



# FINLAND

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Finland recorded 209 deaths in 2019, which represents a 12.6% decrease on 2018. In 2019, Finland had a mortality rate of 3.8 traffic fatalities per 100 000 population in 2019. In November 2017, the Finnish Government submitted the draft of a new Road Traffic Act to parliament. The legislation aims to improve the smooth operation and safety of transport. Furthermore, it will create preconditions for the digitalisation and safe automation of traffic while making progress on deregulation.

## Impact of Covid-19

In response to the Covid-19 pandemic, Finland introduced lockdown measures on 17 March 2020, which affected the movement of people and goods on the road and, in turn, the exposure to road crashes. The restrictions and recommendations have varied by area and week since March.

Based on preliminary data, traffic volume on main roads decreased by 34% in April 2020 compared with April 2019, and the number of road deaths decreased by 20% in April 2020 compared to the average for 2017-19.

Over the period January-October 2020, traffic volume on main roads decreased by 9.3% compared to the same months in 2019, while the number of road deaths decreased by 7% compared to the average for the same months in 2017-19. However, this is based on preliminary data and final data will be slightly higher.

Preliminary information suggests that in 2020 traffic volume on small country roads has remained at the same level as in 2019. This may be due to increased domestic tourism during the summer. On this basis, we can estimate that traffic volume on the whole road network will drop by 5-7% in 2020. Before 2020, the biggest decrease in road traffic volume took place during the recession of the 1990s.

**Table 1. Road fatalities by month**

	Average 2017-19	2020
January	15	18
February	14	17
March	16	21
April	19	15
May	23	16
June	20	20
July	28	25
August	21	23
September	20	14
October	22	15
November	14	..
December	17	..

**Table 2. Road motor vehicle traffic change by month on main roads**

	change 2019-20
January	+4.1%
February	+3.3%
March	-17.3%
April	-33.9%
May	-19.2%
June	-9.4%
July	-3.7%
August	-3.5%
September	-4.3%
October	-6.5%

## Trends

Finland registered an overall **decrease in the number of road deaths in 2019**. According to latest data, 209 persons lost their lives in traffic crashes in Finland in 2019. This represents a 12.6% decline compared to 2018. In 2018, 239 road deaths were reported, a 0.4% increase compared to 2017.

The **longer-term trend for road deaths** in Finland has been encouraging. Between 2000 and 2019, the number of annual road fatalities fell by 47%.

The number of **traffic deaths per 100 000 inhabitants** in Finland has fallen by 50% between 2000 and 2019. In 2019, 3.8 traffic deaths per 100 000 inhabitants were recorded, compared to 7.7 in 2000. 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 fatality risk shows a satisfactory longer-term trend. In 2019 this metric stood at 4.1, 51% lower than in 2000.

Finland recorded 0.4 **road fatalities per 10 000 registered vehicles** in 2019. This represents a decrease of 72% compared to the year 2000, when the rate of deaths to registered vehicles stood at 1.5.

### Country Profile

**Population** in 2019: 5.5 million

**GDP per capita** in 2019: 48 707 USD

**Cost of road crashes:** 0.4% of GDP (2018)

**Road network:** 77 942 kilometres (urban roads 10%; rural roads 89%; motorways 1%)

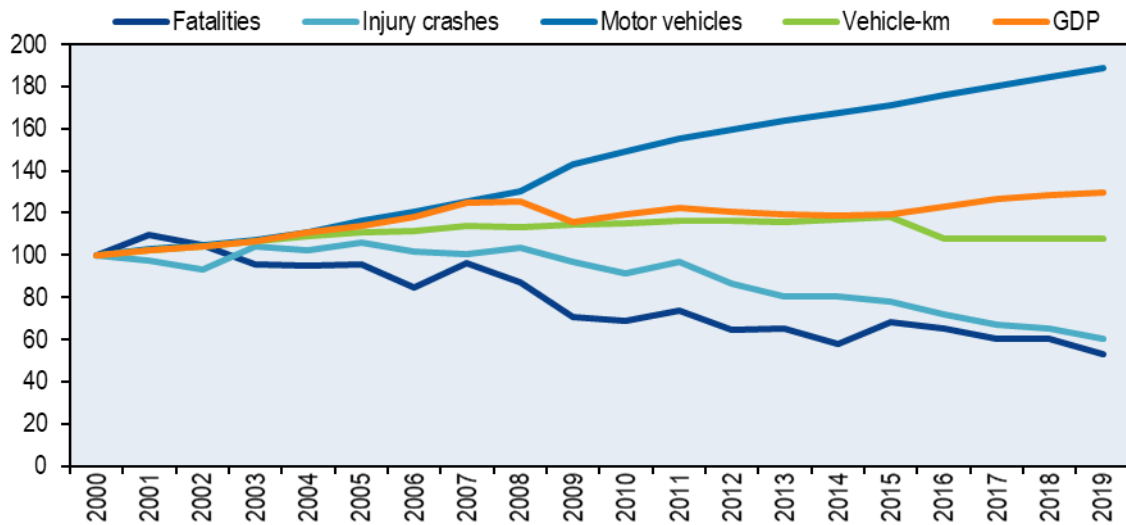
**Registered motor vehicles** in 2019: 4.8 million (cars 73%; goods vehicles 13%; motorcycles 6%)

**Volume of traffic:** +8% between 2000 and 2019

**Speed limits:** 50 km/h on urban roads (sections with 30, 40 or 60 km/h); 100 km/h on rural roads (80 km/h in winter); 120 km/h on motorways (100 km/h near cities and in winter)

**Limit on Blood Alcohol Content:** 0.5 g/l

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

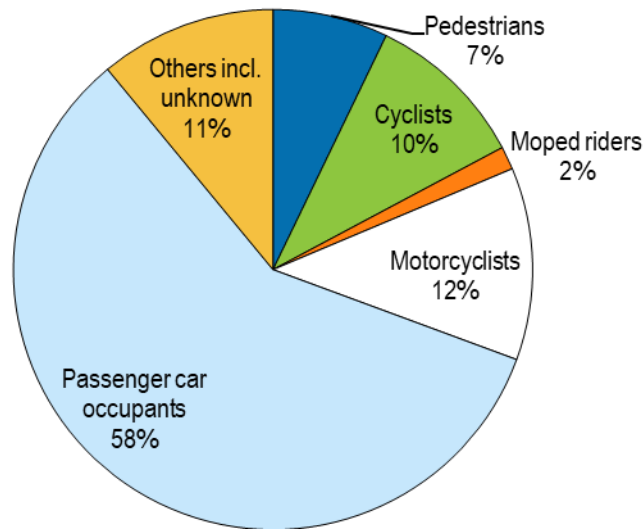


Data on **fatalities by road user groups** show that passenger car occupants continue to be the group most affected by road crashes comprising 58% of total road fatalities. In 2019, motorcyclists accounted for the next largest share of road deaths with 12% of the total. They were followed by cyclists (10%), pedestrians (7%) and moped riders (1%).

In 2019, the number of fatalities decreased or remained stable for the majority of road user groups compared to 2018. This improvement concerns car occupants (24 less deaths, representing a decrease of 16%) and pedestrians (10 less deaths, representing a decrease of 40%). Cyclists and moped riders registered the same number of road fatalities from 2018 to 2019 with 21 deaths for cyclists and 3 deaths for moped riders. The number of road deaths increased for motorcyclists (1 more death than in 2018, representing an increase of 4%).

The long-term trend shows that traffic in Finland has become safer for the majority of road user groups. The strongest decline was registered among moped riders who saw a 67% drop in fatalities from 9 to 3 road deaths in the period 2010-19. Likewise, decreases were seen in the same time period for pedestrians (57%) and passenger car occupants (23%).

On the other hand, motorcyclists in Finland have become less safe since 2000. In 2019, 25 motorcycle fatalities were recorded compared to 10 in 2000. The increase in motorcycle traffic due to warm summer weather may have been a contributing factor in the spike in motorcycle fatalities.

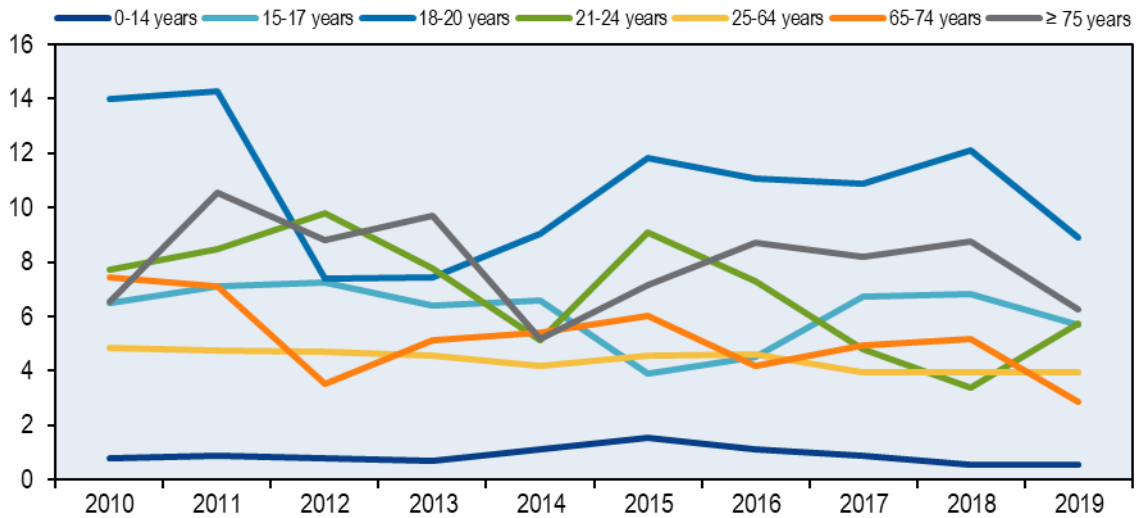
**Figure 2. Road fatalities by road user group in percentage of total, 2019**

**Road deaths by age group** in 2019 showed a decrease in the number of road deaths among 15-17 years old (from 12 to 10 fatalities), 18-20 years old (from 22 to 16 fatalities), 25-64 years old (from 112 to 111 fatalities), and 65 years old and over (from 79 to 52 fatalities). The number of fatal casualties did not change among the 0-14 years old group with 5 fatalities in 2019 and in the prior year whereas it increased slightly for 21-24 year-olds (from 9 to 15 fatalities).

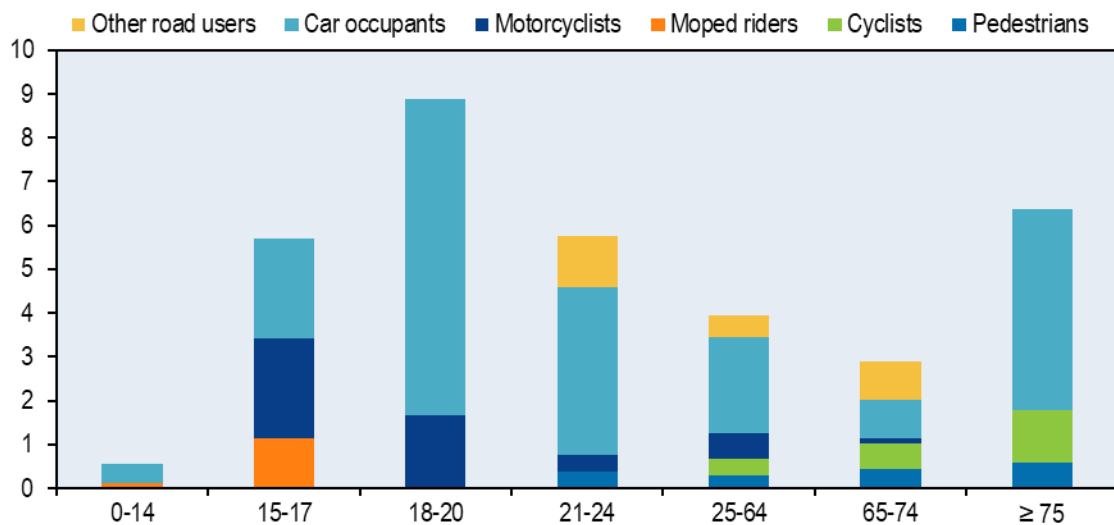
Looking at the longer-term trend, since 2000, the number of road deaths decreased for all groups. The strongest reduction in fatalities over this period occurred among 0-14 year-olds, who registered 15 fewer deaths (-75%). People aged 25-64 years old saw 46% fewer deaths during this time. Since 2010, the number of deaths decreased for all age groups, with the exception of citizens aged 75 and above for whom the number of deaths increased from 28 to 32 in 2019 (+14%) (Figure 6).

Despite recent improvements, young people continue to be the age group at highest risk in traffic, with a mortality rate far above the average. People aged 18-20 years old have a mortality rate of 8.9 per 100 000 inhabitants of the same age – well above all other age categories. The elderly over 75 and 21-24 year-olds are those at next highest risk with mortality rates of 6.4 for those over 75 and 5.8 for 21-24 year-olds.

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



**Figure 4. Road fatality rate by age and road user group, 2019**  
Fatalities per 100 000 population

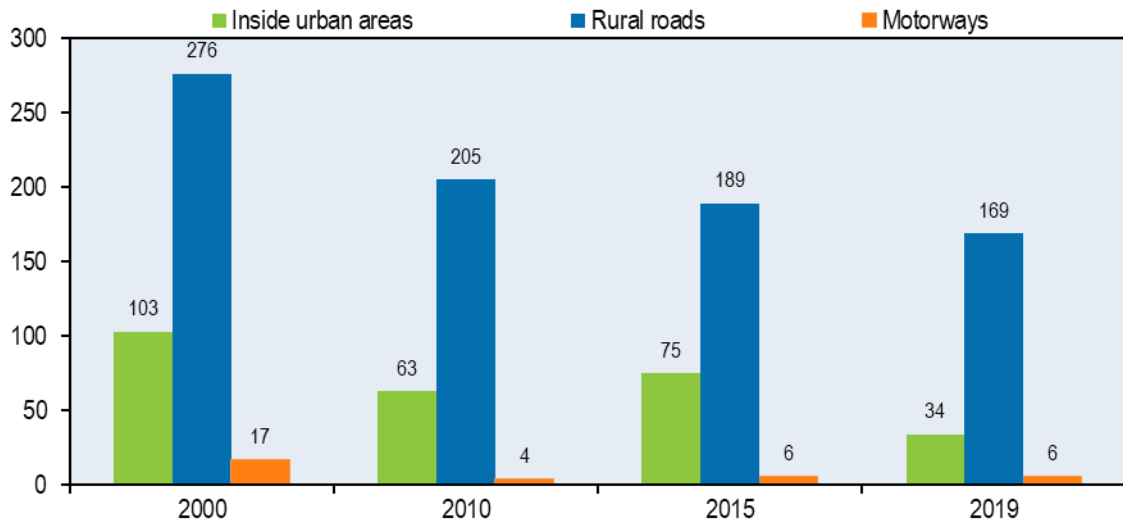


Analysis of **fatalities by road type** shows that the rural road network is the deadliest. In 2019, 81% of deaths occurred on rural roads, 16% on urban roads, and 3% on motorways. This repartition has remained relatively stable in recent years.

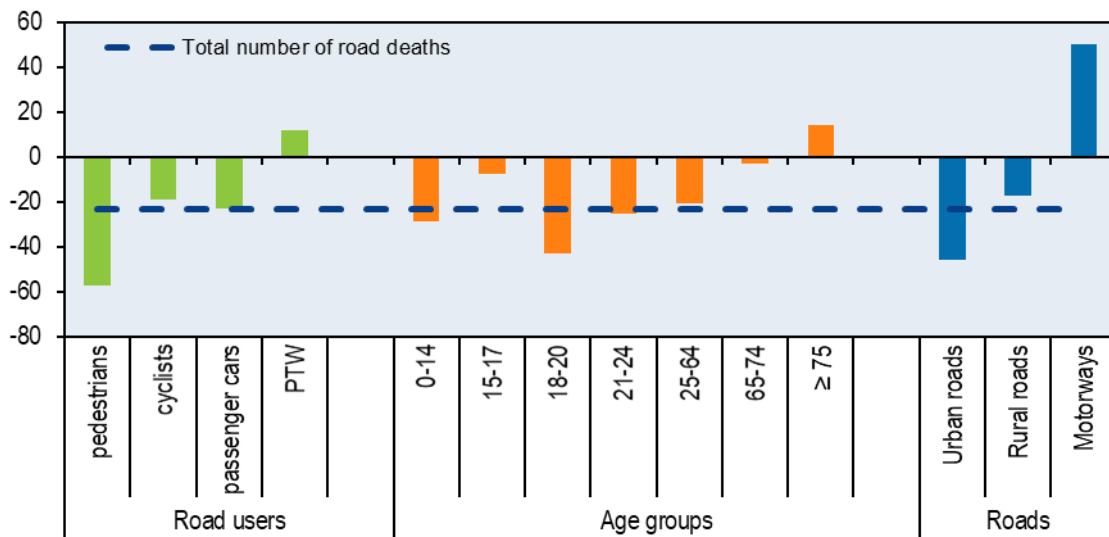
In 2019, in comparison to 2018, the number of road deaths decreased by 45% on urban roads and by 2% on rural roads, whereas it increased by 20% on motorways.

Since 2000, fatalities decreased by 67% in urban areas, by 39% on rural roads and by 65% on motorways.

**Figure 5. Road fatalities by road type**



**Figure 6. Evolution of road deaths by user category, age group and road type, 2010-19**



Fatality data are essential to understand road safety issues, but are hardly sufficient. Information on **serious injuries from crashes** is also critically important. The number of serious injuries, defined as MAIS3+, has been estimated since 2014. Results in 2018 showed an increase of 18.6% in serious injuries compared to 2017.

## Economic costs of road crashes

The economic and social costs of road crashes is estimated based on actual medical and intervention costs (health care, police, fire brigade, etc.); loss of production calculated through an estimate of lost labour time; and loss of human well-being estimated on the basis of a willingness-to-pay method using values from other Nordic countries. Cost analysis is conducted and updated every five years. In the latest update, health care information on crash severity was integrated to improve the estimates of health costs.

If unit costs estimated in 2016 are applied to 2018 data, the cost of road crashes based on police-reported crashes was EUR 1.1 billion, corresponding to 0.4% of GDP. This does not include costs associated with non-reported crashes (TRAFI, 2016).

Traficom is currently working in defining a monetary value for MAIS3+.

**Table 3. Costs of road crashes, 2018**

	Unit cost [EUR]	Total [EUR]
Fatalities	2 766 677	647 million
Slight injuries	93 180	492 million
<b>Total</b>		<b>1.1 billion</b>
<b>Total as % of GDP</b>		<b>0.4%</b>

## Behaviour

Speeding continues to be a major road safety issue in Finland. According to reports from the road crash investigation teams, **speeding or inappropriate speed** is a contributing factor in 30% of all fatal crashes. There have not been any major changes in mean speed over the past 10 years. Reduction of the mean speed by 1-3 km/h has been observed on road sections where speed cameras have been installed. While a high proportion of drivers exceed the speed limit, especially during the winter months when speed limits are lowered, the percentage of drivers speeding 10 km/h above the limit is relatively low. In 2019-20, 10% of drivers exceeded the speed limits by more than 10 km/h in summer and 12% in winter on main roads. Speed cameras, implemented mainly during the 2000s, cover around 3 000 km of main roads. There are fewer speeding offences at police speed camera sites.

The table below summarises the main speed limits in Finland.

**Table 4. Passenger car speed limits by road type, 2020**

	General speed limit	Comments
Urban roads	50 km/h	30, 40 or 60 km/h on a large share of streets
Rural roads	100 km/h (Summer) 80 km/h (Winter)	60-80 km/h at intersections or where bad road geometry or high traffic volume. 80 km/h if no speed limit signs.
Motorways	120 km/h	100 km/h near cities. A large share of motorways have variable speed limits



In 2019, 37 persons were killed and 500 were injured in **drink-driving related cases**. These figures represent 15.5% and 9.4% of the respective totals. Those who die in drink-driving crashes are most often the drivers themselves. In 2019, 27 of the 37 (73%) casualties of drink-driving related cases were drivers of the vehicles, 6 were passengers of the vehicle (16.2%), and 4 were not occupants of the vehicle (10.8%).

In 2019, 11 drivers involved in fatal crashes were suspected of driving under the influence of **drugs**.

In Finland, it is forbidden to drive with a **hand-held mobile phone**, while hands-free devices are tolerated. Around three fatal crashes every year are related to mobile phone use while driving (Jääskeläinen, 2014).

**Seat belt use** has been compulsory for front seats since 1975 and for rear seats since 1987. When in a car, children under 135 cm in height must wear a safety device determined by their weight. Seat belt use by car drivers has increased significantly since 1980. The seat belt wearing rate on front seats was 96% on rural roads and 95% on urban roads in 2019, based on monitoring by Liikenneturva, the Finnish Road Safety Council. The usage of seat belts in rear seats was 87%. According to the road crash investigation teams, 46% of car or van occupants killed were not wearing a seat belt in 2016. It is estimated that 100% seat belt usage would have saved 28 lives in 2016.

**Table 5. Seat belt wearing rate by car occupancy and road type**  
Percentages

	2000	2010	2017	2019
<b>Front seats</b>				
Driver	..	92	94	95
Passenger	..	92	93	95
Urban roads (driver)	80	91	93	95
Rural roads (driver)	89	94	95	96
<b>Rear seats</b>				
General	..	84	88	87

**Helmet wearing** is compulsory for all motorcycle and moped riders.

Although the traffic law strongly recommends cyclists wear helmets, this is not enforced. The bicycle helmet usage rate was 25% in 2004 and reached 42% in 2016. Most young children wear helmets, but teenagers and elderly people tend not to. The usage rate in the Helsinki area was 63% in June 2017, but the rates in northern Finland are much lower.

## Road safety management and strategies

There are several **factors of influence on Finland's road safety performance** as captured by the above indicators. Finland has implemented a number of important measures since 2000 to improve road safety. These include:

- lower speed limits in most urban areas;
- construction of pedestrian and bicycle paths;
- construction of 400 km of motorways;
- installation of automatic speed cameras on nearly 3 000 km of main roads;
- reform of driver education;
- renewal of the car fleet, with better safety performance and occupant protection than 15 years ago.

**Responsibility for the organisation of road** safety in Finland lies with the Ministry of Transport and Communications. The Ministry's main agencies involved in road safety are:

- the Transport Infrastructure Agency, which is responsible for road design, construction and maintenance, and road and traffic signs;
- the Finnish Transport and Communications Agency, which is responsible for vehicle registration, supervision of driving schools, and driving licence operations, and organisation of matters related to vehicle inspections. The agency's responsibilities also include campaigning for road and traffic safety;
- the Finnish Road Safety Council (Liikenneturva), which implements campaigns for road and traffic safety, disseminates information, contributes to road safety education for various age groups, and provides further training for drivers.

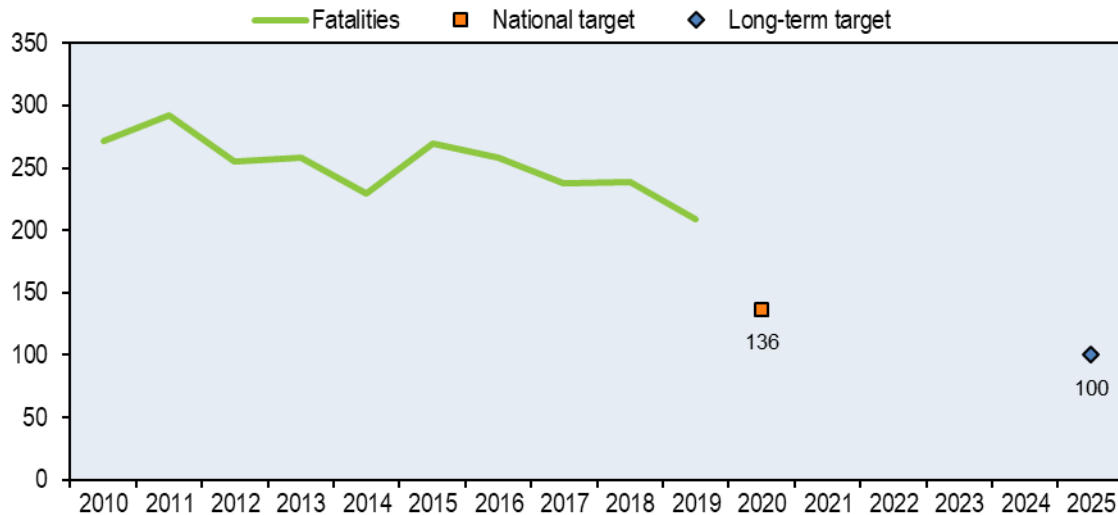
A **resolution on road safety** was approved by the Finnish government on 15 December 2016. It sets out the long-term vision that no one should be killed or seriously injured on the road. The resolution outlines road safety measures related to drivers, vehicles and roads alike, and creates preconditions for increasing automation and the use of digital data in transport.

Finland's **road safety target** is based on the target set by the European Commission to reduce by half the number of fatalities by 2020 compared to the 2010 level. In addition, there is a target to reduce by 25% the number of persons seriously injured. The corresponding numerical targets are:

- fewer than 137 fatalities (or 2.4 fatalities per 100 000 inhabitants) by 2020;
- fewer than 5 750 police-reported injuries by 2020;
- long-term target of fewer than 100 fatalities by 2025.

At the current pace, it is estimated that the 2020 target will be reached for injuries but not for fatalities.

**Figure 7. Trends in road fatalities towards national target**



## Measures

Several measures to improve road safety management have recently been put into place.

**Road safety management:** The Transport Safety Agency has developed a voluntary management and practice model for road transport companies. It provides practical guidance for responsible, economic, safe and high-quality operating.

The Government has submitted a proposal on amending the Driving Licence Act to Parliament with the objective to simplify and streamline the regulation of driving instruction and to promote the use of new alternative instruction and learning methods. The new act, which will come into force on 1 July 2018:

- puts more emphasis on examinations when obtaining a driving licence and increases the difficulty of the examinations;
- ends the need for the authorities to confirm the instruction plans for driving schools and changes the process for obtaining a Category B driving licence;
- requires persons acquiring their driving licences to take part in traffic safety training and those acquiring their first driving licence to pass a four hour training course on the basics of traffic;
- makes compulsory a minimum amount of driving instruction for persons acquiring their first licence for a motorcycle and a Category B licence for a car. The minimum amounts will be 5 hours for a motorcycle (currently 9) and 10 hours for a Category B licence (currently 18);

- lowers the minimum age for starting driving instruction for a Category B licence to 16 years old, although the licence will not be granted until the age of 18 years old.
- makes it easier to get an age exception permit to obtain a Category B driving licence at the age of 17. Between July 2018 and April 2019, 1 700 age exception permits were issued.

In November 2017, the Finnish Government submitted to Parliament its proposal on a new Road Traffic Act. The purpose of the new act is to improve the smooth running and safety of transport and create preconditions for the digitalisation and safe automation of traffic while making progress with deregulation. The core ambition is to protect those in the most vulnerable position on the road. In the proposed statute, a particular emphasis has been placed on pedestrians and cyclists on and around the roadway.

**Road users:** Since January 2017, it is mandatory for heavy vehicles to be equipped with winter tyres.

Finland has developed an Arctic Intelligent Transport System (ITS) test site for automated driving that is designed for the verification and validation of new ITS solutions and innovation under Arctic conditions with extreme seasonal change. The intelligent road Aurora, completed in the autumn 2017, offers the opportunity to test ITS and proactive road condition management.

**Vehicles:** The Ministry of Transport has launched a project to develop the weights and dimensions of heavy-duty vehicles. The maximum length of vehicle combinations was raised to 34.5 metres in January 2019, while before it was 25.25 metres.

The Finnish government conducted a car scrapping premium campaign in January and February 2018. The goal of the campaign was to reduce vehicle emissions and improve traffic safety by promoting the removal of older vehicles from the traffic environment.

**Infrastructure:** In 2019, the police ordered 150 new high-resolution speed cameras and plans to expand the speed camera network.

[https://yle.fi/uutiset/osasto/news/high\\_resolution\\_speed\\_cameras\\_roll\\_out\\_in\\_finland/10872946](https://yle.fi/uutiset/osasto/news/high_resolution_speed_cameras_roll_out_in_finland/10872946)

## Definition, methodology, data collection

Key definitions:

- **Road fatality:** any person who died immediately or within 30 days of a crash. Suicides and presumed suicides are not removed from the statistics.
- **Injured person** (as defined in police reports): any person not fatally injured in a traffic crash, but requiring medical care or observation in hospital, treatment at home (sick leave) or surgical treatment, such as stitches. Persons who sustain bruises or scratches that do not require the aforementioned treatment are not accounted as "injured". The classification "injured" is determined by the police officers present at the scene of the crash.

- **Seriously injured person:** any person who suffers injuries with a score of three or above on the Abbreviated Injury Scale (MAIS3+).

Traffic crash data in Finland are collected through two different channels: the police and insurance companies. Statistics Finland receives data on road traffic crashes from the police. Local police districts transfer the data to a central register, from which new data are processed and transferred to Statistics Finland three times a month. Statistics Finland verifies the data, makes further enquiries to the police districts and, where necessary, supplements the data with additional data from other registers.

Statistics Finland supplements its annual data with data on deaths derived from statistics on cause of death. The data are also supplemented with information on crash locations from the Transport Infrastructure Agency's Digiroad information system; data from the Rescue Services' PRONTO statistics on resources and crashes; data on coercive measures from Justice Statistics; as well as data on fatal drink-driving crashes from the road crash investigation teams. Data on road traffic crashes are also supplemented annually by the Finnish Transport and Communications Agency's data on driving licences and motor vehicles.

Statistical coverage of fatal crashes is 100%. Reporting is controlled using death certificates. Coverage of injury crashes is about 20%. Coverage is worst for cyclists injured in single crashes. Many of the injury crashes are not reported to the police because the injuries are slight and compensation is settled between the parties involved.

In addition to statistics based on police reporting, the Traffic Safety Committee of Insurance Companies (VALT) compiles and publishes statistics on crashes investigated by the road crash investigation teams and crashes for which insurance compensation has been paid. The road crash investigation teams investigate nearly all fatal road traffic crashes in Finland. It is most useful in the case of damage-only crashes, as many minor crashes are reported to the insurance company but not to the police.

Hospitals and health centres also compile statistics on cases of traffic crashes, but the data collected are mainly intended for health care services and cannot be properly used for traffic safety purposes. These data can be used as supplementary material, as they contain information excluded from other statistics, such as injuries caused in pedestrian and bicycle traffic.

Since 2014, police and hospital data have been linked to facilitate correct estimation of the number of serious injuries (defined as MAIS3+).

## Resources

### Researches

Scrapping premium campaign 2018: evaluation of effectiveness,

[https://www.traficom.fi/sites/default/files/media/publication/Romutuspaalkkiokampanja\\_2018\\_Traficomin\\_tutkimuksia\\_11\\_2019.pdf](https://www.traficom.fi/sites/default/files/media/publication/Romutuspaalkkiokampanja_2018_Traficomin_tutkimuksia_11_2019.pdf)

Speed displays' effect on driving speeds in urban environments,

[https://julkaisut.vayla.fi/pdf8/lts\\_2018-08\\_nopeusnayttojen\\_nopeusvaikutukset\\_web.pdf](https://julkaisut.vayla.fi/pdf8/lts_2018-08_nopeusnayttojen_nopeusvaikutukset_web.pdf)

Safety effects of middle barriers on non-motorway highways in Finland,

[https://julkaisut.vayla.fi/pdf12/vt\\_2019-04\\_keskikaiteiden\\_toteutuneet\\_web.pdf](https://julkaisut.vayla.fi/pdf12/vt_2019-04_keskikaiteiden_toteutuneet_web.pdf)

National Travel Survey 2016.

[https://julkaisut.vayla.fi/pdf8/lti\\_2018-01\\_henkiloliikennetutkimus\\_2016\\_web.pdf](https://julkaisut.vayla.fi/pdf8/lti_2018-01_henkiloliikennetutkimus_2016_web.pdf)

### Websites

Finnish Transport and Communications Agency (Traficom): <https://www.traficom.fi/fi>

Ministry of Transport and Communications: <https://www.lvm.fi/etusivu>

Finnish Transport Infrastructure Agency: <https://vayla.fi/>

Liikenneturva – Finnish Road Safety Council: <https://www.liikenneturva.fi/>

Statistics Finland: [http://www.stat.fi/index\\_en.html](http://www.stat.fi/index_en.html)

## References

Finnish Transport Safety Agency (Trafi) (2016), *Tieliikenteen onnettomuuskustannusten tarkistaminen (Validating road traffic accident costs)*,

[https://www.trafi.fi/filebank/a/1465820007/76d4b29cc9424288b707133f5259494d/21751-Trafin\\_tutkimuksia\\_5\\_2016\\_Tieliikenteen\\_onnettomuuskustannusten\\_tarkistaminen.pdf](https://www.trafi.fi/filebank/a/1465820007/76d4b29cc9424288b707133f5259494d/21751-Trafin_tutkimuksia_5_2016_Tieliikenteen_onnettomuuskustannusten_tarkistaminen.pdf)

Jääskeläinen, P. (2014), *Driver Distraction in Finland*, Liikenneturva, <http://etsc.eu/wp-content/uploads/5.-Distracted-Driving-in-Finland-Liikenneturva.pdf>

## Road safety and traffic data

	1990	2000	2010	2017	2018	2019	2019 % change over			
							2018	2010	2000	1990
<b>Reported safety data</b>										
Fatalities	649	396	272	238	239	209	-12.6%	-23.2%	-47.2%	-67.8%
Injury crashes	10 175	6 633	6 072	4 432	4 312	3 982	-7.7%	-34.4%	-40.0%	-60.9%
Injured persons hospitalised	10 178	..	..	..	..	..	..	..	..	..
Deaths per 100,000 population	13.0	7.7	5.1	4.3	4.3	3.8	-12.6%	-25.5%	-50.5%	-71.0%
Deaths per 10,000 registered vehicles	2.8	1.5	0.7	0.5	0.5	0.4	-14.6%	-39.3%	-72.0%	-84.5%
Deaths per billion vehicle kilometres	16.3	8.5	5.1	4.7	4.7	4.1	-12.5%	-17.9%	-51.1%	-74.6%
<b>Fatalities by road user</b>										
Pedestrians	105	62	35	27	25	15	-40.0%	-57.1%	-75.8%	-85.7%
Cyclists	101	53	26	23	21	21	0.0%	-19.2%	-60.4%	-79.2%
Moped riders	27	9	9	5	3	3	0.0%	-66.7%	-66.7%	-88.9%
Motorcyclists	28	10	16	13	24	25	4.2%	56.3%	150.0%	-10.7%
Passenger car occupants	343	224	159	133	146	122	-16.4%	-23.3%	-45.5%	-64.4%
Other road users	45	38	27	37	20	23	15.0%	-14.8%	-39.5%	-48.9%
<b>Fatalities by age group</b>										
0-14 years	45	20	7	8	5	5	0.0%	-28.6%	-75.0%	-88.9%
15-17 years	43	16	13	12	12	10	-16.7%	-23.1%	-37.5%	-76.7%
18-20 years	66	32	28	20	22	16	-27.3%	-42.9%	-50.0%	-75.8%
21-24 years	63	19	20	13	9	15	66.7%	-25.0%	-21.1%	-76.2%
25-64 years	274	203	140	112	112	111	-0.9%	-20.7%	-45.3%	-59.5%
65-74 years	..	53	36	32	35	20	-42.9%	-44.4%	-62.3%	..
≥ 75 years	..	53	28	41	44	32	-27.3%	14.3%	-39.6%	..
<b>Fatalities by road type</b>										
Urban roads	206	103	63	57	62	34	-45.2%	-46.0%	-67.0%	-83.5%
Rural roads	432	276	205	173	172	169	-1.7%	-17.6%	-38.8%	-60.9%
Motorways	11	17	4	8	5	6	20.0%	50.0%	-64.7%	-45.5%
<b>Traffic data</b>										
Registered vehicles (thousands)	2 350	2 586	3 855	4 661	4 766	4 878	2.3%	26.5%	88.6%	107.6%
Vehicle kilometres (millions)	39 750	46 710	53 815	50 225	50 436	50 387	-0.1%	-6.4%	7.9%	26.8%
Registered vehicles per 1,000 population	472.4	500.1	720.4	846.9	864.5	884.0	2.3%	22.7%	76.8%	87.1%