



FINLAND

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Finland recorded 223 deaths in 2020, representing a 5.2% increase in 2019. Unlike many other countries, Covid-19 did not reduce road deaths in Finland. On 1 June 2020, the Finnish Government approved a new Road Traffic Act. The legislation aims to improve the smooth operation and safety of transport. Furthermore, it creates preconditions for digitalisation and safe traffic automation while progressing deregulation.

Road safety management and strategy

Since Finland has implemented several 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, maintenance and road and traffic signs.
- The Finnish Transport and Communications Agency, which is responsible for vehicle registration, supervision of driving schools, driving licence operations and organisation of matters related to vehicle inspections. The agency's responsibilities also include campaigning for road and traffic safety.

Finland: Quick facts

Population: 5.5 million

GDP per capita: USD 49 090

Road network: 77 908 km

- urban roads: 10%
- rural roads: 89%
- motorways: 1%

Registered motor vehicles: 5 million

- cars: 73%
- goods vehicles: 14%
- motorcycles: 6%

Volume of traffic: +3.9% (2000-20)

Speed limits:

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

Limits on Blood Alcohol Content: 0.5 g/l

Road fatalities: 223

- pedestrians: 10%
- cyclists: 14%
- car occupants: 57%
- motorcyclists: 10%
- other: 9%

Road fatalities per 100 000 population: 4

Road fatalities per 10 000 vehicles: 0.4

Cost of road crashes: 0.4% of GDP (2016)

All data 2020 unless otherwise stated.

- The Finnish Road Safety Council (*Liikenneturva*), which implements road and traffic safety campaigns, disseminates information, contributes to road safety education for various age groups and provides further training for drivers.

A national traffic safety strategy for 2022-26 will be completed during spring 2022. According to the draft, the aim is to halve road fatalities and serious injuries by 2030 from the 2020 level. The draft contains around 70 road safety measures, including legislation, information and education, infrastructure, traffic control and enhanced co-operation between authorities.

The previous document guiding road safety work was the Finnish Government resolution on road safety (2016). The target of having fewer than 137 fatalities by 2020 was not reached.

Latest road safety measures

In June 2020, the Finnish Government approved 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. A particular emphasis has been placed on pedestrians and cyclists on and around the roadway.

This change to Finland's Road Traffic Act placed more responsibility on drivers to determine when to use winter tyres. According to the new Act, winter tyres must be used from 1 November to 31 March if required by weather or road surface conditions. In the past, winter tyres were mandatory from December to February regardless of the weather. Research results show that the change in the law did not affect the time of changing tyres in the winter of 2020-2021.

The state has increased its funding for municipalities to improve walking and cycling infrastructure. In 2020, grants were distributed for more than EUR 30 million and in 2021 for about EUR 24 million, compared to the previous level of about EUR 3 million per year.

The Driving Licence Act was changed in 2018. It made it easier to get an age exception permit to obtain a Category B driving licence at 17 years of age. At the end of 2021, approximately 20% of 17 year olds had a category B driving licence. It has been observed that 17-year-old new drivers have more driving bans during their first year with a driving licence than 18-year-old new drivers. Therefore, a new law change is being prepared to implement restrictions on 17 year olds' driving.

In 2018, the Transport Infrastructure Agency started a program to remove and improve railroad level crossings. There are still approximately 2 500 level crossings, and 1 800 of them are without booms and warning systems.

The Finnish government conducted a car scrapping premium campaign from December 2020 to April 2021. The campaign aimed to reduce vehicle emissions and improve traffic

safety by removing older vehicles from the vehicle fleet. In this campaign, the scrapping premium could be used to buy an electric bicycle or a public transport ticket in addition to a new car.

Costs of road crashes

The economic and social costs of road crashes are estimated based on actual medical and intervention expenses (health care, police, fire brigade, etc.), loss of production calculated through an estimate of lost labour time, and loss of human well-being estimated based on a willingness-to-pay method using values from a recent Finnish study. 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 2020 are applied to 2020 data, the cost of road crashes based on police-reported crashes was EUR 1.4 billion (0.4% of GDP). This does not include costs associated with non-reported crashes.

Traficom is currently working on defining a monetary value for serious injuries (classified as MAIS3+).

Safety performance indicators

Speed

According to reports from road crash investigation teams, speeding or inappropriate speed contributes to 30% of all fatal crashes. There have not been any significant changes in mean speed over the past ten 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 2020-21, 11% of drivers exceeded the speed limits by more than 10 km/h in summer and 14% 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.

Drink-driving

In 2020, 57 people were killed and 500 were injured in drink-driving related cases. These figures represent 26% and 11% of the respective totals. Those who die in drink-driving crashes are most often the drivers themselves. In 2020, 39 of the 57 (68%) casualties of drink-driving related cases were drivers of the vehicles, 11 were passengers of the vehicle (16.2%) and 7 were not occupants of the vehicle (10.8%).

Drugs and driving

In 2020, 18 drivers involved in fatal crashes were suspected of driving under the influence of drugs.

Use of mobile phones while driving

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.

Seat belt and helmet use

Seat belt use has been compulsory for front seats since 1975 and rear seats since 1987. Children under 135 cm in height must wear a safety device determined by their weight when in a car. 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 96% on urban roads in 2020, based on monitoring by *Liikenneturva*, the Finnish Road Safety Council. The usage of seat belts in rear seats was 90%. According to road crash investigation teams, 49% of car or van occupants killed were not wearing a seat belt in 2020. It is estimated that 100% seat belt usage would have saved 26 lives in 2020.

Helmet wearing is compulsory for all motorcycle and moped riders. Over 99% of motorcycle and moped riders wore a helmet in 2020, based on monitoring by *Liikenneturva*.

Although the traffic law strongly recommends cyclists wear helmets, this is not enforced. The bicycle helmet usage rate was 25% in 2004 and reached 51% in 2020. Most young children wear helmets, but teenagers and older adults tend not to. The usage rate in the Helsinki area was 63% in June 2020, but the rates in northern Finland are much lower.

Road safety data for Finland at a glance

Table 1. Long-term road safety trends for Finland

	1990	2000	2010	2018	2019	2020	2020 % change over			
							2019	2010	2000	1990
Reported safety data										
Fatalities	649	396	272	239	211	223	5.7	-18.0	-43.7	-65.6
Injury crashes	10 175	6 633	6 072	4 312	4 002	3 608	-9.8	-40.6	-45.6	-64.5
Injured persons hospitalised	10 178
Deaths per 100 000 population	13.0	7.7	5.1	4.3	3.8	4.0	5.5	-20.6	-47.3	-69.1
Deaths per 10 000 registered vehicles	2.8	1.5	0.7	0.5	0.4	0.4	3.8	-36.4	-70.7	-83.7
Deaths per billion vehicle kilometres	16.3	8.5	5.1	4.7	4.2	4.6	9.7	-9.1	-45.8	-71.9
Fatalities by road user										
Pedestrians	105	62	35	25	15	22	46.7	-37.1	-64.5	-79.0
Cyclists	101	53	26	21	23	31	34.8	19.2	-41.5	-69.3
Moped riders	27	9	9	3	3	2	-33.3	-77.8	-77.8	-92.6
Motorcyclists	28	10	16	24	25	20	-20.0	25.0	100.0	-28.6
Passenger car occupants	343	224	159	146	123	127	3.3	-20.1	-43.3	-63.0
Other road users	45	38	27	20	22	21	-4.5	-22.2	-44.7	-53.3
Fatalities by age group										
0-14 years	45	20	7	5	5	3	-40.0	-57.1	-85.0	-93.3
15-17 years	43	16	13	12	10	14	40.0	7.7	-12.5	-67.4
18-20 years	66	32	28	22	16	14	-12.5	-50.0	-56.3	-78.8
21-24 years	63	19	20	9	15	9	-40.0	-55.0	-52.6	-85.7
25-64 years	274	203	140	112	111	114	2.7	-18.6	-43.8	-58.4
65-74 years	..	53	36	35	22	29	31.8	-19.4	-45.3	..
≥ 75 years	..	53	28	44	32	40	25.0	42.9	-24.5	..
Fatalities by road type										
Urban roads	206	103	63	62	36	62	72.2	-1.6	-39.8	-69.9
Rural roads	432	276	205	172	167	150	-10.2	-26.8	-45.7	-65.3
Motorways	11	17	4	5	6	9	50.0	125.0	-47.1	-18.2
Traffic data										
Vehicle kilometres (millions)	39 750	46 710	53 815	50 436	50 387	48 543	-3.7	-9.8	3.9	22.1
Registered vehicles (thousands)	2 350	2 586	3 855	4 766	4 878	4 968	1.8	28.9	92.1	111.4
Registered vehicles per 1 000 population	472.4	500.1	720.4	864.5	884.0	899.2	1.7	24.8	79.8	90.3

Figure 1. Evolution of road fatalities, injury crashes, motorisation, traffic and GDP in Finland, 2000-20

Index 2000 = 100

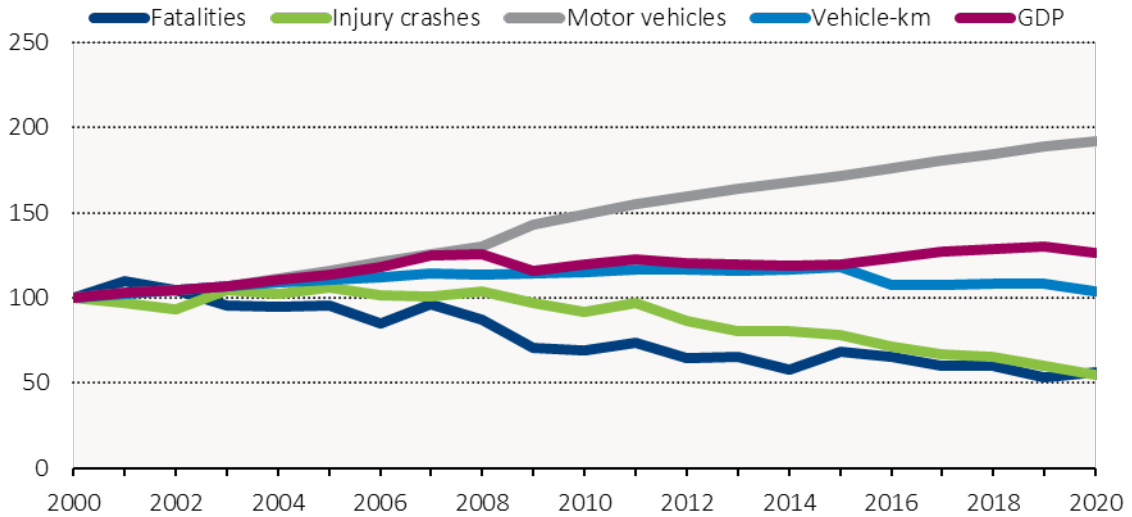


Figure 2. Road fatalities per 100 000 inhabitants in Finland in comparison with IRTAD countries, 2020

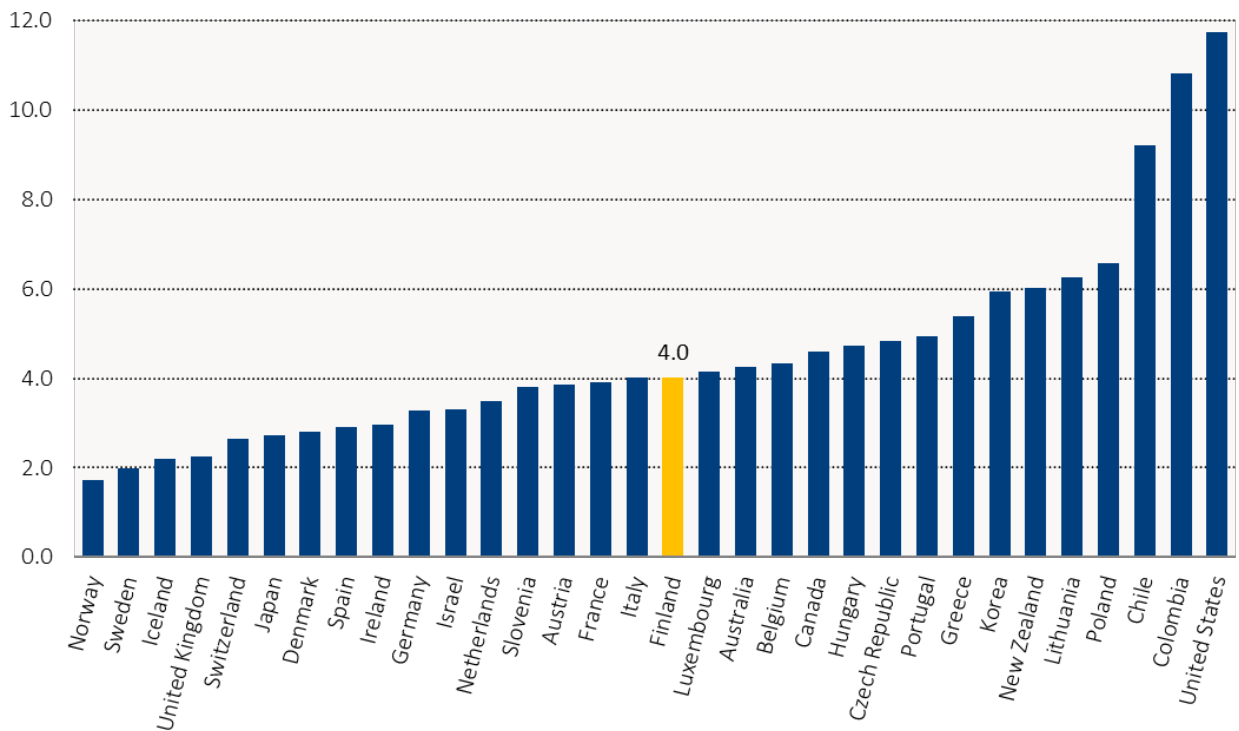
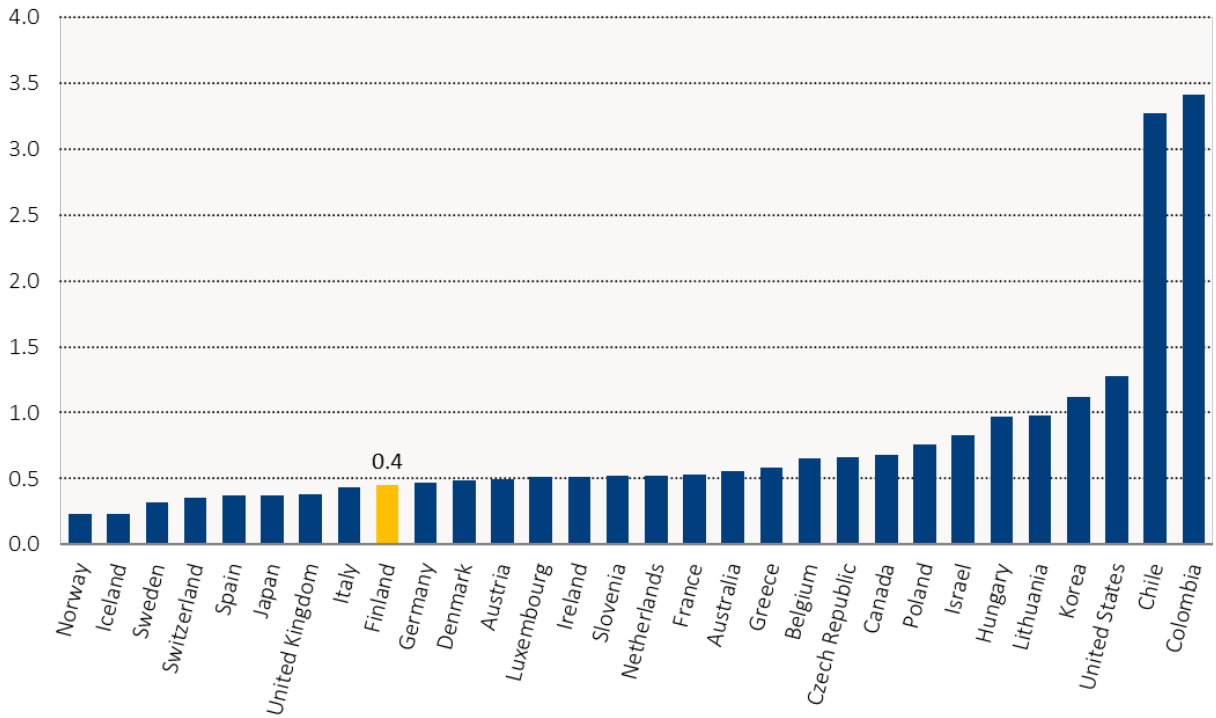


Figure 3. Road fatalities per 10 000 vehicles in Finland in comparison with IRTAD countries, 2020



Note: in Belgium, Denmark, Germany and Hungary registered vehicles do not include mopeds.

Figure 4. Road fatalities per billion vehicle-kilometres in Finland in comparison with IRTAD countries, 2019

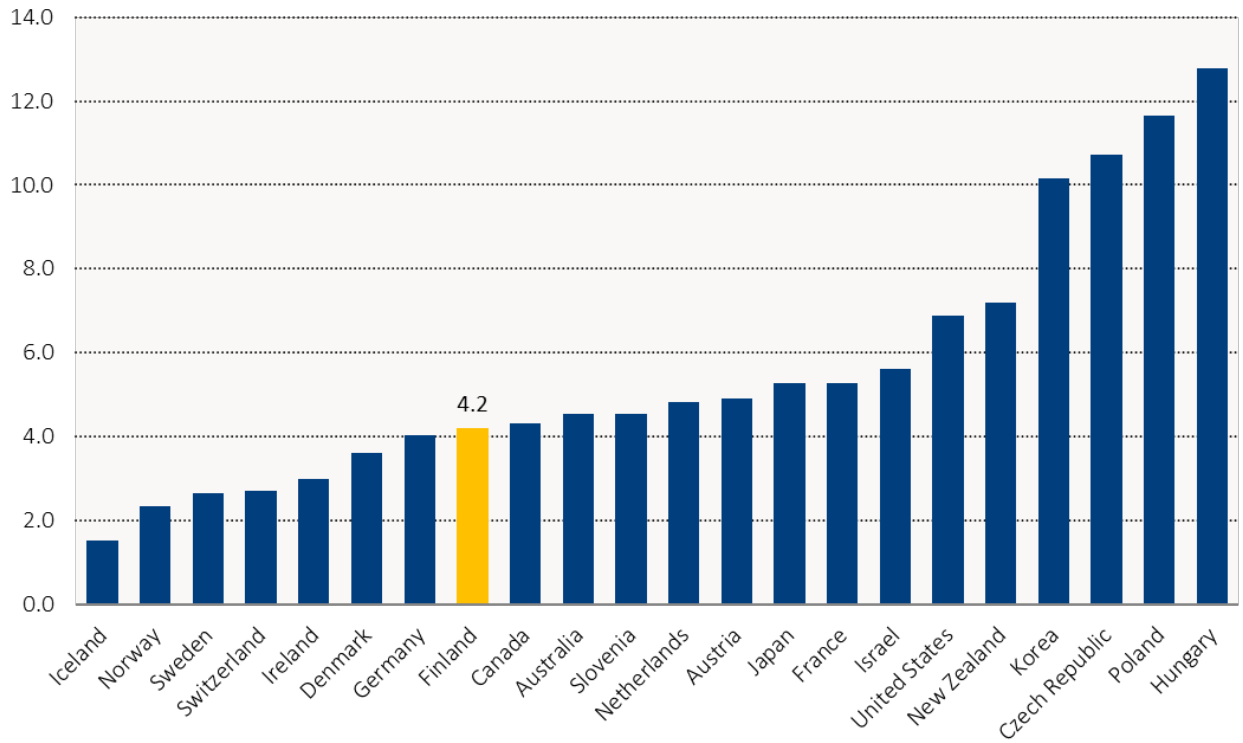


Figure 5. Evolution of road fatalities in Finland by user category, age group and road type, 2010-20

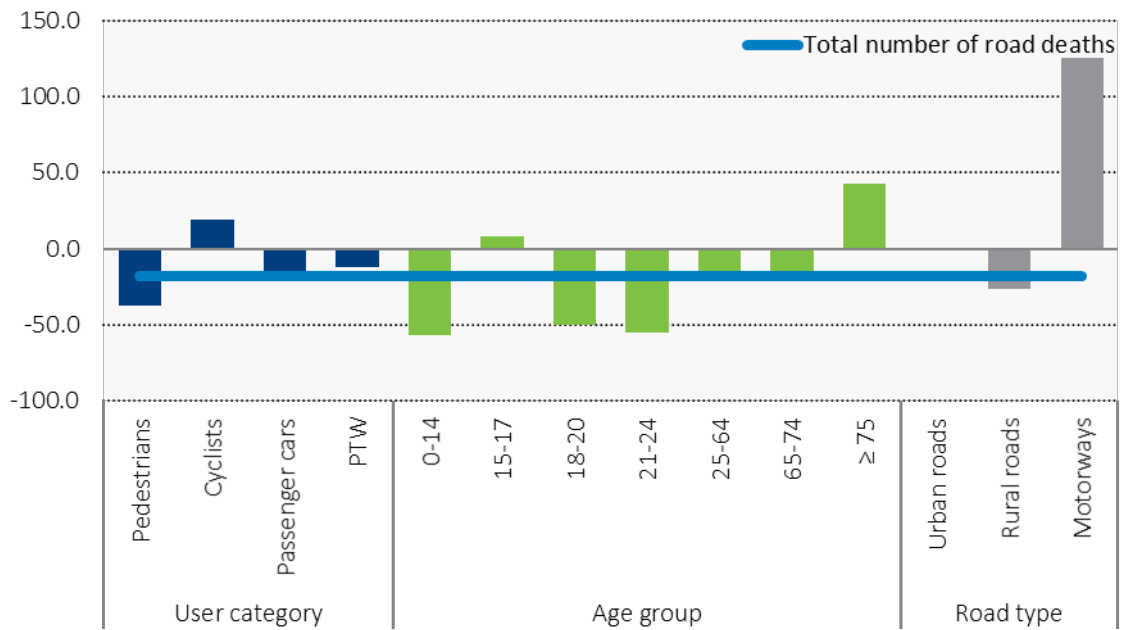


Figure 6. Road fatalities in Finland by user category, 2020

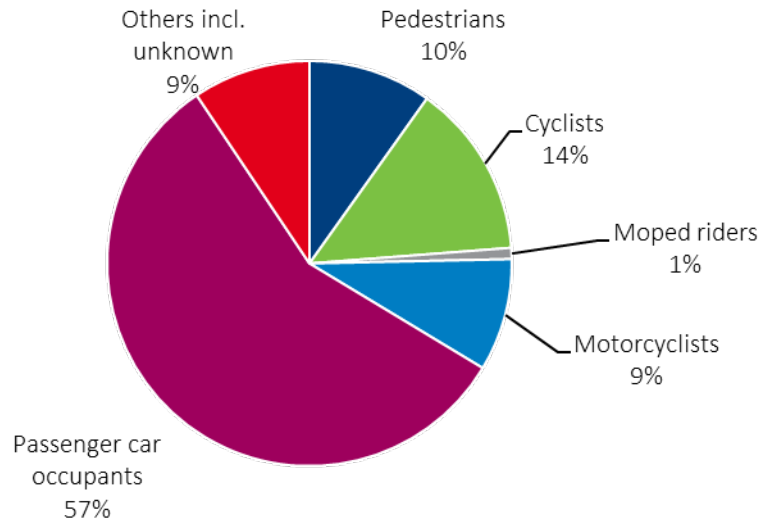


Figure 7. Road fatalities in Finland by road type, 2020

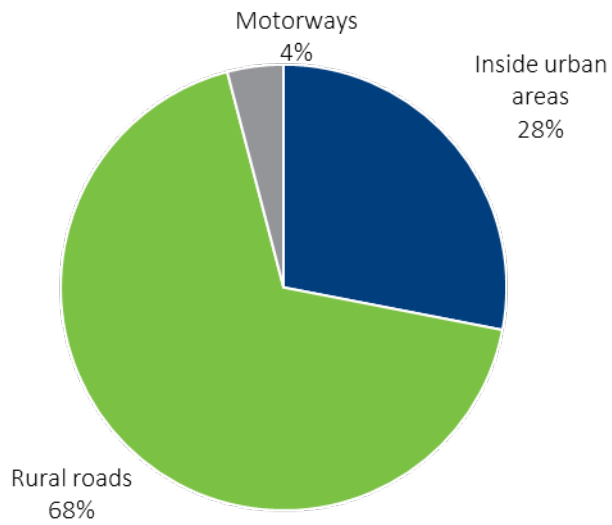


Figure 8. Road fatality rate in Finland by user category and age group, 2020
Rate per 100 000 population in the same age group

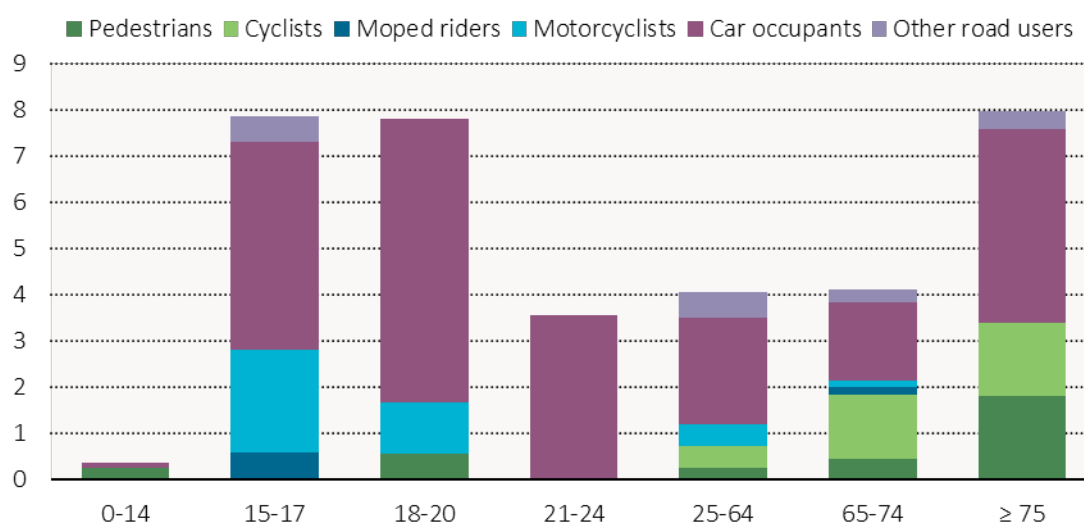


Table 2. Cost of road crashes in Finland, 2020

	Unit Cost (EUR)	Total (EUR)
Fatalities	2 564 513	572 million
Severe injuries	1 269 095	518 million
Slight injuries	76 530	306 million
Total		1.4 billion
Total as % of GDP		0.4

Table 3. Seat belt and helmet wearing rates
Percentages

	2000	2010	2020
Front seats			
Driver	..	92	95
Passenger	..	92	96
Urban roads (driver)	80	91	96
Rural roads (driver)	89	94	95
Rear seats			
General	..	84	90

Research and resources

Publications

Road Traffic Act reform: impact on the use of winter and summer tyres, https://www.traficom.fi/sites/default/files/media/publication/Tieliikennelain_uudistuksen_vaikutus_talvirenkaiden_kayttoon.pdf.

Finns' willingness to pay for the reduction of personal injuries in traffic, <https://www.traficom.fi/sites/default/files/media/publication/Suomalaisten%20halukkuus%20maksaa%20tieliikenteen%20henkil%C3%B6vahinkojen%20v%C3%A4hent%C3%A4misest%C3%A4%2020202020.pdf>.

Suicides in road traffic from the perspective of drivers of heavy vehicles, https://www.traficom.fi/sites/default/files/media/publication/Tieliikenneitsemurhat%20raakaan%20liikenteen%20kuljettajien%20n%C3%A4k%C3%B6kulmasta_Traficom_30_2019.pdf.

The reliability of the ICD-AIS map in identifying serious road traffic injuries from the Helsinki Trauma Registry, https://helda.helsinki.fi/bitstream/handle/10138/312936/The_reliability_of_the_ICD_AIS_map_in_identifying_serious_road_traffic_injuries_from_the_Helsinki_Trauma_Registry.pdf?sequence=1&isAllowed=y.

Safety indicators for pedestrian and cycling traffic, https://www.doria.fi/bitstream/handle/10024/182734/vj_2021-43_978-952-317-882-3.pdf?sequence=1&isAllowed=y.

Monitoring study of new drivers – Satisfaction with driver instruction and experiences in traffic of drivers who were issued a driving licence based on an age exception permit, <https://www.traficom.fi/sites/default/files/media/publication/Uusien%20kuljettajien%20seurantatutkimus%20Ik%C3%A4poikkeusluvalla%20ajokortin%20suorittaneiden%20tyytyv%C3%A4isyys%20kuljettajaopetukseen%20ja%20kokemukset%20liikenteest%C3%A4.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.

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 treatment mentioned above are not accounted as "injured". The classification "injured" is determined by the police officers present at the crash scene.
- Seriously injured person: anyone 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 the 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 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. Still, the data collected are mainly intended for health care services and cannot be adequately 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 facilitating the correct estimation of the number of serious injuries (defined as MAIS3+).