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STATISTICAL REPORT



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Safety

**Road Trauma Australia
2019 Statistical Summary**

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Road trauma Australia
2019 statistical summary

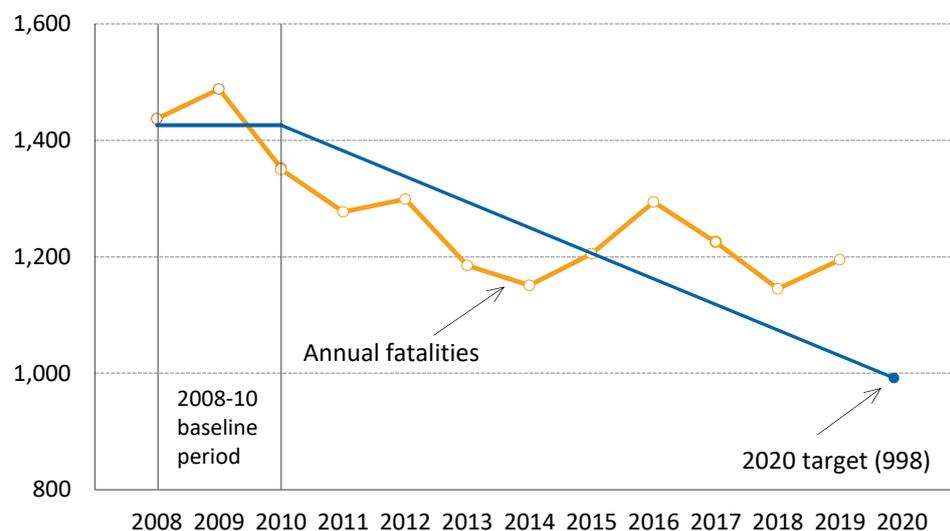
Department of Infrastructure, Transport, Regional Development and Communications
Canberra, Australia

Summary

This report is the latest in the BITRE series of annual road crash statistical reports. It presents annual counts of road deaths, injuries and standardised rates.

In 2019 there were 1,195 road crash deaths. This is an increase of 5.3 per cent from 2018 (Table 1.1). Against the *National Road Safety Strategy 2011-2020* baseline of 1,427 deaths, the total in 2019 was a 16.3 per cent reduction. The target in 2020 is a reduction of 30 per cent from the baseline (Figure 1).

Figure 1 NRSS 2011- 2020 statistical progress towards fatality target



Reductions compared to the baseline years (2008-2010) varied from -27.7 per cent for Queensland, -13.6 per cent for New South Wales and -8.2 per cent for Victoria to +1.8 per cent for South Australia.

The reductions in fatality rates per population were greater than in annual counts of deaths. Between 2010 and 2019 the national annual fatality rate per 100,000 population decreased from 6.1 to 4.7 or by -23.3 per cent (Table 2.1). Over the decade, population increased by 15.1 per cent with the strongest increase (20.8 per cent) in Victoria (Table 4.1).

In contrast to the decline in road deaths, hospitalised injuries (HI) have increased. The most recent annual count of hospitalised injuries (for 2017) was 39,330 and the trend increase since 2013 was 3.3 per cent per annum. A quarter of people who were hospitalised had High Threat To Life injuries (Table 1.21).

Road deaths of vehicle occupants (drivers and passengers) declined faster than for deaths of vulnerable road users (pedestrians, motorcyclists and pedal cyclists). The total reduction over the

decade for vulnerable road users was 5.1 per cent (or -0.1 per cent per annum), whereas deaths of vehicle occupants decreased by a total of 15.0 per cent (or -1.6 per cent per annum, Table I.2).

By age group, trends also differed greatly over the decade. Deaths of road users aged ≥ 65 years increased by 2.2 per cent per annum, whereas deaths of people aged ≤ 25 decreased by 3.6 per cent per annum (a total reduction of 30.2 per cent). The increases in deaths of older road users were mostly seen in drivers and pedestrians. The decreases in deaths of younger road users were seen across all road users (except pedal cyclists, which had no trend, Table I.7).

Zones with a posted speed limit of ≤ 50 km/h account for 13 per cent of all deaths and show a marginally increasing trend over the decade. Where the posted speed limit is 60 km/hr (17 per cent of total deaths), 70-90 km/hr (22 per cent of the total) or 100 km/hr (32 per cent), the trends in deaths are all down (Table I.8).

Crash sub-types shown are single vehicle run-off road (35 per cent of all deaths), head-on (18 per cent) and intersection crashes (16 per cent) (Table I.10). These proportions have been relatively stable over the decade.

Two thirds of road deaths occur in regional and remote areas, with one third occurring in a major city area. These proportions have not changed over the decade (Table I.15). In terms of fatalities per population, the rate increases as Remoteness increases. The rate for remote areas is approximately double that of regional areas and ten times that for major cities.

Compared with deaths, Major City areas account for a much greater proportion (66 per cent) of hospitalised injuries.

Figure II Deaths and fatality rate per 100,000 population 2010–2019

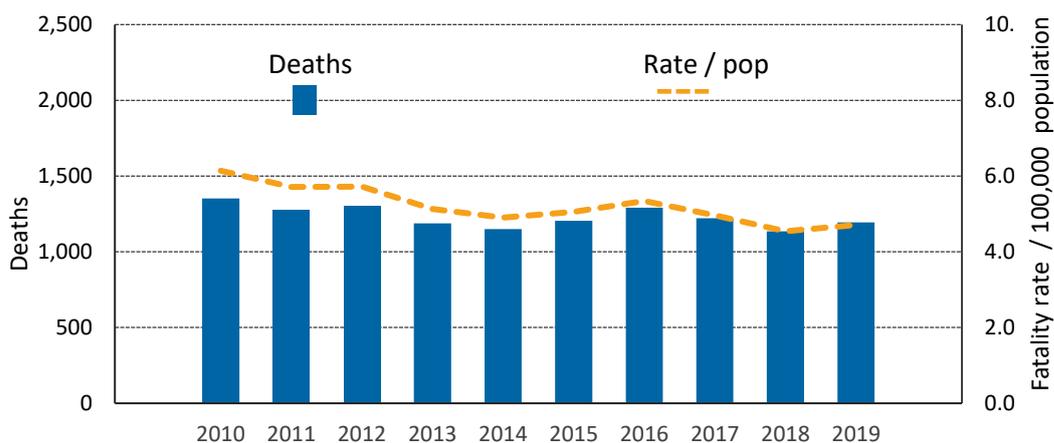
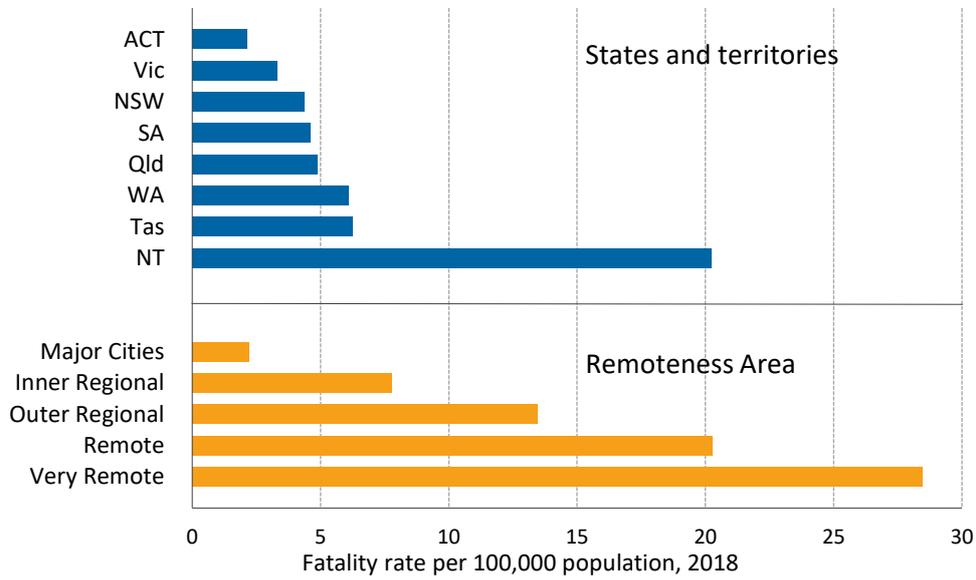


Figure III Fatality rate per 100,000 population by jurisdiction and ABS Remoteness Area, 2018



Data Sources

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

The scope of the ARDD is all fatal road crashes. It comprises basic demographic and crash information only. It is updated each month and for this report March 2020 data was used. The tables in this report that present fatal crash data for 2010–2019 are based on the ARDD. The database is available at <https://www.bitre.gov.au/statistics/safety/fatal_road_crash_database> and at <<https://data.gov.au/>>.

The scope of the National Crash Database is fatal and injury crashes, and at present it covers the years 2008 to 2018. The NCD contains greater detail than the ARDD, but is updated only annually. The NCD is the source for formal reporting on progress against the National Road Safety Strategy 2020. The tables in this report that present fatal crash data for 2010–2018 are based on the NCD.

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 2016 for information regarding inclusion criteria for traffic crash hospitalised injuries.

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Transport for New South Wales;
Department of Transport, Victoria;
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Western Australian Police;
Main Roads Western Australia;
Department of State Growth, Tasmania;
Department of Infrastructure, Planning and Logistics, Northern Territory;
Transport Canberra and City Services Directorate, Australian Capital Territory.

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Section I

TRAUMA

Table I.1 Deaths by jurisdiction

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	405	288	249	118	193	31	50	19	1,353
2011	364	287	269	103	179	24	45	6	1,277
2012	369	282	280	94	183	31	49	12	1,300
2013	333	243	271	98	162	36	37	7	1,187
2014	307	248	223	108	183	33	39	10	1,151
2015	350	252	243	102	159	34	49	15	1,204
2016	380	290	251	86	193	37	45	10	1,292
2017	389	259	247	100	159	31	31	5	1,221
2018	347	213	245	80	158	33	50	9	1,135
2019	355	270	219	114	163	32	36	6	1,195
% change 2018-2019	2.3	26.8	-10.6	42.5	3.2	-3.0	-28.0	-33.3	5.3
Ave. trend change p.a. (%)	-0.4	-1.5	-1.6	-1.3	-1.6	1.6	-2.2	-6.1	-1.2

Figure I.1 Deaths by jurisdiction, with trends



Figure I.1 Deaths by jurisdiction, with trends (continued)



Table I.2 Deaths by road user

	<i>Driver</i>	<i>Passenger</i>	<i>Pedestrian</i>	<i>Motorcyclist^a</i>	<i>Pedal cyclist^a</i>	<i>Total^b</i>
2010	636	284	170	224	38	1,353
2011	568	286	186	202	34	1,277
2012	610	260	170	223	33	1,300
2013	557	204	158	213	50	1,187
2014	533	228	151	191	45	1,151
2015	555	251	161	203	31	1,204
2016	622	208	182	249	29	1,292
2017	566	234	161	211	39	1,221
2018	522	204	177	191	35	1,135
2019	577	205	160	211	39	1,195
% change 2018-2019	10.5	0.5	-9.6	10.5	11.4	5.3
Ave. trend change p.a. (%)	-0.9	-3.4	-0.4	-0.4	-0.4	-1.2
a	Includes pillion passengers.					
b	Includes cases where road user type is unknown.					

Figure I.2 Deaths by road user, with trends

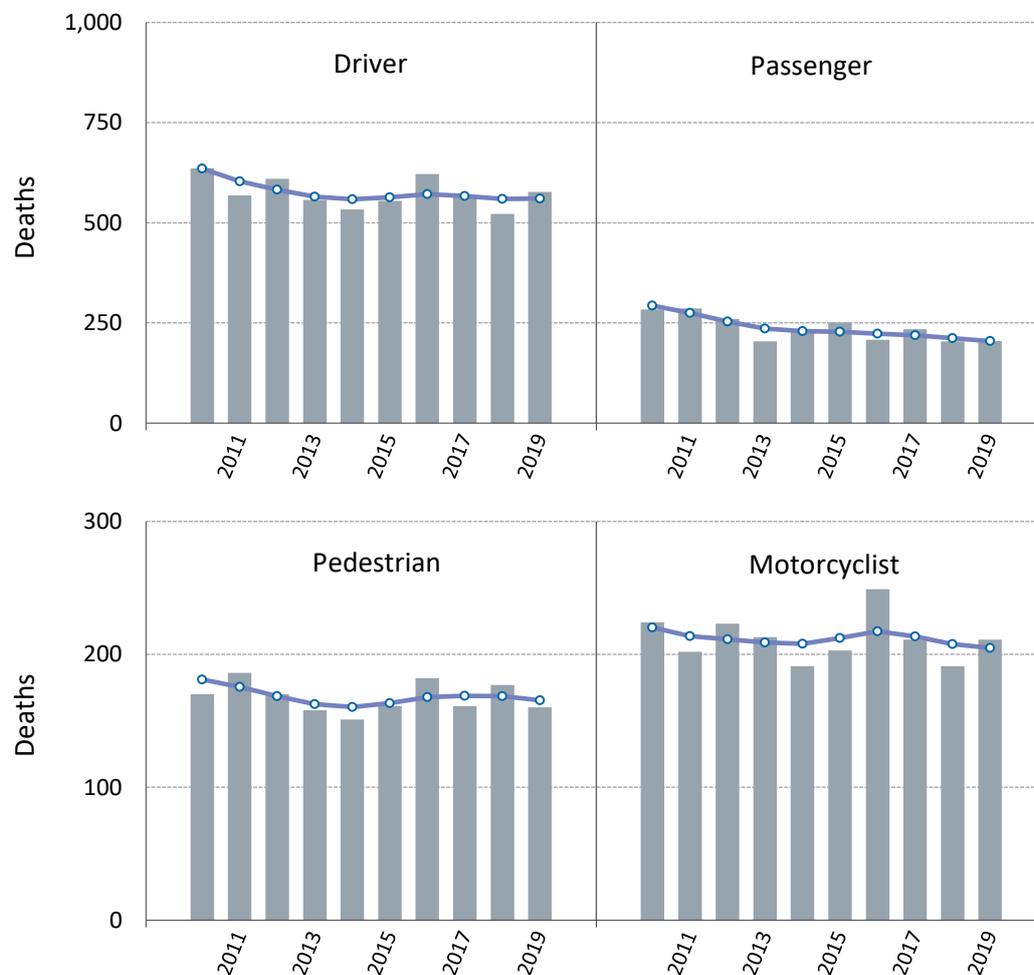
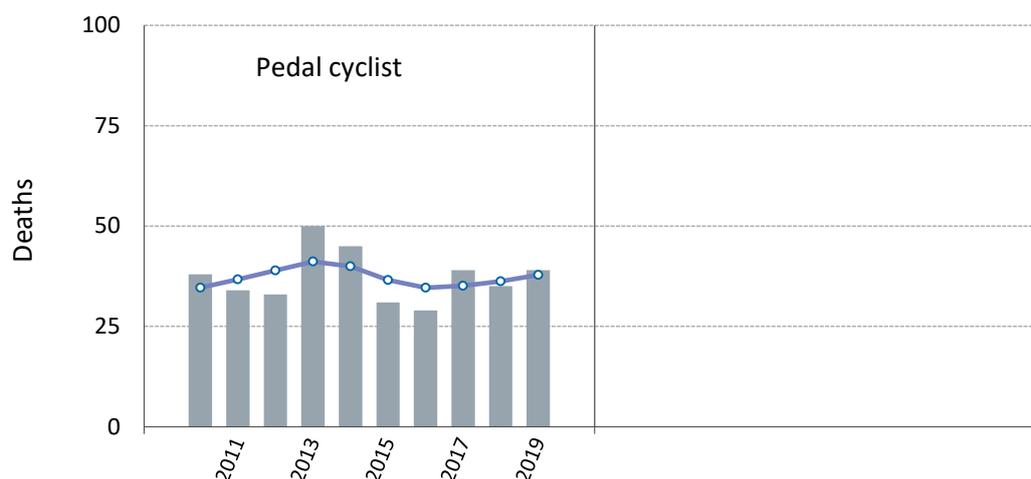


Figure I.2 Deaths by road user, trends (continued)**Table I.3** Deaths by age group

	0–16 years	17–25 years	26–39 years	40–64 years	65–74 years	≥ 75 years	Total ^a
2010	74	336	305	418	97	122	1,353
2011	93	280	275	398	83	148	1,277
2012	70	284	300	400	96	149	1,300
2013	66	230	243	374	118	156	1,187
2014	65	235	251	359	109	130	1,151
2015	65	225	272	373	118	151	1,204
2016	60	265	290	411	103	163	1,292
2017	48	244	237	391	120	181	1,221
2018	52	225	257	353	114	130	1,135
2019	48	238	255	378	107	169	1,195
% change 2018-2019	-7.7	5.8	-0.8	7.1	-6.1	30.0	5.3
Ave. trend change p.a. (%)	-6.0	-3.0	-1.6	-0.9	2.4	2.0	-1.2

a Includes cases where age is unknown.

Figure I.3 Deaths by age group, with trends

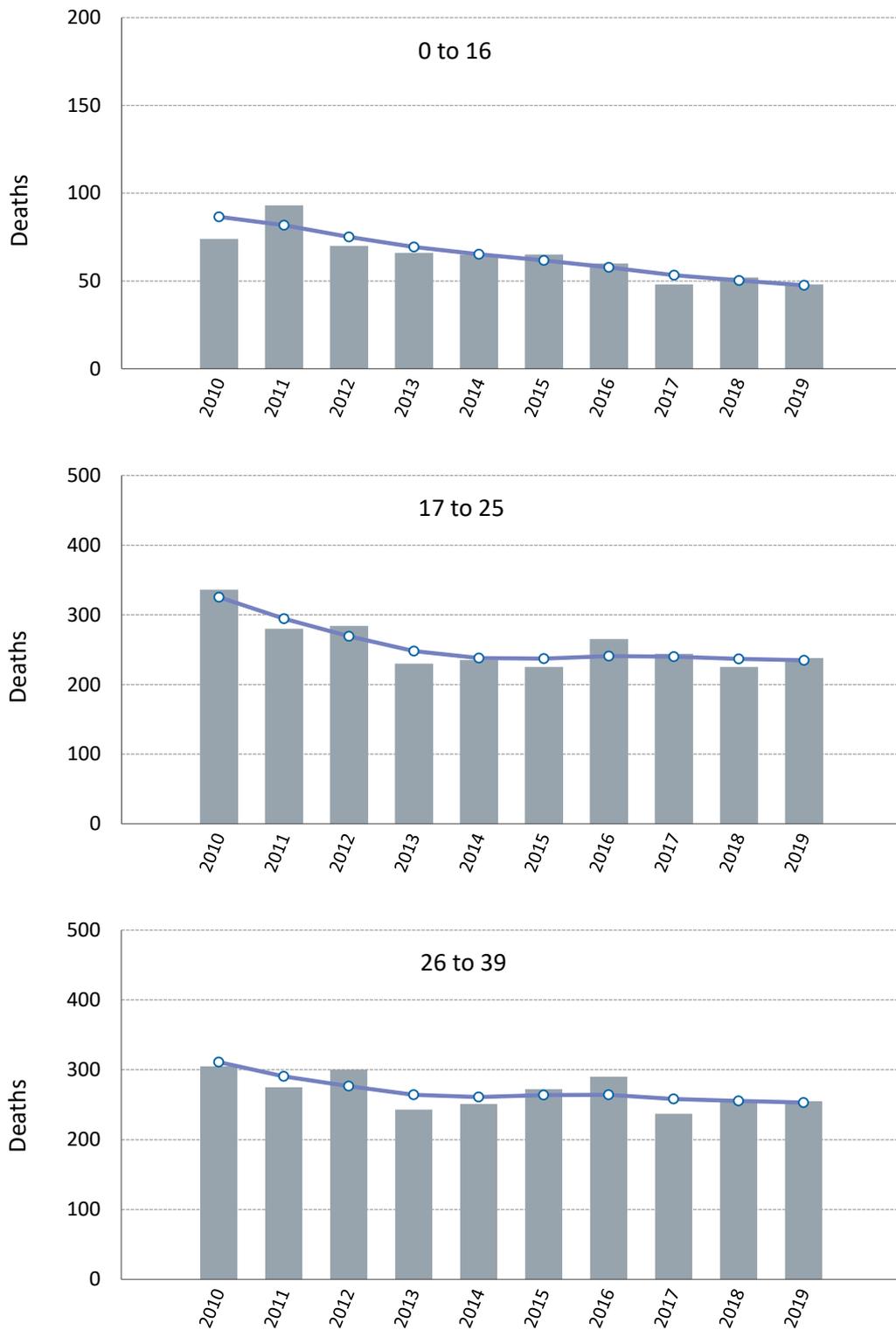


Figure I.3 Deaths by age group, with trends (continued)

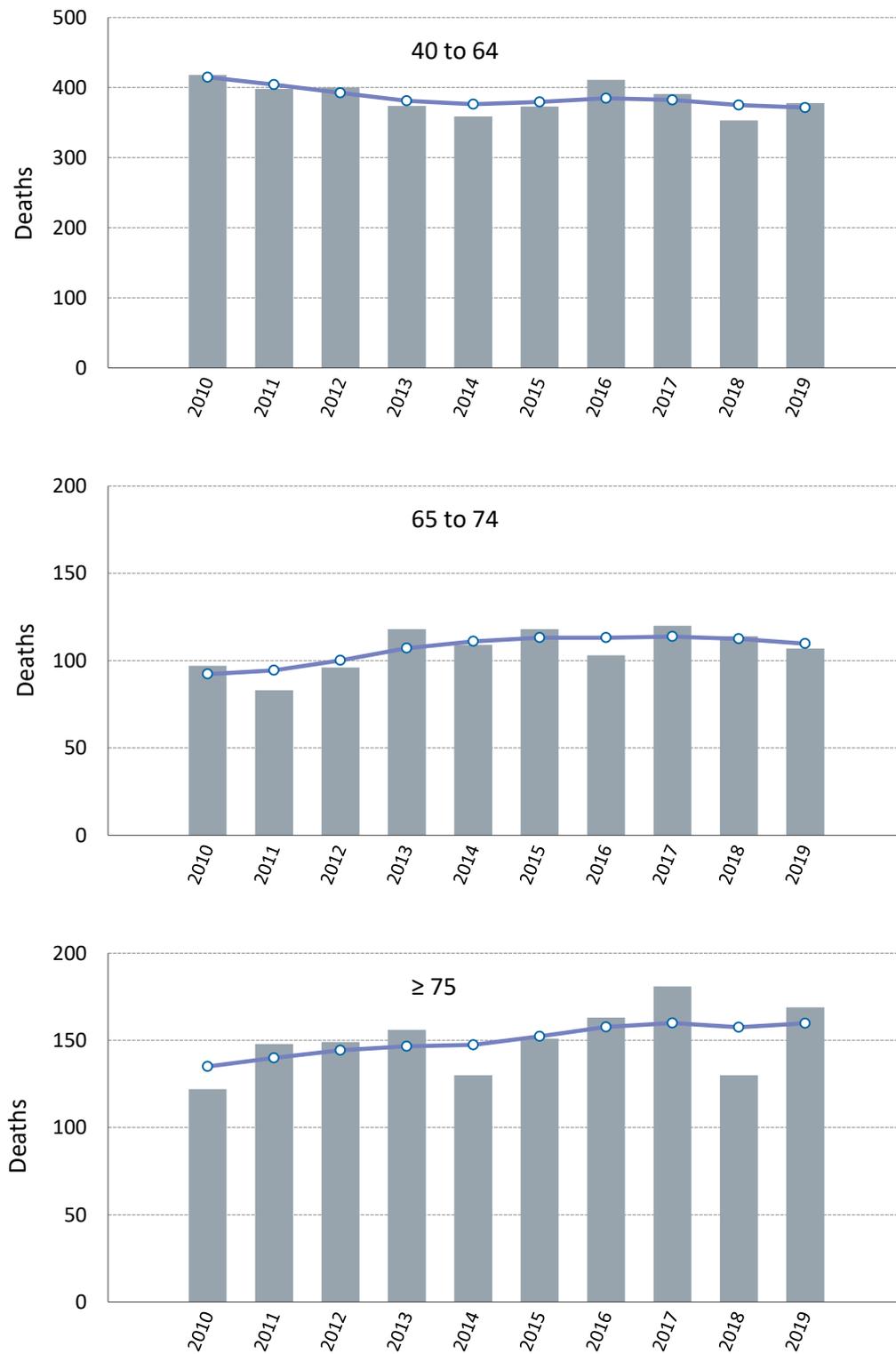


Table I.4 Deaths by gender

	Male	Female	Total ^a
2010	982	370	1,353
2011	920	355	1,277
2012	931	369	1,300
2013	852	334	1,187
2014	819	331	1,151
2015	866	338	1,204
2016	954	337	1,292
2017	897	324	1,221
2018	841	293	1,135
2019	915	280	1,195
% change 2018-2019	8.8	-4.4	5.3
Ave. trend change p.a. (%)	-0.6	-2.7	-1.2

a Includes cases where gender is unspecified or unknown.

Figure I.4 Deaths by gender and road user, with trends

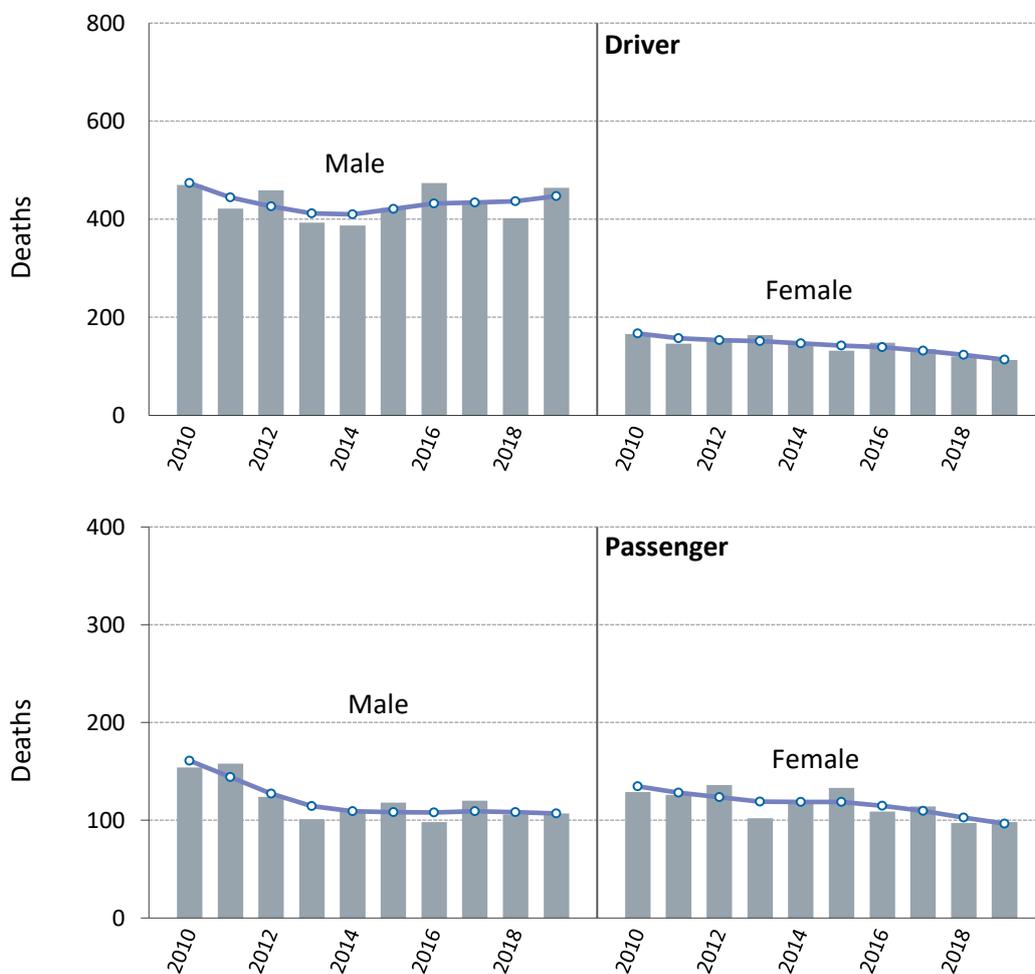


Figure I.4 Deaths by gender and road user, with trends (continued)

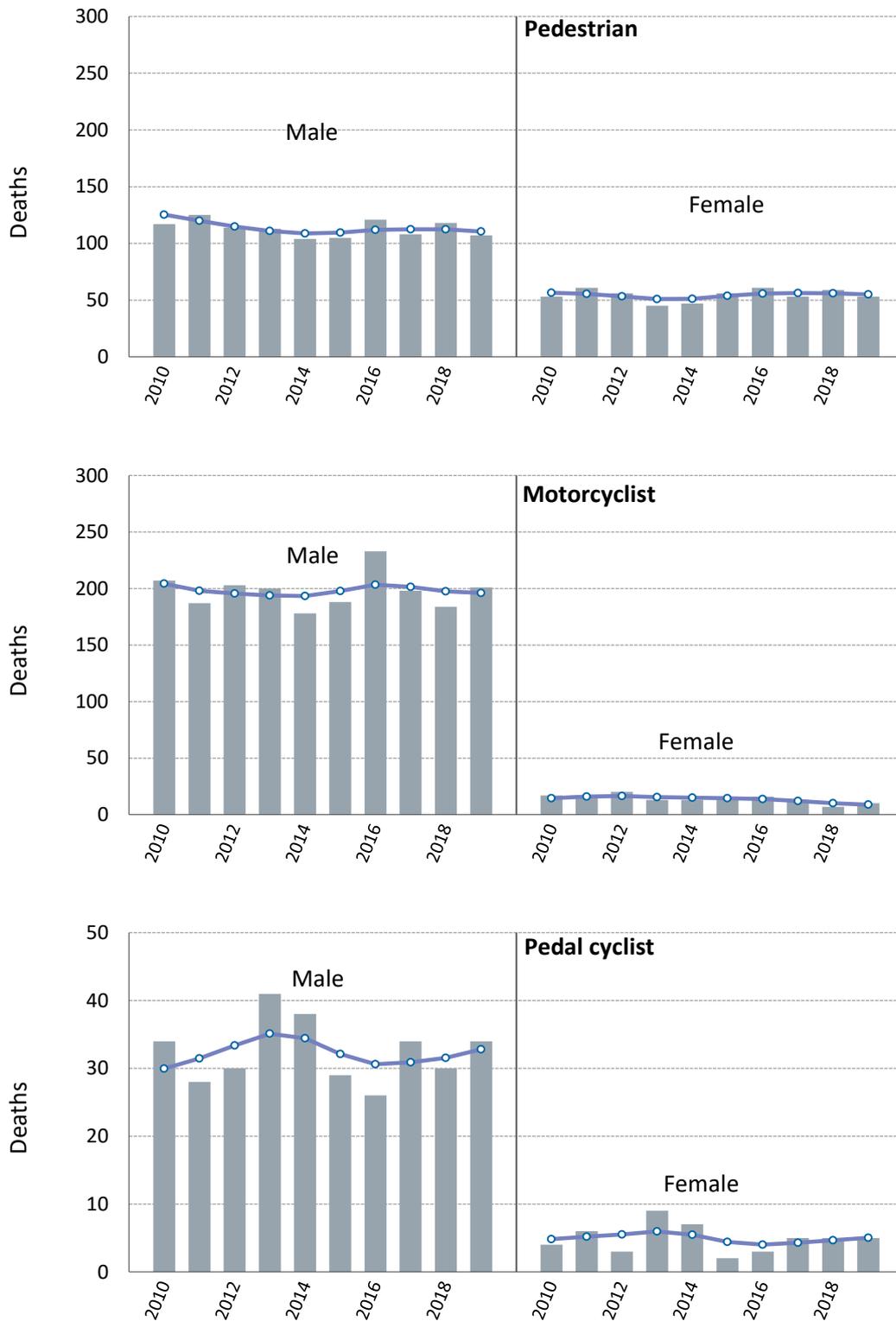


Table I.5 Deaths by jurisdiction and road user

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
All road users^a									
2010	405	288	249	118	193	31	50	19	1,353
2011	364	287	269	103	179	24	45	6	1,277
2012	369	282	280	94	183	31	49	12	1,300
2013	333	243	271	98	162	36	37	7	1,187
2014	307	248	223	108	183	33	39	10	1,151
2015	350	252	243	102	159	34	49	15	1,204
2016	380	290	251	86	193	37	45	10	1,292
2017	389	259	247	100	159	31	31	5	1,221
2018	347	213	245	80	158	33	50	9	1,135
2019	355	270	219	114	163	32	36	6	1,195
% change 2018-2019	2.3	26.8	-10.6	42.5	3.2	-3.0	-28.0	-33.3	5.3
Ave. trend change p.a. (%)	-0.4	-1.5	-1.6	-1.3	-1.6	1.6	-2.2	-6.1	-1.2
Driver									
2010	185	130	114	57	99	16	25	10	636
2011	181	121	108	40	85	13	17	3	568
2012	164	146	125	52	87	14	19	3	610
2013	155	121	136	50	69	13	11	2	557
2014	153	112	106	52	78	18	10	4	533
2015	155	122	117	52	70	17	14	8	555
2016	183	150	106	41	100	17	19	6	622
2017	186	129	101	46	77	14	11	2	566
2018	158	98	121	41	74	16	12	2	522
2019	168	116	111	60	82	20	16	4	577
% change 2018-2019	6.3	18.4	-8.3	46.3	10.8	25.0	33.3	100.0	10.5
Ave. trend change p.a. (%)	-0.4	-1.4	-0.7	-0.3	-1.4	2.6	-4.3	-5.4	-0.9
Passenger									
2010	89	62	50	24	39	5	13	2	284
2011	73	60	73	22	37	3	18	0	286
2012	82	53	58	14	35	5	12	1	260
2013	49	39	56	17	27	5	9	2	204
2014	43	50	52	24	37	9	11	2	228
2015	60	57	47	17	49	3	16	2	251
2016	54	36	38	23	35	6	16	0	208
2017	82	45	52	11	32	3	8	1	234
2018	57	32	41	16	36	5	15	2	204
2019	59	48	38	9	36	2	13	0	205
% change 2018-2019	3.5	50.0	-7.3	-43.8	0.0	-60.0	-13.3	-100.0	0.5
Ave. trend change p.a. (%)	-2.9	-4.5	-4.9	-6.8	-0.2	-4.6	-0.7	-	-3.4

Table I.5 Deaths by jurisdiction and road user (continued)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Pedestrian									
2010	59	39	28	16	15	6	7	0	170
2011	49	49	33	17	26	4	8	0	186
2012	55	35	27	9	24	6	10	4	170
2013	44	36	21	13	31	3	9	1	158
2014	41	46	19	17	16	3	8	1	151
2015	61	33	21	18	14	3	11	0	161
2016	71	40	37	9	14	4	6	1	182
2017	54	30	35	17	14	2	9	0	161
2018	69	37	35	6	14	3	11	2	177
2019	46	49	18	21	17	3	4	2	160
% change 2018-2019	-33.3	32.4	-48.6	250.0	21.4	0.0	-63.6	0.0	-9.6
Ave. trend change p.a. (%)	1.2	-0.4	-0.3	-1.6	-5.0	-7.5	-2.5	-	-0.4
Motorcyclist^b									
2010	61	49	50	16	35	3	5	5	224
2011	51	49	45	21	28	3	2	3	202
2012	61	41	60	15	34	5	4	3	223
2013	71	41	45	12	25	11	6	2	213
2014	59	30	37	11	43	3	6	2	191
2015	67	30	54	11	21	10	6	4	203
2016	67	56	62	8	39	10	4	3	249
2017	59	38	50	24	25	11	3	1	211
2018	54	38	43	10	28	8	8	2	191
2019	68	44	45	17	27	7	3	0	211
% change 2018-2019	25.9	15.8	4.7	70.0	-3.6	-12.5	-62.5	-100.0	10.5
Ave. trend change p.a. (%)	0.7	-1.3	-0.5	-2.1	-2.0	12.4	1.5	-	-0.4
Pedal cyclist^b									
2010	11	8	7	5	4	1	0	2	38
2011	10	8	9	3	3	1	0	0	34
2012	7	7	10	3	3	1	1	1	33
2013	14	6	13	5	6	4	2	0	50
2014	11	10	9	4	9	0	1	1	45
2015	7	10	4	4	4	1	0	1	31
2016	5	8	8	5	3	0	0	0	29
2017	8	12	8	2	7	1	0	1	39
2018	9	7	5	7	5	1	0	1	35
2019	14	11	6	7	1	0	0	0	39
% change 2018-2019	55.6	57.1	20.0	0.0	-80.0	-100.0	0.0	-100.0	11.4
Ave. trend change p.a. (%)	-0.9	3.4	-5.2	4.3	-4.5	-	-	-	-0.4
a	Includes cases where road user type is unknown.								
b	Includes pillion passengers.								

Table I.6 Deaths by jurisdiction and age group

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
0–16 years									
2010	17	14	16	6	13	2	5	1	74
2011	19	22	29	5	11	1	6	0	93
2012	22	13	15	5	9	2	3	1	70
2013	12	8	24	5	13	1	3	0	66
2014	12	15	13	8	11	4	2	0	65
2015	20	14	8	6	15	0	1	1	65
2016	18	8	8	5	13	4	4	0	60
2017	19	8	6	3	8	2	2	0	48
2018	11	9	13	4	10	0	3	2	52
2019	10	10	14	4	7	0	3	0	48
% change 2018-2019	-9.1	11.1	7.7	0.0	-30.0	-	0.0	-100.0	-7.7
Ave. trend change p.a. (%)	-4.5	-6.9	-8.8	-4.8	-3.9	-	-6.6	-	-6.0
17–25 years									
2010	100	74	59	32	48	6	13	4	336
2011	79	72	50	13	48	4	13	1	280
2012	83	65	72	17	38	3	5	1	284
2013	74	39	58	15	30	6	6	2	230
2014	67	49	46	18	42	3	6	4	235
2015	55	49	46	15	36	10	11	3	225
2016	79	50	52	16	50	7	7	4	265
2017	79	50	49	22	31	3	8	2	244
2018	78	29	52	18	29	11	7	1	225
2019	61	53	55	22	33	7	7	0	238
% change 2018-2019	-21.8	82.8	5.8	22.2	13.8	-36.4	0.0	-100.0	5.8
Ave. trend change p.a. (%)	-2.9	-5.8	-1.6	0.1	-3.9	6.3	-3.9	-	-3.0
26–39 years									
2010	84	63	59	19	51	7	16	6	305
2011	63	52	76	28	39	5	10	2	275
2012	73	61	70	14	58	4	17	3	300
2013	67	46	54	11	43	8	13	1	243
2014	54	57	55	20	39	4	19	3	251
2015	62	54	65	20	40	8	20	3	272
2016	72	64	54	19	56	8	15	2	290
2017	73	51	52	16	28	5	10	2	237
2018	68	56	51	12	44	5	18	3	257
2019	68	52	50	24	35	5	20	1	255
% change 2018-2019	0.0	-7.1	-2.0	100.0	-20.5	0.0	11.1	-66.7	-0.8
Ave. trend change p.a. (%)	-0.6	-0.7	-3.3	-0.9	-3.2	-0.7	2.4	-7.7	-1.6

Table I.6 Deaths by jurisdiction and age group (continued)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
40–64 years									
2010	125	86	79	43	57	9	13	6	418
2011	131	84	73	35	48	10	14	3	398
2012	106	86	85	31	56	12	20	4	400
2013	104	79	89	38	45	8	10	1	374
2014	97	71	75	33	57	12	12	2	359
2015	115	78	70	33	47	11	15	4	373
2016	118	105	84	21	54	11	15	3	411
2017	122	81	84	28	51	15	10	0	391
2018	100	64	84	25	50	10	17	3	353
2019	122	84	62	33	58	10	6	3	378
% change 2018-2019	22.0	31.3	-26.2	32.0	16.0	0.0	-64.7	0.0	7.1
Ave. trend change p.a. (%)	-0.5	-0.9	-0.9	-4.2	0.2	1.8	-4.5	-	-0.9
65–74 years									
2010	35	17	15	9	13	5	3	0	97
2011	21	19	21	5	14	2	1	0	83
2012	35	22	14	7	10	5	2	1	96
2013	33	26	19	9	19	7	5	0	118
2014	33	22	20	15	15	3	0	1	109
2015	47	27	19	10	9	2	2	2	118
2016	40	23	16	9	10	2	3	0	103
2017	44	23	21	13	15	3	1	0	120
2018	40	26	25	9	7	4	3	0	114
2019	40	21	14	12	15	4	0	1	107
% change 2018-2019	0.0	-19.2	-44.0	33.3	114.3	0.0	-100.0	-	-6.1
Ave. trend change p.a. (%)	4.8	2.6	1.3	5.9	-2.4	-2.3	-	-	2.4
≥ 75 years									
2010	43	34	21	9	11	2	0	2	122
2011	51	38	20	17	19	2	1	0	148
2012	49	35	24	20	12	5	2	2	149
2013	43	45	27	20	12	6	0	3	156
2014	43	34	14	14	18	7	0	0	130
2015	51	30	35	18	12	3	0	2	151
2016	53	40	37	16	10	5	1	1	163
2017	52	46	35	18	26	3	0	1	181
2018	50	29	20	12	14	3	2	0	130
2019	54	50	24	19	15	6	0	1	169
% change 2018-2019	8.0	72.4	20.0	58.3	7.1	100.0	-100.0	-	30.0
Ave. trend change p.a. (%)	1.8	1.5	3.0	2.0	2.2	5.5	-	-	2.0

Table I.7 Deaths by road user and age group

	<i>Driver</i>	<i>Passenger</i>	<i>Pedestrian</i>	<i>Motor-cyclist^a</i>	<i>Pedal cyclist^a</i>	<i>All road users^b</i>
0–16 years						
2010	4	52	15	2	1	74
2011	4	67	14	5	2	93
2012	7	40	15	6	2	70
2013	4	37	13	4	7	66
2014	3	41	17	2	2	65
2015	2	49	11	3	0	65
2016	4	36	12	6	1	60
2017	2	27	14	3	1	48
2018	4	29	14	2	2	52
2019	2	31	10	2	3	48
% change 2018-2019	-50.0	6.9	-28.6	0.0	50.0	-7.7
Ave. trend change p.a. (%)	-7.5	-7.2	-2.8	-4.9	-	-6.0
17–25 years						
2010	169	80	34	49	4	336
2011	132	77	21	47	3	280
2012	140	73	24	43	3	284
2013	120	52	16	38	4	230
2014	111	58	20	41	3	235
2015	113	64	11	33	4	225
2016	136	56	25	46	1	265
2017	118	57	17	43	6	244
2018	117	51	27	28	1	225
2019	105	60	23	43	6	238
% change 2018-2019	-10.3	17.6	-14.8	53.6	500.0	5.8
Ave. trend change p.a. (%)	-3.3	-3.8	-1.6	-2.7	-2.7	-3.0
26–39 years						
2010	152	48	30	68	7	305
2011	131	54	32	55	3	275
2012	152	40	29	70	7	300
2013	111	35	21	64	11	243
2014	123	39	23	57	8	251
2015	132	47	27	60	4	272
2016	164	35	26	63	2	290
2017	125	42	19	48	3	237
2018	119	43	30	57	7	257
2019	132	40	22	56	5	255
% change 2018-2019	10.9	-7.0	-26.7	-1.8	-28.6	-0.8
Ave. trend change p.a. (%)	-1.0	-1.7	-2.7	-2.0	-4.2	-1.6

Table I.7 Deaths by road user and age group (continued)

	<i>Driver</i>	<i>Passenger</i>	<i>Pedestrian</i>	<i>Motor-cyclist^a</i>	<i>Pedal cyclist^a</i>	<i>All road users^b</i>
40–64 years						
2010	213	44	48	95	18	418
2011	197	42	55	85	19	398
2012	199	48	46	95	12	400
2013	190	35	43	84	21	374
2014	171	49	43	79	17	359
2015	175	42	45	95	16	373
2016	190	29	60	119	13	411
2017	185	48	46	93	17	391
2018	162	47	45	82	16	353
2019	205	25	39	89	18	378
<i>% change 2018-2019</i>	26.5	-46.8	-13.3	8.5	12.5	7.1
<i>Ave. trend change p.a. (%)</i>	-1.2	-3.0	-1.3	0.2	-0.6	-0.9
65–74 years						
2010	40	26	15	10	6	97
2011	41	14	18	6	4	83
2012	41	23	19	8	5	96
2013	54	18	22	17	6	118
2014	65	12	13	8	11	109
2015	58	21	25	11	3	118
2016	47	18	19	11	8	103
2017	47	23	22	20	8	120
2018	56	12	19	20	6	114
2019	48	20	18	18	3	107
<i>% change 2018-2019</i>	-14.3	66.7	-5.3	-10.0	-50.0	-6.1
<i>Ave. trend change p.a. (%)</i>	2.4	-1.7	1.8	11.1	-0.9	2.4
≥ 75 years						
2010	58	33	28	0	2	122
2011	63	32	46	4	3	148
2012	71	35	37	1	4	149
2013	78	27	43	6	1	156
2014	59	28	35	4	4	130
2015	75	28	42	1	4	151
2016	81	34	40	4	4	163
2017	89	37	43	4	4	181
2018	62	20	42	2	3	130
2019	85	29	48	3	4	169
<i>% change 2018-2019</i>	37.1	45.0	14.3	50.0	33.3	30.0
<i>Ave. trend change p.a. (%)</i>	3.0	-2.1	3.0	-	6.5	2.0
a	Includes pillion passengers.					
b	Includes cases where road user type is unknown.					

Table I.8 Deaths by posted speed limit

	< 40 km/h	40 km/h	50 km/h	60 km/h	70-90 km/h	100 km/h	≥110 km/h	Total ^a	
2010		3	4	118	245	319	481	1,353	
2011		4	15	155	193	258	469	1,277	
2012		6	18	135	256	296	404	1,300	
2013		3	13	134	210	274	406	1,187	
2014		3	15	112	200	248	401	1,151	
2015		3	17	117	232	280	387	1,204	
2016		1	16	139	222	305	408	1,292	
2017		6	32	157	209	260	388	1,221	
2018		7	12	134	195	243	365	1,135	
2019		8	11	138	193	256	386	1,195	
% change 2018-2019		14.3	-8.3	3.0	-1.0	5.3	5.8	8.2	5.3
Ave. trend change p.a. (%)		5.9	7.0	0.8	-1.7	-1.6	-2.4	0.5	-1.2

a Includes cases where posted speed limit is unknown.

Figure I.5 Deaths by posted speed limit, with trends

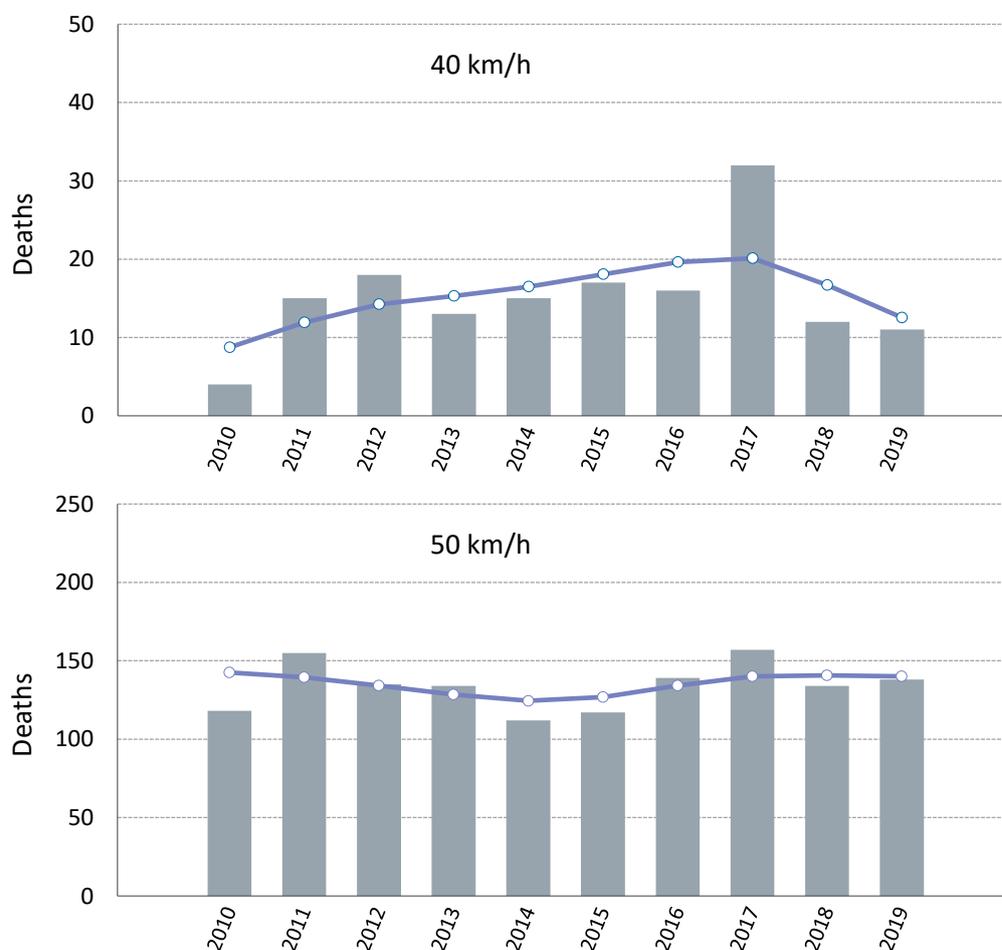


Figure I.5 Deaths by posted speed limit, with trends (continued)

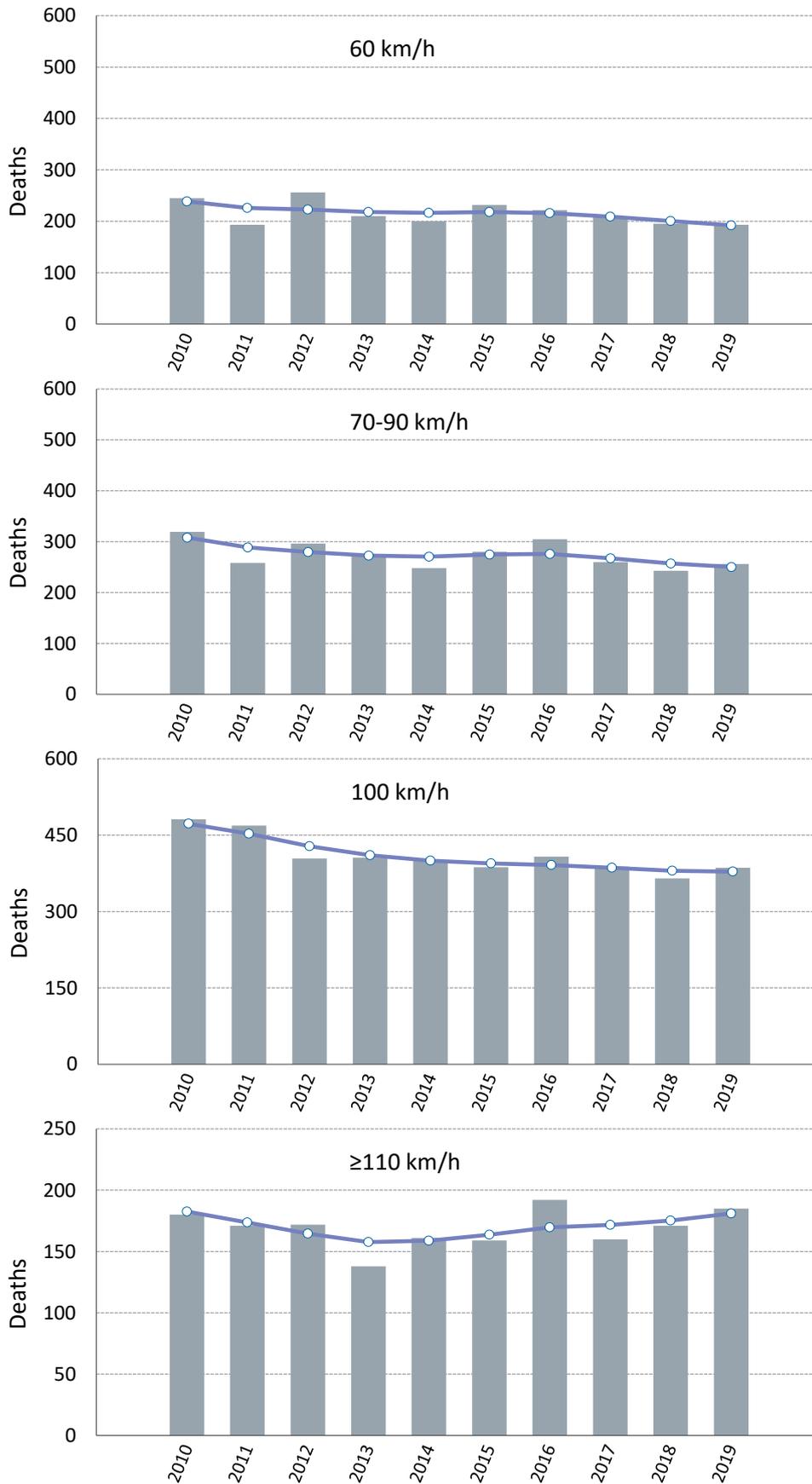
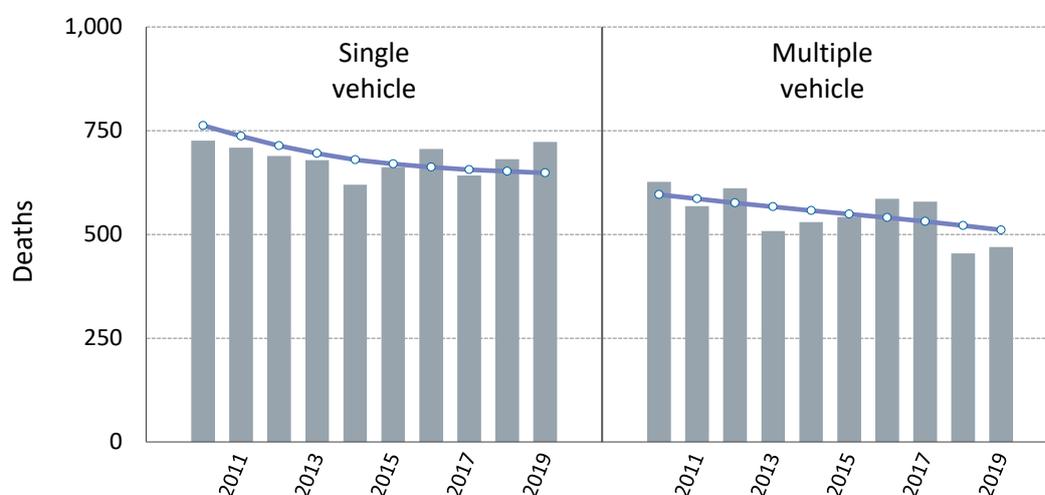


Table I.9 Deaths by crash type

	Single vehicle crash	Multiple vehicle crash	Total ^a
2010	726	627	1,353
2011	709	568	1,277
2012	689	611	1,300
2013	679	508	1,187
2014	620	530	1,151
2015	662	542	1,204
2016	706	586	1,292
2017	642	579	1,221
2018	681	454	1,135
2019	723	470	1,195
% change 2018-2019	6.2	3.5	5.3
Ave. trend change p.a. (%)	-0.3	-2.4	-1.2

a Includes cases where the number of vehicles involved is unknown.

Figure I.6 Deaths by crash type, with trends

Table I.10 Deaths by common crash sub-types^a

	Intersection	Head-on	Single vehicle run-off road ^b	Total ^b
2010	284	279	-	1,350
2011	286	250	-	1,277
2012	287	270	-	1,299
2013	256	210	435	1,185
2014	233	218	403	1,150
2015	244	239	411	1,205
2016	266	266	471	1,295
2017	277	221	425	1,223
2018	244	199	407	1,136
Ave. trend change p.a. (%)	-1.5	-2.7	-0.1	-1.3

a Categories not mutually exclusive.

b Full national data available from 2013

c Includes deaths from all crash sub-types

Source National Crash Database

Figure I.7 Deaths by common crash sub-types

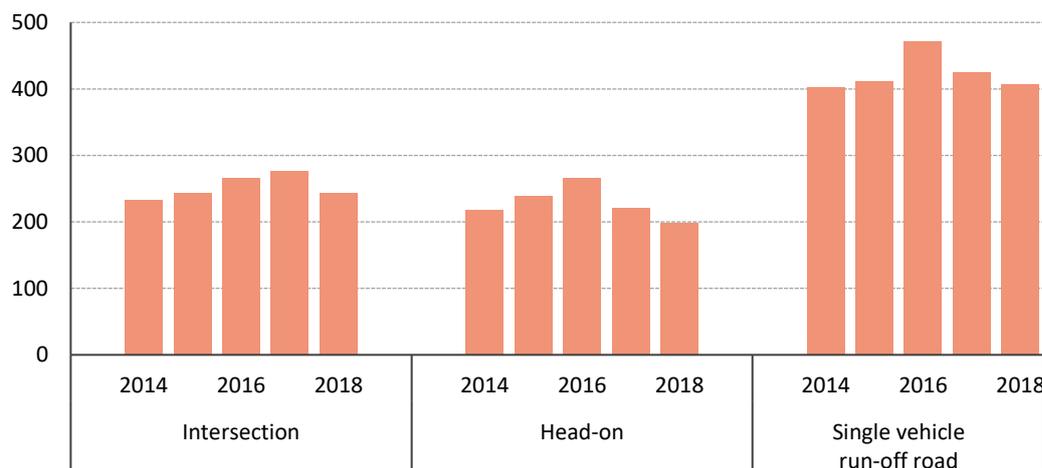


Table I.11 Deaths by common DCA/RUM^a crash codes

	<i>Opposing Directions</i>	<i>Non-collision (Straight)</i>	<i>Non-collision (Curve)</i>	<i>Pedestrian</i>	<i>Adjacent Directions</i>	<i>Same Directions</i>	<i>Total^b</i>
2010	291	272	247	150	94	65	1,350
2011	258	249	234	158	92	58	1,277
2012	273	278	229	156	82	66	1,299
2013	238	293	253	152	84	70	1,185
2014	243	258	219	146	90	67	1,150
2015	269	243	265	154	92	52	1,205
2016	294	260	299	170	80	77	1,295
2017	253	231	278	154	88	83	1,223
2018	214	242	237	173	78	83	1,136
<i>Ave. trend change p.a.(%)</i>	-1.7	-1.7	1.6	1.1	-1.4	3.5	-1.3

a See Glossary.

b Includes deaths from all DCA/RUM codes.

Source National Crash Database

Figure I.8 Distribution of deaths across common crash DCA/RUM codes, 2014–2018

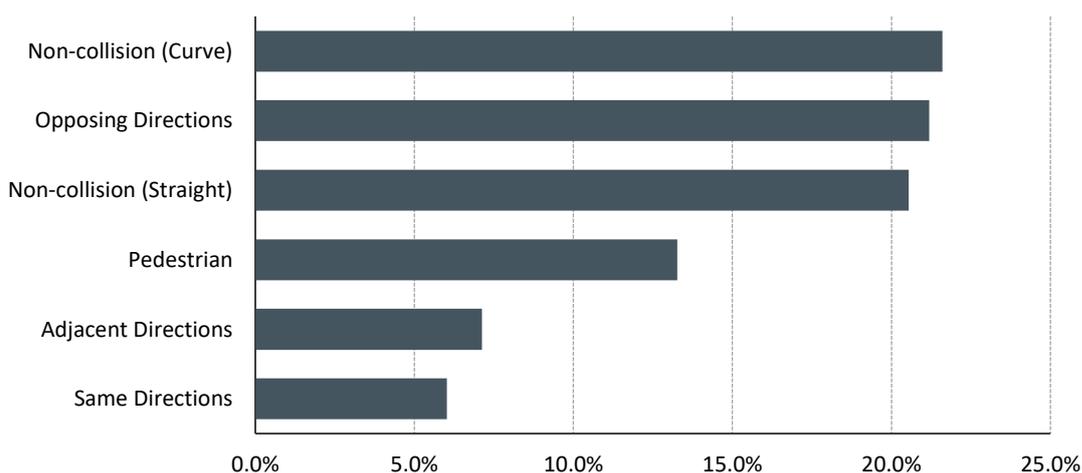
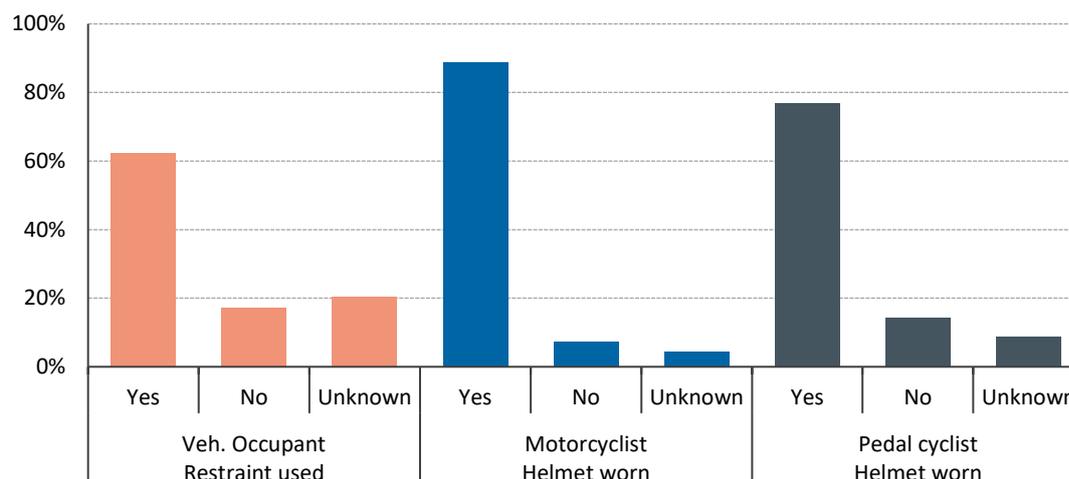


Table I.12 Safety device wearing rates for killed road users

	<i>Restraint used</i>	<i>Not used</i>	<i>Unknown or not applicable</i>	<i>Total</i>
Vehicle occupant				
2010	547	174	195	916
2011	484	181	193	858
2012	509	153	207	869
2013	447	141	170	758
2014	437	160	164	761
2015	484	177	147	808
2016	533	156	142	831
2017	508	129	164	801
2018	426	123	176	725
<i>Ave. trend change p.a.(%)</i>	-1.1	-3.5	-3.0	-1.9
	<i>Helmet used</i>	<i>Not used</i>	<i>Unknown or not applicable</i>	<i>Total</i>
Motorcyclist^a				
2010	199	9	16	224
2011	172	15	12	199
2012	188	14	19	221
2013	186	21	7	214
2014	172	8	11	191
2015	181	13	7	201
2016	220	21	10	251
2017	185	16	11	212
2018	176	11	4	191
<i>Ave. trend change p.a.(%)</i>	0.0	2.2	-11.1	-0.4
Pedal cyclist^a				
2010	31	4	3	38
2011	24	10	1	35
2012	22	9	2	33
2013	38	8	4	50
2014	33	9	2	44
2015	24	3	3	30
2016	22	5	3	30
2017	31	5	3	39
2018	27	5	3	35
<i>Ave. trend change p.a.(%)</i>	-0.4	-5.4	6.6	-1.2
a	Includes pillion passengers.			
Source	National Crash Database			

Figure I.9 Safety device wearing rates for killed road users, 2016–2018**Table I.13** Deaths by validity of operators' licences

	<i>All valid</i>	<i>Any invalid</i>	<i>Unknown or not applicable</i>	<i>Total</i>
2010	900	128	130	1,158
2011	868	111	119	1,098
2012	877	118	122	1,117
2013	808	95	120	1,023
2014	721	95	152	968
2015	773	105	166	1,044
2016	810	119	170	1,099
2017	776	99	188	1,063
2018	710	94	173	977

Ave. trend change p.a. (%) -2.4 -2.4 6.0 -1.3

Note 'Operators' comprises Drivers and Motorcycle riders.
Excludes Western Australia.

Source National Crash Database

Table I.14 Deaths where an operator failed an alcohol test

	<i>Yes</i>	<i>Total</i>
2010	172	870
2011	163	811
2012	131	835
2013	149	780
2014	130	720
2015	134	792
2016	140	809
2017	152	804
2018	142	764

Ave. trend change p.a. (%) -1.6 -1.0

Note 'Operators' comprises drivers and motorcycle riders.
Excludes Western Australia and Victoria.

Source National Crash Database

Figure I.10 Proportion of deaths that involved an operator failing an alcohol test

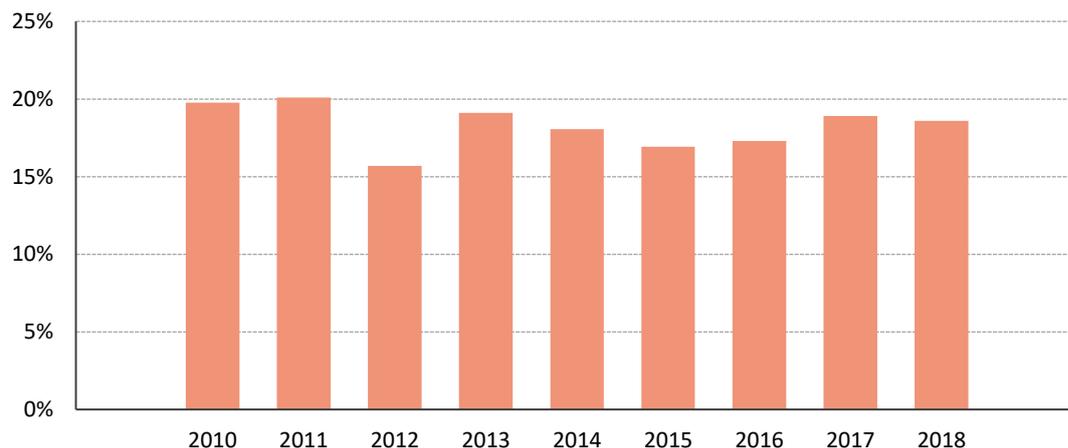


Table I.15 Deaths by Remoteness Area^a

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total ^b
2010	455	457	290	64	79	1,350
2011	438	411	285	68	64	1,277
2012	456	457	274	45	58	1,299
2013	420	400	236	70	56	1,185
2014	377	394	242	61	67	1,150
2015	414	389	283	61	58	1,205
2016	458	427	290	49	69	1,295
2017	431	414	289	45	37	1,223
2018	396	346	276	59	57	1,136
<i>Ave. trend change p.a.(%)</i>	-1.0	-2.1	0.2	-2.5	-4.2	-1.3

a See Glossary.

b Includes undetermined Remoteness Area.

Sources ABS 2020b and National Crash Database

Figure I.11 Deaths by Remoteness Area, 2014–2018

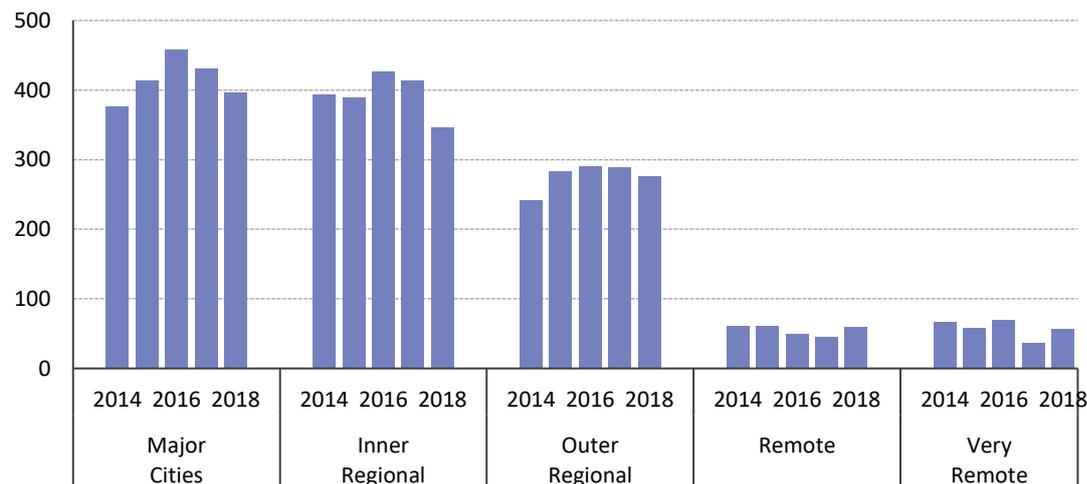


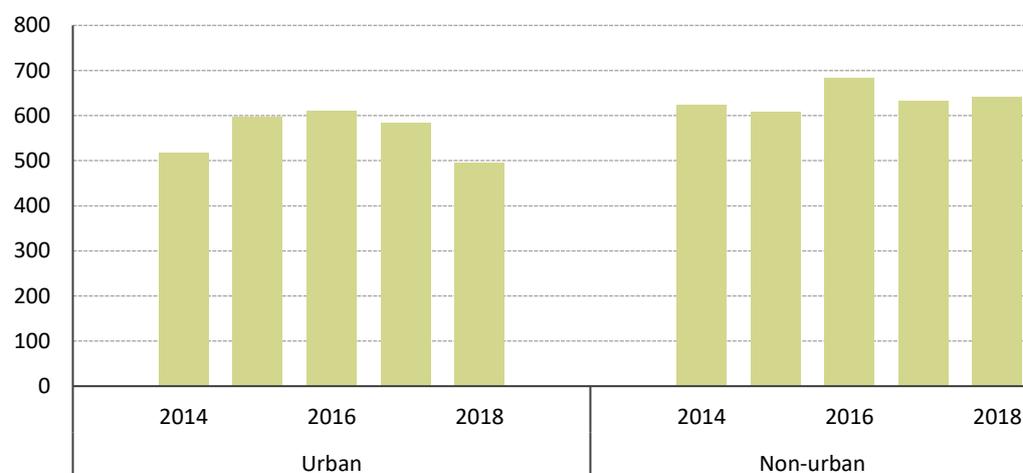
Table I.16 Deaths by Urban and Non-Urban area^a

	Urban area	Non-urban area	Total ^b
2010	636	709	1,350
2011	572	694	1,277
2012	623	667	1,299
2013	541	641	1,185
2014	518	623	1,150
2015	597	608	1,205
2016	609	684	1,295
2017	584	633	1,223
2018	494	641	1,136
<i>Ave. trend change p.a.(%)</i>	-1.5	-1.1	-1.3

a See Glossary.

b Includes undetermined Urban Area.

Sources ABS 2018 and National Crash Database

Figure I.12 Deaths by Urban and Non-Urban area**Table I.17** Deaths by road type

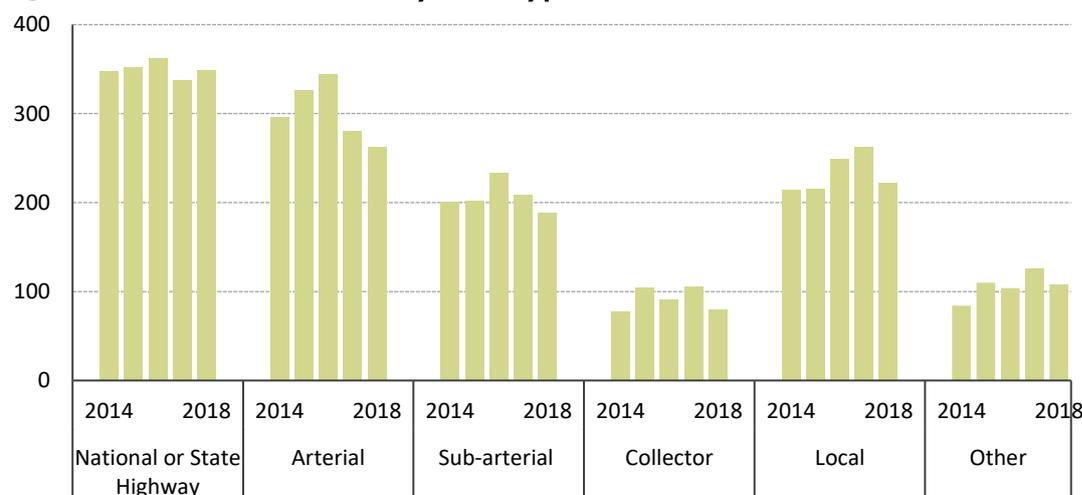
	National or State Highway	Arterial	Sub-arterial	Collector Road ^a	Local	Other ^b	Total ^c
2010	413	349	207	99	250	26	1,350
2011	409	289	232	80	237	19	1,277
2012	421	309	219	87	239	15	1,299
2013	382	264	178	94	242	19	1,185
2014	348	296	201	77	214	7	1,150
2015	352	326	202	104	215	6	1,205
2016	362	344	233	91	249	14	1,295
2017	338	280	209	106	262	22	1,223
2018	349	263	188	80	222	31	1,136
<i>Ave. trend change p.a.(%)</i>	-2.7	-1.3	-0.7	0.3	-0.4	-0.2	-1.3

a Queensland does not categorise roads with 'Collector road' type.

b Includes Access road, Path, Busway and Pedestrian Thoroughfare.

c Includes deaths in crashes with unknown road type.

Sources National Crash Database and PSMA 2015

Figure I.13 Deaths by road type

Table I.18 Hospitalised injuries – by road user

	<i>Driver</i>	<i>Passenger</i>	<i>Pedestrian</i>	<i>Motor-cyclist^a</i>	<i>Pedal cyclist^a</i>	<i>Total</i>
2010	10,713	5,041	2,833	7,373	5,239	32,775
2011	11,601	5,175	2,760	7,571	5,393	34,082
2012 ^b	11,424	5,067	2,689	7,734	5,623	34,091
2013	11,550	5,131	2,672	8,022	6,269	35,059
2014	11,687	5,015	2,562	8,335	6,642	35,552
2015	12,812	5,275	2,634	8,299	6,718	37,082
2016	13,816	5,485	2,744	8,523	6,905	38,945
2017	13,913	5,466	2,711	8,733	7,077	39,330
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-

a Includes pillion passengers.

b HI data for 2012 and onwards is not directly comparable with previous years due to a break in the series.

Note 'Total' includes cases where road user type is unknown and cases where ages are unknown.

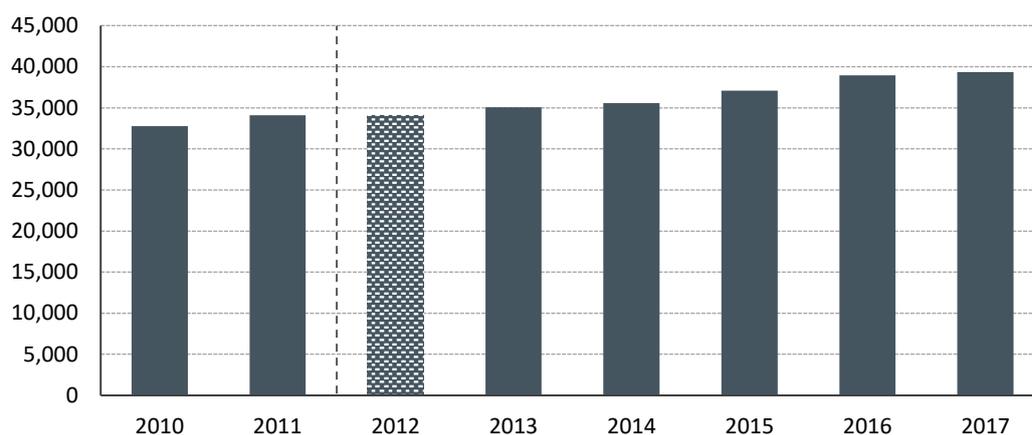
Source DITRD&C 2019

Table I.19 Hospitalised injuries – by age group

	<i>0–16</i>	<i>17–25</i>	<i>26–39</i>	<i>40–64</i>	<i>65+</i>	<i>Total</i>
2010	3,401	7,852	8,016	9,884	3,622	32,775
2011	3,240	8,098	8,172	10,667	3,905	34,082
2012 ^a	3,077	8,037	8,252	10,671	4,054	34,091
2013	3,115	7,852	8,472	11,351	4,269	35,059
2014	2,960	7,728	8,666	11,672	4,525	35,552
2015	3,188	7,880	8,975	12,199	4,840	37,082
2016	3,210	8,471	9,449	12,721	5,094	38,945
2017	3,235	8,468	9,508	12,922	5,197	39,330
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-

a HI data for 2012 and onwards is not directly comparable with previous years due to a break in the series.

Source DITRD&C 2019

Figure I.14 Annual hospitalised injuries

Note HI data for 2012 and onwards is not directly comparable with previous years due to a break in the series.

Table I.20 Hospitalised injuries – by Remoteness Area^a of residence

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Total ^b
2010	20,813	6,628	3,521	734	486	32,775
2011	21,898	6,911	3,575	691	461	34,082
2012	-	-	-	-	-	34,091
2013	23,176	6,574	3,425	690	530	35,059
2014	23,508	6,623	3,522	652	501	35,552
2015	24,552	6,895	3,612	642	535	37,082
2016	26,312	6,998	3,678	629	516	38,945
2017	26,272	7,321	3,716	585	468	39,330
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-

a See Glossary.

b Includes undetermined Remoteness Area

c HI data for 2012 and onwards is not directly comparable with previous years due to a break in the series.

Note This table categorises road crash injuries by location of *residence*. This differs from the earlier fatality analyses which categorises crash injuries by location of *crash*.

Source DITRD&C 2019

Table I.21 Hospitalised injuries and High Threat To Life

	<i>Hospitalised injury^a</i>	<i>High Threat To Life^b</i>	
		<i>Counts</i>	<i>Proportion</i>
2010	32,775	8,456	25.8
2011	34,082	8,925	26.2
2012 ^a	34,091	9,080	26.6
2013	35,059	9,207	26.3
2014	35,552	9,003	25.3
2015	37,082	9,292	25.1
2016	38,945	9,605	24.7
2017	39,330	9,790	24.9
2018	-	-	-
2019	-	-	-

a HI data for 2012 and onwards is not directly comparable with previous years due to a break in the series.

b See Glossary.

Source DITRD&C 2019

Figure I.15 Proportion of hospitalised Injuries classified as High Threat To Life

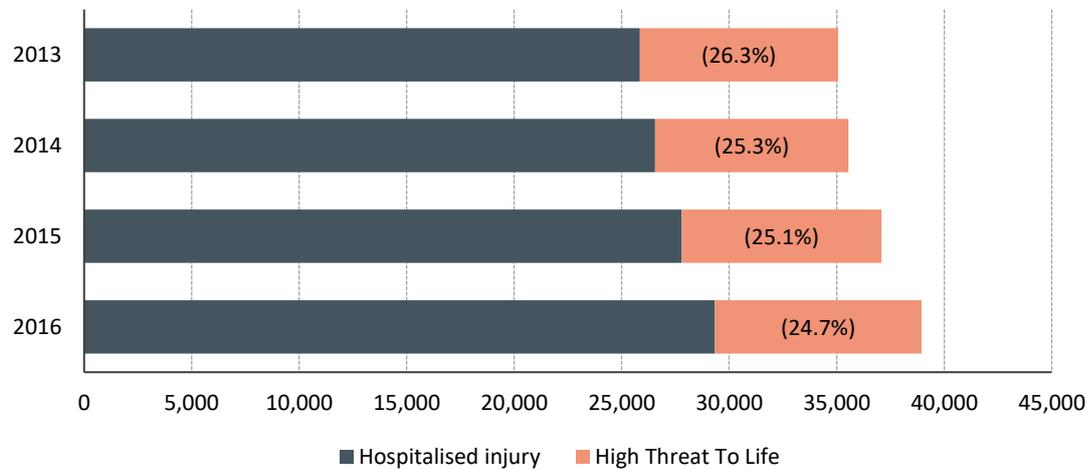
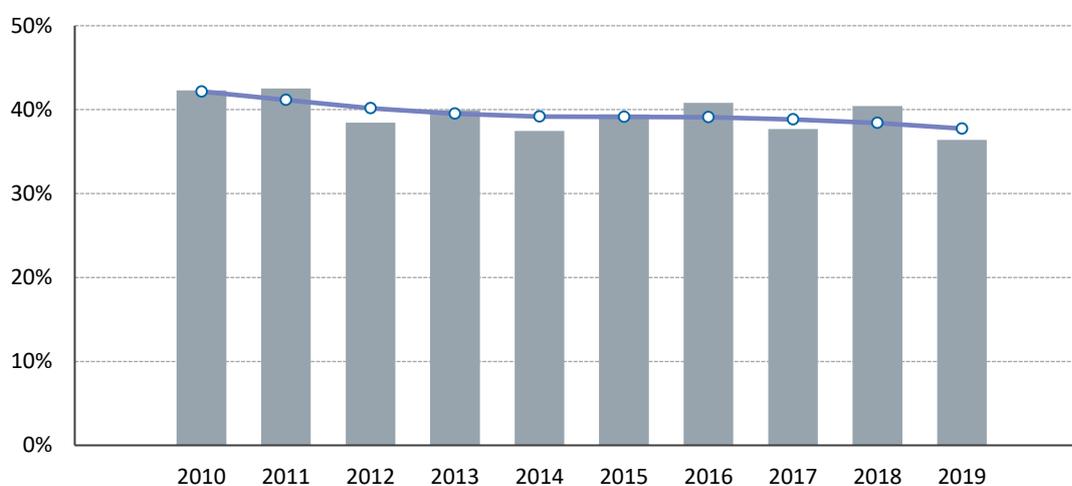


Table I.22 Deaths by Weekday/Weekend

	<i>Weekday</i>	<i>Weekend</i>
2010	781	572
2011	734	543
2012	800	500
2013	713	474
2014	720	431
2015	729	475
2016	765	527
2017	761	460
2018	676	459
2019	760	435
% change 2018-2019	12.4	-5.2
Ave. trend change p.a. (%)	-0.5	-2.2

Note 'Weekend' refers to 6pm Friday through to 6am Monday.

Figure I.16 Proportion of deaths occurring at the weekend, with trend**Table I.23** Fatal crashes by jurisdiction

	<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>
2010	365	260	236	105	176	29	46	16	1,233
2011	336	259	227	95	167	23	38	6	1,151
2012	336	261	255	86	171	29	40	12	1,190
2013	316	225	246	90	149	35	33	7	1,101
2014	285	223	199	96	173	31	34	10	1,051
2015	326	231	219	96	140	32	42	14	1,100
2016	356	275	238	76	170	33	40	10	1,198
2017	351	240	228	93	151	30	27	5	1,125
2018	326	202	224	75	145	32	42	9	1,055
2019	331	252	196	110	154	32	28	6	1,109
% change 2018-2019	1.5	24.8	-12.5	46.7	6.2	0.0	-33.3	-33.3	5.1
Ave. trend change p.a. (%)	-0.2	-1.1	-1.4	-0.8	-1.6	2.0	-3.0	-5.3	-0.9

Figure I.17 Annual average percentage changes in counts of fatal crashes, 2010–2019

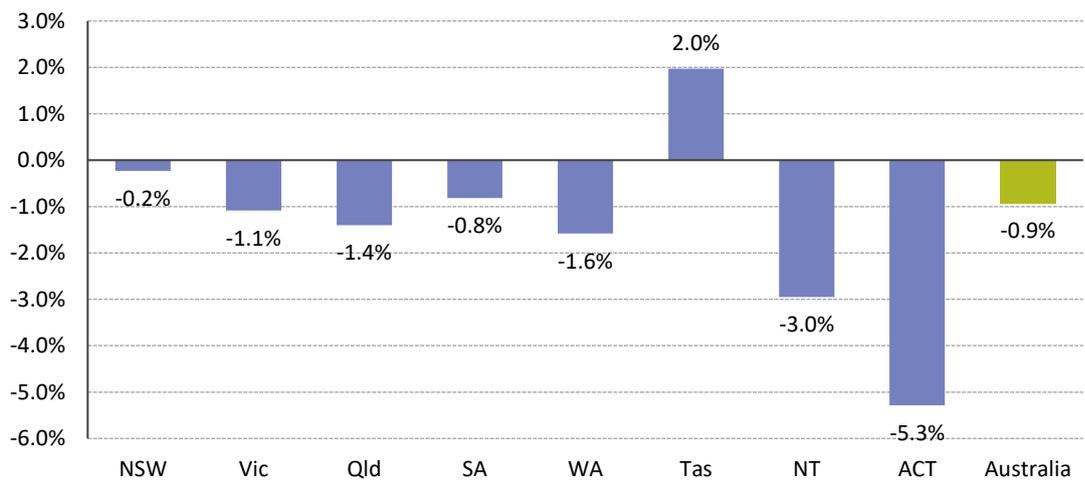
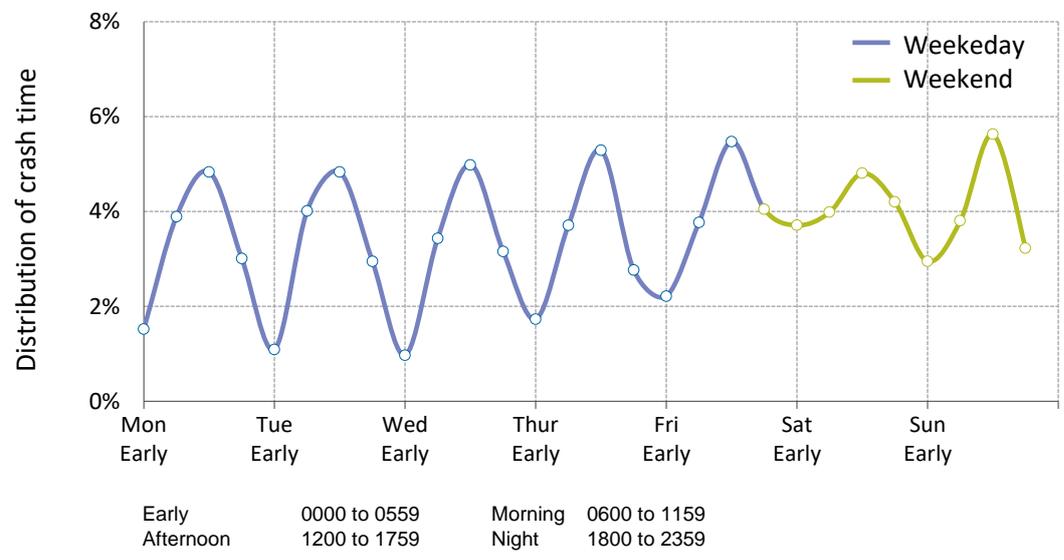


Figure I.18 Distribution of time for fatal crashes, 2017–2019



Section 2

RATES

Table 2.1 Annual fatality rate per 100,000 population by jurisdiction

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	5.7	5.3	5.7	7.3	8.4	6.1	21.8	5.3	6.1
2011	5.0	5.2	6.0	6.3	7.6	4.7	19.5	1.6	5.7
2012	5.1	5.0	6.1	5.7	7.5	6.1	20.8	3.2	5.7
2013	4.5	4.2	5.8	5.9	6.5	7.0	15.3	1.8	5.1
2014	4.1	4.2	4.7	6.4	7.3	6.4	16.1	2.6	4.9
2015	4.6	4.2	5.1	6.0	6.3	6.6	20.0	3.8	5.1
2016	4.9	4.7	5.2	5.0	7.6	7.1	18.3	2.5	5.3
2017	4.9	4.1	5.0	5.8	6.2	5.9	12.5	1.2	5.0
2018	4.3	3.3	4.9	4.6	6.1	6.2	20.2	2.1	4.5
2019	4.4	4.1	4.3	6.5	6.2	6.0	14.6	1.4	4.7
% change 2017-2018	0.9	24.2	-12.1	41.2	2.1	-4.1	-27.7	-34.3	3.7
Ave. trend change p.a. (%)	-1.8	-3.6	-3.1	-2.1	-3.0	1.1	-3.0	-7.8	-2.7

Source ABS 2020a and Australian Road Deaths Database

Figure 2.1 Annual fatality rate per 100,000 population, with trend

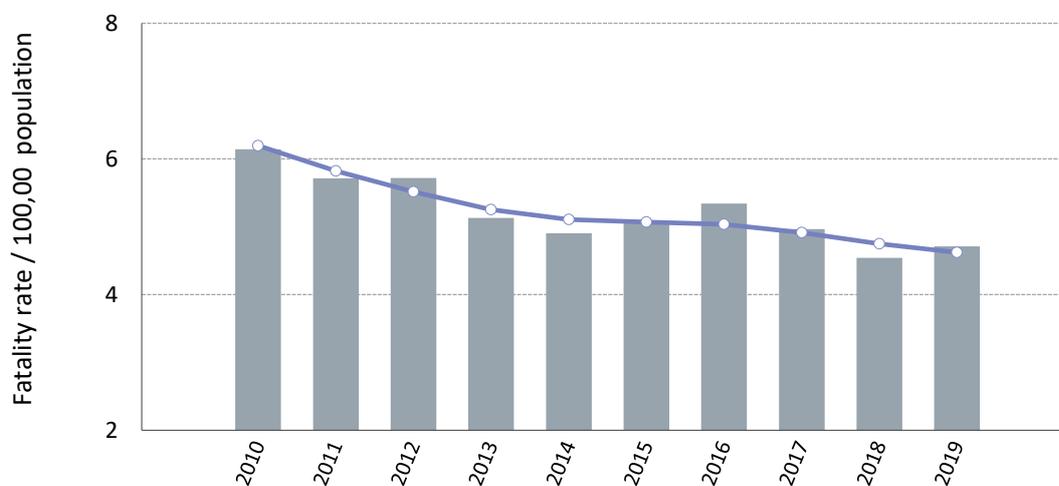


Figure 2.2 Annual fatality rate per 100,000 population by jurisdiction

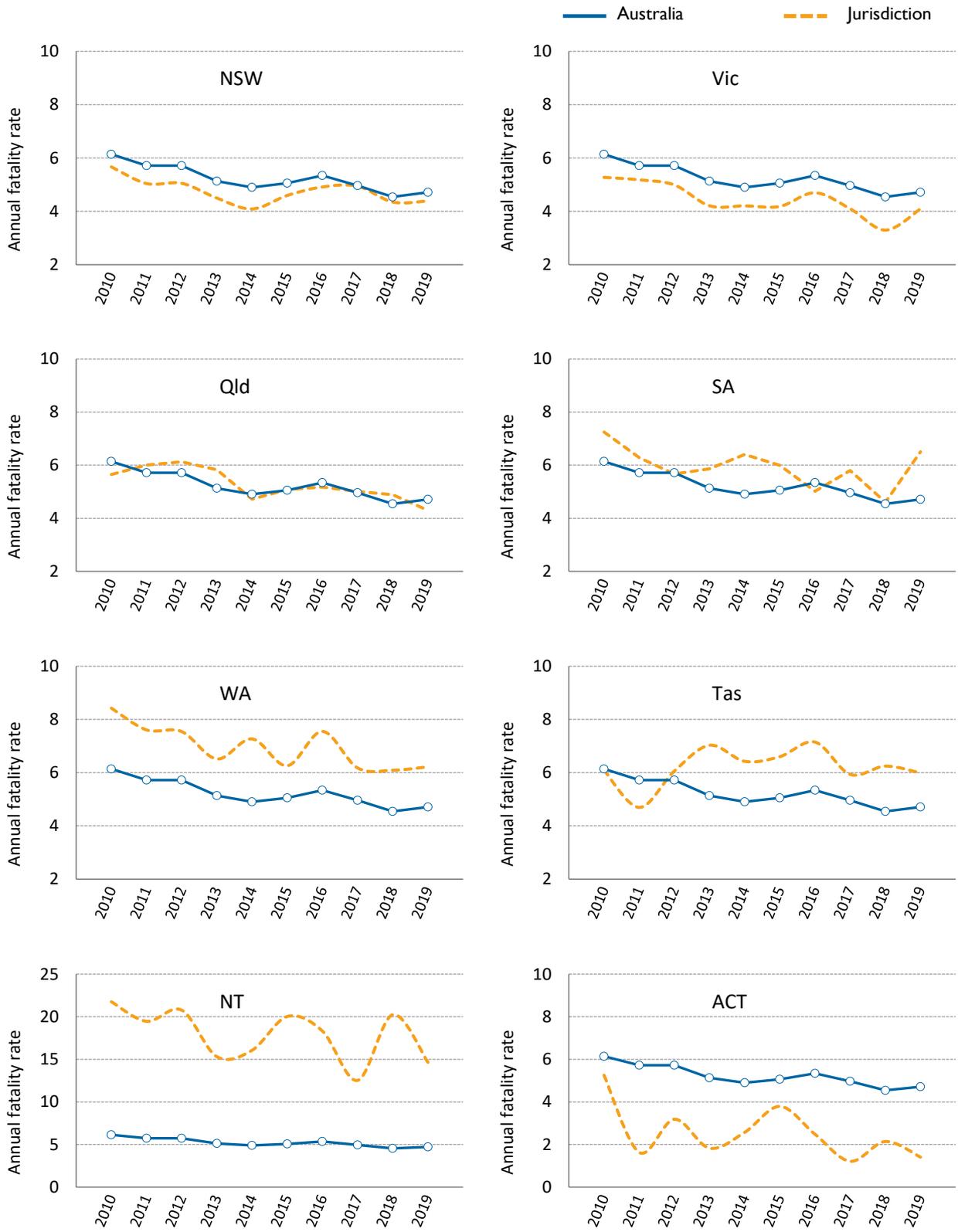


Table 2.2 Annual fatality rate per 100,000 population by age group

	0–16 years	17–25 years	26–39 years	40–64 years	65–74 years	≥ 75 years	All deaths ^a
2010	1.6	11.9	6.9	5.9	6.0	8.9	6.1
2011	1.9	9.9	6.2	5.5	4.9	10.5	5.7
2012	1.4	9.9	6.7	5.5	5.4	10.4	5.7
2013	1.3	8.0	5.3	5.1	6.3	10.6	5.1
2014	1.3	8.1	5.4	4.8	5.6	8.6	4.9
2015	1.3	7.7	5.7	5.0	5.9	9.8	5.1
2016	1.2	9.0	6.0	5.4	4.9	10.3	5.3
2017	0.9	8.2	4.8	5.1	5.6	11.0	5.0
2018	1.0	7.4	5.0	4.6	5.1	7.7	4.5
2019	0.9	7.8	4.9	4.9	4.7	9.6	4.7
% change 2018-2019	-8.7	4.6	-2.8	6.3	-8.6	25.1	3.7
Ave. trend change p.a. (%)	-7.1	-3.9	-3.5	-1.9	-1.5	-0.7	-2.7

a Includes cases where age is unknown.
Source ABS 2020a and Australian Road Deaths Database

Figure 2.3 Annual fatality rate per 100,000 population by age group

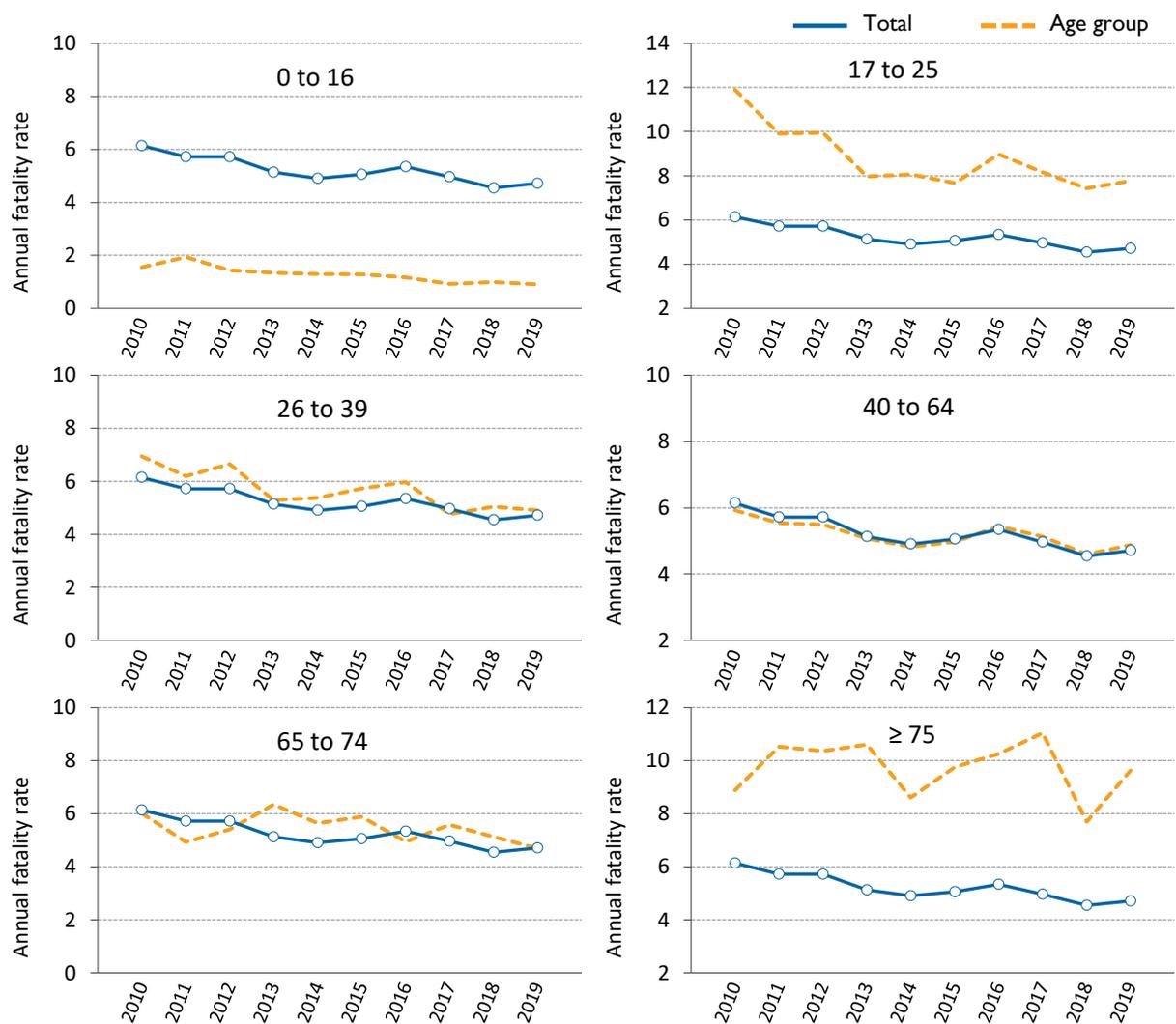


Table 2.3 Annual fatality rate per 100,000 population by Remoteness Area

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	Australia
2010	2.9	11.3	14.7	21.4	38.2	6.1
2011	2.8	10.0	14.4	22.6	30.4	5.7
2012	2.8	11.0	13.7	14.8	27.4	5.7
2013	2.6	9.5	11.7	23.0	26.4	5.1
2014	2.3	9.3	11.9	20.2	32.1	4.9
2015	2.4	9.1	13.9	20.5	28.4	5.1
2016	2.6	9.8	14.2	16.7	34.2	5.4
2017	2.4	9.4	14.1	15.4	18.4	5.0
2018	2.2	7.8	13.5	20.3	28.5	4.5
% change 2018-2019	-9.8	-17.4	-4.7	31.5	54.2	-8.5
Ave. trend change p.a.(%)	-2.9	-3.2	-0.3	-2.0	-3.5	-2.9

Source ABS 2020b

Figure 2.4 Annual fatality rate per 100,000 population by Remoteness Area

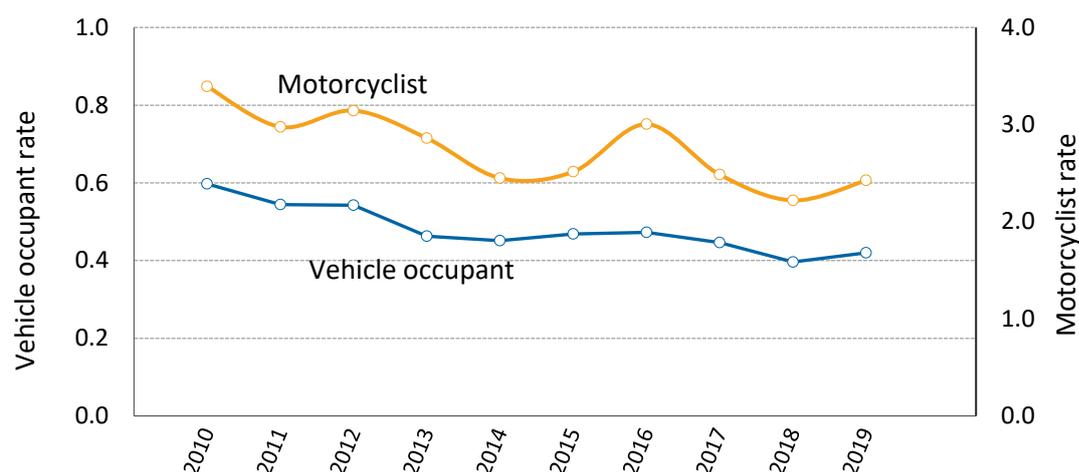


Table 2.4 Vehicle occupants^a – fatality rate per 10,000 registered four-wheeled^b motor vehicles

	<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>
2010	0.6	0.5	0.5	0.7	0.8	0.5	3.0	0.5	0.6
2011	0.6	0.4	0.6	0.5	0.7	0.4	2.7	0.1	0.5
2012	0.5	0.5	0.5	0.5	0.7	0.5	2.3	0.2	0.5
2013	0.4	0.4	0.6	0.5	0.5	0.4	1.4	0.2	0.5
2014	0.4	0.4	0.4	0.6	0.6	0.6	1.4	0.2	0.5
2015	0.4	0.4	0.5	0.5	0.6	0.5	2.0	0.4	0.5
2016	0.5	0.4	0.4	0.5	0.6	0.5	2.3	0.2	0.5
2017	0.5	0.4	0.4	0.4	0.5	0.4	1.3	0.1	0.4
2018	0.4	0.3	0.4	0.4	0.5	0.5	1.7	0.1	0.4
2019	0.4	0.3	0.4	0.5	0.6	0.5	1.9	0.1	0.4
<i>% change 2018-2019</i>	4.0	23.4	-10.0	19.4	6.5	2.1	7.7	-2.1	5.8
<i>Ave. trend change p.a. (%)</i>	-3.3	-4.5	-4.3	-3.3	-3.0	-0.5	-4.9	-6.6	-3.7
a	Comprises drivers and passengers								
b	Comprises cars, trucks, light commercial vehicles and buses.								
Source	ABS 2019 and Australian Road Deaths Database								

Table 2.5 Motorcyclists^a – fatality rate per 10,000 registered motorcycles

	<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>
2010	3.5	3.1	3.2	3.4	3.7	2.1	8.4	4.1	3.4
2011	2.8	3.1	2.9	4.4	2.8	2.0	3.4	2.5	3.0
2012	3.2	2.5	3.6	3.1	3.2	3.0	6.6	2.3	3.1
2013	3.6	2.4	2.6	2.4	2.2	6.3	9.0	1.5	2.9
2014	2.8	1.7	2.0	2.1	3.5	1.7	8.7	1.5	2.4
2015	3.0	1.7	2.9	2.1	1.7	5.4	8.4	3.1	2.5
2016	2.9	3.0	3.2	1.5	3.0	5.2	5.8	2.3	3.0
2017	2.5	2.0	2.5	4.4	2.0	5.6	4.5	0.8	2.5
2018	2.2	2.0	2.1	1.8	2.2	4.0	12.2	1.5	2.2
2019	2.7	2.2	2.2	3.1	2.2	3.4	4.9	0.0	2.4
<i>% change 2018-2019</i>	23.8	13.6	3.1	67.2	-1.9	-13.3	-59.6	-100.0	9.3
<i>Ave. trend change p.a. (%)</i>	-3.4	-3.8	-3.9	-4.0	-5.1	8.1	0.5	-	-3.6
a	Comprises motorcycle riders and pillion passengers.								
Source	ABS 2019 and Australian Road Deaths Database								

Figure 2.5 Annual fatality rate per 10,000 registered vehicles**Table 2.6** Vehicle occupants^a – fatality rate per billion four-wheeled motor vehicle vehicle-kilometres-travelled (VKT)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	4.0	3.3	3.4	5.1	5.5	4.1	18.9	3.4	4.1
2011	3.6	3.1	3.7	3.9	4.8	3.1	17.3	0.8	3.7
2012	3.5	3.3	3.7	4.1	4.7	3.6	15.2	1.1	3.7
2013	2.9	2.6	3.8	4.1	3.6	3.4	9.7	1.1	3.2
2014	2.7	2.6	3.1	4.6	4.2	5.1	10.0	1.6	3.2
2015	2.9	2.8	3.1	4.1	4.3	3.7	14.1	2.6	3.3
2016	3.1	2.8	2.7	3.7	4.8	4.3	16.3	1.5	3.3
2017	3.4	2.6	2.8	3.3	3.8	3.1	8.7	0.7	3.1
2018	2.7	1.9	2.9	3.2	3.8	3.8	12.1	1.0	2.8
2019	2.9	2.4	2.7	4.0	4.2	3.9	13.0	1.0	3.0
% change 2018-2019	6.2	25.8	-7.0	22.1	9.2	4.1	6.8	-0.6	8.3
Ave. trend change p.a. (%)	-2.8	-4.2	-3.7	-3.1	-2.6	0.4	-4.0	-	-3.3

a Comprises drivers and passengers

b Comprises cars, trucks, light commercial vehicles and buses.

Sources Australian Road Deaths Database and BITRE 2020

Table 2.7 Motorcyclists^a – fatality rate per billion VKT

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	88.2	95.6	78.9	96.2	134.8	54.0	161.5	122.0	93.7
2011	74.7	97.3	73.1	129.8	109.3	55.1	67.8	75.2	86.2
2012	91.6	83.7	100.2	96.4	136.5	94.2	141.7	77.8	97.9
2013	103.6	82.9	73.1	76.1	98.0	203.0	205.4	51.8	91.4
2014	84.6	59.6	58.8	69.0	162.8	55.0	201.0	51.4	80.3
2015	94.7	58.8	84.1	68.5	78.2	181.1	199.1	102.5	84.1
2016	93.0	108.3	94.1	49.2	144.3	178.6	134.2	76.5	101.5
2017	81.1	72.8	75.4	147.5	92.8	194.9	101.4	25.6	85.5
2018	74.7	73.1	65.3	61.2	104.4	140.6	273.1	51.4	77.7
2019	94.5	84.9	68.7	104.6	102.6	123.9	105.0	0.0	86.4
% change 2018-2019	0.3	0.2	0.1	0.7	0.0	-0.1	-0.6	-1.0	0.1
Ave. trend change p.a. (%)	-0.1	-1.8	-1.4	-2.2	-2.6	11.9	1.8	-	-1.1

a Comprises motorcycle riders and pillion passengers.
Sources Australian Road Deaths Database and BITRE 2020

Figure 2.6 Annual fatality rates per billion VKT

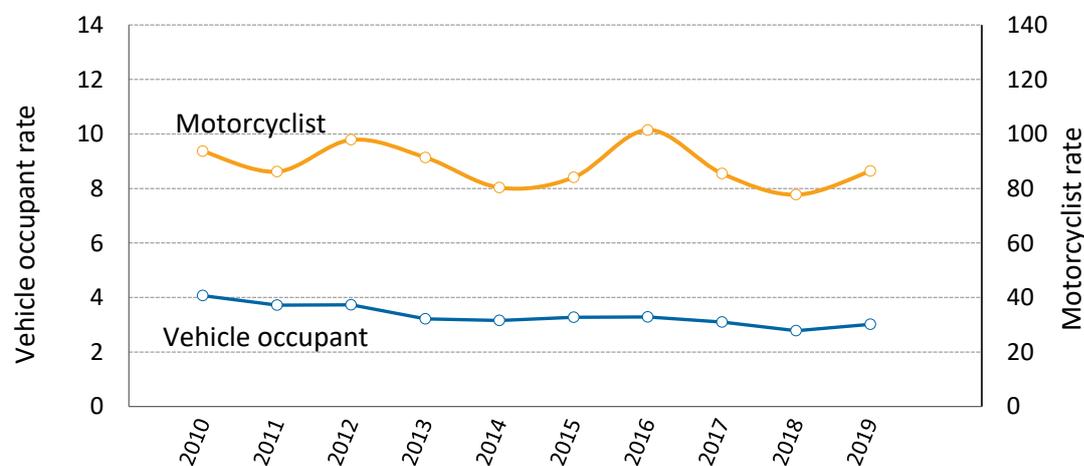


Table 2.8 Annual hospitalised injury (HI) and fatality rates

	<i>Per population</i>		<i>Per registered vehicle</i>		<i>Per VKT</i>	
	HI	Deaths	HI	Deaths	HI	Deaths
2010	148.8	6.1	204.1	8.4	14.3	0.6
2011	152.6	5.7	208.2	7.8	14.7	0.6
2012 ^a	150.0	5.7	203.6	7.8	14.5	0.6
2013	151.6	5.1	204.1	6.9	14.7	0.5
2014	151.4	4.9	201.6	6.5	14.6	0.5
2015	155.7	5.1	205.9	6.7	14.9	0.5
2016	161.0	5.3	211.8	7.0	15.3	0.5
2017	159.9	5.0	209.4	6.5	15.1	0.5
2018	-	4.5	-	5.9	-	0.4
2019	-	4.7	-	6.1	-	0.5

a HI data for 2012 and onwards is not directly comparable with previous years due to a break in the series.

Sources ABS 2019, Australian Road Deaths Database, BITRE 2020 and DITRD&C 2019

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Section 3

NRSS statistical progress

Table 3.1 National Road Safety Strategy (NRSS) statistical progress
– High level outcome measures

Measure	Baseline (2008-2010)	2018	% Change baseline – 2018
<i>Number of deaths resulting from road crashes</i>	1,426	1,136	-20.3%
<i>Number of road crashes resulting in deaths</i>	1,297	1,056	-18.6%
<i>Number of deaths per 100,000 population</i>	6.6	4.5	-31.8%
<i>Number of deaths per 100 million vehicle kilometres travelled</i>	0.63	0.43	-31.7%
<i>Number of deaths per 10,000 registered vehicles</i>	0.91	0.59	-35.2%

Table 3.2 National Road Safety Strategy (NRSS) statistical progress
– Outcome Measures Australia

Measure	Baseline (2008-2010)	2018	% Change baseline – 2018
Safe roads			
<i>Number of deaths from head-on crashes</i>	271	199	-26.7%
<i>Number of deaths from single-vehicle crashes</i>	654	534	-18.4%
<i>Number of deaths from intersection crashes</i>	301	244	-18.9%
<i>Number of deaths from crashes on metropolitan roads</i>	499	396	-20.6%
<i>Number of deaths from crashes on regional roads</i>	777	622	-20.0%
<i>Number of deaths from crashes on remote roads</i>	138	116	-15.9%
Safe speeds			
<i>Mean free speeds at designated sites across the network</i>		N/A	
<i>Percentage of vehicles speeding by vehicle type and offence category</i>		NA	
Safe vehicles			
<i>Average age of the Australian vehicle fleet (years)</i>	10.0	10.2	2.0%
<i>Average age of passenger vehicles</i>	9.7	9.9	2.1%
<i>Percentage of new light vehicles sold with a 5-star ANCAP rating</i>	56% (2010)	90%	60.7%
<i>Percentage of new vehicles sold with Autonomous Emergency Braking (AEB)</i>	N/A	31%	N/A

Table 3.2 National Road Safety Strategy (NRSS) statistical progress
– Outcome Measures Australia (continued)

<i>Measure</i>	<i>Baseline (2008-2010)</i>	<i>2018</i>	<i>% Change baseline – 2018</i>
Safe people – responsible road use			
<i>Number of young driver and motorcycle rider deaths (aged 17-25 years)</i>	223	146	-34.4%
<i>Number of deaths from crashes involving a young driver or motorcycle rider (aged 17-25 years)</i>	470	299	-36.4%
<i>Number of older driver and motorcycle rider deaths (aged 65+ years)</i>	114	139	22.3%
<i>Number of deaths from crashes involving an older driver or motorcycle rider (aged 65+ years)</i>	209	237	13.4%
<i>Number of motorcyclist deaths</i>	232	191	-17.6%
<i>Number of cyclist deaths</i>	32	35	8.2%
<i>Number of pedestrian deaths</i>	186	178	-4.5%
<i>Number of deaths from crashes involving a heavy vehicle</i>	248	175	-29.3%
Safe people – irresponsible road use			
<i>Number of drivers and motorcycle riders killed with a blood alcohol concentration (BAC) above the legal limit</i>	149	100	-32.9%
<i>Number of deaths from crashes involving a driver or motorcycle rider with a blood alcohol concentration (BAC) above the legal limit</i>	214	142	-33.6%
<i>Number of deaths from crashes involving an unlicensed driver or motorcycle rider</i>	143	95	-33.6%
<i>Number of vehicle occupants killed who were not wearing a restraint</i>	215	123	-42.8%
	2010	2018	% Change baseline – 2018
<i>Number of drivers and motorcycle riders killed who had an illegal drug in their system</i>	53	60	13.2%
<i>Number of deaths from crashes involving a driver or motorcycle rider who had an illegal drug in their system</i>	83	103	24.1%

Note Tables 3.1 and 3.2 are reproduced from <Roadsafety.gov.au>

Table 3.3 National Road Safety Strategy (NRSS) deaths by jurisdiction

	<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>
2008	374	303	328	99	205	39	75	14	1,437
2009	454	290	331	119	191	63	31	12	1,491
2010	405	288	249	118	193	31	50	19	1,353
Baseline^a	411	294	303	112	196	44	52	15	1,427
2011	364	287	269	103	179	24	45	6	1,277
2012	369	282	280	94	183	31	49	12	1,300
2013	333	243	271	98	162	36	37	7	1,187
2014	307	248	223	108	183	33	39	10	1,151
2015	350	252	243	102	159	34	49	15	1,204
2016	380	290	251	86	193	37	45	10	1,292
2017	389	259	247	100	159	31	31	5	1,221
2018	347	213	245	80	158	33	50	9	1,135
2019	355	270	219	114	163	32	36	6	1,195
12 months to Apr-2020	329	253	225	112	142	34	33	7	1,135
April 2020 change to baseline (%)	-20.0%	-13.9%	-25.7%	0.0%	-27.6%	-22.7%	-36.5%	-53.3%	-20.5%

a The NRSS 2020 baseline is the average of the three annual totals, 2008, 2009 and 2010.

Source <Roadsafety.gov.au>

Section 4

EXPOSURE

Table 4.1 Population (000s) by jurisdiction (June)

	<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>
2010	7,144	5,461	4,405	1,627	2,291	509	230	362	22,032
2011	7,219	5,538	4,477	1,640	2,353	511	231	368	22,340
2012	7,304	5,651	4,569	1,657	2,426	512	236	377	22,733
2013	7,404	5,773	4,653	1,671	2,487	512	242	383	23,128
2014	7,508	5,895	4,720	1,687	2,518	514	243	389	23,476
2015	7,616	6,022	4,778	1,701	2,541	515	245	396	23,816
2016	7,733	6,173	4,845	1,713	2,556	518	246	403	24,191
2017	7,868	6,322	4,928	1,724	2,574	522	248	412	24,602
2018	7,980	6,462	5,009	1,737	2,594	528	247	420	24,983
2019	8,090	6,596	5,095	1,752	2,622	534	246	427	25,366
<i>Ave. trend change p.a. (%)</i>	1.4	2.2	1.6	0.8	1.4	0.5	0.8	1.9	1.6
Source	ABS 2020a								

Table 4.2 Population (000s) by age group (June)

	<i>0-16</i>	<i>17-25</i>	<i>26-39</i>	<i>40-64</i>	<i>65-74</i>	<i>≥ 75</i>	<i>All</i>
2010	4,771	2,824	4,395	7,055	1,613	1,373	22,032
2011	4,805	2,825	4,437	7,185	1,682	1,406	22,340
2012	4,873	2,855	4,510	7,281	1,777	1,437	22,733
2013	4,946	2,887	4,595	7,370	1,859	1,471	23,128
2014	5,008	2,912	4,667	7,446	1,932	1,510	23,476
2015	5,072	2,934	4,751	7,505	2,007	1,548	23,816
2016	5,148	2,955	4,855	7,561	2,083	1,589	24,191
2017	5,213	2,991	4,980	7,627	2,152	1,639	24,602
2018	5,265	3,027	5,094	7,684	2,224	1,689	24,983
2019	5,321	3,062	5,202	7,743	2,283	1,756	25,366
<i>Ave. trend change p.a. (%)</i>	1.3	0.9	1.9	1.0	4.0	2.7	1.6
Source	ABS 2020a						

Table 4.3 Population (000s) by Remoteness Area (June)

	<i>Major Cities</i>	<i>Inner Regional</i>	<i>Outer Regional</i>	<i>Remote</i>	<i>Very Remote</i>	<i>Australia</i>
2010	15,502	4,055	1,968	299	207	22,032
2011	15,745	4,103	1,981	301	210	22,340
2012	16,062	4,155	2,001	303	212	22,733
2013	16,384	4,208	2,019	304	212	23,128
2014	16,682	4,254	2,029	301	209	23,476
2015	16,982	4,296	2,036	298	204	23,816
2016	17,312	4,343	2,041	293	202	24,191
2017	17,670	4,391	2,048	292	201	24,602
2018	17,996	4,444	2,051	291	200	24,983
2019	18,320	4,500	2,055	290	200	25,366
<i>Ave. trend change p.a. (%)</i>	1.9	1.1	0.5	-0.5	-0.7	1.6
Source	ABS 2020b					

Table 4.4 Registrations (000s) of four-wheeled motor vehicles by jurisdiction

	<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>
2010	4,496	3,946	3,191	1,189	1,769	392	129	241	15,352
2011	4,587	4,027	3,233	1,210	1,805	400	131	246	15,639
2012	4,670	4,110	3,315	1,222	1,862	411	135	254	15,980
2013	4,773	4,202	3,419	1,244	1,926	415	142	260	16,382
2014	4,879	4,296	3,510	1,270	2,011	420	145	266	16,798
2015	5,011	4,376	3,570	1,290	2,050	427	148	270	17,142
2016	5,130	4,483	3,646	1,307	2,072	434	151	275	17,497
2017	5,255	4,595	3,732	1,327	2,083	445	149	282	17,868
2018	5,356	4,717	3,824	1,350	2,098	456	156	289	18,246
2019	5,435	4,820	3,909	1,369	2,113	468	155	295	18,565
<i>Ave. trend change p.a. (%)</i>	2.2	2.3	2.3	1.6	2.1	1.9	2.2	2.2	2.2

Table 4.5 Registrations (000s) of motorcycles by jurisdiction

	<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>
2010	175	156	155	47	94	14	6	12	660
2011	181	161	157	48	99	15	6	12	679
2012	188	165	165	49	107	16	6	13	709
2013	200	169	174	51	114	17	7	13	745
2014	211	174	182	52	123	18	7	13	780
2015	222	179	187	53	127	19	7	13	807
2016	229	185	193	54	129	19	7	13	829
2017	238	189	200	54	128	20	7	13	849
2018	244	192	204	54	126	20	7	13	861
2019	248	196	208	55	123	20	6	13	870
<i>Ave. trend change p.a. (%)</i>	4.2	2.6	3.6	1.9	3.3	4.0	1.0	0.8	3.3

Table 4.6 Registrations (000s) of all vehicles by jurisdiction

	<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>
2010	4,681	4,113	3,358	1,240	1,870	410	135	254	16,061
2011	4,778	4,198	3,402	1,262	1,913	419	137	259	16,368
2012	4,870	4,286	3,492	1,275	1,978	432	141	267	16,742
2013	4,985	4,384	3,606	1,298	2,048	437	149	274	17,181
2014	5,102	4,483	3,705	1,326	2,142	443	152	279	17,633
2015	5,247	4,567	3,771	1,348	2,185	450	155	284	18,008
2016	5,374	4,681	3,854	1,365	2,209	458	158	288	18,387
2017	5,509	4,798	3,948	1,386	2,219	469	155	296	18,781
2018	5,618	4,923	4,045	1,409	2,232	481	163	303	19,173
2019	5,702	5,031	4,134	1,429	2,245	493	162	309	19,505
<i>Ave. trend change p.a. (%)</i>	2.3	2.3	2.4	1.6	2.2	2.0	2.2	2.2	2.2

Source ABS 2019

Table 4.7 VKT (millions) for four-wheeled motor vehicles by jurisdiction

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	68,273	58,010	48,170	15,946	24,967	5,182	2,013	3,582	226,142
2011	69,682	59,268	48,573	15,980	25,450	5,209	2,028	3,638	229,828
2012	70,446	60,370	49,428	15,996	26,100	5,238	2,039	3,712	233,329
2013	71,425	61,188	50,335	16,184	26,519	5,237	2,072	3,777	236,737
2014	72,540	62,442	51,083	16,545	27,108	5,274	2,097	3,831	240,921
2015	74,141	63,821	52,176	16,829	27,677	5,335	2,123	3,901	246,001
2016	76,149	65,503	53,613	17,185	28,407	5,404	2,145	3,993	252,398
2017	77,963	67,153	54,731	17,450	28,705	5,456	2,184	4,082	257,725
2018	78,921	68,253	55,430	17,608	28,806	5,569	2,227	4,138	260,950
2019	78,442	68,470	54,832	17,453	28,307	5,603	2,238	4,162	259,506
Ave. trend change p.a. (%)	1.7	2.0	1.7	1.3	1.6	0.9	1.3	1.8	1.7

Table 4.8 VKT (millions) for motorcycles by jurisdiction

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	691.3	512.4	633.4	166.2	259.5	55.6	31.0	41.0	2,390.5
2011	683.1	503.4	615.8	161.8	256.2	54.5	29.5	39.9	2,344.1
2012	665.9	489.8	598.7	155.6	249.0	53.1	28.2	38.6	2,278.9
2013	685.3	494.8	615.5	157.7	255.2	54.2	29.2	38.6	2,330.5
2014	697.5	503.7	629.3	159.4	264.1	54.6	29.8	38.9	2,377.4
2015	707.5	510.5	641.8	160.6	268.4	55.2	30.1	39.0	2,413.2
2016	720.6	517.0	658.6	162.7	270.2	56.0	29.8	39.2	2,454.1
2017	727.1	521.7	662.8	162.7	269.3	56.4	29.6	39.1	2,468.7
2018	723.1	520.1	658.3	163.3	268.1	56.9	29.3	38.9	2,457.9
2019	719.6	518.1	655.0	162.6	263.0	56.5	28.6	38.5	2,441.8
Ave. trend change p.a. (%)	0.8	0.5	0.9	0.1	0.6	0.5	-0.3	-0.4	0.7

Table 4.9 VKT (millions) for all vehicles by jurisdiction

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
2010	68,965	58,523	48,803	16,112	25,226	5,238	2,044	3,623	228,532
2011	70,365	59,772	49,189	16,142	25,706	5,264	2,057	3,677	232,172
2012	71,111	60,860	50,027	16,152	26,349	5,291	2,068	3,751	235,608
2013	72,110	61,683	50,950	16,342	26,774	5,291	2,102	3,816	239,067
2014	73,237	62,946	51,712	16,705	27,373	5,329	2,127	3,870	243,299
2015	74,848	64,332	52,817	16,989	27,945	5,390	2,153	3,940	248,414
2016	76,870	66,020	54,272	17,348	28,678	5,460	2,175	4,032	254,852
2017	78,691	67,675	55,393	17,612	28,975	5,513	2,214	4,121	260,193
2018	79,644	68,773	56,088	17,771	29,074	5,625	2,256	4,177	263,408
2019	79,161	68,988	55,487	17,615	28,570	5,659	2,267	4,200	261,948
Ave. trend change p.a. (%)	1.7	2.0	1.7	1.3	1.6	0.9	1.2	1.8	1.7

Source BITRE 2020

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 fields.

<i>BAC</i>	Blood alcohol concentration (BAC) refers to the amount of alcohol present in the bloodstream.
<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>DCA/RUM codes</i>	A system of classifying crashes according to the movements of key vehicles and road users. See Austroads 2009.
<i>Fatal crash</i>	A crash for which there is at least one death.
<i>High threat to life injury</i>	'High threat to life' hospitalised injury cases are a subset of all hospitalised injury cases. They are selected on the basis of having an ICD Injury Severity Score (ICISS) of less than 0.941. See Australian Institute of Health and Welfare 2016 for definition and discussion.
<i>Hospitalised injury</i>	A person admitted to hospital from a crash occurring 'in traffic'. Traffic area exclude off-road and unknown locations.
<i>Remoteness area</i>	ABS Remoteness Areas divide Australia into 5 classes of remoteness on the basis of a measure of relative access to services. See ABS 2018.
<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>Trend changes</i>	The 'average trend changes 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: The occurrence of a <i>zero</i> in the original series precludes trend estimation by this method.
<i>Trend lines</i>	Trend lines are estimated by Whittaker-Henderson methodology. The R package 'pracma' is used to perform the smoothing.
<i>Urban area</i>	ABS Significant Urban Areas 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. See ABS 2018.

References

- ABS 2020a Australian Bureau of Statistics 2020, *Australian Demographic Statistics*, September 2019, Cat. no. 3101.0.
- ABS 2020b Australian Bureau of Statistics 2020b, *Regional Population Growth, Australia, 2018-19* Cat. no. 3218.0
- ABS 2019 Australian Bureau of Statistics 2019, *Motor Vehicle Census*, January 2019 Cat. no. 9309.0.
- ABS 2018 Australian Bureau of Statistics 2018, *Australian Statistical Geography Standard (ASGS): Volume 5 – Remoteness Structure*, Cat. no. 1270.0.55.005, *Volume 4 – Significant Urban Areas, Urban Centres and Localities*, Section of State Cat. no. 1270.0.55.004.
- AIHW 2016 Australian Institute of Health and Welfare 2016, Henley G & Harrison JE, *Trends in serious injury due to road vehicle traffic crashes, Australia 2001 to 2010*. Injury research and statistics series no. 89, Cat. no. INJCAT 165. Canberra.
- Austrroads 2009 *Guide to Road Safety Part 8: Treatment of Crash Locations*, Austrroads.
- BITRE 2020 Bureau of Infrastructure, Transport and Regional Economics (BITRE) unpublished VKT estimates, State and Capital City Vehicle-Kilometres-Travelled March 2020.
- DITRD&C 2019 Department of Infrastructure, Transport, Regional Development and Communications, Hospitalised Injury Series, available at < <https://www.bitre.gov.au/statistics/safety>>
- PSMA 2015 PSMA Australia Ltd *Transport and Topography* Version 4.3, 2015.