FINLAND

Finland recorded 234 deaths in 2018 – a 1.7% decrease on 2017 and a third consecutive year of decline. Finland registered 4.2 traffic fatalities per 100 000 population in 2018. 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.

Trends

Finland registered an overall decrease in the number of road deaths in both 2017 and 2018. According to latest preliminary data, 234 persons lost their lives in traffic crashes in Finland in 2018. This represents a 1.7% decrease on 2017. In 2017, 238 road deaths were reported, itself a 7.8% decline on 2016.

The longer-term trend for road deaths in Finland has been encouraging. Between 2000 and 2018, the number of annual road fatalities fell by 41%.

The number of traffic deaths per 100 000 inhabitants in Finland has fallen by 47% between 2000 and 2018. In 2018, 4.2 traffic deaths per 100 000 inhabitants were recorded, compared to 7.7 in 2000. By way of comparison, the average in the European Union is 4.9 deaths per 100 000 inhabitants in 2018.

Measured as traffic deaths per billion vehicle-kilometres (vkm) driven, the fatality risk shows a satisfactory longer-term trend. In 2017 this metric stood at 4.7, 44% lower than in 2000.

Finland recorded 0.5 road fatalities per 10 000 registered vehicles in 2017. This represents a decrease of 67% compared to the year 2000, when the rate of deaths to registered vehicles stood at 1.5.
Data on **fatalities by road user groups** show that passenger car occupants continue to be the group most affected by road crashes comprising 62% of total road fatalities (Figure 2). In 2018, motorcyclists accounted for the next largest share of road deaths with 10% of the total. They were followed by pedestrians (9%), cyclists (9%), and moped riders (1%).

In 2018, the number of road deaths increased for motorcyclists (11 more deaths than in 2017, representing an increase of 85%) and car occupants (12 more deaths than in 2017, representing an increase of 9%). The number of fatalities decreased for cyclists (2 fewer deaths), pedestrians (5 fewer deaths), and moped riders (2 fewer deaths).

The long-term trend shows that traffic in Finland has become safer for the majority of road user groups – save for motorcyclists. The strongest decline was registered among pedestrians, who saw a 37% drop in fatalities from 35 to 22 in the period 2010-2018. Likewise, moped riders and cyclists saw decreases of 67% and 19% each in the same time period.

On the other hand, motorcyclists in Finland have become less safe since 2000 when 10 motorcycle fatalities were recorded. In 2018, 24 motorcycle deaths were recorded. 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, 2018

Road deaths by age group in 2018 showed a decrease in the number of road deaths among 0-14 year olds (from 8 to 5 fatalities) and 25-64 year olds (-1.8%). The number of fatal casualties increased slightly for 18-20 year olds (from 20 to 22 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%). Finns in the 25-64 year old age range saw 46% fewer deaths during this time – a decrease that saw them move from 203 annual fatalities in 2000 to 110 in 2018. 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 significantly from 28 to 43 in 2018 (+54%) (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. Finnish 18-20 year olds have a mortality rate of 12.1 per 100 000 inhabitants of the same age – well above all other age categories. The elderly above 75 and 15-17 year olds are those at next highest risk with mortality rates of 8.6 and 6.8, respectively.
Analysis of fatalities by road type shows that the rural road network is the deadliest. In 2018, 74% of deaths occurred on rural roads, 24% on urban roads, and 2% on motorways. This repartition has remained relatively stable in recent years.

In 2018, in comparison to 2017, the number of road deaths decreased by 4% on rural roads, 5.3% on urban roads, and 37.5% on motorways.

Since 2000, fatalities in urban areas decreased by 45%, on rural roads by 37%, and by 53% on motorways.
Fatality data are essential to understand road safety issues, but 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 2017 showed a decrease of 11% in serious injuries compared to 2016.

**Economic costs of road crashes**

The economic and social cost 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, healthcare 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).

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

Table 1. Costs of road crashes, 2018

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<tr>
<th></th>
<th>Unit cost [EUR]</th>
<th>Total [EUR]</th>
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<tbody>
<tr>
<td>Fatalities</td>
<td>2 766 677</td>
<td>647 million</td>
</tr>
<tr>
<td>Slight injuries</td>
<td>93 180</td>
<td>492 million</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.1 billion</strong></td>
<td><strong>Total as % of GDP</strong></td>
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</table>

**Behaviour**

Speeding continues to be a main 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 2017, 10% of drivers exceeded the speed limits by more than 10 km/h in summer and 13% 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 2. Passenger car speed limits by road type, 2019

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

In 2018, 30 persons were killed and 496 were injured in drink-driving related cases. These figures represent 12.8% and 9.2% of the respective totals. Those who die in drink-driving crashes are most often the drivers themselves. In 2018, 23 of the 30 (76.7%)
The number of casualties of drink-driving related cases were drivers of the vehicles, 5 were passengers of the vehicle (16.7%), and 2 were not occupants of the vehicle (6.7%).

In 2018, 5 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 hand-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 95% on rural roads and 93% on urban roads in 2017, based on monitoring by Liikenneturva, the Finnish Road Safety Council. The usage of seat belts in rear seats on urban roads was 88%. 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.

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<tr>
<th></th>
<th>2000</th>
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<td><strong>Front seats</strong></td>
<td></td>
<td></td>
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<td>Driver</td>
<td>..</td>
<td>92</td>
<td>94</td>
</tr>
<tr>
<td>Passenger</td>
<td>..</td>
<td>92</td>
<td>93</td>
</tr>
<tr>
<td>Urban roads (driver)</td>
<td>80</td>
<td>91</td>
<td>93</td>
</tr>
<tr>
<td>Rural roads (driver)</td>
<td>89</td>
<td>94</td>
<td>95</td>
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<tr>
<td><strong>Rear seats</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>..</td>
<td>84</td>
<td>88</td>
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</table>

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

Although the traffic law strongly recommends cyclists to 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 do so. 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 factor 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 organisations 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, although the licence will not be granted until the age of 18 years.

- 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**

- In November 2019 the Ministry of Transport will make it possible for 15-year olds to drive a car with a speed limiter set to 60 km/h, as cars provide better protection in collisions than light four-wheelers. The car must be taken into traffic use in 2014 or later.

- 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. 

Definition, methodology, data collection

- 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**


**Websites**

Finnish Transport and Communications Agency (Traficom): [https://www.traficom.fi/](https://www.traficom.fi/)

Ministry of Transport and Communications: [https://www.lvm.fi/etusivu](https://www.lvm.fi/etusivu)

Finnish Transport Infrastructure Agency: [https://vayla.fi/](https://vayla.fi/)

Liikenneturva – Finnish Road Safety Council: [https://www.liikenneturva.fi/](https://www.liikenneturva.fi/)

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


Road safety and traffic data

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<tbody>
<tr>
<td>Fatalities</td>
<td>649</td>
<td>396</td>
<td>272</td>
<td>258</td>
<td>238</td>
<td>234</td>
<td>-1.7%</td>
<td>-14.0%</td>
<td>-40.9%</td>
<td>-63.9%</td>
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<tr>
<td>Injury crashes</td>
<td>10 175</td>
<td>6 633</td>
<td>6 072</td>
<td>4 752</td>
<td>4 432</td>
<td>4 281</td>
<td>-3.4%</td>
<td>-29.5%</td>
<td>-35.5%</td>
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<td>7.7</td>
<td>5.1</td>
<td>4.7</td>
<td>4.3</td>
<td>4.2</td>
<td>-1.9%</td>
<td>-16.5%</td>
<td>-44.6%</td>
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<td>2.8</td>
<td>1.5</td>
<td>0.7</td>
<td>0.6</td>
<td>0.5</td>
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<tr>
<td>Deaths per billion vehicle kilometres</td>
<td>16.3</td>
<td>8.5</td>
<td>5.1</td>
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<td>4.7</td>
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<td>206</td>
<td>103</td>
<td>63</td>
<td>63</td>
<td>57</td>
<td>54</td>
<td>-5.3%</td>
<td>-14.3%</td>
<td>-47.6%</td>
<td>-73.8%</td>
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<tr>
<td>Rural roads</td>
<td>432</td>
<td>276</td>
<td>205</td>
<td>188</td>
<td>173</td>
<td>166</td>
<td>-4.0%</td>
<td>-19.0%</td>
<td>-39.9%</td>
<td>-61.6%</td>
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<tr>
<td>Motorways</td>
<td>11</td>
<td>17</td>
<td>4</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>-37.5%</td>
<td>-25.0%</td>
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<tbody>
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<td>Registered vehicles</td>
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<td>2 586</td>
<td>3 855</td>
<td>4 550</td>
<td>4 661</td>
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<td>Vehicle kilometres</td>
<td>39 750</td>
<td>46 710</td>
<td>53 815</td>
<td>50 361</td>
<td>50 225</td>
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<tr>
<td>Registered vehicles per 1,000 population</td>
<td>472.4</td>
<td>500.1</td>
<td>720.4</td>
<td>829.2</td>
<td>846.9</td>
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