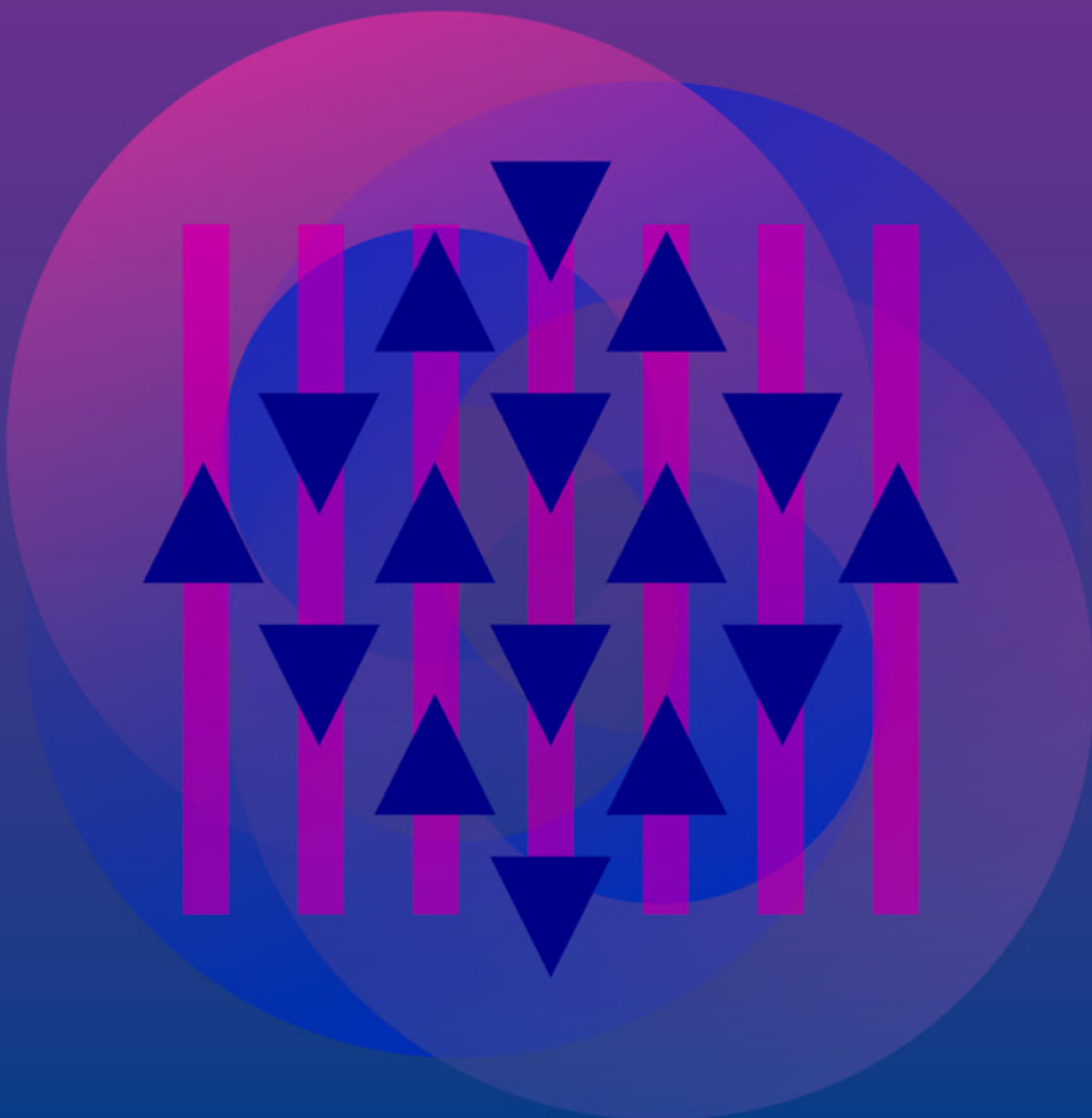


Road Safety Country Profile

Finland 2023



Overview

Finland recorded 196 deaths in 2022, representing a 14.5% decrease compared to the average for 2017-19. 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.

Quick facts: Finland (all data from 2022, unless otherwise stated)

Population	5.5 million				
GDP per capita	USD 50 615				
Road network	77 848 km				
	Urban roads		Rural roads		Motorways
	12%		87%		1%
Total number of motor vehicles	5.1 million				
	Cars		Motorcycles	Goods vehicles	Buses
	73%		13%	14%	0.4%
Volume of traffic	+2.1% (2000-22)				
Speed limits	Urban roads		Rural roads		Motorways
	30-60 km/h		80, 100 km/h		100, 120 km/h
Limits on blood alcohol content	0.5 grams/litre (g/l)				
Road fatalities	196				
	Pedestrians	Cyclists	Car occupants	Motorised two-wheelers	Other and unknown
	14%	9%	61%	12%	5%
Road fatalities per 100 000 population	3.5				
Road fatalities per 10 000 vehicles	0.4				
Cost of road crashes	0.4% of GDP				

Short-term trends

Mobility in Finland was impacted by the Covid-19 pandemic that hit the world in 2020. Figure 1 illustrates the number of road deaths in 2020, 2021 and 2022 compared to the linear trend before the pandemic. It shows that road death figures for 2020 and 2021 were higher than the trend.

Due to the impact of the Covid-19 pandemic on mobility and road crashes, the data for 2020 and 2021 represent a poor reference point for benchmarking. Therefore, for short-term trends, this report compares data for 2022 and 2021 with the average for 2017-19.

According to provisional data, there were 196 road deaths in 2022, a decrease of 14.5% compared to the average for 2017-19.

Table 1. Road fatalities in Finland, 2017-2022

	2017	2018	2019	Average 2017-19	2020	2021	2022	2022 compared with average 2017-19
January	11	20	14	15	18	14	10	-33.3%
February	19	10	14	14	17	10	13	-9.3%
March	20	13	14	16	21	10	12	-23.4%
April	21	20	16	19	15	17	15	-21.1%
May	28	21	19	23	18	21	19	-16.2%
June	20	15	25	20	21	19	16	-20.0%
July	27	33	25	28	26	26	29	2.4%
August	15	24	22	20	26	28	18	-11.5%
September	16	19	24	20	21	21	15	-23.7%
October	26	25	17	23	17	24	14	-38.2%
November	21	14	9	15	15	24	25	70.5%
December	14	25	12	17	8	11	10	-41.2%
Total	238	239	211	229	223	225	196	-14.5%

The number of cyclists killed decreased from 22 in 2017-19 to 18 in 2022. The number of car occupants and users of powered two-wheelers killed decreased from 134 to 120 and from 24 to 22, while the number of pedestrians increased from 22 to 27 (Figure 2). Fatalities increased for younger people aged between 0-14 and 21-24 from 6 to 8 and for 12 to 21, respectively. The highest decrease was noted for the age group 15-17 (from 11 to 6), followed by elderly people over 75, with a reduction from 39 to 31 (Figure 2).

In 2022, Finland had a mortality rate of 3.5 road deaths per 100 000 population (Figure 3). The fatality rates were 0.4 deaths per 10 000 motor vehicles and 4.7 road deaths per billion vehicle-kilometres (Figures 4 and 5).

Car occupants represented the vast majority of casualties (61% of road deaths). Motorised two-wheelers accounted for 12% of all road deaths, and pedestrians for 14% (Figure 6).

Most road deaths (68%) occurred on rural roads, reflecting the rural nature of the road network in Finland (Figure 7).

Young people (18-20 and 21-24) are the most at risk in traffic and have mortality rates of 9.0 and 8.5 road deaths per 100 000 population. The majority of road deaths in these age groups are represented by occupants of passenger cars (Figure 8).

Figure 1. Road fatalities in Finland in 2020, 2021 and 2022 compared to the linear trend since 2012



Figure 2. Evolution of road fatalities in Finland by user category, age group and road type, 2022 compared to the average 2017-19

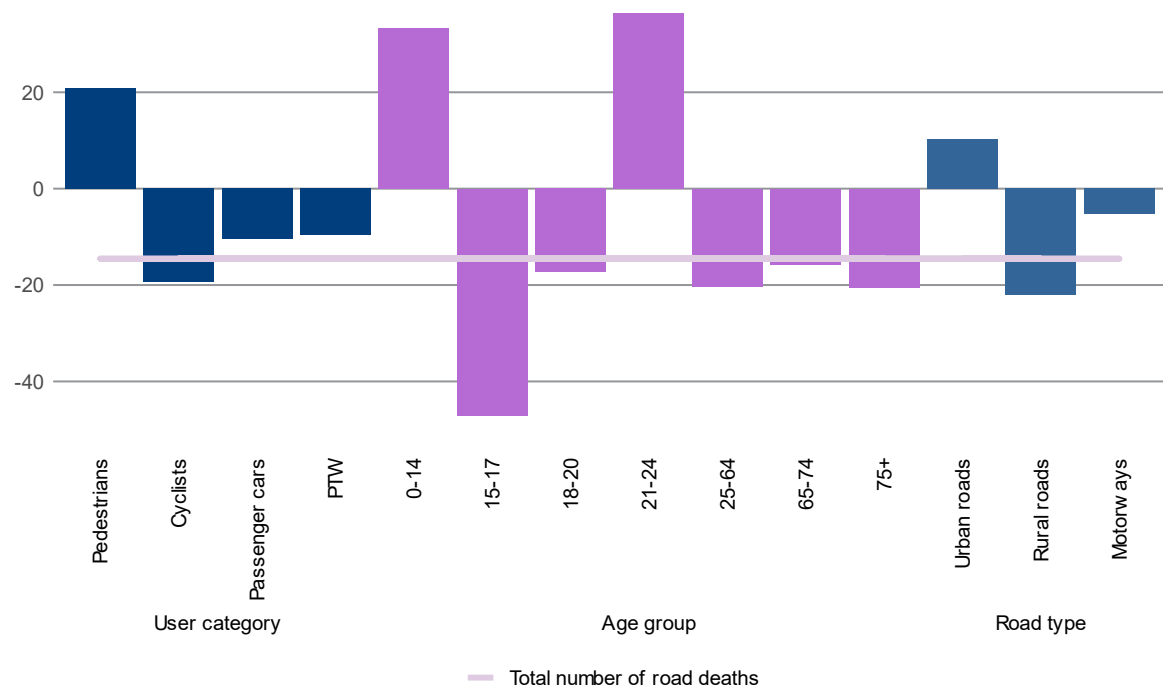


Figure 3. Road fatalities per 100 000 inhabitants in Finland compared to other IRTAD countries, 2022

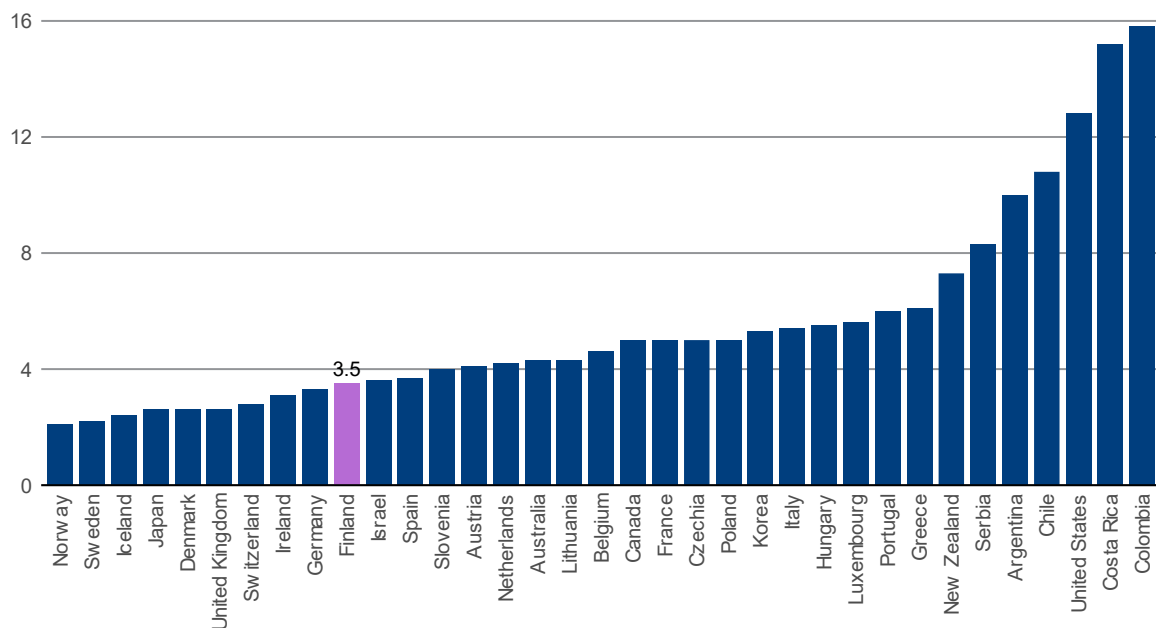
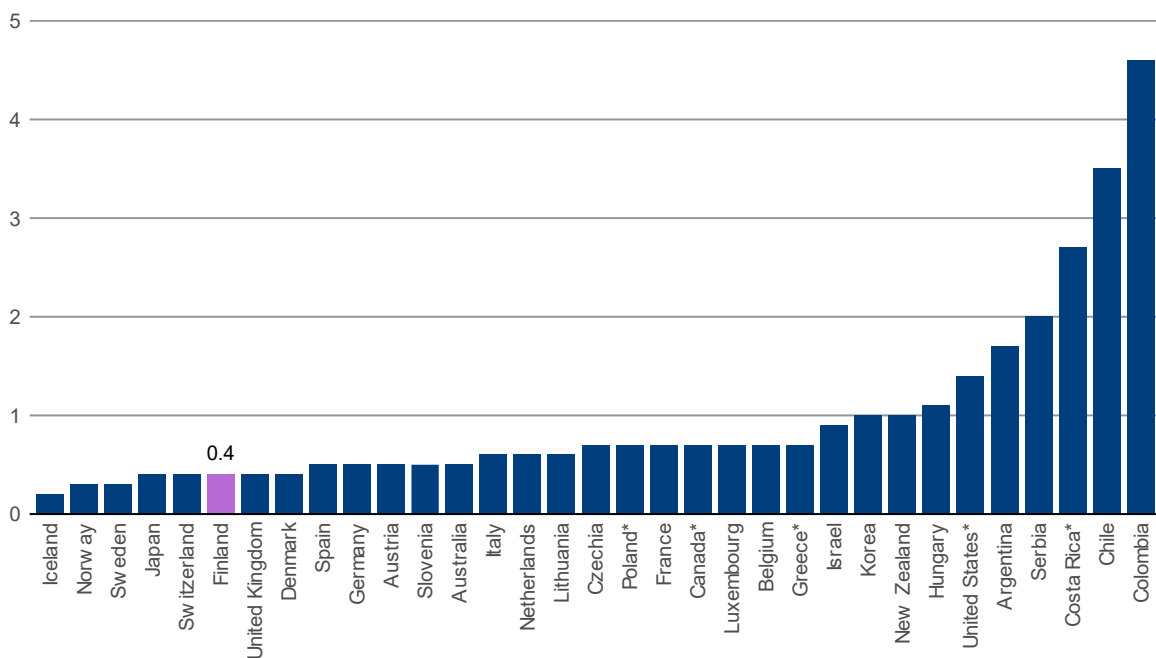


Figure 4. Road fatalities per 10 000 registered vehicles in Finland compared to other IRTAD countries, 2022



Note: in Belgium, Denmark, Germany and Hungary, registered vehicles do not include mopeds. * 2021 data.

Figure 5. Road fatalities per billion vehicle-kilometres in Finland compared to other IRTAD countries, 2021

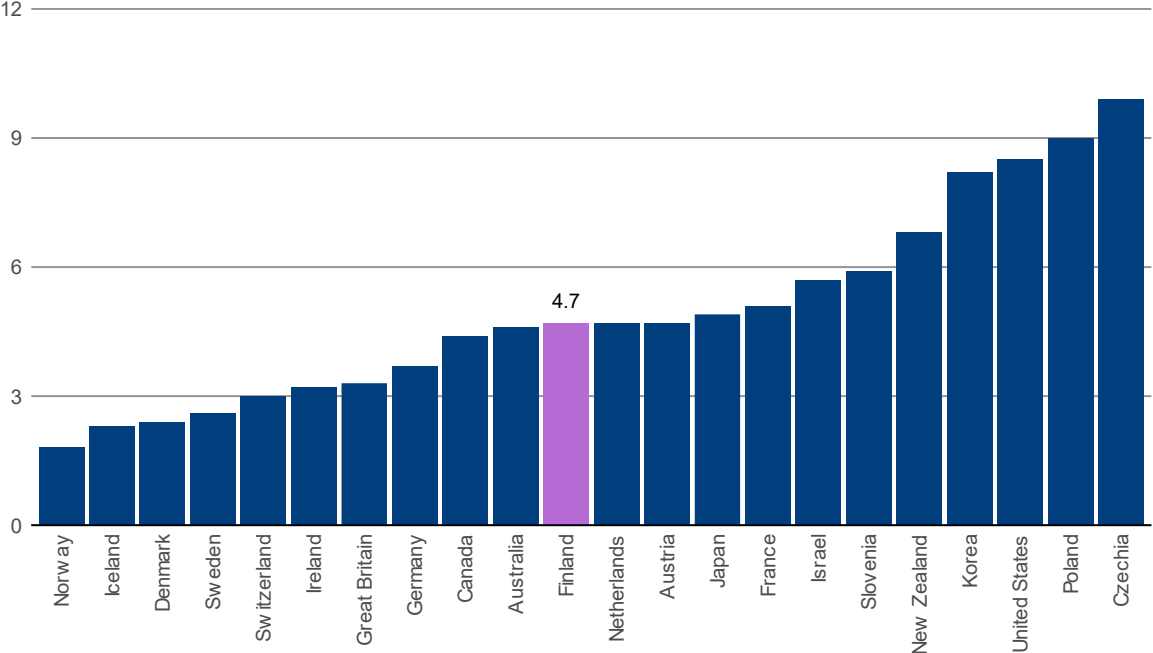


Figure 6. Road fatalities in Finland by user category, 2022

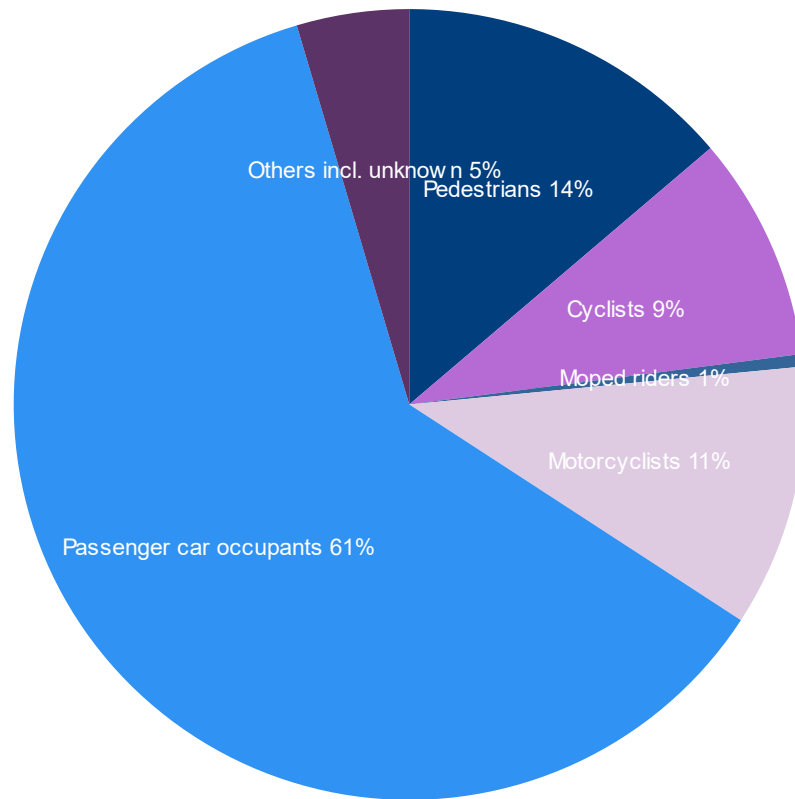


Figure 7. Road fatalities in Finland by road type, 2022

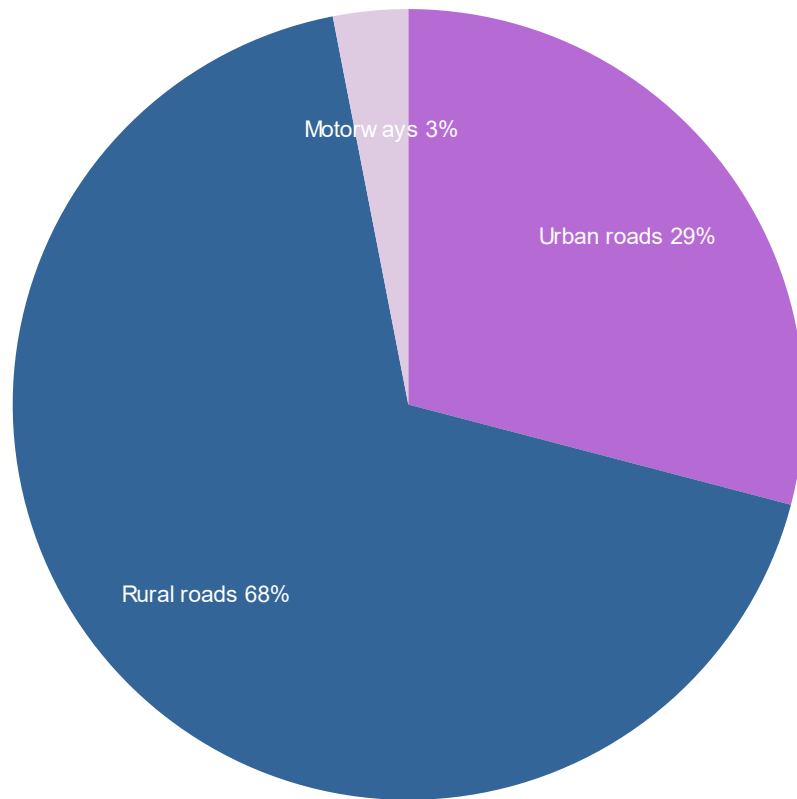
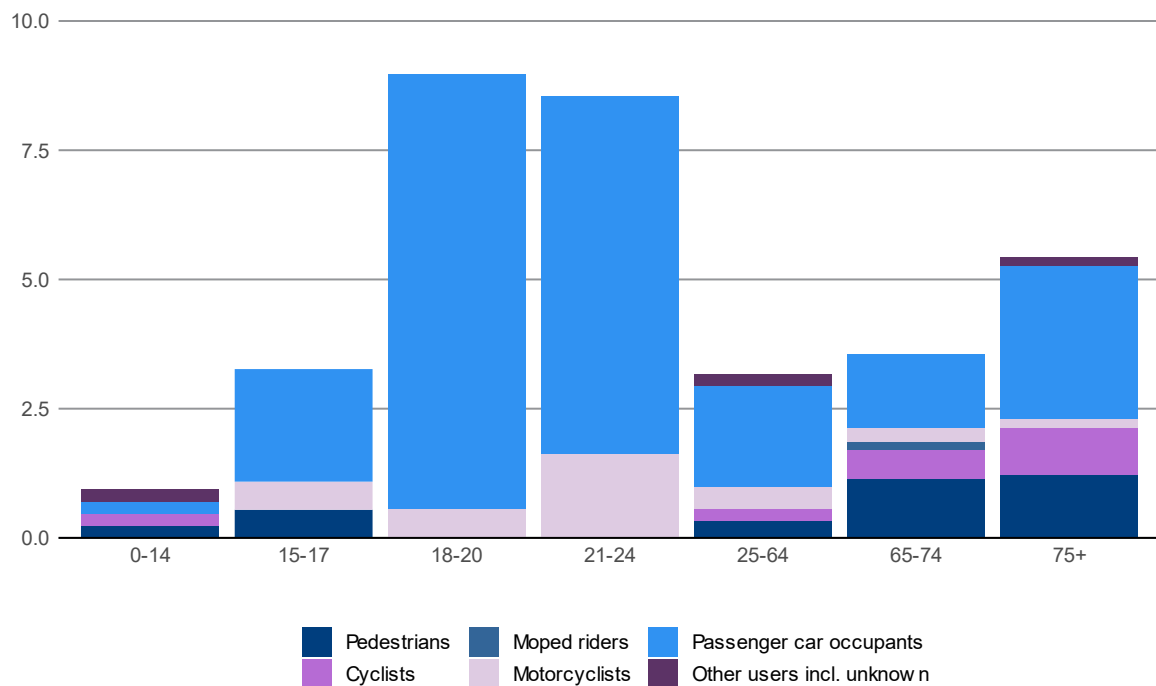


Figure 8. Road fatality rate in Finland by user category and age group, 2022

Rate per 100 000 population in the same age group



Road safety data 2012-22

Between 2012 and 2022, road deaths decreased by 23.1%. The motor vehicle fleet increased by 23.1% (Table 2 and Figure 9).

The number of road deaths fell for all categories of road users except for motorcyclists, who recorded the same amount of road deaths in 2012 and 2022. Fatalities increased by a few units for children under 14, teenagers aged 18-20 and for people aged 65-74. It decreased for all the other age groups. Road deaths declined for all road categories (Figure 10).

Table 2. Crash, casualty and traffic data in Finland, 2012-22

	2012	2020	2021	2022	Evolution 2012-22
Reported safety data					
Fatalities	255	223	225	196	-23.1%
Injury crashes	5 725	3 608	3 243	3 110	-45.7%
Deaths per 100 000 population	4.7	4.0	4.1	3.5	-25.2%
Deaths per 10 000 registered vehicles	0.6	0.4	0.4	0.4	-37.6%
Deaths per billion vehicle-kilometres	4.7	4.6	4.7	4.1	-12.8%
Fatalities by road user					
Pedestrians	29	22	24	27	-6.9%
Cyclists	19	31	24	18	-5.3%
Moped riders	7	2	4	1	-85.7%
Motorcyclists	21	20	28	21	0.0%
Passenger car occupants	147	127	127	120	-18.4%
Other road users	32	21	18	9	-71.9%
Fatalities by age group					
0-14 years	7	3	5	8	14.3%
15-17 years	14	14	12	6	-57.1%
18-20 years	15	14	15	16	6.7%
21-24 years	26	9	12	21	-19.2%
25-64 years	135	114	108	89	-34.1%
65-74 years	19	29	31	25	31.6%
≥ 75 years	39	40	42	31	-20.5%
Fatalities by road type					
Urban roads	56	62	57	57	1.8%
Rural roads	186	150	160	133	-28.5%
Motorways	13	9	8	6	-53.8%
Traffic data					
Vehicle kilometres (million)	54 235	48 543	48 305	47 695	-12.1%
Registered vehicles (thousands)	4 130	4 968	5 028	5 084	23.1%
Registered vehicles per 1 000 population	764.6	899.2	908.7	916.3	19.8%

Figure 9. Evolution of road fatalities, motorisation, traffic and GDP in Finland, 2012-22
 Index 2012 = 100

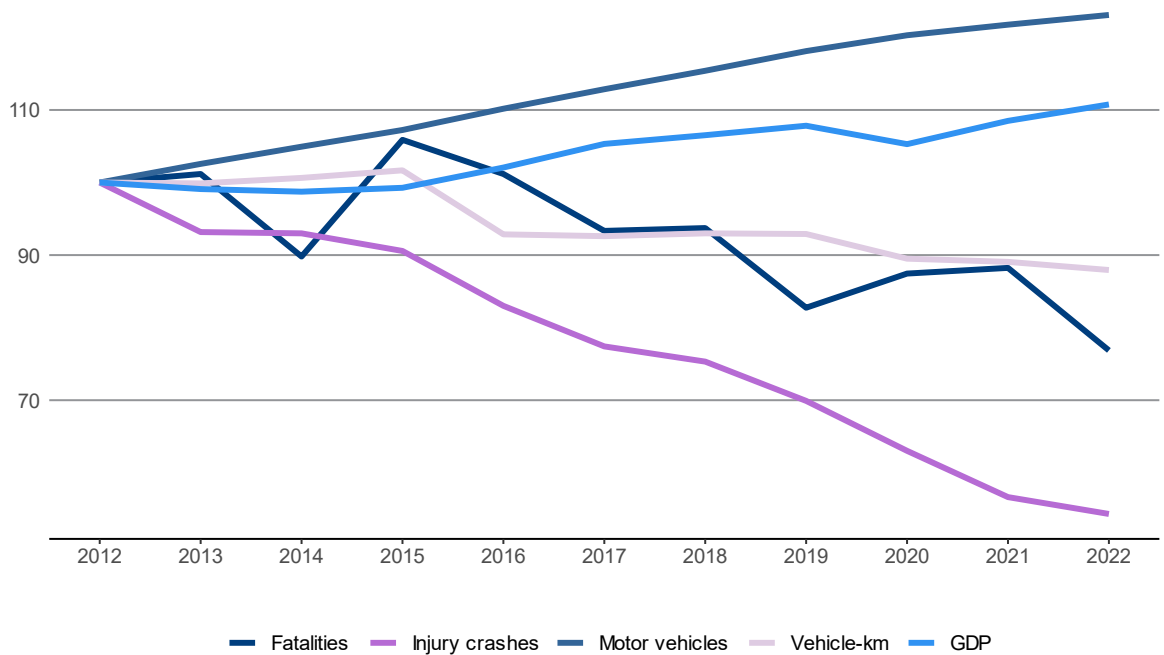
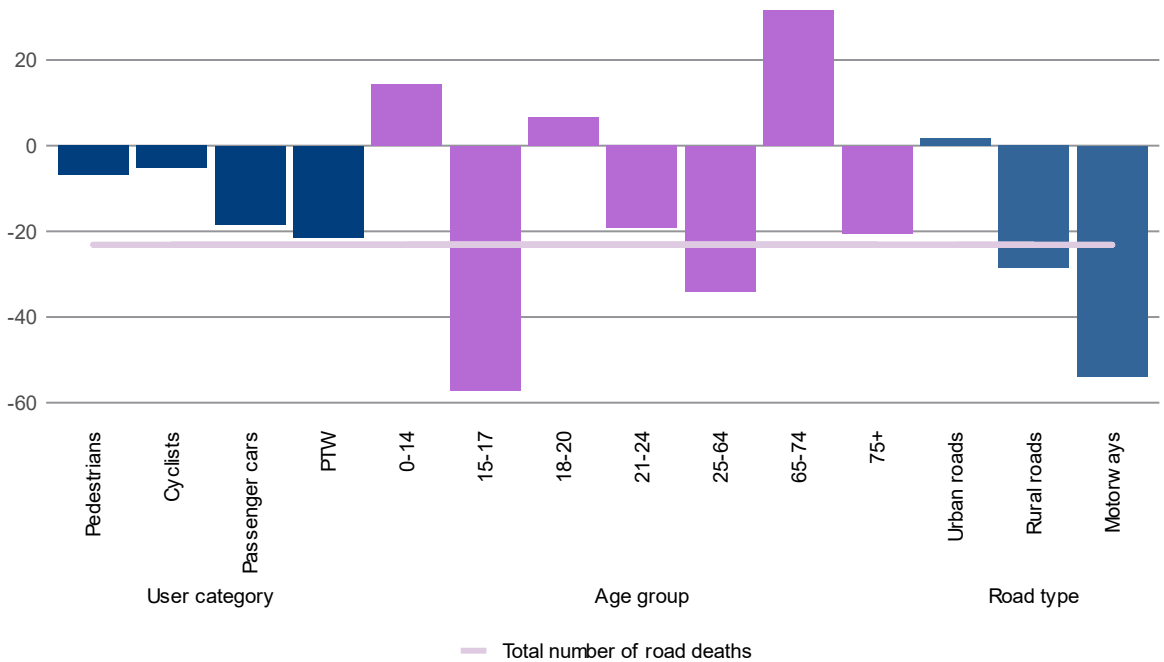


Figure 10. Evolution of road fatalities in Finland by user category, age group and road type, 2012-2022



Safety performance indicators

Speed

According to reports from the 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, 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.

Table 3 summarises the main speed limits for passenger cars in Finland.

Table 3. Passenger car speed limits by road type in Finland, 2023

General speed limit	
Urban roads	30-60 km/h
Rural roads	80, 100 km/h
Motorways	100, 120 km/h

Drink driving

In 2022, 47 persons were killed, and 407 were injured in drink-driving related cases. These figures represent 24% and 11% of the respective totals. Those who die in drink-driving crashes are most often the drivers themselves. In 2022, 37 of the 47 casualties of drink-driving related cases were drivers of the vehicles, 6 were passengers of the vehicle, and 4 were not occupants of the vehicle.

Every year, the Finnish police find around 20 000 cases of drivers under the influence of alcohol. Summertime is when more than a fourth (28%) of these instances are discovered. In approximately 73% of the cases reported in summer, drivers had combined alcohol and other drugs.

Drugs and driving

In 2022, 8 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. In Finland, about one in seven drivers encounter a dangerous scenario because of using a phone

while operating a vehicle. Approximately three to five fatal automobile crashes occur each year where cell phone use is a contributing factor, according to traffic crash investigation teams.

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 97% on rural roads and 96% on urban roads in 2022, based on monitoring by Liikenneturva, the Finnish Road Safety Council. The usage of seat belts in rear seats was 90%. According to the road crash investigation teams, 39% of car or van occupants killed were not wearing a seat belt in 2022. It is estimated that 100% seat belt usage would have saved 25 lives in 2022.

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, the Finnish Road Safety Council.

Although the traffic law strongly recommends cyclists wear helmets, this is not enforced. The bicycle helmet usage rate was 25% in 2004 and reached 54% in 2022. 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.

Table 4. Seat belt and helmet wearing rates in Finland

Percentages

		2000	2010	2022
Front seats				
	Driver	..	92	96
	Passenger	..	92	97
	Urban roads (driver)	80	91	06
	Rural roads (driver)	89	94	97
Rear seats				
	General	..	84	90

Cost 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, healthcare information on crash severity was integrated to improve the estimates of health costs.

If unit costs estimated in 2020 are applied to 2022 data, the cost of road crashes based on police-reported crashes was EUR 1.2 billion (0.4% of GDP). This does not include costs associated with non-reported crashes.

Table 5. Cost of road crashes in Finland, 2022

	Unit cost (EUR)	Total cost (EUR)
Fatalities	2 564 513	503 million
Seriously injured	1 269 095	424 million
Slight injuries	76 530	268 million
Total		1.2 billion
Total as % of GDP		0.4 %

Road safety management and strategy

Evolution of road safety

Several factors influence Finland's road safety performance. 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.

Governance of road safety

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 is responsible for road design, construction and maintenance, and road and traffic signs.
- The Finnish Transport and Communications Agency 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.
- The Finnish Road Safety Council (Liikenneturva) implements road and traffic safety campaigns, disseminates information, contributes to road safety education for various age groups and provides further training for drivers.

Road safety strategy

Finland's traffic safety strategy for 2022-2026 was published in March 2022 and was accompanied by a government resolution on traffic safety. It refers to both Vision Zero and the Safe System. The aim is to halve road fatalities and serious injuries by 2030 from the 2020 level. The strategy 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's resolution on road safety (2016). The target of having fewer than 137 fatalities by 2020 was not reached.

Latest road safety measures

Electric kickboards, or e-scooters, have become a popular means of mobility in Finnish cities in the last five years. In 2022, there were 55 200 rental e-scooters and 17 million trips on them in Finland. Cities and e-scooter companies have tried various restrictions together to decrease the number of crashes. In the city of Helsinki, the maximum speed of rental e-scooters was reduced to 20 km/h in the daytime and 15 km/h at nighttime, with a ban on rental e-scooters on weekend nights. This reduced the number of injuries significantly. In the city of Tampere, the nighttime speed limit was in use in 2022, but it did not decrease crash risk.

It has been challenging to distinguish e-scooter crashes from other crashes in the Finnish Hospital Discharge Registry because there has not been a suitable vehicle type code for e-scooters in the ICD-10 code system used in Finland. This problem got a solution in the autumn of 2023 when the Finnish Institute for Health and Welfare added the external cause of morbidity codes V00.0 - V00.8 for pedestrian conveyance crashes into the Finnish version of ICD-10. Now, the challenge is informing doctors about these new codes.

The Ministry of Transport and Communication is preparing legislative changes to improve the safety of e-scooters. In spring 2023, a memorandum of alternative legislative solutions was published. The most appropriate solutions, according to the Ministry, included parking restrictions, immediate moving of electric scooters that have been parked inappropriately, new traffic signs, and a blood alcohol limit for e-scooters and bicyclists. In autumn 2023, the Ministry appointed a working group to prepare a proposal for legislation changes.

Updated driver health assessment guidelines for healthcare professionals were published in 2021. The new guidelines have been presented at several events aimed at doctors.

Research and resources

Publications

Association of Nighttime Speed Limits and Electric Scooter-Related Injuries.
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2806592>

Comparison of road safety and related factors in Finland and Norway. In Finnish with summary in English.

https://www.researchgate.net/publication/371577428_Suomen_ja_Norjan_tieliikenteen_turvallisuuden_ja_siihen_liittyvien_tekijoiden_vertailu_Comparison_of_road_safety_and_related_factors_in_Finland_and_Norway_in_Finnish

Comparison of single bicycle crashes and collisions among severely injured cyclists–A 16-year analysis based on the Helsinki Trauma Registry (HTR).

<https://www.sciencedirect.com/science/article/pii/S002013832300949X?via%3Dihub>

Driving Licence Act reform: impact on traffic safety. Traficom Research Reports 3/2022. In Finnish, with summary in English.

https://www.traficom.fi/sites/default/files/media/publication/Seurantatutkimuksen%20osa%202_%20Ajokorttilain%20uudistuksen%20liikenneturvallisuuvaikutukset%20%2803_2022%29.pdf

Evaluation of electric scooter deployment in the City of Helsinki. A perspective on sociotechnical transitions dynamics and adaptive governance.

<https://www.aalto.fi/sites/g/files/flghsv161/files/2022-11/Evaluation%20of%20electric%20scooter%20deployment%20in%20the%20City%20of%20Helsinki%20-%20Final%20Report.pdf>

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<https://traficom.fi/sites/default/files/media/publication/Moottoripy%C3%B6rien%20ja%20mopojen%20turvallisuus%20julkaisu%202023.pdf>

Fitness to drive - Guidelines for healthcare professionals. In English.

https://www.traficom.fi/sites/default/files/media/regulation/FTD_Guidelines_Traficom_2021_EN.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

Term	Definition
Road death	Any person who died immediately or within 30 days of a crash. Suicides and presumed suicides are not removed from the statistics.
Person seriously injured	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.
Person slightly injured	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 by 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+).

About the IRTAD Database

The IRTAD Database includes road safety data, aggregated by country and year from 1970 onwards. It provides an empirical basis for international comparisons and more effective road safety policies.

The IRTAD Group validates data for quality before inclusion in the database. At present, the database includes validated data from 35 countries: Argentina, Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Serbia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States.

The data is provided in a common format based on definitions developed and agreed by the IRTAD Group. Selected data is available for free; full online access requires IRTAD membership.

Access the IRTAD Database via the OECD statistics portal:

https://stats.oecd.org/Index.aspx?DataSetCode=IRTAD_CASUAL_BY_AGE

About the International Transport Forum

The International Transport Forum (ITF) is an intergovernmental organisation with 66 member countries that organises global dialogue for better transport. It acts as a think tank for transport policy and hosts the Annual Summit of transport ministers. The ITF is the only global body that covers all transport modes. The ITF is administratively integrated with the OECD, yet politically autonomous.

www.itf-oecd.org

About the IRTAD Group

The International Traffic Safety Data and Analysis (IRTAD) Group is the ITF's permanent working group for road safety. It brings together road safety experts from national road administrations, road safety research institutes, international organisations, automobile associations, insurance companies, car manufacturers, etc. With 80 members and observers from more than 40 countries, the IRTAD Group is a central force in promoting international co-operation on road-crash data and its analysis.

www.itf-oecd.org/irtad

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Data in this country profile have been provided by countries to the database of the International Traffic Safety Data and Analysis (IRTAD) Group. Where data has not been independently validated by IRTAD, this is indicated.

Read more country profiles online:

<https://www.itf-oecd.org/road-safety-annual-report-2023>

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