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Safety

**International road safety comparisons
2017**

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Bureau of Infrastructure, Transport and Regional Economics

International road safety comparisons 2017

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

At a glance

This report presents tabulations of road deaths and road death rates for Organisation for Economic Co-operation and Development (OECD) nations and Australian states and territories. The rates allow for a comparison of Australia's road safety performance with that of other OECD nations by accounting for the differing levels of population, motorisation and distances travelled.

- In terms of the fatality rate per 100,000 population:

Australia's rate of 4.98 in 2017 (down from 5.34 in 2016) was the 17th lowest rate out of the 35 nations with available data. The nations with the three lowest rates were Norway (2.01), Sweden (2.53) and Switzerland (2.73) (Tables 1.1 and 1.2). Fatalities per 100,000 population is the measure specified in the UN Sustainable Development Goals (Indicator 3.61) to monitor road crash trauma.

Between 2008 and 2017 Australia's fatality rate declined by 26.4 per cent. Over the same period, the OECD median rate declined by 32.3 per cent (Table 1.4).

The age groups with the highest fatality rates per population are 15-24 years (in 10 of 31 countries, this age group had the highest rate) and 65 and plus years (in 21 of 31 countries this age group had the highest rate). In both groups, Australia's rate was higher than the OECD median (Table 1.6).

In Australia, rates vary significantly across Remoteness Areas classifications. Major City rates are consistently the lowest (2.31 in 2017) and Very Remote areas are consistently the highest (16.45 in 2017) (Table 1.2).

- In terms of the fatality rate per 10,000 registered vehicles in 2017:

Australia's rate of 0.65 in 2017 (down marginally from 0.70 in 2016) was the 15th lowest rate out of the 27 nations with available data. The nations with the three lowest rates were Norway (0.27), Switzerland (0.37) and Sweden (0.40) (Tables 2.1 and 2.2).

Between 2008 and 2017 Australia's fatality rate declined by 30.6 per cent. Over the same period, OECD median rate declined by 39.8 per cent (Table 2.2).

- In terms of the fatality rate per 100 million vehicle kilometres travelled:

Australia's rate of 0.47 (down marginally from 0.51 in 2016) was the 11th lowest rate out of 22 nations with available data. The nations with the three lowest rates were Norway (0.23), Sweden (0.30) and Denmark (0.32) (Tables 3.1 and 3.2).

Between 2008 and 2017 Australia's fatality rate declined by 26.3 per cent. Over the same period, OECD median rate declined by 35.7 per cent (Table 3.2).

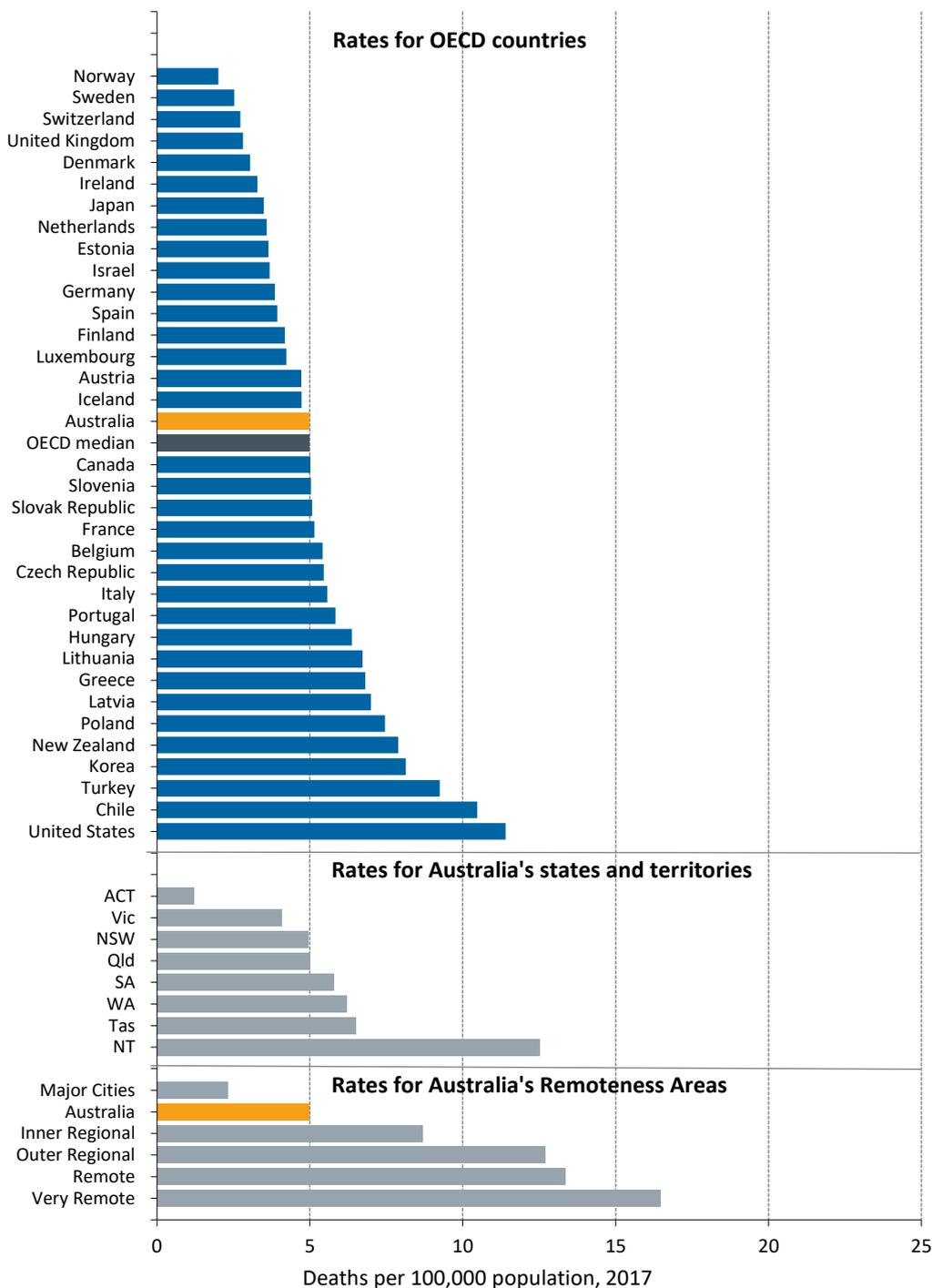
- In terms of the fatality rate per 10,000 licence holders:

Australia's rate of 0.70 was the 9th lowest rate out of 18 nations with available data. The nations with the three lowest rates were United Kingdom (0.37), Sweden (0.39) and Switzerland (0.39) (Tables 4.1 and 4.2).

Between 2010 and 2017 Australia's fatality rate declined by 20.2 per cent. Over the same period, OECD median rate declined by 26.7 per cent (Table 4.2).

- In Australia in 2017 vulnerable road users (motorcyclist, pedestrian or pedal cyclist) accounted for 34 per cent of total road deaths, which is low compared to most other OECD countries. Across countries there is marked difference in this proportion: in Canada, USA and New Zealand, it is under 32 per cent, whereas in Japan, Korea and Switzerland, vulnerable road users accounted for over 60 per cent of the total deaths (Table I.5).

Figure I.1 Road deaths per 100,000 population – 35 OECD countries, Australian states/territories and Australia’s Remoteness areas, 2017



Data sources

International data

The International Road Traffic Accident Database (IRTAD 2019) is the main source of fatality and exposure data in this report. IRTAD is maintained by the Joint Transport Research Centre of the OECD and the International Transport Forum. Each year member nations supply IRTAD with their most recent data, which may include revisions to historical data. Further information on IRTAD is available at <http://internationaltransportforum.org/irtadpublic/about.html>. In cases of particular countries where required data was not held by IRTAD, data was retrieved from the country's relevant government agency.

Australian data

Australian road fatality data in this report are based on two Bureau of Infrastructure, Transport and Regional Economics (BITRE) databases: the Australian Road Deaths Database (ARDD) and the National Crash Database (NCD). There are minor data differences between the two databases due to the timing differences in data receipt and ongoing validation by data providers. ARDD data are available at http://www.bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx. ARDD data used in this report was current to August 2019.

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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

Fatality rate per 100,000 population

The fatality rate per population is a measure of the public health risk associated with road crashes.

Fatality rate per 100,000 population – OECD countries, 2017

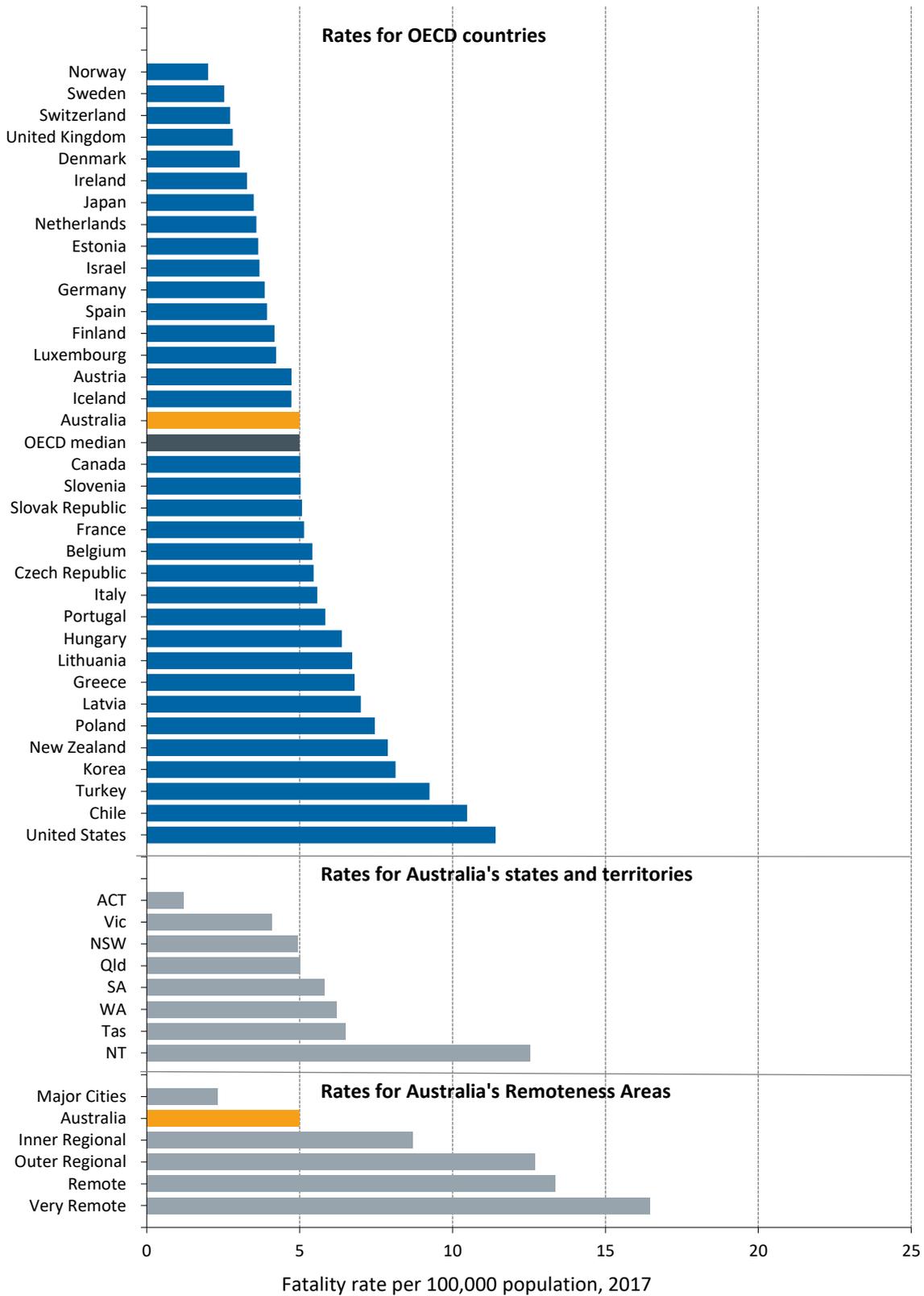
Table I.1 Fatality rate per 100,000 population – 35 OECD countries and Australian states/territories, 2017

<i>Nation</i>	<i>Road deaths</i>	<i>Population (000s)</i>	<i>Fatality rate per 100,000 population</i>
Norway	106	5,277	2.01
Sweden	253	9,995	2.53
Switzerland	230	8,420	2.73
United Kingdom	1,856	66,040	2.81
Denmark	175	5,749	3.04
Ireland	157	4,784	3.28
Japan	4,431	126,706	3.50
Netherlands	613	17,082	3.59
Estonia	48	1,317	3.64
Israel	321	8,713	3.68
Germany	3,180	82,522	3.85
Spain	1,830	46,527	3.93
Finland	230	5,503	4.18
Luxembourg	25	591	4.23
Austria	414	8,773	4.72
Iceland	16	338	4.73
Australia	1,225	24,602	4.98
OECD median			4.99
Canada	1,841	36,701	5.02
Slovenia	104	2,066	5.03
Slovak Republic	276	5,439	5.07
France	3,448	66,989	5.15
Belgium	615	11,352	5.42
Czech Republic	577	10,579	5.45
Italy	3,378	60,589	5.58
Portugal	602	10,310	5.84
Hungary	625	9,798	6.38
Lithuania	191	2,848	6.71
Greece	732	10,768	6.80
Latvia	136	1,942	7.00
Poland	2,831	37,973	7.46
New Zealand	378	4,794	7.89
Korea	4,185	51,446	8.13
Turkey	7,427	80,313	9.25
Chile	1,925	18,374	10.48
United States	37,150	325,719	11.41
ACT	5	412	1.21
Vic	259	6,322	4.10
NSW	389	7,868	4.94
Qld	247	4,928	5.01
SA	100	1,724	5.80
WA	160	2,574	6.22
Tas	34	522	6.51
NT	31	248	12.52

Sources

Australian Bureau of Statistics 2019; IRTAD 2019 and National Crash Database

Figure I.1 Fatality rate per 100,000 population – 35 OECD countries, Australian states/territories and Australia's Remoteness Areas, 2017



Note See page 4 for more information on Remoteness Areas.
 Sources Australian Bureau of Statistics 2018b; Australian Bureau of Statistics 2019; IRTAD 2018 and National Crash Database

Fatality rate per 100,000 population by Remoteness Areas, Australia 2008 to 2017

The Remoteness Areas classification is part of the Australian Bureau of Statistics – Australian Statistical Geography Standard (ASGS).

Table I.2 Fatality rate per 100,000 population by Remoteness Areas, Australia 2008 to 2017

Remoteness Areas	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	6.8	6.9	6.1	5.7	5.7	5.1	4.9	5.1	5.3	4.97
Major Cities of Australia	3.8	3.2	2.7	2.6	2.7	2.4	2.2	2.3	2.5	2.31
Inner Regional Australia	11.2	10.3	10.0	8.9	10.0	8.7	8.2	8.4	9.2	8.70
Outer Regional Australia	15.5	15.8	13.6	12.4	12.4	10.6	10.7	12.2	12.5	12.70
Remote Australia	17.7	25.6	20.4	20.6	12.2	21.4	18.6	18.1	14.7	13.35
Very Remote Australia	34.8	25.1	32.4	25.2	24.1	24.0	25.9	25.5	29.3	16.45

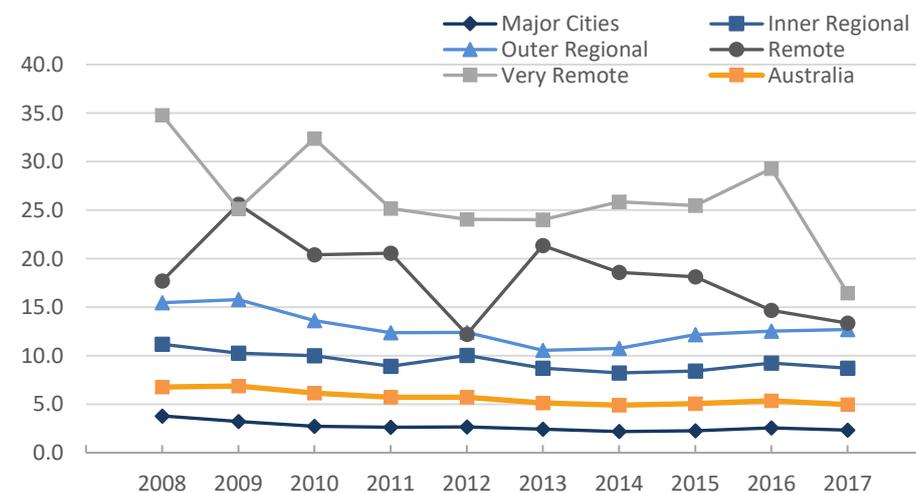
Note Small numbers of deaths induces volatility in the rates, as can be seen in the annual series for Very Remote Australia.
Sources Australian Bureau of Statistics 2018b and National Crash Database

Table I.3 Categories of Remoteness Areas, with 2017 population

Remoteness Areas	Proportion of population (2017)
Major Cities of Australia	71.8%
Inner Regional Australia	17.8%
Outer Regional Australia	8.3%
Remote Australia	1.2%
Very Remote Australia	0.8%

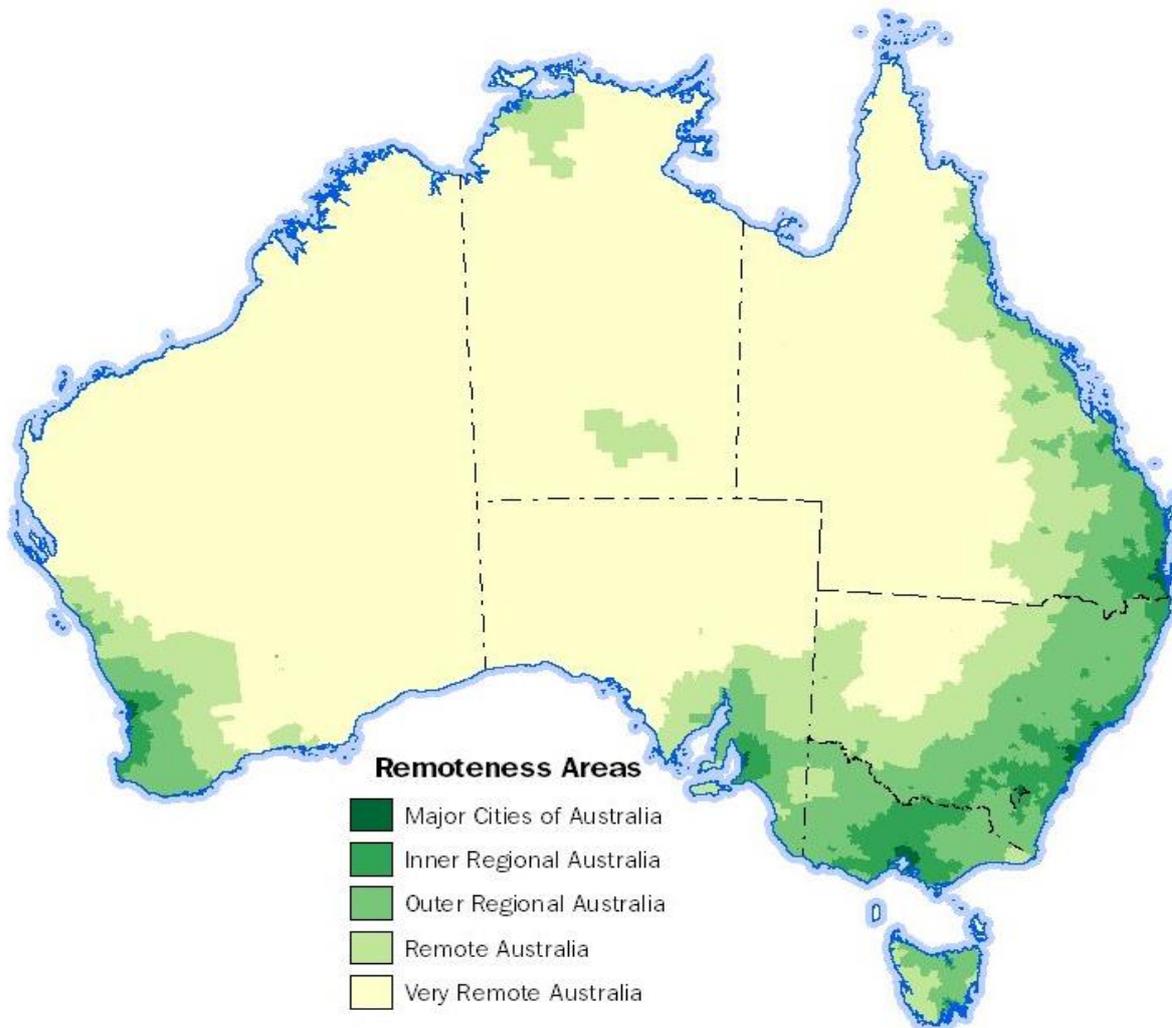
Source Australian Bureau of Statistics 2018b

Figure I.2 Fatality rate per 100,000 population by Remoteness Areas, Australia 2008 to 2017



Sources Australian Bureau of Statistics 2018b and National Crash Database

Figure I.3 ASGS^a Remoteness Areas 2016



a Source ASGS: Australian Statistical Geography Standard
Australian Bureau of Statistics 2018b

OECD countries, 1990, 2000 and 2008 to 2017

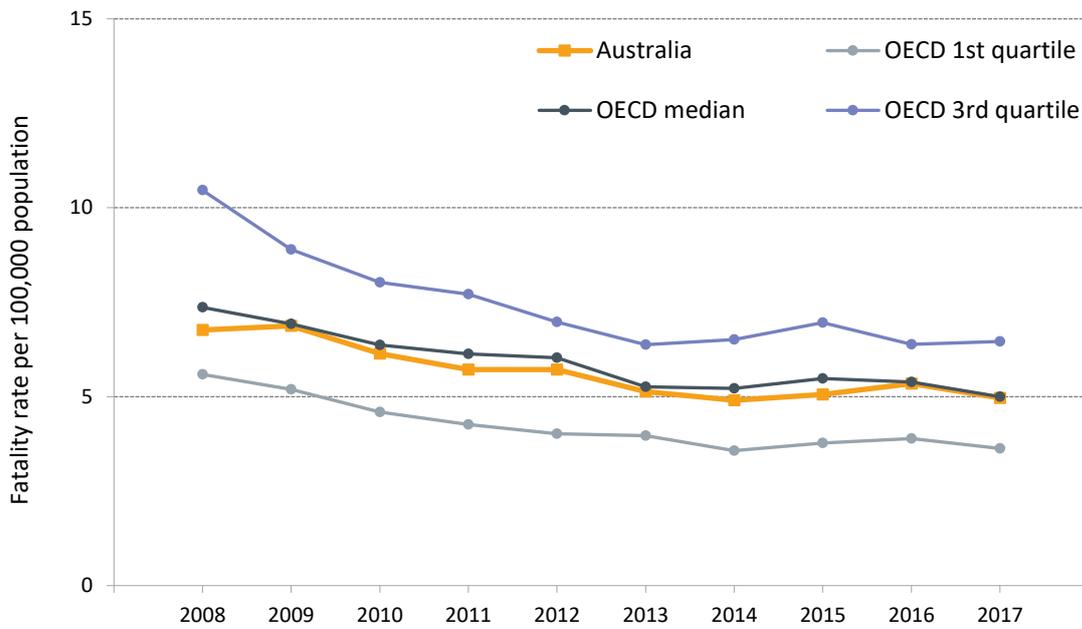
Table I.4 Fatality rate per 100,000 population – OECD countries and Australian states/territories, 1990, 2000 and 2008 to 2017

<i>Nation</i>	<i>1990</i>	<i>2000</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Norway	7.8	7.6	5.4	4.4	4.3	3.4	2.9	3.7	2.9	2.3	2.6	2.01
Sweden	9.1	6.7	4.3	3.9	2.8	3.4	3.0	2.7	2.8	2.7	2.7	2.53
Switzerland	13.9	8.3	4.7	4.5	4.2	4.1	4.3	3.3	3.0	3.1	2.6	2.73
United Kingdom	9.4	6.1	4.3	3.8	3.0	3.1	2.8	2.8	2.9	2.8	2.8	2.81
Denmark	12.3	9.3	7.4	5.5	4.6	4.0	3.0	3.4	3.2	3.1	3.7	3.04
Ireland	13.6	11.0	6.3	5.3	4.7	4.1	3.6	4.1	4.2	3.5	3.9	3.28
Japan	11.8	8.2	4.8	4.6	4.6	4.3	4.1	4.1	3.8	3.8	3.7	3.50
Netherlands	9.2	7.3	4.6	4.4	3.9	4.0	3.9	3.4	3.4	3.7	3.7	3.59
Estonia	-	-	9.9	7.5	5.9	7.6	6.6	6.1	5.9	5.1	5.4	3.64
Israel	8.7	7.2	5.6	4.2	4.6	4.4	3.3	3.4	3.4	3.8	3.9	3.68
Germany	-	9.1	5.4	5.1	4.5	4.9	4.5	4.1	4.2	4.3	3.9	3.85
Spain	23.3	14.4	6.8	5.9	5.3	4.4	4.1	3.6	3.6	3.6	3.9	3.93
Finland	13.0	7.7	6.5	5.2	5.1	5.4	4.7	4.8	4.2	4.9	4.7	4.18
Luxembourg	18.7	17.5	7.2	9.7	6.4	6.4	6.5	8.4	6.4	6.4	5.6	4.23
Austria	20.4	12.2	8.2	7.6	6.6	6.2	6.3	5.4	5.1	5.6	5.0	4.72
Iceland	9.5	11.5	3.8	5.3	2.5	3.8	2.8	4.7	1.2	4.9	5.4	4.73
Australia	13.7	9.5	6.8	6.9	6.1	5.7	5.7	5.1	4.9	5.1	5.3	4.98
Canada	14.3	9.5	7.3	6.6	6.6	5.9	6.0	5.5	5.2	5.2	5.2	5.02
Slovenia	25.9	15.7	10.6	8.4	6.7	6.9	6.3	6.1	5.2	5.8	6.3	5.03
Slovak Republic	-	-	11.2	7.1	6.5	6.0	6.5	4.6	5.4	5.7	5.1	5.07
France	19.8	13.7	6.9	6.8	6.4	6.3	5.8	5.1	5.3	5.4	5.4	5.15
Belgium	19.9	14.4	9.2	8.9	7.8	8.0	7.5	6.8	6.7	6.8	5.9	5.42
Czech Republic	12.5	14.5	10.4	8.6	7.7	7.4	7.1	6.2	6.5	7.0	5.8	5.45
Italy	12.6	12.4	8.1	7.2	7.0	6.5	6.3	5.7	5.6	5.6	5.4	5.58
Portugal	29.3	18.1	8.4	7.0	8.9	8.4	6.8	6.1	6.1	5.7	5.4	5.84
Hungary	23.4	11.7	9.9	8.2	7.4	6.4	6.1	6.0	6.3	6.5	6.2	6.38
Lithuania	29.3	18.3	15.5	11.6	9.5	9.7	10.1	8.6	9.1	8.3	6.6	6.71
Greece	20.3	18.7	13.9	13.0	11.2	10.3	8.9	8.0	7.3	7.3	7.6	6.80
Latvia	-	-	14.5	11.9	10.4	8.7	8.7	8.9	10.6	9.5	8.1	7.00
Poland	19.3	16.4	14.3	12.0	10.2	10.9	9.3	8.7	8.4	7.7	8.0	7.46
New Zealand	21.4	12.0	8.6	8.9	8.6	6.4	6.9	5.7	6.5	6.9	7.0	7.89
Korea	33.1	21.8	12.1	12.0	11.3	10.5	10.8	10.1	9.4	9.1	8.4	8.13
Turkey	-	-	6.0	6.0	5.5	5.2	5.0	4.8	4.6	9.6	9.2	9.25
Chile	15.7	-	13.9	11.6	12.1	11.9	11.4	12.0	11.9	11.9	12.0	10.48
United States	17.9	14.9	12.3	11.0	10.7	10.4	10.7	10.3	10.3	10.9	11.6	11.41
ACT	9.2	5.7	4.0	3.4	5.3	1.6	3.2	1.8	2.6	3.8	2.7	1.21
Vic	12.5	8.7	5.8	5.4	5.3	5.2	5.0	4.2	4.2	4.2	4.7	4.10
NSW	13.7	9.4	5.4	6.4	5.7	5.0	5.1	4.5	4.1	4.6	4.9	4.94
Qld	13.8	9.0	7.8	7.6	5.7	6.0	6.1	5.8	4.7	5.1	5.2	5.01
SA	15.8	11.1	6.2	7.4	7.3	6.3	5.7	5.9	6.4	6.0	5.0	5.80
WA	12.2	11.3	9.4	8.5	8.4	7.6	7.5	6.5	7.3	6.3	7.6	6.22
Tas	15.4	9.1	7.8	12.5	6.1	4.7	6.1	7.0	6.4	6.6	7.1	6.51
NT	41.5	25.6	34.1	13.7	21.8	19.5	20.8	15.3	16.1	20.0	18.3	12.52

Sources

Australian Bureau of Statistics 2019; Australian Road Deaths Database; IRTAD 2019 and National Crash Database

Figure I.4 Fatality rate per 100,000 population – OECD quartiles and Australia, 2008 to 2017



Sources Australian Bureau of Statistics 2019; IRTAD 2019 and National Crash Database

Proportion of road deaths by road user group – OECD countries, 2017

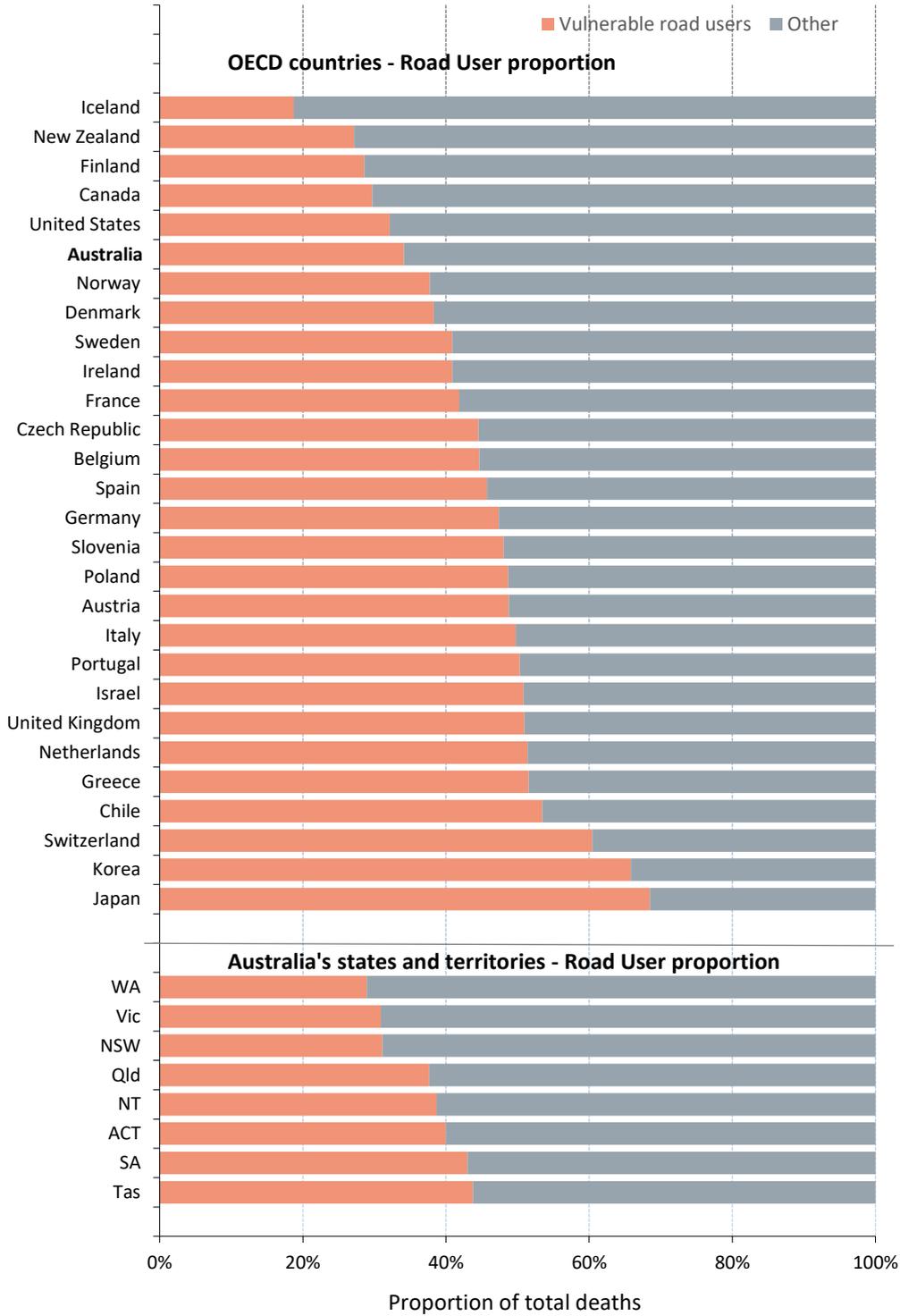
Table I.5 Distribution of deaths by road user group, 2017 – 30 OECD countries and Australian states/territories, 2017

Nation	Road deaths	Road User	
		Vulnerable road users (Pedestrian, Motorcyclist & Pedal cyclist)	Other (Vehicle occupant)
Iceland	16	18.8%	81.3%
New Zealand	378	27.2%	72.8%
Finland	230	28.6%	71.4%
Canada	1,841	29.7%	70.3%
United States	37,150	32.1%	67.9%
Australia	1,225	34.1%	65.9%
Norway	106	37.7%	62.3%
Denmark	175	38.3%	61.7%
Sweden	253	40.9%	59.1%
Ireland	157	40.9%	59.1%
France	3,448	41.9%	58.1%
Czech Republic	577	44.5%	55.5%
Belgium	615	44.7%	55.3%
Spain	1,830	45.7%	54.3%
Germany	3,180	47.4%	52.6%
Slovenia	104	48.1%	51.9%
Poland	2,831	48.7%	51.3%
Austria	414	48.8%	51.2%
Italy	3,378	49.8%	50.2%
Portugal	602	50.3%	49.7%
Israel	321	50.8%	49.2%
United Kingdom	1,856	51.0%	49.0%
Netherlands	613	51.4%	48.6%
Greece	732	51.6%	48.4%
Chile	1,925	53.5%	46.5%
Switzerland	230	60.4%	39.6%
Korea	4,185	65.8%	34.2%
Japan	4,431	68.5%	31.5%
WA	160	28.9%	71.1%
Vic	259	30.9%	69.1%
NSW	389	31.1%	68.9%
Qld	247	37.7%	62.3%
NT	31	38.7%	61.3%
ACT	5	40.0%	60.0%
SA	100	43.0%	57.0%
Tas	34	43.8%	56.3%

Sources

Australian Bureau of Statistics 2019; IRTAD 2019 and National Crash Database

Figure I.5 Distribution of deaths by road user group, 2017 – 30 OECD countries and Australian states/territories, 2017



Sources Australian Bureau of Statistics 2019; IRTAD 2019 and National Crash Database

Fatality rate per 100,000 population by age groups – OECD countries, 2017

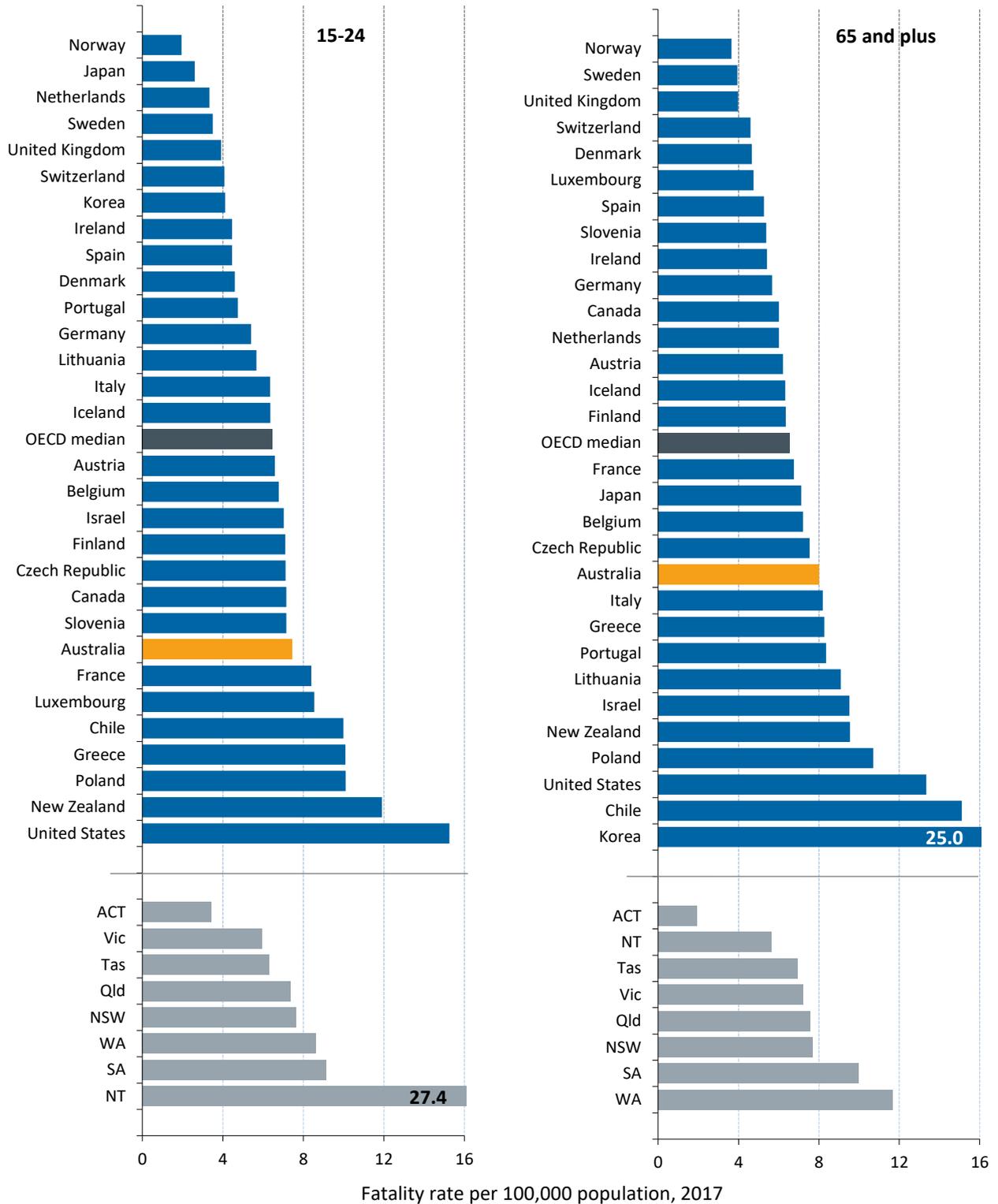
Table I.6 Fatality rate per 100,000 population for age groups – 30 OECD countries and Australian states/territories, 2017

Nation	Road deaths	Fatality rate per 100,000 population	Age group			
			0-14	15-24	25-64	65 +
Norway	106	2.01	0.4	1.9	2.1	3.7
Sweden	253	2.53	0.5	3.5	2.5	3.9
Switzerland	230	2.73	0.5	4.1	2.4	4.6
United Kingdom	1,856	2.81	0.4	3.9	3.0	4.0
Denmark	175	3.04	0.3	4.6	2.9	4.7
Ireland	157	3.28	0.4	4.5	3.7	5.4
Japan	4,431	3.50	0.5	2.6	2.4	7.1
Netherlands	613	3.59	0.5	3.3	2.9	6.0
Germany	3,180	3.85	0.6	5.4	3.6	5.7
Spain	1,830	3.93	0.5	4.5	4.3	5.3
Israel	321	3.68	1.1	7.0	3.8	9.5
Finland	230	4.18	0.9	7.1	4.0	6.3
Luxembourg	25	4.23	0.0	8.5	4.4	4.8
Austria	414	4.72	0.6	6.6	4.9	6.2
Iceland	16	4.73	3.0	6.4	4.5	6.3
Australia	1,225	4.98	0.7	7.4	5.0	8.0
Canada	1,841	5.02	1.3	7.1	5.3	6.0
Slovenia	104	5.03	1.0	7.1	5.6	5.4
France	3,448	5.15	0.8	8.4	5.3	6.8
Belgium	615	5.42	0.7	6.8	5.8	7.2
Czech Republic	577	5.45	0.7	7.1	5.8	7.5
Italy	3,378	5.58	0.5	6.3	5.5	8.2
Portugal	602	5.84	0.2	4.7	6.5	8.4
Lithuania	191	6.71	1.4	5.7	7.4	9.1
Greece	732	6.80	0.8	10.1	7.1	8.3
Poland	2,831	7.46	1.0	10.1	7.7	10.7
New Zealand	378	7.89	1.4	11.9	8.6	9.5
Korea	4,185	8.13	0.9	4.1	6.7	25.0
Chile	1,925	10.48	2.1	10.0	12.1	15.1
United States	37,150	11.41	1.9	15.3	13.2	13.3
NSW	389	4.94	1.0	7.6	4.9	7.7
Vic	259	4.10	0.3	6.0	4.0	7.2
Qld	247	5.01	0.5	7.3	5.4	7.6
SA	100	5.80	1.0	9.1	5.2	10.0
WA	160	6.22	1.2	8.6	6.1	11.4
Tas	34	6.51	0.0	6.3	7.9	7.0
NT	31	12.52	0.0	27.4	14.7	5.6
ACT	5	1.21	0.0	3.4	0.9	1.9

Sources

Australian Bureau of Statistics 2019; IRTAD 2019 and National Crash Database

Figure I.6 Fatality rate per 100,000 population for age groups – 30 OECD countries and Australian states/territories, 2017



Sources Australian Bureau of Statistics 2019; IRTAD 2019 and National Crash Database

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SECTION 2

Fatality rate per 10,000 registered vehicles

The fatality rate per registered vehicle is a means of comparing road deaths between countries by taking account of their different levels of motorisation.

Fatality rate per 10,000 registered vehicles – OECD countries, 2017

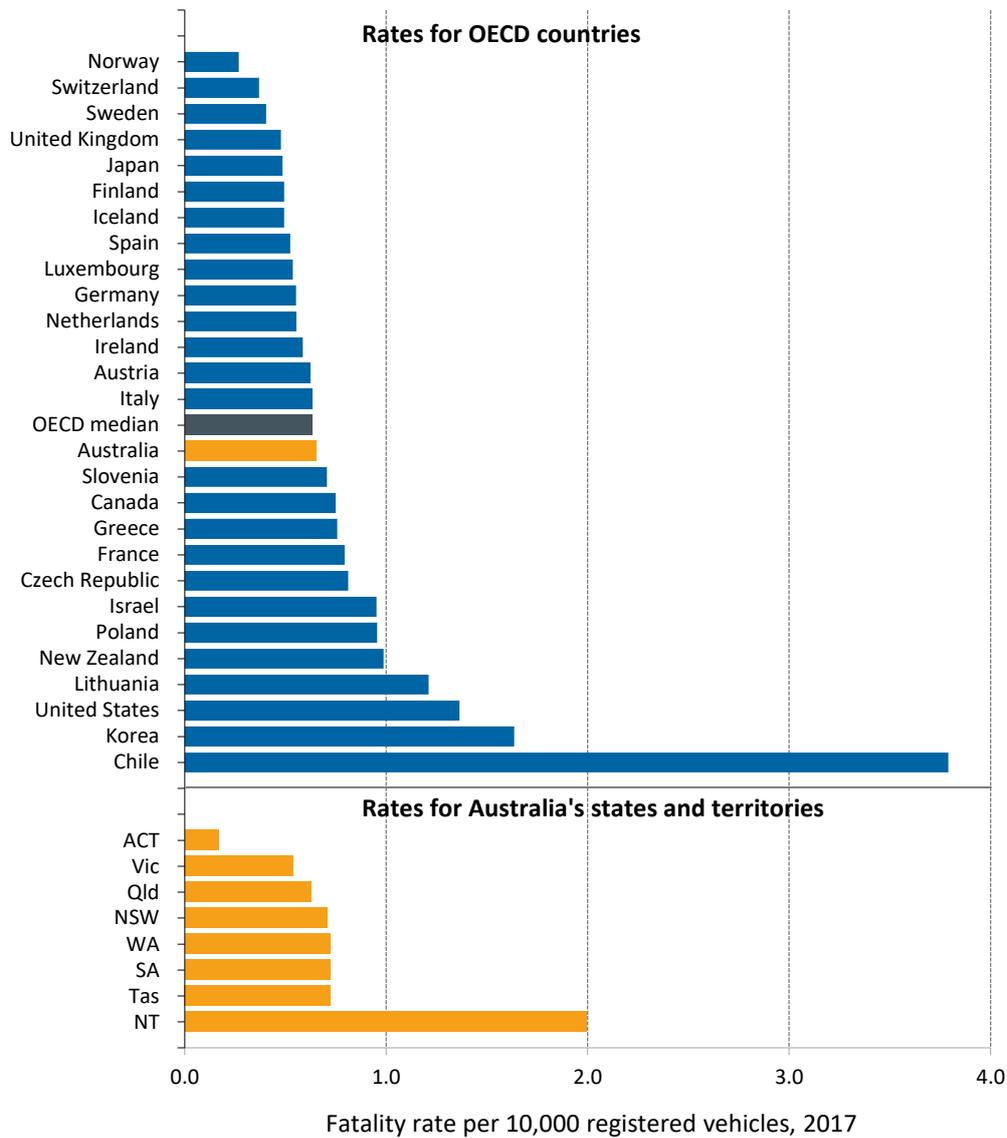
Table 2.1 Fatality rate per 10,000 registered vehicles – 27 OECD countries and Australian states/territories, 2017

<i>Nation</i>	<i>Road deaths</i>	<i>Total registered vehicles (000s)</i>	<i>Fatality rate per 10,000 registered vehicles</i>
Norway	106	3,950	0.27
Switzerland	230	6,241	0.37
Sweden	253	6,261	0.40
United Kingdom	1,856	38,893	0.48
Japan	4,431	91,404	0.48
Finland	230	4,661	0.49
Iceland	16	324	0.49
Spain	1,830	34,891	0.52
Luxembourg	25	466	0.54
Germany	3,180	57,554	0.55
Netherlands	613	11,076	0.55
Ireland	157	2,676	0.59
Austria	414	6,655	0.62
Italy	3,378	53,539	0.63
OECD median			0.63
Australia	1,225	18,781	0.65
Slovenia	104	1,473	0.71
Canada	1,841	24,567	0.75
Greece	732	9,661	0.76
France	3,448	43,451	0.79
Czech Republic	577	7,107	0.81
Israel	321	3,373	0.95
Poland	2,831	29,634	0.96
New Zealand	378	3,827	0.99
Lithuania	191	1,578	1.21
United States	37,150	272,481	1.36
Korea	4,185	25,580	1.64
Chile	1,925	5,080	3.79
ACT	5	296	0.17
Vic	259	4,798	0.54
Qld	247	3,948	0.63
NSW	389	5,509	0.71
WA	160	2,219	0.72
SA	100	1,386	0.72
Tas	34	469	0.72
NT	31	155	2.00

Sources

Australian Bureau of Statistics 2018; IRTAD 2019 and National Crash Database

Figure 2.1 Fatality rate per 10,000 registered vehicles – 27 OECD countries and Australian states/territories, 2017



Sources Australian Bureau of Statistics 2018; IRTAD 2019 and National Crash Database

OECD countries, 1990, 2000 and 2008 to 2017

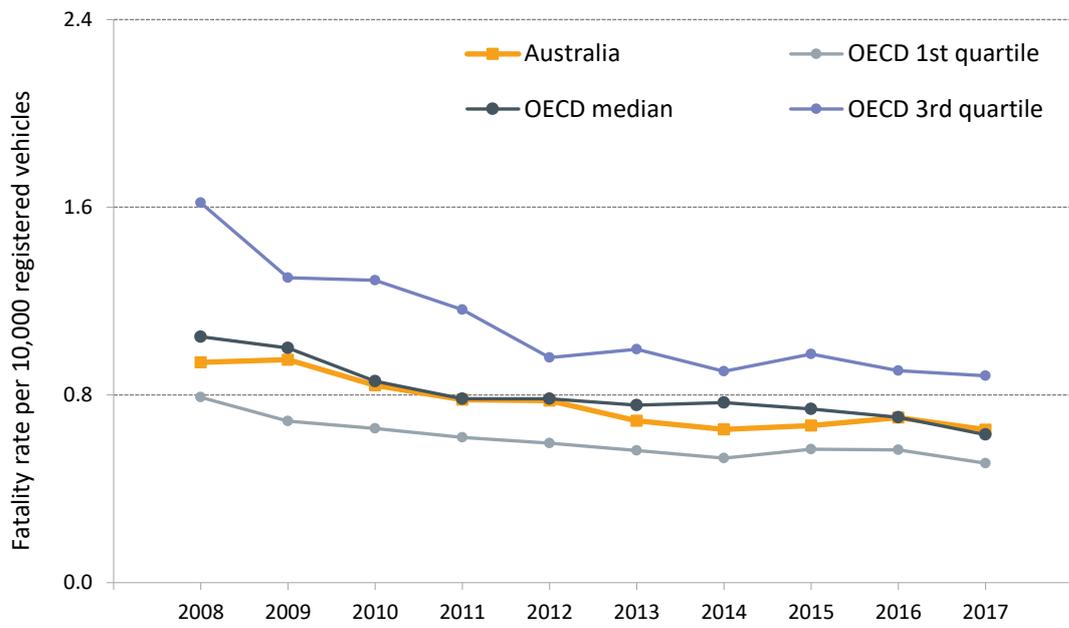
Table 2.2 Fatality rate per 10,000 registered vehicles – OECD countries and Australian states/territories, 1990, 2000 and 2008 to 2017

<i>Nation</i>	<i>1990</i>	<i>2000</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Norway	1.4	1.2	0.8	0.6	0.6	0.5	0.4	0.5	0.4	0.3	0.3	0.27
Switzerland	2.2	1.2	0.7	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.37
Sweden	1.7	1.2	0.7	0.6	0.5	0.6	0.5	0.4	0.5	0.4	0.4	0.40
United Kingdom	2.1	1.2	0.8	0.7	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.48
Japan	1.9	1.2	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.48
Finland	2.8	1.5	1.0	0.8	0.7	0.7	0.6	0.6	0.5	0.6	0.6	0.49
Iceland	1.7	1.8	0.5	0.7	0.3	0.5	0.3	0.6	0.1	0.6	0.6	0.49
Spain	5.1	2.2	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.52
Luxembourg	3.3	2.4	0.9	1.2	0.8	0.8	0.8	1.0	0.8	0.8	0.7	0.54
Germany	-	1.4	0.9	0.8	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.55
Netherlands	2.2	1.3	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.55
Ireland	4.5	2.5	1.1	1.0	0.9	0.8	0.7	0.8	0.8	0.6	0.7	0.59
Austria	3.7	1.8	1.2	1.1	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.62
Italy	2.1	1.6	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.63
Australia	2.3	1.5	0.9	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.65
Slovenia	-	-	1.7	1.3	1.0	1.1	1.0	0.9	0.8	0.9	0.9	0.71
Canada	2.3	1.6	1.2	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.75
Greece	7.4	3.1	1.7	1.5	1.3	1.2	1.0	0.9	0.8	0.8	0.9	0.76
France	3.6	2.3	1.1	1.1	1.0	1.0	0.9	0.8	0.8	0.8	0.8	0.79
Czech Republic	3.3	3.2	1.9	1.5	1.3	1.3	1.2	1.0	1.1	1.1	0.9	0.81
Israel	4.1	2.5	1.7	1.3	1.4	1.3	1.0	1.0	0.9	1.0	1.0	0.95
Poland	-	-	2.5	2.1	1.7	1.7	1.4	1.3	1.2	1.1	1.1	0.96
New Zealand	3.3	1.8	1.1	1.2	1.2	0.9	0.9	0.8	0.9	0.9	0.9	0.99
Lithuania	12.7	5.0	2.4	1.7	1.4	1.4	1.3	1.1	1.8	1.6	1.2	1.21
United States	2.4	1.9	1.4	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.4	1.36
Korea	-	-	-	-	-	-	-	2.3	2.1	1.9	1.7	1.64
Chile	-	10.6	7.8	6.4	6.3	5.7	5.1	5.0	4.7	4.6	4.5	3.79
ACT	1.6	0.90	0.6	0.5	0.7	0.2	0.4	0.3	0.4	0.5	0.4	0.17
Vic	2.1	1.24	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.54
Qld	2.3	1.36	1.0	1.0	0.7	0.8	0.8	0.8	0.6	0.6	0.7	0.63
NSW	2.5	1.62	0.8	1.0	0.9	0.8	0.8	0.7	0.6	0.7	0.7	0.71
WA	1.9	1.56	1.2	1.0	1.0	0.9	0.9	0.8	0.9	0.7	0.9	0.72
SA	2.6	1.59	0.8	1.0	1.0	0.8	0.7	0.7	0.8	0.8	0.6	0.72
Tas	2.4	1.30	1.0	1.6	0.7	0.6	0.7	0.8	0.7	0.7	0.8	0.72
NT	8.6	4.95	6.1	2.4	3.7	3.3	3.5	2.5	2.6	3.2	2.9	2.00

Note Australian Bureau of Statistics vehicle registration data was not available for the year 2000. The average of 1999 and 2001 is used as an estimate for that year.

Sources Australian Bureau of Statistics 2018; Australian Road Deaths Database; IRTAD 2019 and National Crash Database

Figure 2.2 Fatality rate per 10,000 registered vehicles – OECD quartiles and Australia, 2008 to 2017



Sources

Australian Bureau of Statistics 2018; IRTAD 2019 and National Crash Database

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SECTION 3

Fatality rate per 100 million vehicle kilometres travelled (VKT)

The fatality rate per vehicle kilometres travelled (VKT) is a risk measure which takes account of the estimated amount of vehicle travel.

Fatality rate per 100 million vehicle kilometres travelled (VKT) – OECD countries, 2017

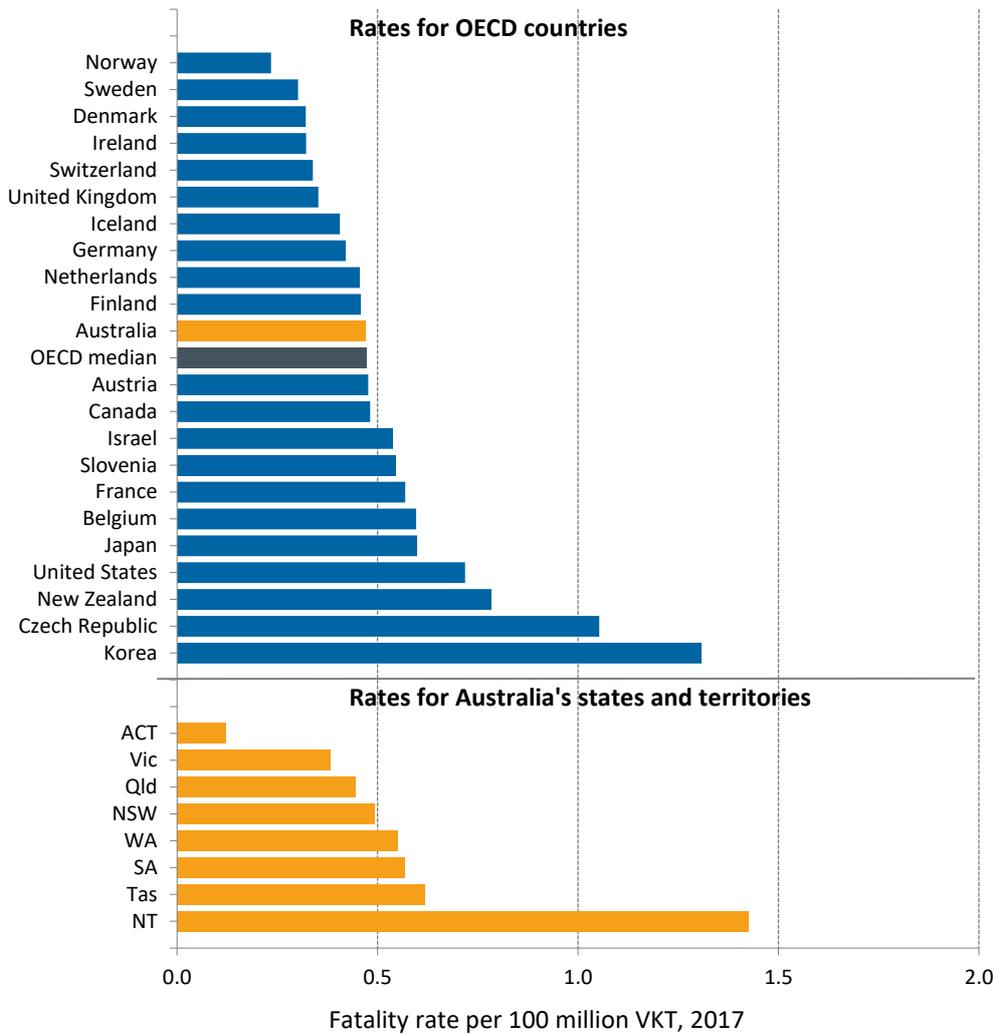
Table 3.1 Fatality rate per 100 million vehicle kilometres travelled (VKT)
– 22 OECD countries and Australian states/territories, 2017

<i>Nation</i>	<i>Road deaths</i>	<i>Total VKT (millions)</i>	<i>Fatality rate per 100 million VKT</i>
Norway	106	45,283	0.23
Sweden	253	83,896	0.30
Denmark	175	54,529	0.32
Ireland	157	48,754	0.32
Switzerland	230	67,854	0.34
United Kingdom	1,856	526,400	0.35
Iceland	16	3,938	0.41
Germany	3,180	755,900	0.42
Netherlands	613	134,350	0.46
Finland	230	50,226	0.46
Australia	1,225	260,357	0.47
OECD median			0.47
Austria	414	86,854	0.48
Canada	1,841	382,510	0.48
Israel	321	59,602	0.54
Slovenia	104	19,093	0.54
France	3,448	606,042	0.57
Belgium	615	103,175	0.60
Japan	4,431	739,898	0.60
United States	37,150	516,977	0.72
New Zealand	378	48,207	0.78
Czech Republic	577	54,784	1.05
Korea	4,185	319,871	1.31
ACT	5	4,122	0.12
Vic	259	67,689	0.38
Qld	247	55,436	0.45
NSW	389	78,796	0.49
WA	160	29,010	0.55
SA	100	17,617	0.57
Tas	34	5,511	0.62
NT	31	2,176	1.42

Sources

BITRE unpublished VKT estimates; IRTAD 2019 and National Crash Database

Figure 3.1 Fatality rate per 100 million vehicle kilometres travelled (VKT)
– 22 OECD countries and Australian states/territories, 2017



Sources

BITRE unpublished VKT estimates; IRTAD 2019 and National Crash Database

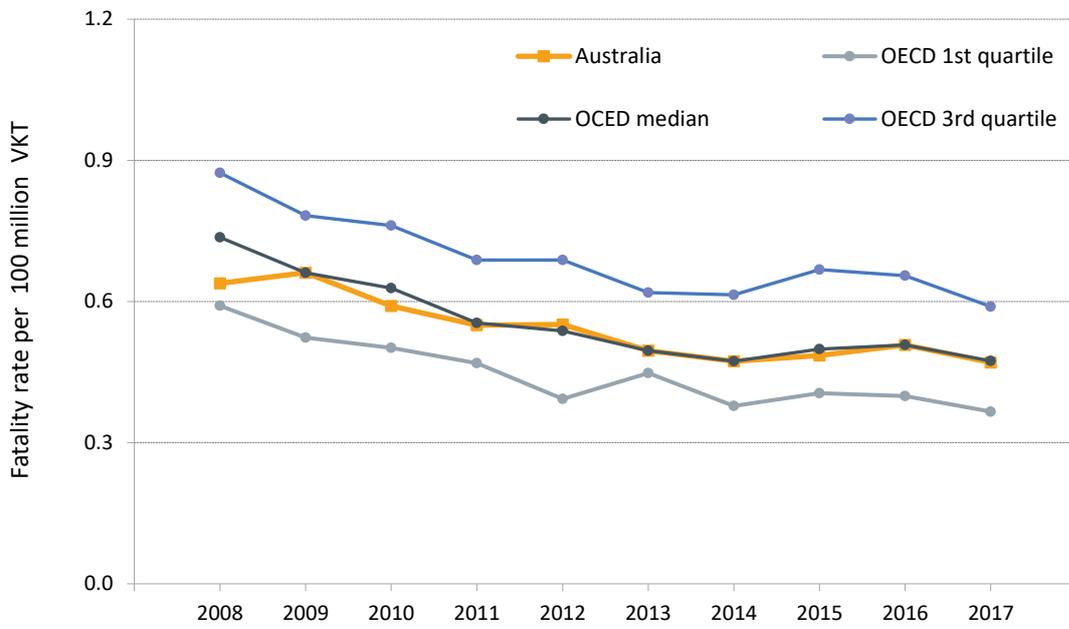
OECD countries, 1990, 2000 and 2008 to 2017

Table 3.2 Fatality rate per 100 million vehicle kilometres travelled (VKT) – OECD countries and Australian states/territories, 1990, 2000 and 2008 to 2017

<i>Nation</i>	<i>1990</i>	<i>2000</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Norway	1.2	1.0	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.23
Sweden	1.2	0.9	0.5	0.5	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.30
Denmark	1.7	1.1	0.8	0.7	0.6	0.5	0.3	0.4	0.4	0.3	0.4	0.32
Ireland	1.9	1.2	0.6	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.32
Switzerland	1.9	1.1	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.34
United Kingdom	1.3	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.35
Iceland	1.5	1.4	0.4	0.5	0.3	0.4	0.3	0.5	0.1	0.5	0.5	0.41
Germany	-	1.1	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.42
Netherlands	1.4	0.9	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.46
Finland	1.6	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.46
Australia	1.4	0.9	0.6	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.47
Austria	3.2	1.5	0.9	0.8	0.7	0.7	0.7	0.6	0.5	0.6	0.5	0.48
Canada	-	0.9	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.48
Israel	-	1.2	0.9	0.6	0.7	0.7	0.5	0.5	0.5	0.6	0.6	0.54
Slovenia	6.5	2.7	1.2	1.0	0.8	-	-	0.7	0.6	0.7	0.7	0.54
France	2.6	1.6	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.57
Belgium					0.9	-	-	-	-	0.8	0.7	0.60
Japan	2.3	1.3	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.7	0.6	0.60
United States	1.3	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.72
New Zealand	-	1.4	0.9	1.0	0.9	0.7	0.8	0.6	0.7	0.7	0.7	0.78
Czech Republic	4.8	3.7	1.9	1.6	1.6	1.6	1.6	1.4	1.4	1.4	1.2	1.05
Korea	-	4.9	1.8	2.0	1.9	2.0	1.9	1.8	1.6	1.5	1.4	1.31
ACT	1.0	0.6	0.4	0.3	0.5	0.2	0.3	0.2	0.3	0.4	0.3	0.12
Vic	1.2	0.8	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.38
Qld	1.4	0.8	0.7	0.7	0.5	0.5	0.6	0.5	0.4	0.5	0.5	0.45
NSW	1.5	1.0	0.6	0.7	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.49
WA	1.2	1.0	0.8	0.8	0.8	0.7	0.7	0.6	0.7	0.6	0.7	0.55
SA	1.7	1.1	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.57
Tas	1.7	0.9	0.7	1.2	0.6	0.5	0.6	0.7	0.6	0.6	0.7	0.62
NT	4.7	2.8	3.8	1.5	2.4	2.2	2.4	1.8	1.8	2.3	2.1	1.42

Sources Australian Road Deaths Database; BITRE unpublished VKT estimates; IRTAD 2019 and National Crash Database

Figure 3.2 Fatality rate per 100 million vehicle kilometres travelled (VKT) – OECD quartiles and Australia, 2008 to 2017



Sources

BITRE unpublished VKT estimates; IRTAD 2019 and National Crash Database

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SECTION 4

Fatality rate per 10,000 licence holders

The fatality rate per licence holder enables comparisons between countries by accounting for the numbers of vehicle operators.

Fatality rate per 10,000 licence holders – OECD countries, 2017

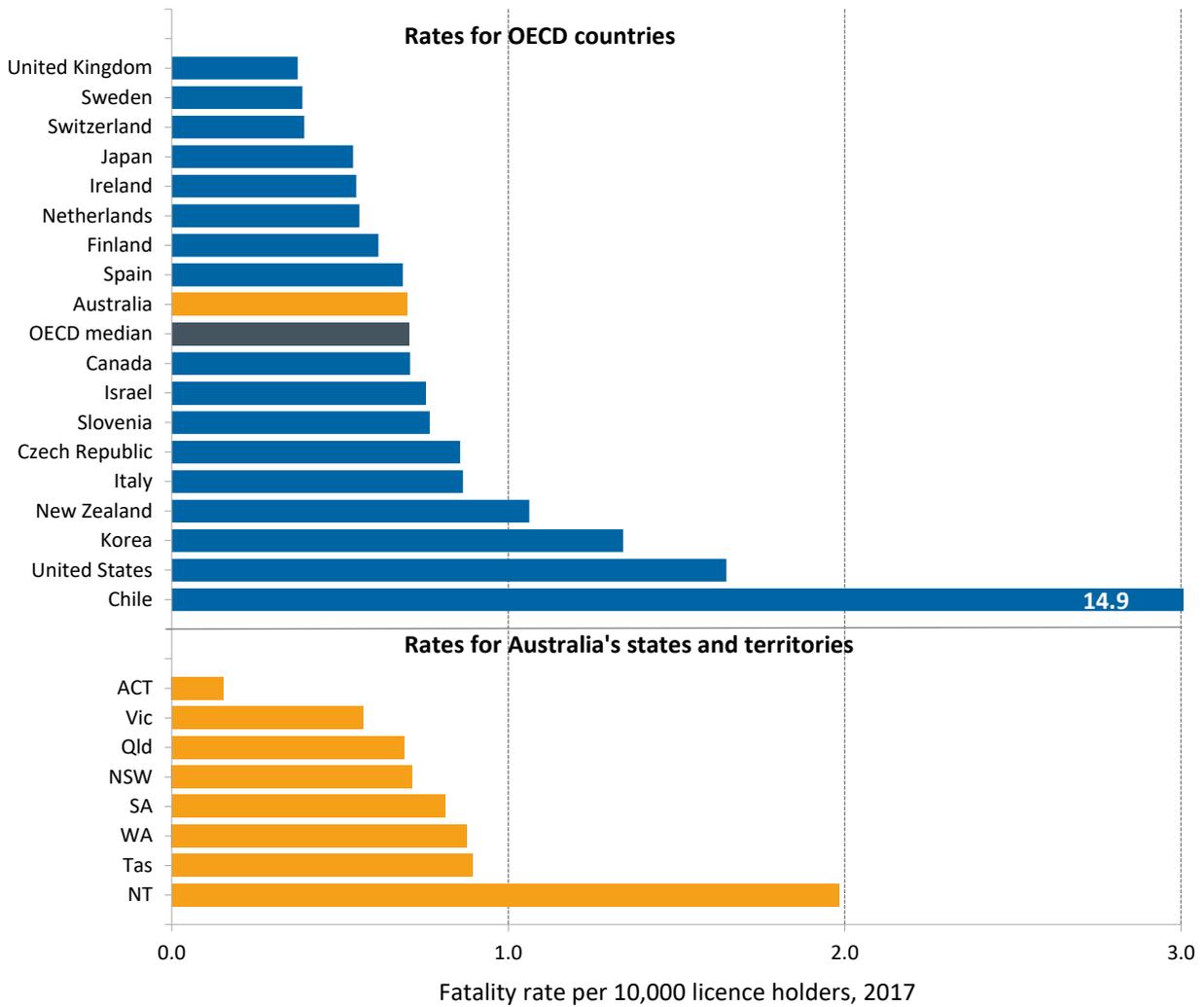
Table 4.1 Fatality rate per 10,000 licence holders
– 18 OECD countries and Australian states/territories, 2017

<i>Nation</i>	<i>Road deaths</i>	<i>Total licence holders (000s)</i>	<i>Fatality rate per 10,000 licence holders</i>
United Kingdom	1,856	49,605	0.37
Sweden	253	6,520	0.39
Switzerland	230	5,844	0.39
Japan	4,431	82,255	0.54
Ireland	157	2,865	0.55
Netherlands	613	10,986	0.56
Finland	230	3,743	0.61
Spain	1,830	26,649	0.69
Australia	1,225	17,502	0.70
OECD median			0.70
Canada	1,841	26,004	0.71
Israel	321	4,254	0.75
Slovenia	104	1,355	0.77
Czech Republic	577	6,733	0.86
Italy	3,378	39,012	0.87
New Zealand	378	3,556	1.06
Korea	4,185	31,190	1.34
United States	37,150	225,346	1.65
Chile	1,925	1,291	14.91
ACT	5	324	0.15
Vic	259	4,566	0.57
Qld	247	3,581	0.69
NSW	389	5,440	0.72
SA	100	1,232	0.81
WA	160	1,823	0.88
Tas	34	380	0.89
NT	31	156	1.98

Sources

BITRE 2018; IRTAD 2018 and National Crash Database

Figure 4.1 Fatality rate per 10,000 licence holders – 18 OECD countries and Australian states/territories, 2017



Sources BITRE 2018; IRTAD 2019 and National Crash Database

OECD countries, 2010 to 2017

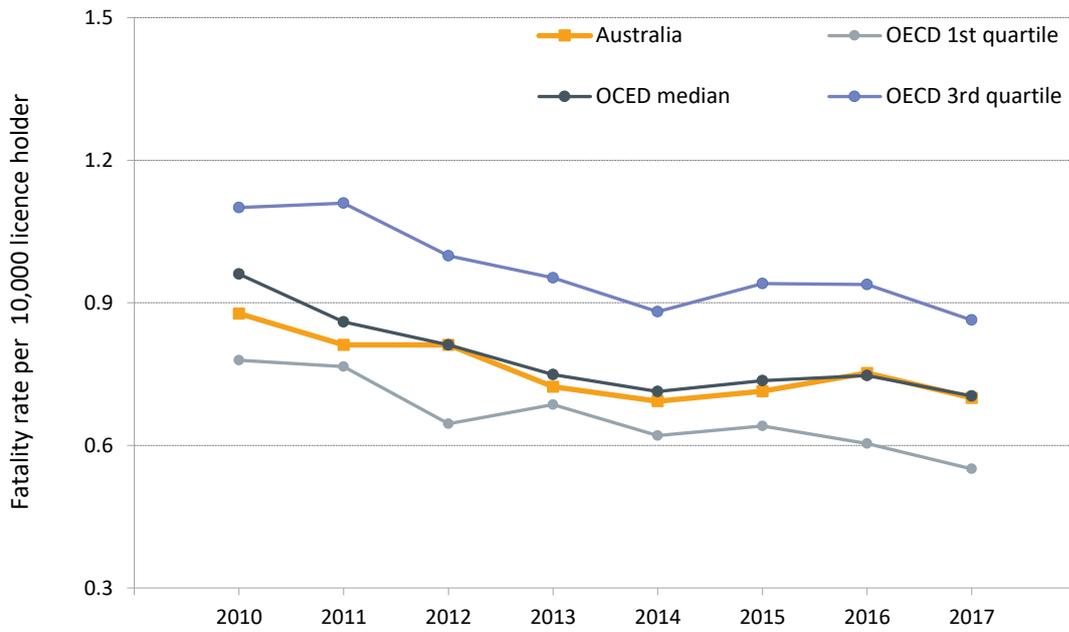
Table 4.2 Fatality rate per 10,000 licence holders – OECD countries and Australian states/territories, 2010 to 2017

<i>Nation</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
United Kingdom	-	-	0.4	0.4	0.4	0.4	0.4	0.37
Sweden	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.39
Switzerland	-	-	-	-	-	-	0.4	0.39
Japan	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.54
Ireland	0.8	0.7	0.6	0.7	0.7	0.6	0.7	0.55
Netherlands	0.6	0.6	0.6	-	0.5	0.6	0.6	0.56
Finland	0.8	0.8	0.7	0.7	0.6	0.7	0.7	0.61
Spain	1.0	0.8	0.7	0.6	0.6	0.6	0.7	0.69
Australia	0.9	0.8	0.8	0.7	0.7	0.7	0.8	0.70
Canada	1.0	0.8	0.9	0.8	0.7	0.7	0.7	0.71
Israel	1.0	0.9	0.7	0.7	0.7	0.8	0.8	0.75
Slovenia	1.0	1.0	1.0	0.9	0.8	0.9	1.0	0.77
Czech Republic	1.1	1.2	1	1	1.0	1.1	0.9	0.86
Italy	1.1	1.1	1.0	0.9	0.9	0.9	0.8	0.87
New Zealand	1.2	0.9	0.9	0.8	0.9	0.9	0.9	1.06
Korea	2.1	1.9	1.9	1.8	1.7	1.6	1.4	1.34
United States	1.6	1.5	1.6	1.5	1.5	1.6	1.7	1.65
Chile	-	14.4	14.6	17.2	14.3	14.6	17.1	14.91
ACT	0.6	0.2	0.4	0.2	0.3	0.5	0.3	0.15
Vic	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.57
Qld	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.69
NSW	0.8	0.7	0.7	0.7	0.6	0.7	0.7	0.72
SA	1.0	0.9	0.8	0.8	0.9	0.8	0.7	0.81
WA	1.2	1.1	1.1	0.9	1.0	0.9	1.1	0.88
Tas	0.8	0.7	0.8	1.0	0.9	0.9	0.9	0.89
NT	3.8	3.4	3.5	2.5	2.6	3.2	2.9	1.98

Sources

BITRE 2018; IRTAD 2019 and National Crash Database

Figure 4.2 Fatality rate per 10,000 licence holders – OECD quartiles and Australia, 2008 to 2017



Sources

BITRE 2018; IRTAD 2019 and National Crash Database

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SECTION 5

Trends in road deaths and in exposure measures

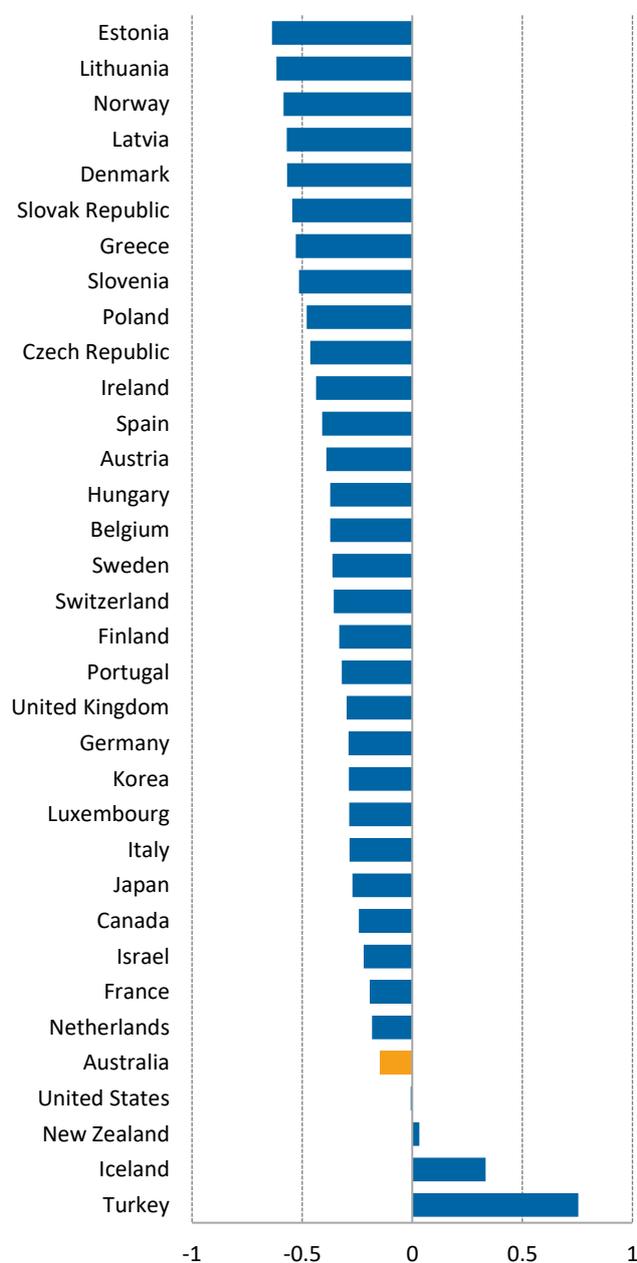
This section presents 10-year growth rates for exposure measures and road deaths.

Trends in road deaths and in exposure measures

Table 5.1 Road deaths 10 years to 2017
— 35 OECD countries

<i>Nation</i>	<i>2008</i>	<i>2017</i>	<i>10 year trend 2017 % p.a.</i>
Lithuania	499	191	-8.6
Greece	1,553	732	-8.3
Norway	255	106	-8.2
Estonia	132	48	-7.7
Denmark	406	175	-7.2
Latvia	316	136	-6.5
Poland	5,437	2,831	-6.5
Slovak Republic	606	276	-6.3
Spain	3,100	1,830	-6.0
Slovenia	214	104	-5.9
Switzerland	357	230	-5.7
Czech Republic	1,076	577	-5.4
Portugal	885	602	-5.2
Austria	679	414	-5.1
Ireland	279	157	-4.7
Belgium	980	615	-4.6
Hungary	996	625	-4.2
Sweden	397	253	-4.0
Korea	5,870	4,185	-3.8
Italy	4,725	3,378	-3.7
Germany	4,477	3,180	-3.4
Japan	6,079	4,431	-3.4
United Kingdom	2,645	1,856	-3.1
Finland	344	230	-3.0
Canada	2,431	1,841	-2.9
Luxembourg	35	25	-2.9
France	4,275	3,448	-2.8
Netherlands	750	613	-2.1
Australia	1,437	1,225	-2.0
Israel	412	321	-1.7
New Zealand	366	378	-1.1
Chile	-	1,925	0.1
United States	37,423	37,150	0.6
Iceland	12	16	2.2
Turkey	4,236	7,427	7.3

Figure 5.1 Average annual change (%) in road deaths -
10 years to 2017 — 34 OECD countries

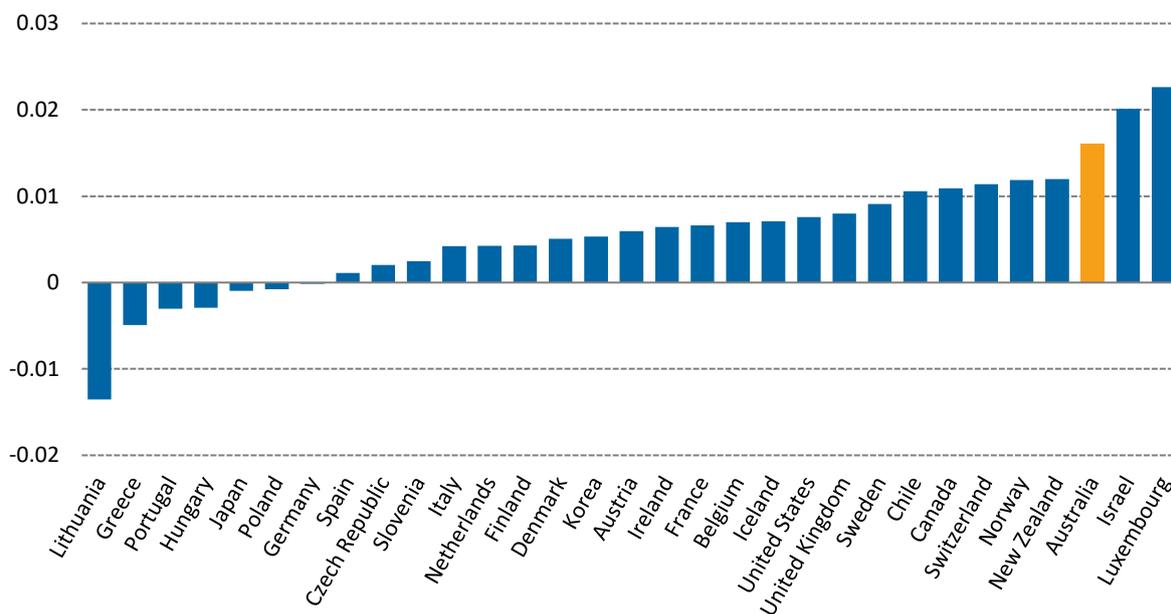


Note Average annual change percentages are calculated by fitting a trend through all the data points. The constant annual change of this trend is quoted.

Sources IRTAD 2019 and National Crash Database

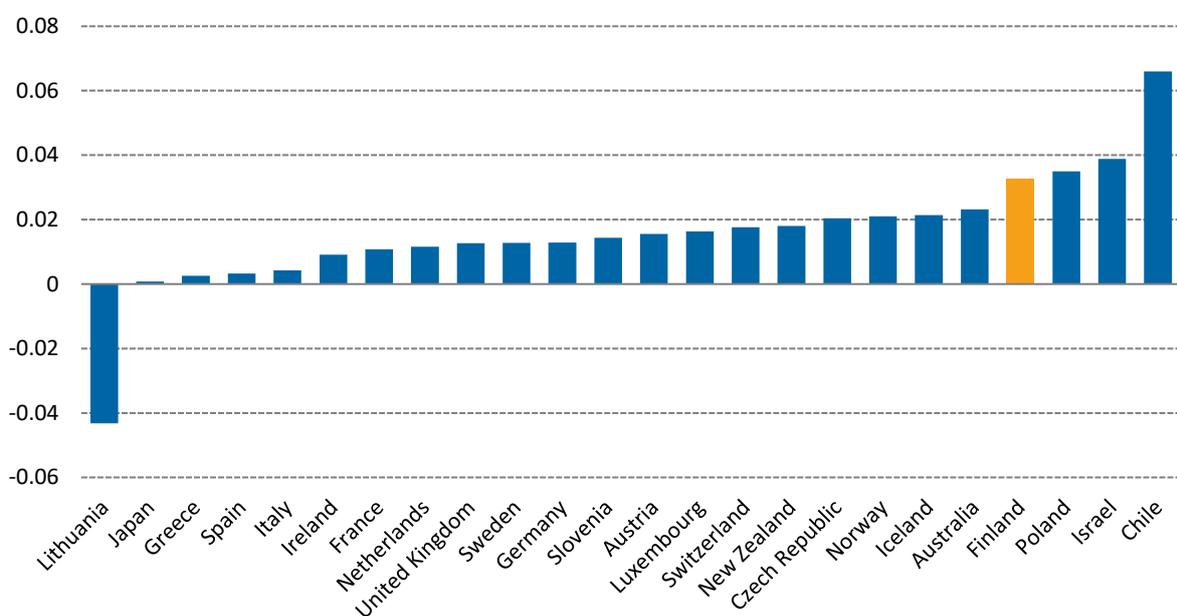
Ten year trends in number of population, vehicle registrations and vehicle kilometres travelled (VKT)

Figure 5.2 Average annual change (%) in population - 10 years to 2017
— 31 OECD countries



Sources IRTAD 2019 and National Crash Database

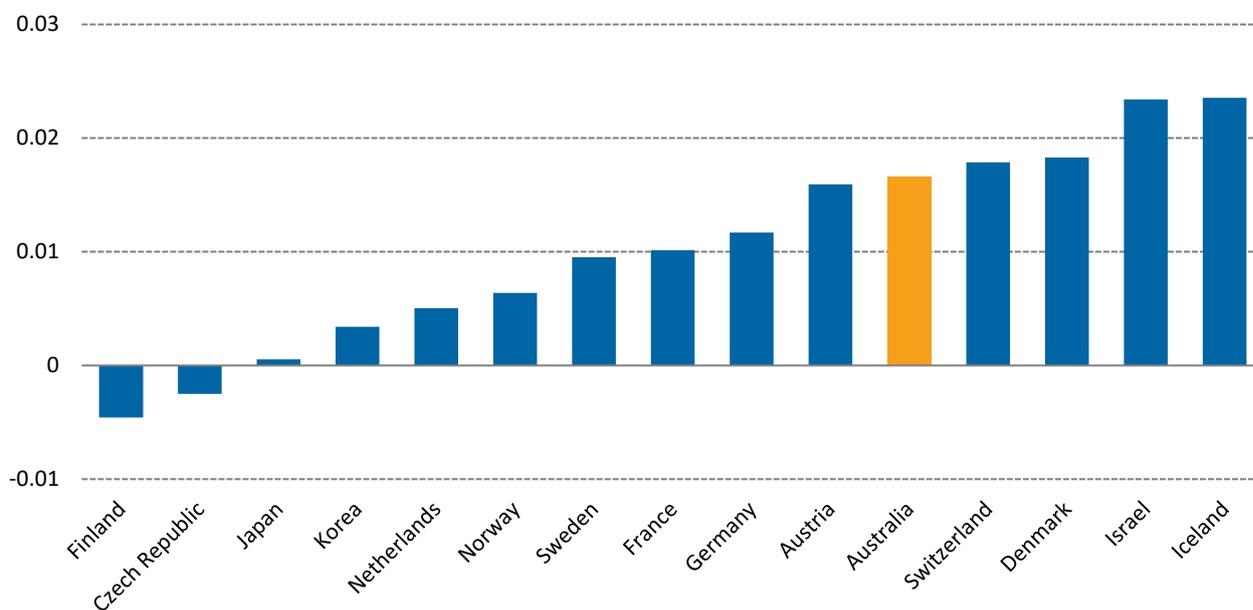
Figure 5.3 Average annual change (%) in motor vehicle registrations - 10 years to 2017
— 24 OECD countries



Sources IRTAD 2019 and National Crash Database

Ten year trends in number of population, vehicle registrations and vehicle kilometres travelled (VKT) (cont'd)

Figure 5.4 Average annual change (%) in vehicle travelled kilometres (VKT) - 10 years to 2017 — 15 OECD countries



Sources IRTAD 2019 and National Crash Database

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