90,904
<i>Last 10 years'</i>	2.6	2.7	4.0	3.3	6.5	0.9	6.2	-3.7	3.5
<i>Ave. trend change p.a. (%)</i>									

**Table A.I      Motor vehicles on register, heavy vehicles, by state/territory  
(continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Heavy rigid trucks</b>									
2004	77,700	69,300	55,600	21,600	38,300	7,300	2,900	1,700	274,400
2005	78,981	70,079	57,724	21,559	39,312	7,436	2,974	1,687	279,752
2006	80,413	71,879	60,410	21,916	40,870	7,774	3,108	1,724	288,094
2007	80,539	73,339	63,709	21,938	42,538	7,917	3,218	1,724	294,922
2008	81,811	74,760	67,748	22,335	45,248	8,088	3,478	1,716	305,184
2009	82,056	75,588	69,804	22,595	47,340	8,171	3,687	1,698	310,939
2010	83,267	76,604	70,000	23,241	48,352	8,385	3,888	1,698	315,435
2011	84,401	77,339	69,262	23,692	49,089	8,597	4,116	1,727	318,223
2012	85,087	78,324	70,124	23,566	50,483	8,578	4,207	1,746	322,115
2013	85,807	78,490	71,366	23,326	52,218	8,720	4,359	1,712	325,998
Last 10 years'	1.1	1.5	2.8	1.2	3.6	2.0	5.0	0.2	2.0
Ave. trend change p.a. (%)									

**Table A.1 Motor vehicles on register, heavy vehicles, by state/territory (continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Buses</b>									
1989	57,100	13,900	10,500	3,000	7,900	1,900	700	1,200	96,200
1990	59,500	13,800	10,700	3,100	8,600	2,000	700	1,000	99,200
1991	10,600	14,400	8,900	3,000	8,100	2,000	1,000	1,400	49,400
1992	9,300	15,600	11,100	3,200	9,500	2,000	700	1,300	52,700
1993	10,100	15,900	11,500	3,400	9,900	2,100	700	1,300	54,900
1994	11,000	16,600	12,100	3,400	9,900	2,100	800	1,500	57,400
1995	13,473	13,770	9,328	3,525	7,125	2,145	1,883	921	52,170
1996	15,200	13,900	12,400	3,600	8,200	2,200	2,261	1,000	58,800
1997	15,900	14,300	12,900	3,700	8,800	2,200	2,500	1,000	61,100
1998	16,500	14,500	13,500	3,900	9,500	2,200	2,900	1,100	64,100
1999	16,600	15,000	14,100	4,000	9,900	2,200	3,000	1,000	65,900
2000	-	-	-	-	-	-	-	-	-
2001	17,238	15,484	14,677	4,186	10,096	2,240	2,643	1,008	67,572
2002	18,702	15,950	15,114	4,284	10,326	2,259	2,590	971	70,196
2003	18,805	15,887	15,457	4,285	10,044	2,194	2,493	957	70,122
2004	20,100	15,700	15,100	4,200	10,300	2,000	3,000	900	71,300
2005	20,279	15,837	15,682	4,233	10,572	2,138	2,956	923	72,620
2006	20,733	16,508	16,516	4,413	11,051	2,219	2,989	946	75,375
2007	20,772	16,887	17,336	4,544	11,673	2,308	3,094	948	77,562
2008	21,657	17,398	18,148	4,693	12,098	2,404	3,217	966	80,581
2009	22,401	18,061	19,127	4,916	13,007	2,422	3,439	1,040	84,413
2010	22,865	18,407	19,403	5,118	13,418	2,548	3,577	1,031	86,367
2011	23,390	18,817	19,542	5,271	13,597	2,594	3,592	1,080	87,883
2012	23,762	19,354	20,220	5,462	14,371	2,701	3,660	1,069	90,599
2013	24,210	19,509	21,026	5,529	15,133	2,744	3,810	1,073	93,034
Last 10 years'	2.3	2.6	3.7	3.4	4.4	3.4	3.1	2.2	3.1
Ave. trend change p.a. (%)									

Note The Australian vehicle classification was revised in the 1991 Motor Vehicle Census. Under the new classification, only freight-carrying vehicles with a gross vehicle mass (GVM) greater than 3.5 tonnes are classified as rigid or articulated trucks and freight-carrying vehicles with a GVM of less than or equal to 3.5 tonnes were classified as light commercial vehicles (LCVs). Hence the series for rigid trucks and light commercial vehicles contain breaks between 1990 and 1991. During 1995 and 1996, the State/Territory jurisdictions introduced the National Heavy Vehicle Registration Scheme. Using data from this scheme resulted in improved accuracy for counts of registrations of articulated and rigid trucks but its introduction caused some fluctuations in the data for the period 1991 through 1996. The introduction of unique Vehicle Identification Numbers (VINs) by motor vehicle authorities from July 1990 onwards resulted in re-classification of microbuses in some jurisdictions. The effect was a reduction in registered buses and an increase in registered passenger vehicles between 1990 and 1991. This results in a series break for buses.

Source: ABS (2013)

**Table A.2      Estimates of the number of vehicle-kilometres-travelled (VKT)  
– in billion kilometres**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Articulated trucks</b>									
1989	1.38	0.97	0.71	0.39	0.38	0.12	0.09	0.02	4.05
1990	1.38	1.01	0.73	0.40	0.39	0.12	0.09	0.02	4.13
1991	1.33	1.02	0.72	0.39	0.39	0.12	0.08	0.01	4.07
1992	1.32	1.04	0.74	0.40	0.39	0.12	0.08	0.01	4.10
1993	1.41	1.11	0.81	0.42	0.42	0.12	0.08	0.01	4.39
1994	1.46	1.13	0.84	0.43	0.44	0.13	0.08	0.01	4.52
1995	1.58	1.19	0.90	0.45	0.46	0.13	0.09	0.02	4.82
1996	1.67	1.22	0.94	0.46	0.48	0.13	0.08	0.02	5.01
1997	1.76	1.26	0.99	0.48	0.51	0.13	0.08	0.02	5.22
1998	1.84	1.29	1.03	0.49	0.53	0.13	0.08	0.02	5.40
1999	1.91	1.30	1.06	0.51	0.55	0.13	0.08	0.02	5.55
2000	1.98	1.33	1.09	0.52	0.56	0.13	0.08	0.02	5.70
2001	1.97	1.31	1.08	0.50	0.55	0.13	0.08	0.01	5.62
2002	2.01	1.35	1.13	0.52	0.57	0.13	0.08	0.01	5.80
2003	2.04	1.40	1.19	0.53	0.59	0.13	0.08	0.02	5.97
2004	2.09	1.45	1.24	0.55	0.61	0.14	0.08	0.02	6.16
2005	2.13	1.48	1.28	0.56	0.63	0.14	0.07	0.01	6.31
2006	2.16	1.51	1.35	0.57	0.65	0.14	0.07	0.02	6.46
2007	2.23	1.57	1.42	0.58	0.68	0.15	0.07	0.02	6.72
2008	2.31	1.61	1.51	0.61	0.70	0.15	0.07	0.02	6.98
2009	2.34	1.64	1.46	0.60	0.72	0.15	0.07	0.02	6.99
2010	2.46	1.68	1.46	0.62	0.71	0.14	0.07	0.02	7.16
2011	2.62	1.83	1.51	0.65	0.74	0.14	0.07	0.02	7.58
2012	2.72	1.97	1.62	0.68	0.75	0.14	0.07	0.02	7.97
Last 9 years'	3.4	3.6	3.0	2.6	2.6	0.4	-1.2	1.8	3.1
Ave. trend change p.a. (%)									

**Table A.2      Estimates of the number of vehicle-kilometres-travelled (VKT)  
– in billion kilometres (continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Heavy rigid trucks</b>									
2004	2.49	1.77	1.76	0.49	0.90	0.18	0.08	0.06	7.74
2005	2.51	1.84	1.84	0.51	0.94	0.19	0.08	0.06	7.97
2006	2.56	1.91	1.92	0.52	0.98	0.20	0.08	0.07	8.24
2007	2.60	1.95	1.97	0.53	1.01	0.21	0.08	0.07	8.43
2008	2.62	1.97	2.06	0.55	1.02	0.22	0.08	0.07	8.60
2009	2.58	1.99	1.95	0.53	1.03	0.21	0.08	0.07	8.45
2010	2.65	2.01	1.91	0.55	1.00	0.21	0.08	0.07	8.48
2011	2.76	2.16	1.95	0.58	1.04	0.21	0.08	0.08	8.85
2012	2.80	2.31	2.07	0.60	1.04	0.20	0.08	0.08	9.19
<i>Last 9 years'</i>	1.4	2.8	1.3	2.2	1.5	1.3	0.9	2.9	1.8
<i>Ave. trend change p.a.(%)</i>									

**Table A.2      Estimates of the number of vehicle-kilometres-travelled (VKT)  
– in billion kilometres (continued)**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Buses</b>									
1989	0.44	0.28	0.30	0.11	0.21	0.04	0.06	0.02	1.46
1990	0.46	0.30	0.32	0.12	0.23	0.04	0.06	0.02	1.55
1991	0.45	0.28	0.31	0.12	0.22	0.04	0.06	0.02	1.50
1992	0.44	0.27	0.31	0.12	0.22	0.04	0.06	0.02	1.48
1993	0.44	0.28	0.31	0.12	0.22	0.04	0.06	0.02	1.49
1994	0.46	0.29	0.33	0.12	0.23	0.04	0.06	0.02	1.55
1995	0.47	0.30	0.34	0.12	0.24	0.04	0.06	0.02	1.60
1996	0.48	0.31	0.35	0.12	0.25	0.04	0.07	0.03	1.65
1997	0.48	0.31	0.36	0.12	0.24	0.04	0.07	0.03	1.65
1998	0.49	0.31	0.37	0.13	0.26	0.04	0.07	0.03	1.69
1999	0.50	0.32	0.37	0.13	0.26	0.05	0.07	0.03	1.72
2000	0.51	0.32	0.39	0.13	0.27	0.05	0.07	0.03	1.76
2001	0.52	0.33	0.40	0.13	0.28	0.05	0.08	0.03	1.80
2002	0.52	0.33	0.41	0.13	0.28	0.05	0.08	0.03	1.83
2003	0.53	0.34	0.42	0.14	0.29	0.05	0.08	0.03	1.87
2004	0.53	0.34	0.43	0.14	0.30	0.05	0.08	0.03	1.89
2005	0.54	0.34	0.43	0.14	0.30	0.05	0.08	0.03	1.91
2006	0.54	0.35	0.46	0.14	0.31	0.05	0.08	0.03	1.96
2007	0.55	0.36	0.47	0.15	0.31	0.05	0.08	0.03	1.99
2008	0.56	0.36	0.50	0.15	0.32	0.05	0.09	0.03	2.06
2009	0.58	0.37	0.49	0.15	0.32	0.05	0.09	0.03	2.08
2010	0.61	0.37	0.50	0.15	0.32	0.05	0.09	0.03	2.12
2011	0.66	0.40	0.51	0.16	0.32	0.05	0.09	0.03	2.22
2012	0.69	0.43	0.55	0.16	0.30	0.05	0.09	0.03	2.32
Last 9 years'	3.3	2.6	3.0	2.2	0.7	0.7	1.5	2.1	2.5
Ave. trend change p.a. (%)									

Source: BITRE (2012)

## 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.

<i>Articulated truck</i>	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.
<i>Heavy rigid truck</i>	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.
<i>Bus</i>	A motor vehicle constructed for the carriage of passengers which has at least 10 seats, including the driver's seat.
<i>Road Death or Fatality</i>	A person who dies within 30 days of a crash as a result of injuries received in that crash.
<i>Crash</i>	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.
<i>Fatal crash</i>	A crash for which there is at least one death.
<i>BAC</i>	Blood alcohol concentration (BAC) refers to the amount of alcohol present in the bloodstream.
<i>Gross Vehicle Mass (GVM)</i>	Tare weight (i.e. unladen weight) of the motor vehicle plus its maximum carrying capacity excluding trailers.
<i>Estimation of ten year trends</i>	In this report, the figures for the 'average trend change p.a.(%)' are calculated by fitting an exponential trend line to the last ten data points. The Excel function LOGEST performs the fit. The resulting trend line represents a constant annual percent change over the period. (Note: when fitted to a series containing small numbers, this may not be a reliable indicator of a stable trend.)

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