

The [2019 National Cycling Participation survey](#) shows the population proportion who were cycling in each Australian state since 2011 when the biannual series began.

A.1 Cycling participation by state and territory (Figure 2.3)

Year	Period	Region								
		Aus	NSW	Vic	Qld	SA	WA	NT	Tas	ACT
2011	Week	18.2	14.8	19.9	18.1	17.9	23.1	26.3	18.9	23.1
	Month	27.1	23.9	29.9	25.8	27.0	31.0	35.9	28.0	33.3
	Year	40.2	37.5	42.6	37.9	39.3	45.1	51.7	40.2	48.0
2013	Week	16.5	15.8	16.4	17.0	13.8	18.2	23.9	13.0	24.5
	Month	24.5	24.0	25.3	23.6	20.2	27.1	32.4	22.2	34.2
	Year	37.5	38.0	38.0	35.4	31.7	41.3	46.5	34.4	47.4
2015	Week	17.4	16.7	16.6	16.1	16.6	23.0	24.1	17.8	21.2
	Month	24.3	23.4	23.2	22.1	23.1	31.8	32.6	23.8	29.7
	Year	36.3	35.8	35.9	33.2	33.0	43.3	46.1	34.8	44.1
2017	Week	15.5	12.5	16.7	16.6	14.0	18.5	25.6	16.0	26.0
	Month	21.8	17.8	23.5	24.1	19.9	24.8	33.6	23.8	33.5
	Year	34.2	29.5	35.8	35.4	30.9	41.9	46.1	34.9	46.5
2019	Week	13.8	12.9	13.7	13.5	13.0	15.6	21.3	14.8	22.2
	Month	21.4	19.6	22.7	22.0	18.5	22.2	29.2	22.2	31.7
	Year	35.0	32.8	35.4	35.6	29.8	40.8	43.7	34.3	43.6

Values are population proportions (%).

For Western Australia, the table shows :

Weekly cycling

2011 - 23.1% (543,637 of total 2011 population)

2013 - 18.2% (452,624 of total 2013 population)

2015 - 23.0% (584,355 of total 2015 population)

2017 - 18.5% (476,226 of total 2017 population)

2019 - 15.6% (408,955 of total 2019 population)

Monthly cycling

2011 - 31.0% (729,557 of total 2011 population)

2013 - 27.1% (673,962 of total 2013 population)

2015 - 31.8% (807,934 of total 2015 population)

2017 - 24.8% (638,400 of total 2017 population)

2019 - 22.2% (581,975 of total 2019 population)

Yearly cycling

2011 - 45.1% (1,061,387 of total 2011 population)

2013 - 41.3% (1,027,108 of total 2013 population)

2015 - 43.3% (1,100,111 of total 2015 population)

2017 - 41.9% (1,078,587 of total 2017 population)

2019 - 40.8% (1,069,576 of total 2019 population)

To summarise, there were :

- **134,682 fewer West Australians cycling at least once per week** in 2019 compared to 2011 (24.8% decline)
- **147,592 fewer West Australian cycling at least once per week** in 2019 compared to 2011 (20.2% decline)
- **8,189 more West Australians cycling at least once per year** in 2019 compared to 2011 (0.8% increase)

Western Australia's total population increased by 268,100 (11.4%) from 2011 to 2019 (2,353,409 > 2,621,509).

The cycling participation data show an approximate 12.4% decline from 2011 to 2017 in regular cycling by West Australians, and an approximate 22.5% decline from 2011 to 2019.

In this context, the following data is provided by WA's Road Safety Commission in its publication titled [Western Australia Road Trauma Trends 2017](#), with all figures relating to road injuries rather than total cyclist injuries.

39%



Non-fatal hospital admissions by road user group (Table 22, Page 45)

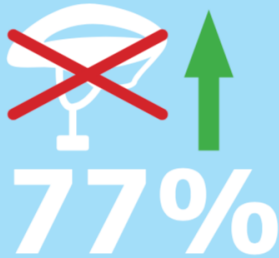
The increase in the number of admissions appears to be due to an increase in the number and proportion of vulnerable road users admitted for injuries sustained in a road crash. In 2017, vulnerable road users (2017) outnumbered motor vehicle occupants (1,841) in admissions.

75%



While other road user groups remain relatively steady, motorcyclists and pedal cyclists are showing substantial increases since the baseline period. Motorcyclist admissions increased **39%** between baseline (717) and 2017 (999). Cyclist admissions increased **75%** between baseline (419) and 2017 (733).

Non-fatal motorcyclist and cyclist trauma admissions by helmet use (Table 36, Page 56)



Since 2012 the number of cyclist trauma admissions recorded as not wearing a helmet has increased steadily by **77%** from 26 in 2012 to 46 in 2017. While trauma admissions for motorcyclists not wearing a helmet at the time of a crash is more variable, they recorded a high of 41 admissions in 2017 compared to a range of 26-35 in the preceding 5 years.

One in ten (10%, 41) motorcyclist trauma admissions were not wearing a helmet at the time of the crash, while 1 in 5 cyclists (21%, 46) were not wearing a helmet.

Non-fatal road trauma admissions by major/minor trauma and road user type (Table 39, Page 58)

Cyclists admitted for major trauma appear to be increasing both in proportion and in absolute terms. Rising steadily from 13 (5%) in 2012, to 31 (11%) in 2017.

54%



88%



Hospitalised crash parties by role in accident and crash year (Table 50, Page 64)

The number of hospitalised crash parties that were push-cyclists has increased by **88%** since baseline with an absolute increase of 53. They now represent 5% of all hospitalised crash parties. Motorcyclist hospitalisations have increased by **54%**, from 267 in the baseline year to 412 in 2017. They now represent almost 1 in 5 (19%) hospitalised crash parties.

Table 20. Average length-of-stay by road user group for non-fatal admissions

	BL	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MV Driver	7.6	8.2	8.8	6.7	6.2	6.0	5.7	6.8	7.2	7.2	7.1
MV Passenger	8.2	8.9	6.8	7.4	5.5	6.0	6.1	8.8	7.1	7.5	7.1
MV Unknown	5.9	8.4	8.3	6.8	5.6	4.4	5.2	5.4	5.2	6.3	7.9
Motorcyclist	9.3	10.0	8.0	7.8	7.0	7.3	7.1	7.9	7.1	7.8	6.7
Cyclist	5.2	4.2	5.2	4.5	4.8	3.6	4.4	4.1	4.0	4.2	3.6
Pedestrian	13.1	11.3	12.0	22.7	9.3	8.9	10.1	10.7	9.5	11.8	10.1
Other/unknown	7.2	5.5	5.3	9.4	5.3	4.2	5.1	4.7	5.1	5.8	5.2
Total	8.0	8.3	7.8	8.1	6.3	6.0	6.2	7.0	6.6	7.0	6.5

Table 22. Non-fatal hospital admissions by road user group

	BL	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MVO	1,821	1,978	1,995	1,962	2,148	2,189	2,037	1,964	2,013	1,864	1,841
MV Driver	958	1,064	1,052	1,139	1,326	1,290	1,220	1,203	1,230	1,132	1,140
MV Passenger	597	647	678	605	621	673	614	573	592	545	508
MV Unknown	266	267	265	218	201	226	203	188	191	187	193
Motorcyclist	717	887	903	979	971	1,009	1,060	1,003	972	917	999
Pedal Cyclist	419	501	596	602	600	674	761	759	719	739	733
Pedestrian	262	278	311	332	333	319	324	274	275	214	285
Other/unknown	146	175	111	139	127	133	118	123	111	121	132
Total	3,365	3,819	3,916	4,014	4,179	4,324	4,300	4,123	4,090	3,855	3,990

Table 32. Average length-of-stay (days) for trauma admissions by road user type

	2012	2013	2014	2015	2016	2017
MV Driver	7.1	6.2	6.8	7.1	6.8	6.7
MV Front Passenger	6.7	5.3	6.4	7.3	7.6	6.2
MV Back Passenger	8.6	7.1	14.5	6.6	6.6	6.0
Motorcyclist	7.8	6.8	7.8	6.9	7.7	6.6
Pedal Cyclist	4.3	5.0	4.1	4.4	3.9	3.8
Pedestrian	9.6	11.1	6.3	8.1	9.3	8.2

Table 33. Non-fatal road trauma admissions by road user type

	2012	2013	2014	2015	2016	2017
MVO	766	802	739	811	747	832
MV Driver	509	534	489	527	505	572
MV Front Passenger	154	150	152	178	148	153
MV Back Passenger	103	118	98	106	94	107
Motorcyclist	401	417	385	407	380	431
Pedal Cyclist	147	216	198	216	237	224
Pedestrian	125	142	113	122	110	121
Total	1,439	1,577	1,435	1,556	1,474	1,608

Figure 9. Percentage of non-fatal road trauma admissions by road user group and age, 2015-2017

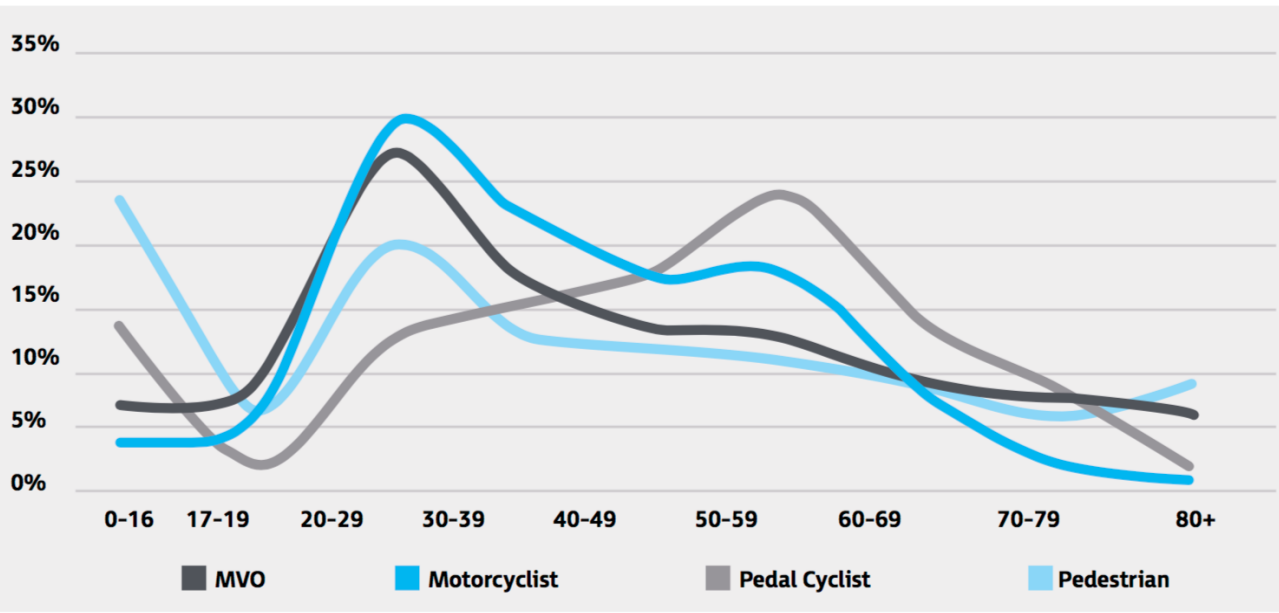


Table 36. Non-fatal motorcyclist and cyclist trauma admissions by helmet use

	2012	2013	2014	2015	2016	2017
Motorcyclist	401	417	385	407	380	431
Worn	325	350	319	332	333	356
Not worn	30	32	26	35	27	41
Unknown	46	35	40	40	20	34
Pedal Cyclist	147	216	198	216	237	224
Worn	82	143	121	148	161	150
Not worn	26	30	31	41	45	46
Unknown	39	43	46	27	31	28

Table 39. Non-fatal road trauma admissions by major/minor trauma and road user type

	2012	2013	2014	2015	2016	2017
Major (ISS >15)	240	271	268	305	287	276
MVO	144	154	154	178	165	151
Motorcyclist	62	64	67	83	78	71
Pedal Cyclist	13	16	23	22	23	31
Pedestrian	21	37	24	22	21	23
Minor (ISS <=15)	1,199	1,306	1,167	1,251	1,187	1,332
MVO	622	648	585	633	582	681
Motorcyclist	339	353	318	324	302	360
Pedal Cyclist	134	200	175	194	214	193
Pedestrian	104	105	89	100	89	98

Table 44. Non-fatal pedal cyclist trauma admissions by injury location

	2012		2013		2014		2015		2016		2017	
	n	Col%	n	Col%	n	Col%	n	Col%	n	Col%	n	Col%
Head and neck	49	33%	96	44%	90	45%	105	49%	97	41%	101	45%
Thoracic	26	18%	50	23%	42	21%	38	18%	61	37%	65	29%
Abdominal	11	7%	13	6%	16	8%	19	9%	14	21%	17	8%
Extremities	87	59%	131	61%	119	60%	134	62%	150	80%	162	72%
Total Pedal Cyclist	147	-	216	-	198	-	216	-	237	-	224	-

Analysis

- Cyclist hospital admissions increased by 74.9% from 2007 to 2017 (419 > 733).
- Cyclist non-fatal hospital admissions increased by 36.5% from 2007-2011 (average 543.6pa) to 2013-2017 (average 742.2pa).
- Cyclist trauma admissions increased from 13 in 2012, or 5% of total admissions, to 31 in 2017, or 11% of total admissions.
- The average length of hospital stay for cyclists decreased by an average 15.1% from 2007-2011 (4.78 days) to 2013-2017 (4.06 days), compared to an average 13.5% decline for all road users (7.7 > 6.7).
- Cyclist non-fatal hospital admissions increased by 7.7% from 2011-2013 (average 678.3pa) to 2015-2017 (average 730.3pa), despite a 12.4% decline in weekly cycling from 2011 to 2017 (67,411 fewer cyclists), a 12.5% decline in monthly cycling (91,157 fewer cyclists), and a 1.6% increase in yearly cycling (17,200 more cyclists).
- There were 625 more total road hospital admissions in 2017 than there were in 2007. There were 314 more cyclist road hospital admissions in 2017 than there were in 2007, meaning cyclists represented 50.2% of the total increase in admissions between those years.
- The average length of hospital stay for cyclist road trauma admissions was 4.47 days in 2012-2014 and 4.03 days in 2015-2017, a 9.8% reduction. The average length of hospital stay for all road trauma admissions except cyclists was 7.87 days in 2012-2014 and 7.18 days in 2015-2017, an 8.8% reduction.
- The total number of cyclist road trauma admissions was 561 in 2012-2014 and 677 in 2015-2017, a 20.7% increase. The total number of all road trauma admissions except cyclists was 3,890 in 2012-2014 and 3,961 in 2015-2017, a 1.8% increase which would have been a decrease except for the increase of 116 in cyclist road trauma admissions.
- Pedal cyclists aged 50-80yo represented a significantly larger proportion of all non-fatal road trauma admissions in 2015-2017 than did motor vehicle occupants, motorcyclists or pedestrians aged 50-80yo.
- 21% of cyclist hospital trauma admissions were not wearing a helmet in 2017, compared to more than 40% of cyclists not wearing a helmet on WA suburban and regional roads.
- Among known cases from 2012 to 2017, 21.4% of non-fatal cyclist road trauma admissions were not wearing a helmet.
- **Cyclist** non-fatal road trauma admissions suffered :
 - 235 head/neck injuries in 2012-2014 and 303 in 2015-2017, a 28.9% increase
 - 118 thoracic injuries in 2012-2014 and 164 in 2015-2017, a 39.0% increase
 - 40 abdominal injuries in 2012-2014 and 50 in 2015-2017, a 25.0% increase
 - 337 extremity injuries in 2012-2014 and 446 in 2015-2017, a 32.3% increase
- **Pedestrian** non-fatal road trauma admissions suffered :
 - 234 head/neck injuries in 2012-2014 and 216 in 2015-2017, a 7.7% decrease
 - 102 thoracic injuries in 2012-2014 and 90 in 2015-2017, an 11.8% decrease
 - 62 abdominal injuries in 2012-2014 and 44 in 2015-2017, a 29.0% decrease
 - 262 extremity injuries in 2012-2014 and 233 in 2015-2017, an 11.1% decrease
- Official surveys show an approximate 12.4% decline in all-age cycling participation from 2011 to 2017, mostly due to children and teenagers discouraged by bicycle helmet laws, yet hospital data shows a 7.7% increase in cyclist road injury admissions and a 20.7% increase in road trauma admissions.
- A lower proportion of cyclist hospital road injury admissions are not wearing helmets than the proportion cycling on WA roads without a helmet, suggesting the helmet law is increasing injury risk for cyclists.