



NORWAY

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Norway recorded 108 road fatalities in 2019, the same number as in 2018. With a mortality rate of 2 per 100 000 persons, Norway is the best performing country amongst IRTAD members for this indicator. The National Road Safety Action Plan 2018-21 lists 13 priority areas and 136 action measures designed to reduce the number of road crash fatalities and serious injuries to fewer than 500 by 2024. On the way towards Vision Zero, the long-term target is to reach fewer than 350 by 2030. This target is achievable if planned measures are implemented to the greatest possible extent.

Impact of Covid-19

In response to the Covid-19 pandemic, Norway introduced lockdown measures on 12 March 2020, which affected the movement of people and goods on the road and in turn the exposure to road crashes.

The number of road deaths decreased year-on-year 33% from nine to six deaths in April 2020, compared with the average for 2017-19. Traffic volume decreased by 25% year-on-year in April 2020 .

Table 1. Road fatalities by month

	Average 2017-19	2020	% change
January	6	8	33.3
February	5	9	80.0
March	5	8	60.0
April	9	6	-33.3
May	10	7	-30.0
June	11	9	-18.2
July	9	10	11.1
August	9	9	0
September	11	2	-81.8
October	10	9	-10.0
November	11	7	-36.4
December	11	10	-9.1

Table 2. Road motor vehicle traffic by month (vehicle-kilometres), 2019-20

	% change 2019-20
January	1.8
February	2.9
March	-22.2
April	-24.6
May	-12.5
June	-2.0
July	-2.0
August	-3.2

Trends

Norway registered the **same number of road deaths as in 2018**. According to the latest data, 108 persons lost their lives in traffic crashes in Norway in 2019, the same number as in 2018. A record low of 106 road deaths was reported in 2017, a 21.5% decline on the 135 road fatalities recorded in 2016.

The **longer-term trend for road deaths** in Norway has been a decreasing number of fatalities. Between 2000 and 2019, the number of annual road fatalities fell by 68%.

The number of **traffic deaths per 100 000 inhabitants** in Norway fell by 73% between 2000 and 2019. In 2019, 2.0 traffic deaths per 100 000 inhabitants were recorded, compared to 7.6 in 2000. Norway has the lowest mortality rate among IRTAD countries. By way of comparison, the average in the European Union was 5.1 deaths per 100 000 inhabitants in 2019.

Measured as **traffic deaths per billion vehicle-kilometres (vkm)** driven, the road safety performance of Norway has shown strong progress in the longer term. In 2019, this metric stood at 2.3, 78% lower than in 2000.

Norway recorded 0.3 **road fatalities per 10 000 registered vehicles** in 2019. This represents a decrease of 78% compared to the year 2000, when the rate of deaths to registered vehicles stood at 1.2.

Country Profile

Population in 2019: 5.3 million

GDP per capita in 2019: USD 75 698

Cost of road crashes: 0.5% of GDP (2016)

Road network in 2019: 94 902 kilometres

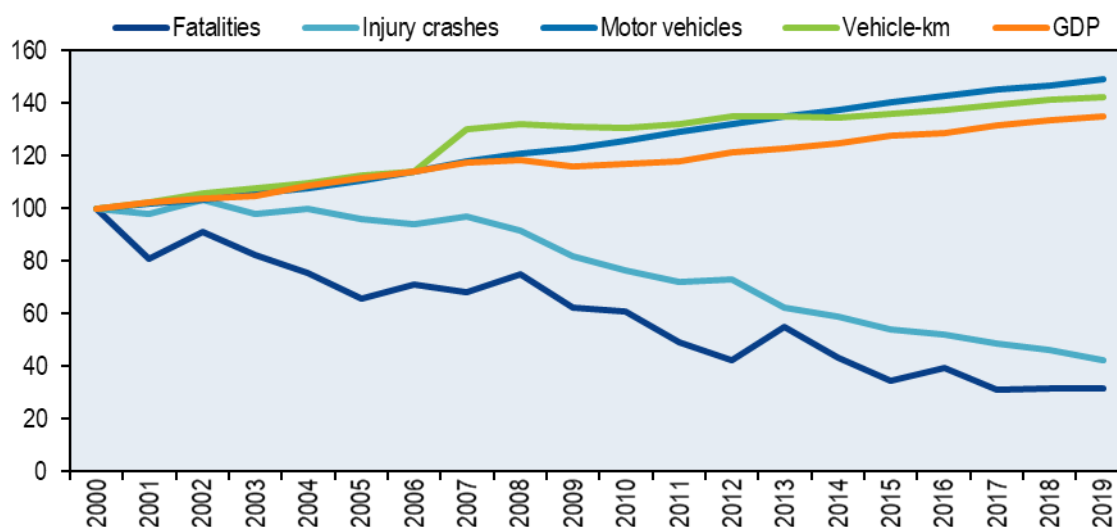
Registered motor vehicles in 2019: 4.1 million (cars 68%; goods vehicles 14%; motorcycles 7%)

Volume of traffic: +42% between 2000 and 2019

Speed limits: 50 km/h on urban roads (30 km/h on residential streets); 80 km/h on rural roads; 100-110 km/h on motorways

Limits on Blood Alcohol Content (BAC): 0.2 g/l

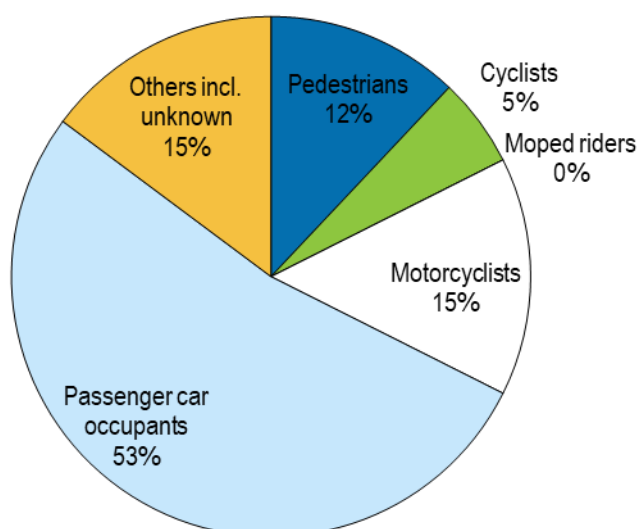
Figure 1. Road safety, vehicle stock, traffic and GDP trends, 2000-19
Index 2000 = 100



The picture for **fatalities by road user groups** shows that passenger car occupants continue to be the group the most affected by road crashes. In 2019, passenger car occupants accounted for the largest share of road deaths, with 53% of the total. They were followed by motorcyclists (15%), pedestrians (12%) and cyclists (6%).

The long-term trend shows that traffic in Norway has become safer for all road user groups. Car passenger occupants and pedestrians saw reductions of more than 72% each between 2000 and 2019. The user group that has benefited least are cyclists, who saw a 53% reduction in fatalities since 2000. More recently, starting in 2010, the number of fatalities decreased for all users, save for cyclists who saw a slight increase.

Figure 2. Road fatalities by road user group as percentage of total, 2019



Road deaths by age group in 2019 showed continuity compared to 2018, and all age groups showed only marginal changes in the number of road fatalities.

Looking at the longer-term trend, the number of road deaths decreased for all age groups from 2010 to 2019. The strongest reduction in fatalities over this period occurred among young people, with all age groups under 25 counting reductions of 73% or greater. In 2019, there were no fatalities for children younger than 14. Elderly people above 75 now have a higher mortality rate in traffic than young people. The elderly suffer road fatalities at a rate of 5.3 per 100 000 persons.

Figure 3. Road fatality rates by age group, 2010-19
Deaths per 100 000 inhabitants in a given age group

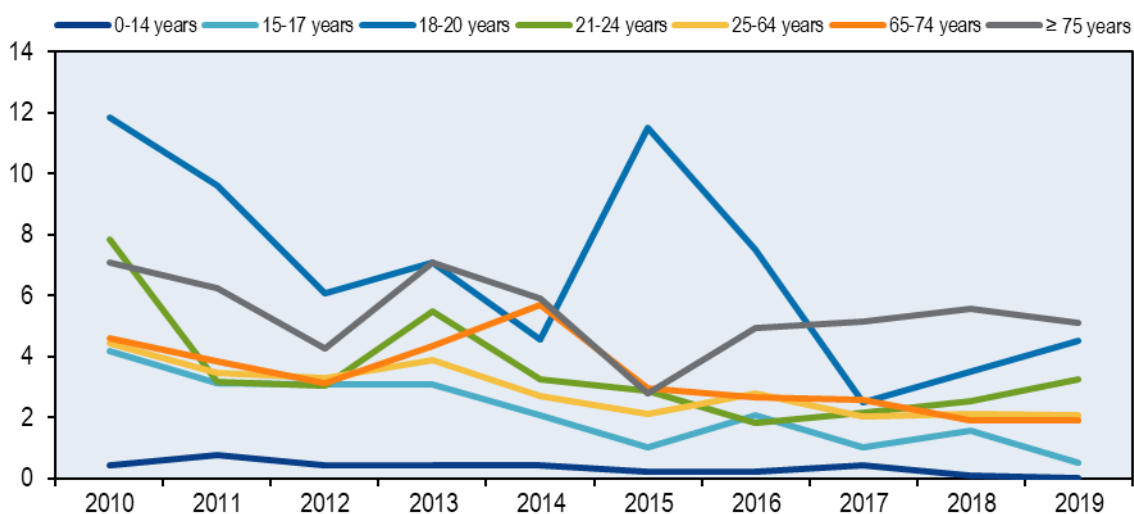
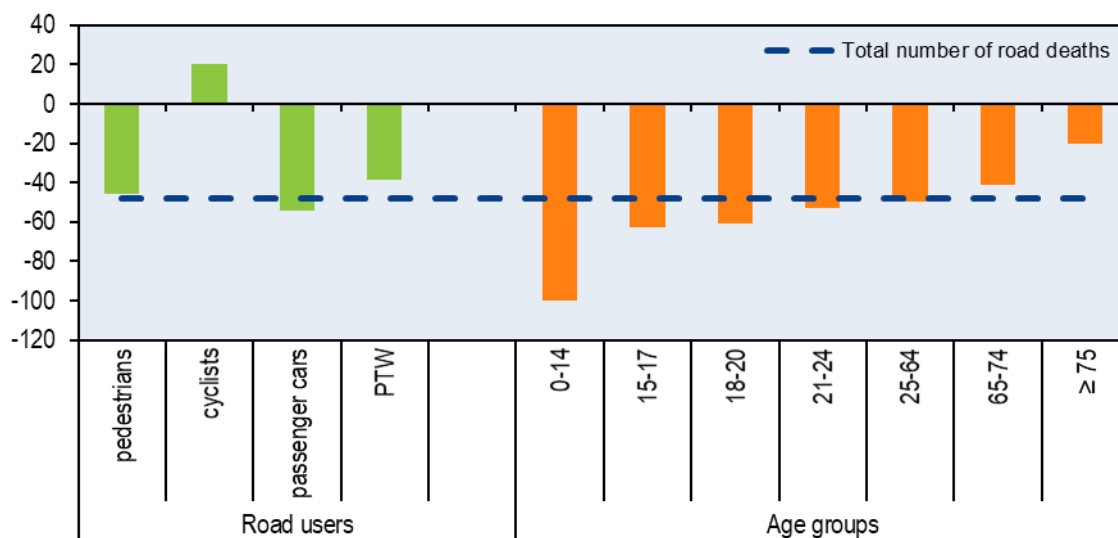


Figure 4. Evolution of road deaths by user category and age group, 2010-19



Fatality data are essential for understanding road safety issues but represent only part of the picture. Information on **serious injuries from crashes** is also critically important. However, injury data are much more difficult to obtain, validate and compare. According to police-registered crashes, 665 individuals were seriously injured in 2017, up from 656 in 2016. In 2019, the figure dropped by 100 to 565 persons severely injured.

As part of the research programme Better Safety in Traffic (BEST) of the Norwegian Public Roads Administration (NPRA), a study on bicycle crashes and a study on pedestrian crashes were conducted by the emergency unit at Oslo University Hospital in 2014 and 2016. In 2019, NPRA pursued the investigation using the data on bicycle crashes from the Oslo University Hospital. The definition for bicycles used here includes accidents with electrical scooters (e-scooters). Between May and July 2019, four to five persons were injured every day on e-scooters according to the study's preliminary findings.

Economic costs of road crashes

Traffic crashes are a significant cost for Norwegian society, estimated in 2016 at around EUR 1.65 billion (excluding property damage costs), representing 0.5% of GDP. Costs are calculated on a willingness-to-pay approach.

Behaviour

The behaviour of road users is an important determinant of a country's road safety performance. In 2019, **excessive and inappropriate speed** was one of the main causes of fatal road crashes and was attributed as a contributing factor in 40% of fatal crashes. One recent report from BEST on detailed crash investigations of 577 speed-related fatal accidents involving passenger cars between 2005 and 2015 concluded that typical characteristics of crashes with excessive speed were: single vehicle crashes, weekend and night-time crashes, older cars, side impacts, rooves being crushed, young male drivers and low rates of seat belt use. In a large proportion of crashes, road characteristics may have contributed to the driver misjudging safe speed.

In 2019, 62.1% of all vehicles were travelling within the speed limit. The percentage of vehicles not exceeding the speed limit has increased by 16.5% since 2006. This improvement is explained by a series of different factors. The traffic police have stepped-up their patrol activities and are paying special attention to large speed violations. The NPRA has, in parallel, launched several speed awareness campaigns to educate and change attitudes and behaviour of road users, particularly young male drivers. In addition, there are higher traffic volumes and an increased share of older drivers. It is thought that this in part explains the sustained decrease in road casualties in recent years.

The table below summarises the main speed limits in Norway.

Table 3. Passenger car speed limits by road type, 2020

	General speed limit	Comments
Urban roads	50 km/h	Residential streets often limited to 30 km/h
Rural roads	80 km/h	
Motorways	100 km/h or 110 km/h	

The legal maximum BAC is 0.2 g/l. The number of drivers impaired due to **alcohol** seems to be fairly stable. In 2019, 8% of fatal crashes were due to the use of alcohol, whereas 12% were due to drugs or the combination of alcohol and drugs. After high numbers in 2018, the share of fatal crashes due to impaired driving in 2019 was now back to previous levels, around the low twenties.

In Norway, the law stipulates that **mobile phones** must be correctly attached to the instrument panel in the vehicle, as close as possible to the driver. Hands-free devices can be used. In 2019, 50 fatal crashes listed some kind of distraction as a contributing factor and five of the fatal crashes were due to the use of mobile phones.

In-depth studies show that **fatigue and sleepiness** were the cause of 26% of all fatal crashes in Norway in 2019. Some of these crashes are also associated with illness or the consumption of alcohol or drugs.

Seat belt use has been compulsory in the front seats of light vehicles since 1975 and in rear seats since 1985. Child restraints are compulsory for children under 135 cm in height. For children over 135 cm a child restraint should be used if available. In Norway, it is recommended that children under the age of four should be seated facing backward.

The use of seat belts by drivers of light vehicles increased sharply between 2006 and 2013 as a result of enforcement and awareness campaigns. The seat belt wearing rate among drivers is now stable at around 97%. There is no monitoring of seat belt use in rear seats, but it is estimated to be 7-8 percentage points lower. For children aged 1-3, the use of dedicated rear facing child restraints increased from 20% in 2010 to 49% in 2015, with a further increase to 64% in 2018. The use of seat belts by drivers of heavy vehicles (excluding bus drivers) increased from 76% in 2014 to 87% in 2019.

An analysis of crashes in 2019 estimates that 37% of car occupants killed were not wearing a seat belt or did not wear the belts properly.

Table 4. Seat belt wearing rates, 2000-19
Percentages

	2000	2013	2019
Front seats			
Driver (light vehicles)	..	95	98
Passenger	88	94	96
Urban roads (driver)	78	96	97
Rural roads (driver)	92	97	98
Motorways (driver)	91	96	98
Rear seats			
General	84	94	97

All riders of motorised two-wheelers are required to wear **helmets**. The helmet-wearing rate is close to 100%.

There is no mandatory helmet-use law for cyclists. Helmet use by cyclists over the age of 12 in 2018 was 68%. In 2018, two out of the seven cyclists killed on the roads were not wearing a helmet.

Road safety management and strategies

There are several **factors of influence on Norway's road safety performance** as captured by the above indicators. In 2014, the Norwegian Institute of Transport Research investigated possible explanations for the decline in number of traffic fatalities and serious injuries between 2000 and 2012 (Hoye et al., 2014). The decline observed during this two-year time frame was larger than in any other period since 1970. The study indicated that the two most important contributing factors were increasing market penetration of various safety features on cars and the tendency, seen most clearly after 2006, for a decrease in the mean speed of traffic. Other factors that have contributed include: a change in the age distribution of riders of large motorcycles (mean age has increased), a decline in the number of young drivers involved in crashes, a decline in the number of crashes involving young moped riders, the construction of motorways and other roads with median barriers and the increased use of speed cameras.

More recently, the continued decrease in mean speed since 2012 has contributed to the sustained decline in the number of road deaths.

Responsibility for the organisation of road safety in Norway lies with the NPRA. In addition to the NPRA, the police, public health and education authorities and leading non-governmental organisations are the main national stakeholders for road safety. At regional and local levels, counties and municipalities play an important role. Norwegian road safety policy relies on an evidence-based, broad and collaborative approach. It also has a common long-term strategy, with co-ordination among all stakeholders.

Norway's Parliament adopted Vision Zero in 2001, involving all modes of transport. The main focus is to reduce crashes that can lead to fatalities and serious injuries. It also seeks to mitigate the most severe consequences when crashes do happen. The highest priority is given to the reduction of head-on crashes, single-vehicle crashes and collisions with cyclists and pedestrians. Special attention is also paid to high-risk road users, such as young drivers, elderly road users and motorcyclists.

The **National Transport Plan 2018-29** was presented to the public and submitted to parliament in 2017. It includes a new target of no more than 350 persons killed or seriously injured on the roads by 2030. The National Plan of Action for Road Safety 2018-21 contains 13 priority areas and features 136 follow-up measures. Behind these measures, there are a wide range of participants, including the NPRA, traffic police, the Norwegian Directorate of Health, the Norwegian Directorate of Education and Training, county administrations, seven large city municipalities and the Norwegian Council for Road Safety. Other parties, including the Norwegian Labour Inspection Authority, the Norwegian Correctional Service and a diverse group of other non-governmental organisations (NGOs) have committed to implementing measures. The plan includes interim targets of no more than 500 deaths or serious injuries on the roads by 2024. The table below lists the priority areas and associated indicator targets.

Table 5. National Road Safety Action Plan 2018-21

Priority Area	Indicator	Current status	Indicator target
Speed	Percentage of vehicles not exceeding the speed limit	62.1% (2019)	70.0% (2022)
Intoxication	Percentage of drivers with a blood alcohol content of 0.02% or above	0.2% (2016/2017)	0.1% (2026)
	Percentage of drivers under the influence of drugs and over the threshold for criminal punishment	0.6% (2016/2017)	0.4% (2026)
Seat belts/securing of children in the car	Percentage of drivers and front-seat passengers wearing seat belts in private cars	97.4% (2019)	98.0% (2022)
	Percentage of children aged 1-3 secured in rear-facing car seats	64.0% (2019)	75.0% (2022)
	Percentage of drivers of heavy vehicles wearing seat belts	86.5% (2019)	95.0% (2022)
Children	Number of children (0-14) killed on the roads	0 (2019)	0 (at least one per year for 2018-2021)
Young people and younger drivers	Risk of being killed or seriously injured for car drivers aged 18-19, per kilometre driven	-10.0% (2019)	-30.0% ¹

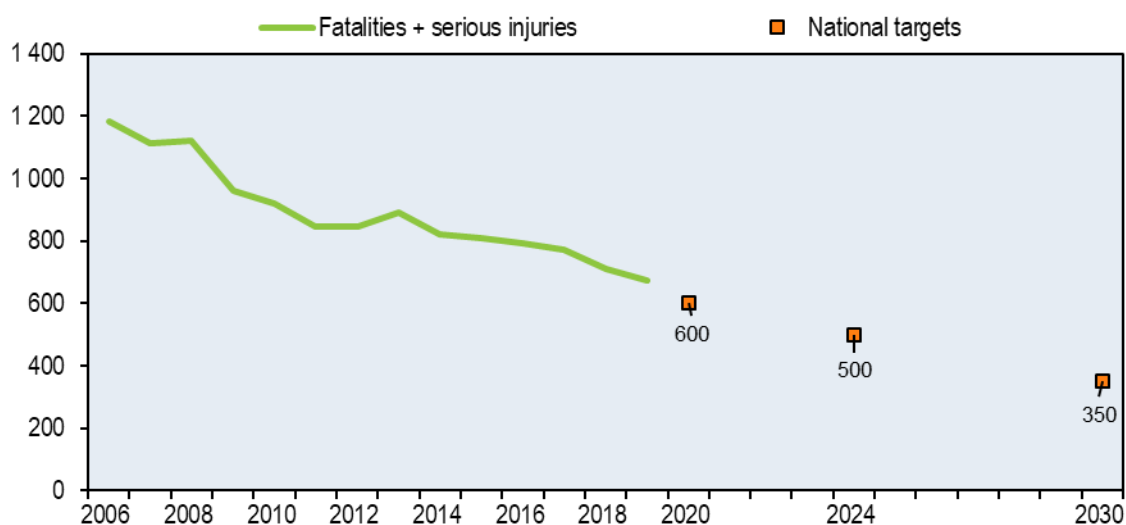
Table 5. National Road Safety Action Plan 2018-21 (cont.)

Priority Area	Indicator	Current status	Indicator target
Older road users and road users with disabilities	Risk of being killed or seriously injured for car drivers aged 75+, per kilometre driven	-14% (2019)	-30% ¹
	Risk of being killed or seriously injured in a traffic accident for pedestrians aged 75+, per kilometre walked	-35% (2019)	-30% ¹
Pedestrians and cyclists	Kilometres of national roads and county roads adapted for pedestrians and cyclists	84.3 km national roads (2018-19) 117 km county roads (2018-19)	165 km national roads (2018-21) 230 km county roads (2018-21)
	Percentage of cyclists wearing bicycle helmets	65.9% (2019)	70% (2022)
	Percentage of pedestrians using reflectors on lighted roads in the dark	41% (2019)	50% (2022)
Motorcycles and mopeds	Risk of being killed or seriously injured for motorcycle and moped riders, per kilometre driven	-14% (2019)	-30% ¹
Transportation involving heavy vehicles	Percentage of heavy vehicles with a maximum authorised mass of over 7 500 kg that pass the periodic roadworthiness test without serious remarks	24.3% (2019)	30% (2022)
Head-on collisions and run-off-the-road accidents	Percentage of national roads with speed limits of 70+ km/h with median barriers	51.5% as of 1 Jan 2020	54.1% as of 1 Jan 2022
	Kilometres of national roads with speed limits of 70+ km/h that have been assessed as meeting the minimum standards set out in the NTP to prevent serious run-off-the-road accidents	213 km (2018-19)	1 500 km (2018-23) ²
Vehicle technology	Percentage of cars with autonomous emergency braking (AEB)	26.3% (2019)	- ³
	Percentage of cars with lane departure warning	30.1% (2019)	- ³
	Percentage of cars with autonomous emergency braking to prevent collisions with pedestrians and cyclists (pedestrian AEB)	24.2% (2019)	- ³
Road safety work in county administrations and municipalities	Number of municipalities approved as Road Safe municipalities	107 ⁴ as of 4 April 2020	125 as of 1 Jan 2022

1. Reduction for the period 2018-21 compared to the period 2013-16.
2. There is no estimate of how much will be improved in the four-year period 2018-21. For this reason, Norway uses the figures for the six-year period 2018-23, taken from the NPRA's action programme. A total of 5 700 km is in need of improvement work.
3. The targets for 2022 are no longer relevant.
4. Not directly comparable due to reforms resulting in a reduction of the number of municipalities (107 municipalities and one district).

Through research and development, Norway has gained the knowledge to establish effective measures to improve road safety. The research programme BEST has been conducted in order to update the knowledge needed to search for appropriate safety improvement measures, as well as establishing whether existing measures should continue to be supported. The final project evaluated the potential for reducing the number of fatally or seriously injured road users. By adopting 33 road safety measures with documented effect, the results showed that the targeted reduction is possible by 2030, as long as these measures are implemented to the greatest possible extent.

Figure 5. Trends in road fatalities and serious injuries towards national target, 2006-30



Measures

The Plan of Action 2018-21: This plan gives an overall description of the key road safety measures to be implemented during this period. It applies to the continuation of ongoing road safety measures and the implementation of new measures. A total of 13 different priority areas and 136 follow-up measures have been defined. The complete list of measures can be found at:

www.vegvesen.no/attachment/2322975/binary/1261865?fast_title=National+Plan+of+Action+for+Road+Safety+2018-2021+%28short+version%29.pdf.

The 13 priority areas, which will be of particular focus during the time frame covered by the plan, are: speed; intoxication; seat belts in cars and buses and securing children; children (0-14); youth and younger drivers; older road users and road users with disabilities; pedestrians and cyclists; motorcycles and mopeds; transportation involving heavy vehicles; head-on collisions and run-off-the-road accidents; effective data exchange between vehicles and infrastructure, and for automated vehicles; vehicle technology; and road safety work in county administrations and municipalities.

Definition, methodology, data collection

A road fatality is defined as any person who dies immediately or within 30 days of a crash as a result of an injury sustained in that crash.

A seriously injured person is any individual suffering life threatening injuries, injuries that lead to lasting disability or other major injuries that are not life threatening. By contrast, a slightly injured person is defined as any person with minor fractures and wounds not requiring a hospital stay.

Currently, the Maximum Abbreviated Injury Scale of three or more (MAIS3+) is not used to classify serious injuries in Norway, but this will hopefully be the case in the future when such injury data is provided by hospitals.

Crash data are collected by the police and consolidated at the national level by Statistics Norway and the Public Roads Administration.

Less severe crashes and injuries are often not reported to the police and may therefore be under-represented in the figures. In particular, this concerns light injuries and single bicycle crashes. At the moment, injury data is collected by the police. In 2014 and 2016, however, the Oslo University Hospital collected data for bicycle accidents and accidents with pedestrians.

Resources

Recent research

Amundsen, A.H. (2018), *Children and youth in traffic. Accident, traffic education, and active mobility*, TØI Report 1618/2018, www.toi.no/publications/children-and-youth-in-traffic-accidents-traffic-education-and-active-mobility-article34783-29.html.

Fyhri, A. and O.J. Johansson (2018), *Mini scenario: increased use of e-bikes*, TØI Report 1625/2018, www.toi.no/getfile.php/1347800/Publikasjoner/T%C3%98I%20rapporter/2018/1625-2018/1625-2018-sum.pdf.

Nævestad, T.-O. et al. (2018), *Mini scenario: Safety ladder*, TØI Report 1620/2018, [www.toi.no/getfile.php/1347337/Publikasjoner/T%C3%98I%20rapporter/2018/1620-2018_Summary.pdf](http://www.toi.no/getfile.php/1347337/Publikasjoner/T%C3%98I%20rapporter/2018/1620-2018/1620-2018_Summary.pdf).

Sagberg, F. and O.J. Johansson (2018), *Evaluation of training for moped and light motorcycle riders. Pre-intervention study*, TØI Report 1616/2018, www.toi.no/getfile.php/1347283/Publikasjoner/T%C3%98I%20rapporter/2018/1616-2018/1616-2018-sum.pdf.

Websites

COWI: www.cowi.no/.

International Research Institute: www.iris.no/home.

Norwegian Institute of Public Health: www.fhi.no/.

Public Road Administration: www.vegvesen.no/en/Home.

SINTEF: www.sintef.no/.

TØI - Research Institute for Transport Economics: www.toi.no/.

References

Hoye, A., T. Bjornskau and R. Elvik (2014), *What can explain the decline in the number of traffic fatalities and serious injuries in Norway from 2000 to 2012?*, TØI Report 1299/2014, www.toi.no/getfile.php/1335365/Publikasjoner/T%C3%98I%20rapporter/2014/1299-2014/1299-2014-sum.pdf.

Road safety and traffic data

	1990	2000	2010	2017	2018	2019	2019 % change over			
							2018	2010	2000	1990
Reported safety data										
Fatalities	332	341	208	106	108	108	0.0%	-48.1%	-68.3%	-67.5%
Injury crashes	8 801	8 440	6 360	3 902	3 898	3 579	-8.2%	-43.7%	-57.6%	-59.3%
Injured persons hospitalised	1 636	1 265
Deaths per 100,000 population	7.8	7.6	4.3	2.0	2.0	2.0	-0.6%	-52.7%	-73.4%	-74.2%
Deaths per 10,000 registered vehicles	1.4	1.2	0.6	0.3	0.3	0.3	-3.7%	-57.0%	-78.7%	-81.6%
Deaths per billion vehicle kilometres	12.0	10.5	4.9	2.3	2.3	2.3	-0.5%	-52.2%	-77.7%	-80.5%
Fatalities by road user										
Pedestrians	55	47	24	10	14	13	-7.1%	-45.8%	-72.3%	-76.4%
Cyclists	17	13	5	9	6	6	0.0%	20.0%	-53.8%	-64.7%
Moped riders	14	6	0	1	2	0	-100.0%	..	-100.0%	-100.0%
Motorcyclists	25	40	26	20	14	16	14.3%	-38.5%	-60.0%	-36.0%
Passenger car occupants	214	225	125	56	59	57	-3.4%	-54.4%	-74.7%	-73.4%
Other road users	7	10	28	10	13	16	23.1%	-42.9%	60.0%	128.6%
Fatalities by age group										
0-14 years	18	20	4	4	1	0	-100.0%	-100.0%	-100.0%	-100.0%
15-17 years	23	20	8	2	3	1	-66.7%	-87.5%	-95.0%	-95.7%
18-20 years	49	34	23	5	7	9	28.6%	-60.9%	-73.5%	-81.6%
21-24 years	33	35	19	6	7	9	28.6%	-52.6%	-74.3%	-72.7%
25-64 years	146	170	115	57	59	58	-1.7%	-49.6%	-65.9%	-60.3%
65-74 years	25	22	14	13	10	10	0.0%	-28.6%	-54.5%	-60.0%
≥ 75 years	37	40	25	19	21	20	-4.8%	-20.0%	-50.0%	-45.9%
Traffic data										
Registered vehicles (thousands)	2 343	2 773	3 487	4 031	4 064	4 135	1.8%	18.6%	49.1%	76.5%
Vehicle kilometres (millions)	27 755	32 547	42 561	45 283	46 000	46 226	0.5%	8.6%	42.0%	66.5%
Registered vehicles per 1,000 population	553.5	620.1	705.2	766.5	767.4	776.0	1.1%	10.0%	25.2%	40.2%