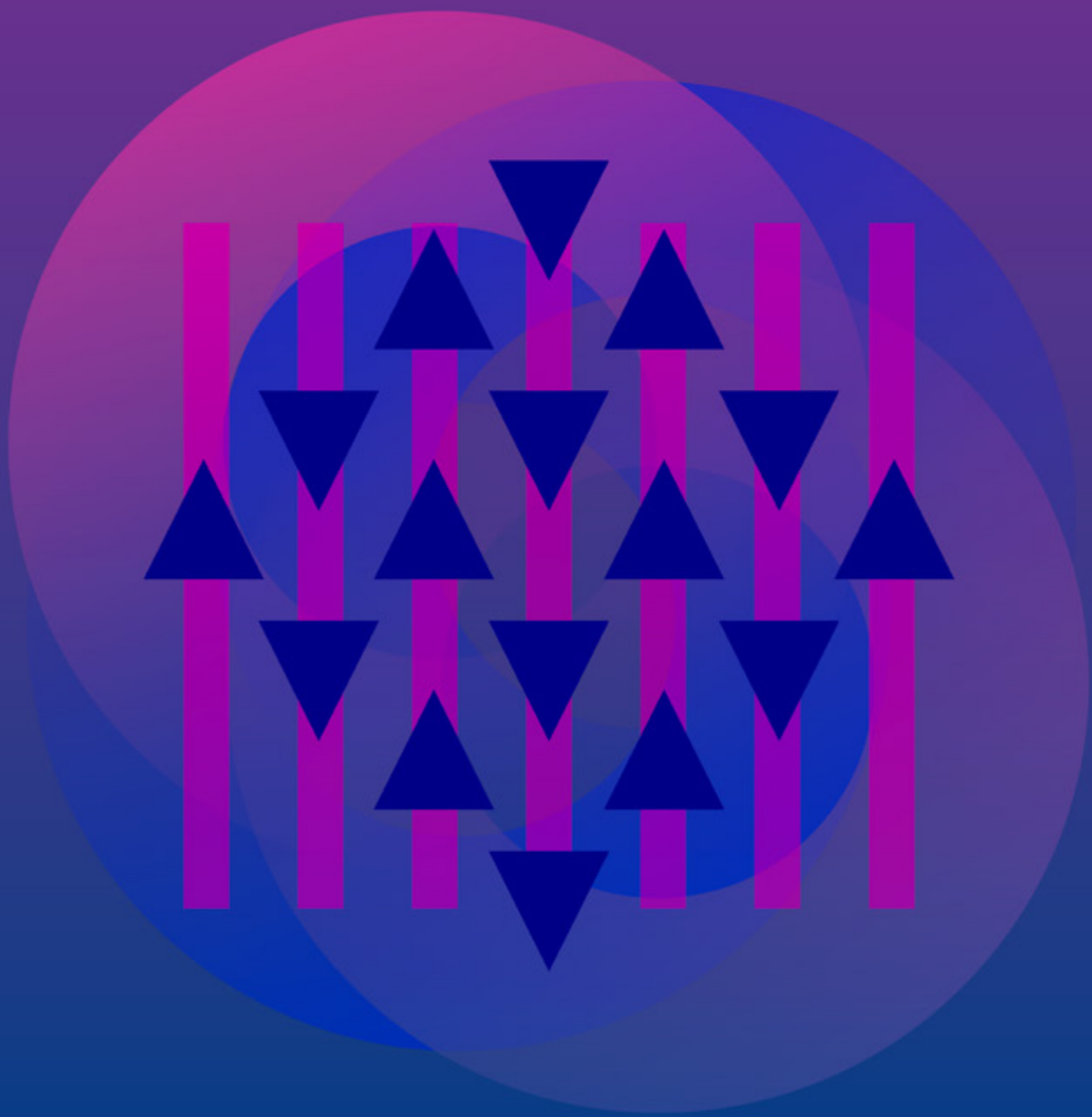
International Transport Forum

irtad Road Safety Data

Road Safety Country Profile

Czechia 2023



Overview

In 2022, Czechia reported 527 road deaths, a reduction of 14.6% compared to the average 2017-19. In January 2021, the Government adopted the Road Safety Strategy 2021-30. The main target is to reduce the number of fatalities and serious injuries by 50% by 2030 compared to the average for 2017-19.

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

Population	10.5 million				
GDP per capita	USD 27 663				
Road network	55 838 km				
	Urban roads	Rural roads	Motorways		
	30%	67%	2%		
Total number of motor vehicles	8.1 million				
	Cars	Motorcycles	Goods vehicles	Buses	
	75%	15%	9%	0.2%	
Volume of traffic	+45.3% (2000-22)				
Speed limits	Urban roads	Rural roads	Motorways		
	50 km/h	90 km/h	130 km/h		
Limits on blood alcohol content	0.0 grams/litre (g/l)				
Road fatalities	527				
	Pedestrians	Cyclists	Car occupants	Motorised two-wheelers	Other and unknown
	16%	10%	53%	14%	7%
Road fatalities per 100 000 population	5.0				
Road fatalities per 10 000 vehicles	0.7				
Cost of road crashes	1.9% of GDP				

Short-term trends

Mobility and road safety in Czechia were significantly 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 below 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.

In 2022, Czechia recorded 527 road deaths, a decrease of 14.6% compared to the average in 2017-19 (Table 1).

Table 1. Road fatalities in Czechia, 2017-2022

	2017	2018	2019	Average 2017-19	2020	2021	2022	2022 compared with average 2017-19
January	34	44	30	36	38	28	34	-5.6%
February	33	26	33	31	42	32	26	-15.2%
March	37	35	44	39	35	33	44	13.8%
April	36	43	55	45	49	27	42	-6.0%
May	46	64	47	52	37	49	49	-6.4%
June	71	51	66	63	49	51	57	-9.0%
July	53	65	63	60	43	53	44	-27.1%
August	60	75	69	68	62	59	47	-30.9%
September	48	74	58	60	45	47	47	-21.7%
October	56	58	53	56	43	52	57	2.4%
November	47	66	58	57	36	45	44	-22.8%
December	56	57	41	51	38	55	36	-29.9%
Total	577	658	617	617	517	531	527	-14.6%

Road deaths among pedestrians recorded a reduction of 33.1%, while among occupants of passenger cars by 11.5%. The number of powered two-wheelers and cyclists killed decreased respectively by 12.1% and 2.4%. Road deaths strongly decreased among young people aged 21-24 (-43.1%) (Figure 2).

In 2022, Czechia had a mortality rate of 5.0 road deaths per 100 000 population. The fatality risk was 0.7 road deaths per 10 000 registered vehicles and 9.9 road deaths per billion vehicle kilometres (2021) (Figures 3, 4 and 5).

Figure 6 illustrates the breakdown of the fatalities by user category, and Figure 7 shows the breakdown by type of road.

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

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

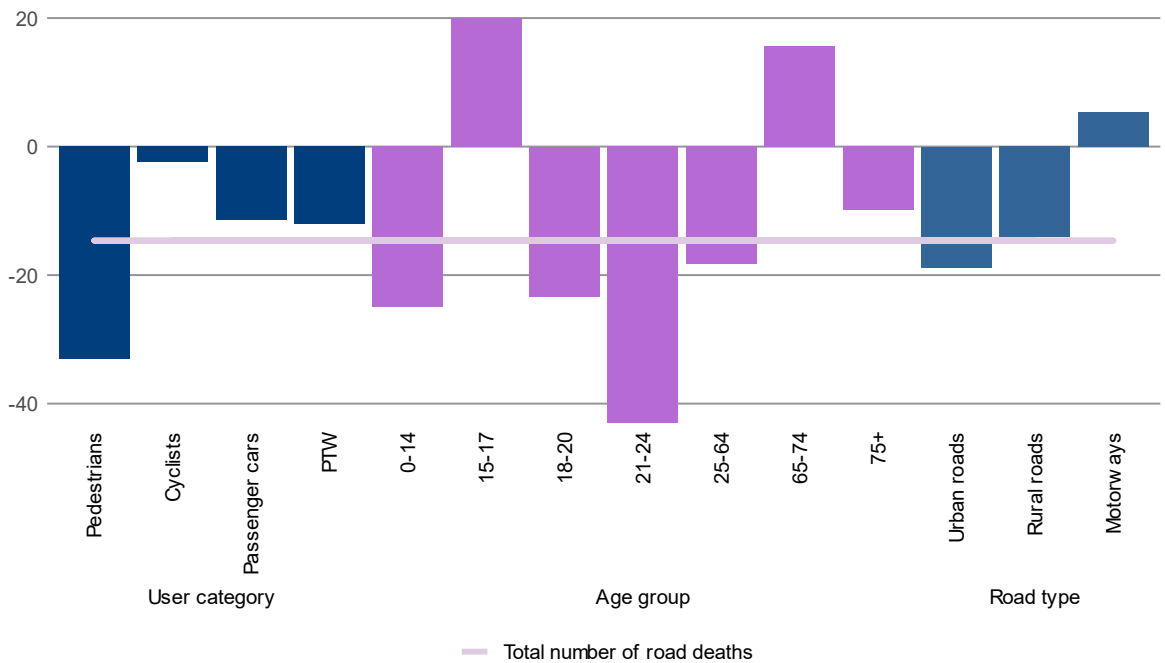


Figure 3. Road fatalities per 100 000 inhabitants in Czechia compared to other IRTAD countries, 2022

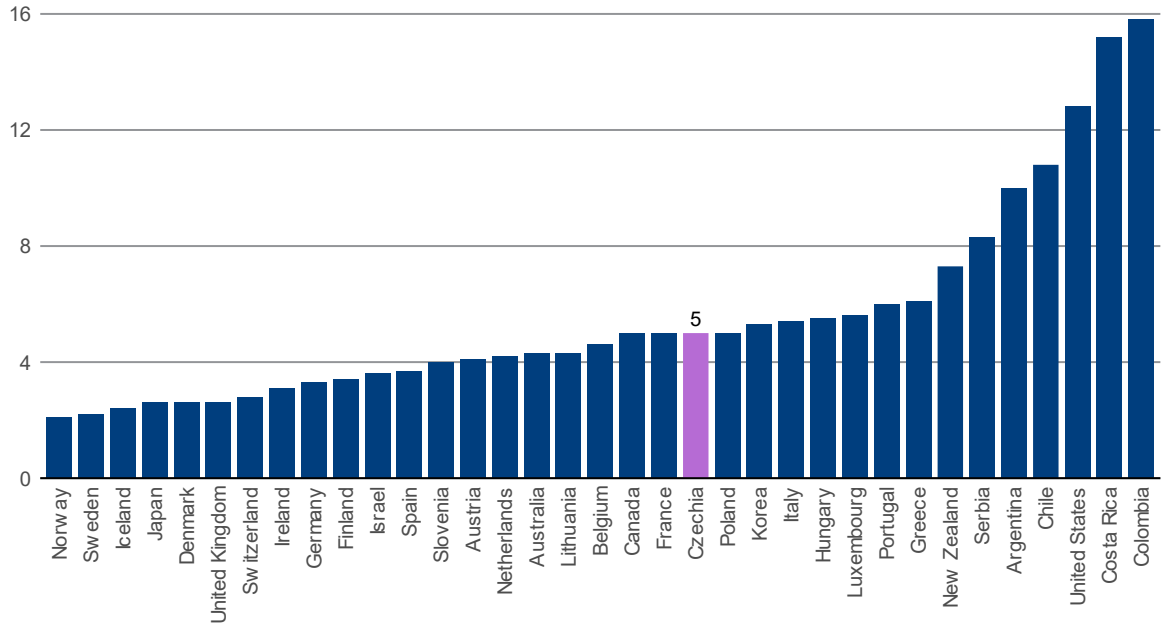
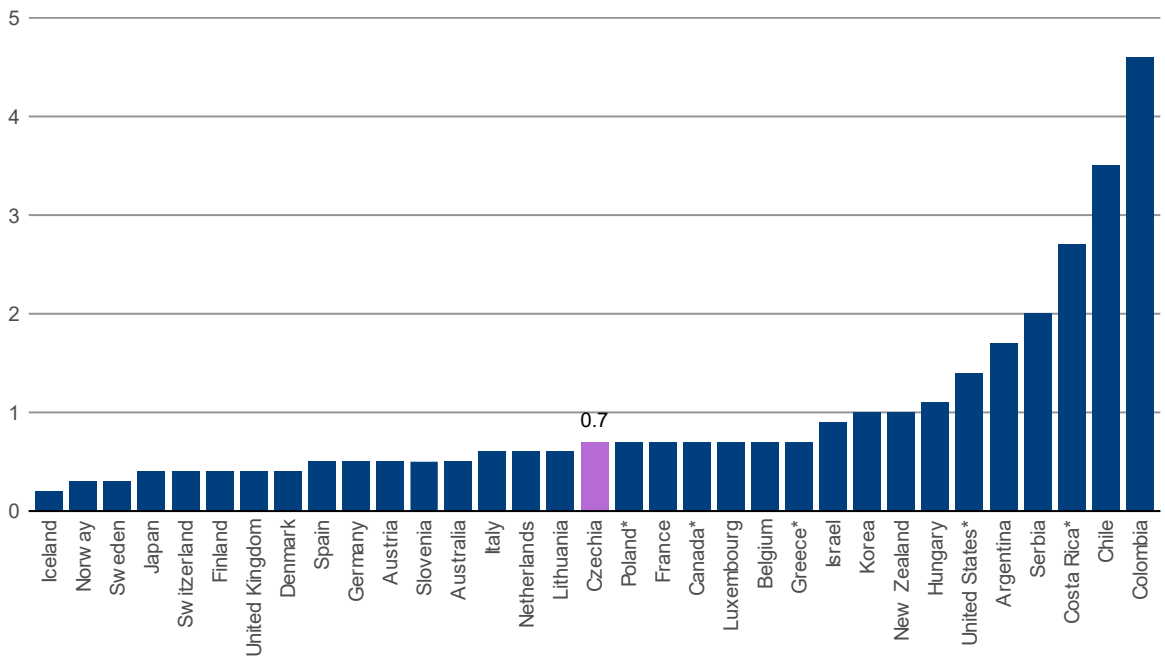


Figure 4. Road fatalities per 10 000 registered vehicles in Czechia compared to other IRTAD countries, 2022



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

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

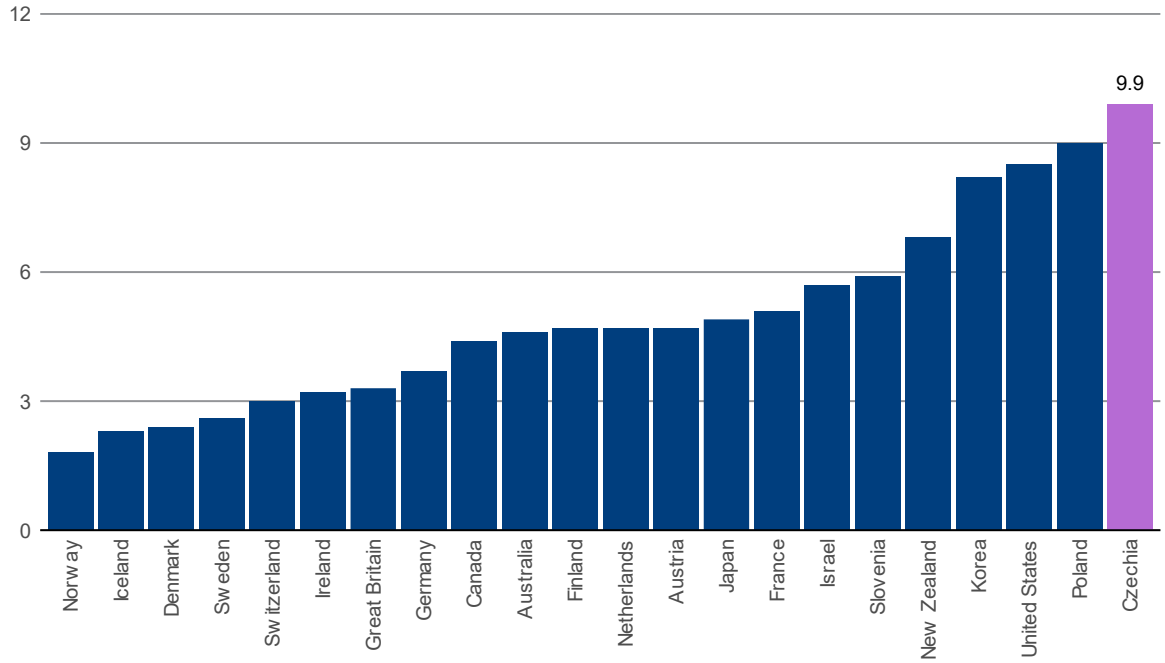


Figure 6. Road fatalities in Czechia by user category, 2022

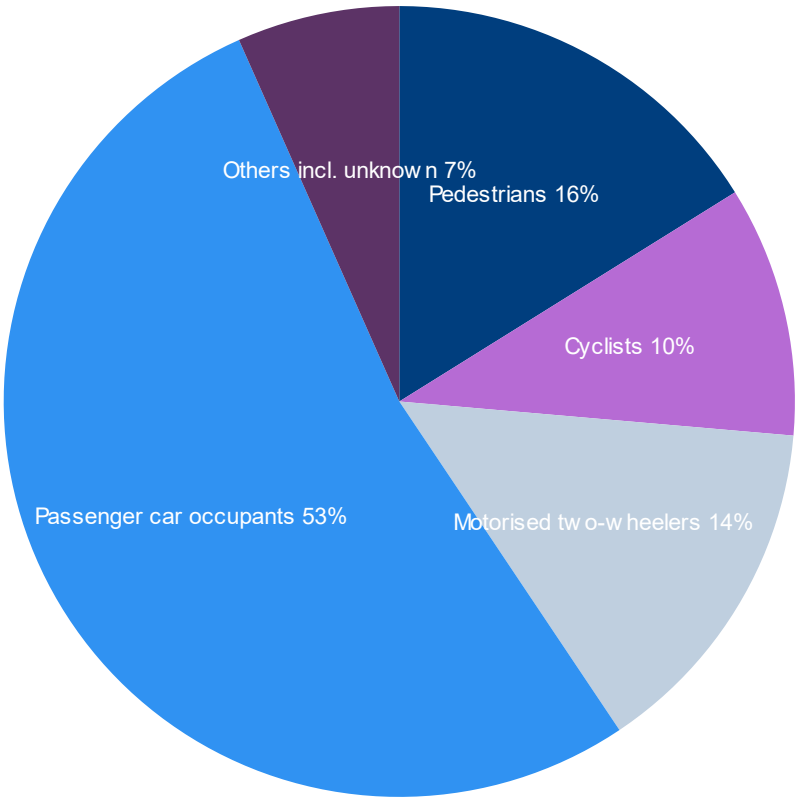


Figure 7. Road fatalities in Czechia by road type, 2022

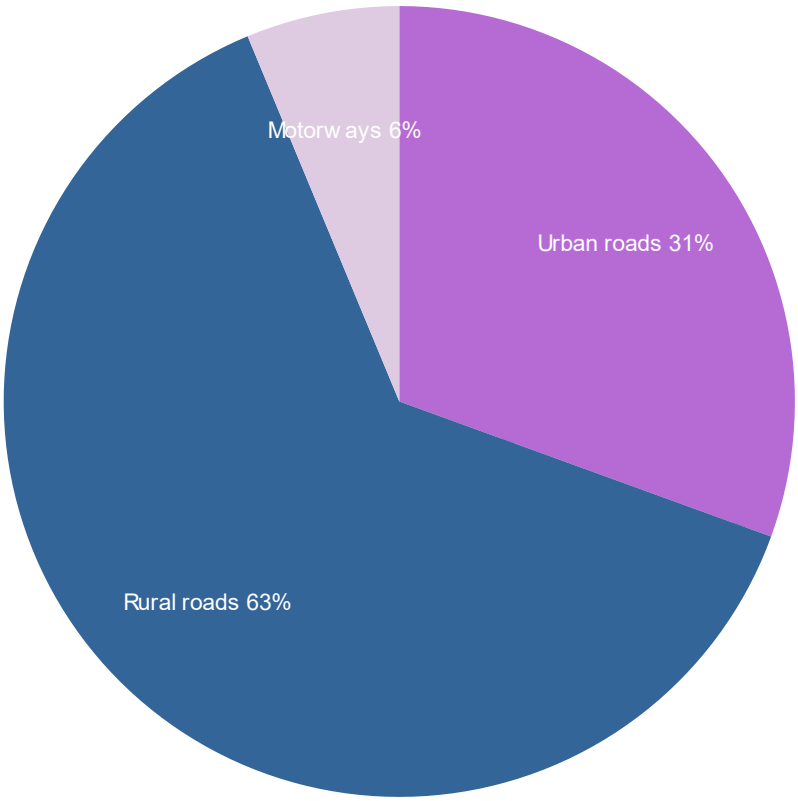
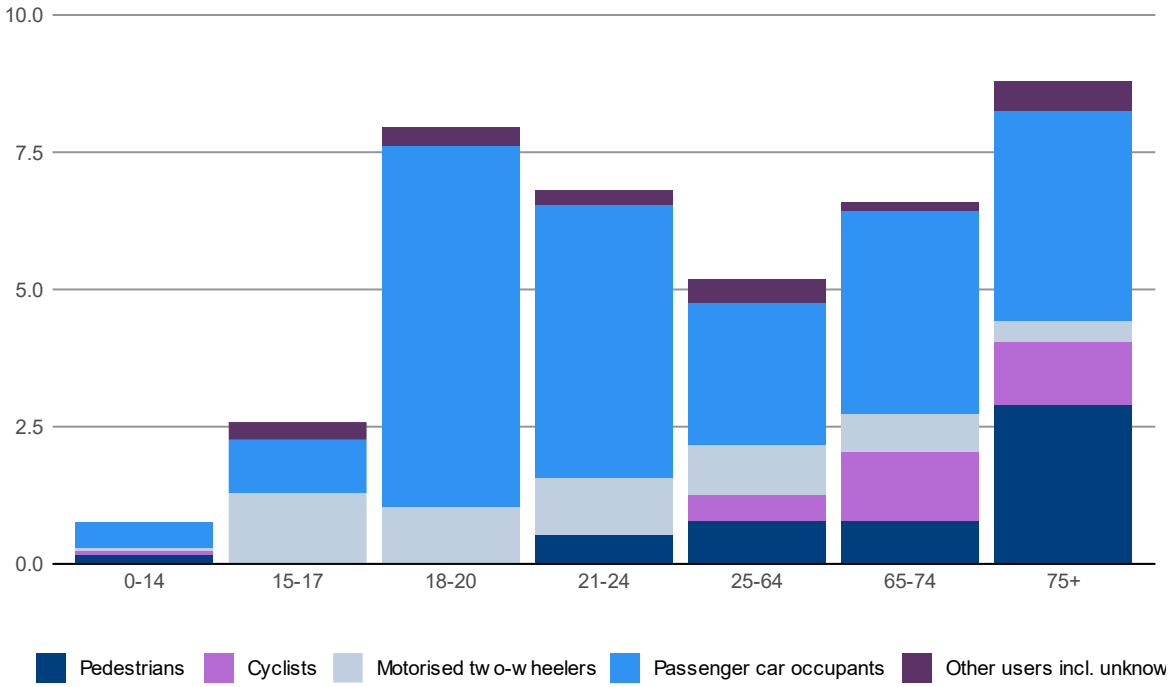


Figure 8. Road fatality rate in Czechia by user category and age group, 2022

Rate per 100 000 population in the same age group



Road safety data 2012-22

Between 2012 and 2022, road deaths decreased by 29%. During the same period, traffic volume (in vehicle-kilometres) increased by 24.7% and the number of registered vehicles by 30.2% (Table 2 and Figure 9).

The number of road deaths decreased for all road users: pedestrians (-47.9%), cyclists (-30.8%), car occupants (-24.5%), and motorised two-wheelers (-19.4%) (Figure 10).

The number of road deaths decreased for all age categories except for the 65-74 and over 75 age group, for which an increase of 1.2% and 2.7% was recorded. The young people experienced the most significant reduction: -53.6% for the 21-24, -52.9% for the 15-17 and -42.5% for the 18-20 (Table 2 and Figure 10).

Road mortality decreased on urban and rural roads, with the strongest decrease on urban roads (-39.2%). Road deaths were only reduced by 26.7% on rural roads (Figure 10). Road deaths on motorways increased by 50%.

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

	2012	2020	2021	2022	Evolution 2012-22
Reported safety data					
Fatalities	742	517	531	527	-29.0%
Injury crashes	20 503	18 419	18 156	19 736	-3.7%
Deaths per 100 000 population	7.1	4.8	5.0	5.0	-29.1%
Deaths per 10 000 registered vehicles	1.2	0.7	0.7	0.7	-45.5%
Deaths per billion vehicle-kilometres	15.7	9.9	9.9	9.0	-43.0%
Fatalities by road user					
Pedestrians	163	95	104	85	-47.9%
Cyclists	78	51	63	54	-30.8%
Motorised two-wheelers	93	62	89	75	-19.4%
Passenger car occupants	368	268	244	278	-24.5%
Other road users	40	41	31	35	-12.5%
Fatalities by age group					
0-14 years	15	11	13	13	-13.3%
15-17 years	17	3	7	8	-52.9%
18-20 years	40	25	27	23	-42.5%
21-24 years	56	30	27	26	-53.6%
25-64 years	455	311	305	294	-35.4%
65-74 years	83	59	66	84	1.2%
≥ 75 years	74	75	82	76	2.7%
Fatalities by road type					
Urban roads	265	151	185	161	-39.2%
Rural roads	455	331	323	333	-26.8%
Motorways	22	35	23	33	50.0%
Traffic data					
Vehicle kilometres (million)	47 174	52 280	53 742	58 818	24.7%
Registered vehicles (thousands)	6 205	7 863	8 026	8 090	30.4%
Registered vehicles per 1 000 population	590.6	735.3	750.0	769.3	30.2%

Figure 9. Evolution of road fatalities, motorisation, traffic and GDP in Czechia, 2012-22

Index 2012 = 100

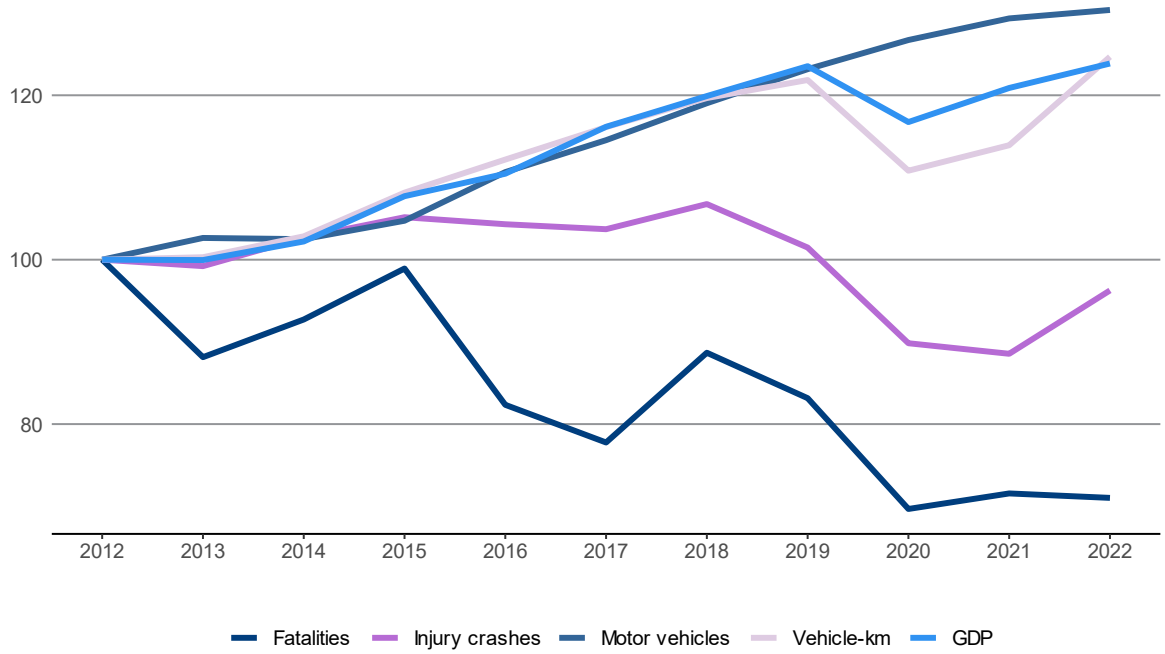
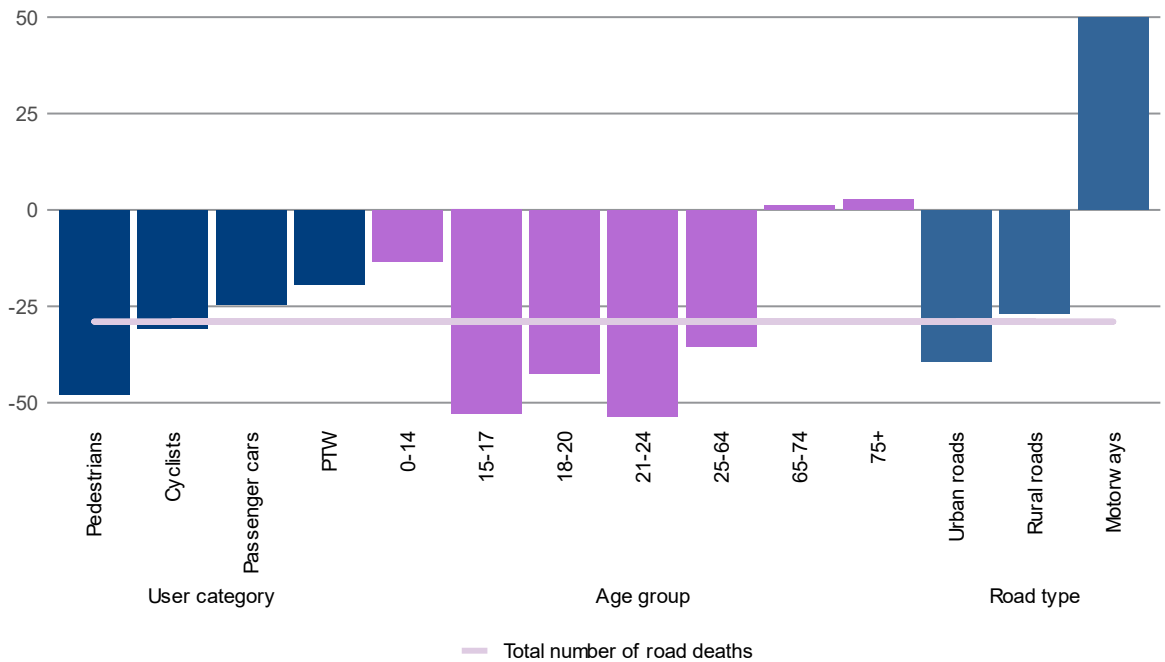


Figure 10. Evolution of road fatalities in Czechia by user category, age group and road type, 2012-2022



Safety performance indicators

Speed

Speed continues to be the main contributing factor in fatal crashes. The share of fatal crashes due to excessive speed was measured at 33% in 1980, 40% in 2000, 36% in 2015 and 40% in 2022.

Average speed, the 85th percentile speed and the percentage of drivers above the speed limit have been monitored regularly since 2005. Introducing a demerit point system in 2006 reduced the number of drivers above the limit, but this share increased again after 2012. It is estimated that 6% of drivers in urban areas and 14% in rural areas exceeded the speed limit by more than 10 km/h in 2022 (the 85th percentile speed is 56 km/h in urban areas and 102 km/h in rural areas).

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

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

	General speed limit
Urban roads	50 km/h
Rural roads	90 km/h
Motorways	130 km/h

Drink driving

Driving under the influence of alcohol is another major cause of road crashes. In 2022, 9.7% of road fatalities resulted from alcohol-related crashes. This share was 11.0% in 2002. It decreased to 3.4% in 2007 but then increased again.

There is a zero BAC limit in Czechia. When the police arrive at the crash scene, all persons involved are checked for BAC. If the BAC level of anyone involved is positive, the crash is classified as alcohol-related.

Drugs and driving

The share of fatal crashes due to a driver under the influence of drugs was estimated at 5.8% in 2022. A crash is defined as drug-related if the driver tests positive for drug consumption.

Use of mobile phones while driving

An increasing problem for traffic safety in Czechia is distraction, for instance, using mobile phones while driving. Drivers are not allowed to drive while using a hand-held phone or other electronic devices. Hands-free devices are tolerated. In 2022, it was estimated that 2% of drivers used a mobile phone while driving.

Fatigue

The share of sleepiness and fatigue as a causal factor in crashes is especially challenging to detect. In 2022, it was estimated that about 2% of crashes were due to fatigue.

Seat belt and helmet use

Seat belt use has been compulsory in front seats since 1966 and in rear seats since 1975. However, until recently, the level of enforcement was very low. The situation has significantly improved since 2004. In 2022, 25% of car occupants killed were not wearing a seat belt when the crash occurred. It is estimated that 80 lives could have been saved if all car occupants had worn seat belts. Dedicated child restraints are compulsory for children aged 0-3 and 4+ who are less than 150 cm in height or 36 kg in weight.

Helmet wearing is compulsory for all motorcycle and moped riders. In 2022, the wearing rate was 99%.

Safety helmets were made mandatory for cyclists up to 15 in 2001 and 18 in 2006. A total of 303 cyclists who did not wear helmets died in traffic crashes between 2017 and 2023. Based on estimates from the Ministry of Transport, 68 individuals, up to 37% of the total, might still be alive today if they had been wearing helmets.

Table 4. Seat belt and helmet wearing rates in Czechia

Percentages

		2000	2010	2022
Front seats				
	General (driver and passenger)	63	..	..
	Driver	..	97	92
	Passenger	..	96	93
Rear seats				
	General	60	79	92

Cost of road crashes

Economic costs engendered by road crashes are evaluated using the human capital approach. They are composed of direct expenses (i.e. medical care, rescue service, police and justice) and indirect costs (i.e. the lost value of economic productivity due to ill health, disability, or premature mortality and social expenses).

The economic costs of crashes for Czechia are published every year. For 2022, they were estimated at EUR 5.1 billion (1.9% of GDP).

Table 5. Cost of road crashes in Czechia, 2022

	Unit Cost (EUR)	Total cost (EUR)
Fatalities	2 603 000	1 372 million
Hospitalised	540 000	908 million
Slight injuries	26 000	573 million
Property damage costs of non-injury crashes	20 000	2 281 million
Total	..	5.1 billion
Total as % of GDP	..	1.9 %

Road safety management and strategy

Evolution of road safety

In recent decades, several factors have influenced Czechia's road safety performance. Fatalities reached a peak in 1969 and then steadily decreased until 1986. Due to a rapid deterioration in road safety, deaths increased by 82% between 1986 and 1994. This was during a period of significant political change in Czechia and other neighbouring Eastern European countries following the fall of the Soviet bloc. During this period, the number of motorised vehicles increased sharply in the context of weak police control and insufficient political attention to road safety. This trend subsequently reversed, and between 1990 and 2020, road deaths dropped by 65%. These positive results are the fruit of successive national strategic safety plans.

Governance of road safety

The primary responsibility for road safety organisation lies with BESIP (*Bezpečnost silničního provozu*), an independent department of the Ministry of Transport. BESIP is responsible for the National Road Strategy for 2020-30. The other key player is the Government Council of Road Traffic Safety, which comprises parliament representatives, ministries, civil associations, professional organisations, and the private sector. There are also 14 regional BESIP co-ordinators.

Road safety strategy

In January 2021, the Government of Czechia adopted the Road Safety Strategy 2021-2030. The main target is to halve the number of fatalities and serious injuries by 2030 compared to the average for 2017-19. The basic philosophy of the Strategy is the confirmation of Vision Zero, which considers it unacceptable that a fatality or serious injury occurs in traffic. To fulfil the vision's target, it is necessary to design a safe system that includes road users, vehicles, and transport infrastructure. The basic pillars of this strategy are road users' behaviour, safe vehicles, and safe infrastructure.

Between 2011 and 2022, there has been a fall in road fatalities in Czechia, and road safety has improved over the last decade. The Supreme Office Audit of Czechia reported that the number of fatalities and serious injuries from traffic crashes has decreased by 35.8% and 43.9%, respectively.

However, one of the primary strategic goals—to cut the death toll in half relative to the baseline period—has not been achieved.

Latest road safety measures

In 2022, the Road Traffic Act was updated. It modified the point system and increased the penalties for the most serious offences.

Since 2022, young people can start driving at 17 if supervised by a parent.

Research and resources

Publications

Recent research projects of the Transport Research Centre (CDV) have focused on:

- electromobility problems (cars, bicycles, scooters)
- autonomous vehicles problems
- traffic crash costs analysis
- KPI studies
- in-depth crash analysis
- road infrastructure assessment
- improving safety at railway crossings
- prediction models of crashes
- human factor analysis.

Websites

CDV, Transport Research Centre: https://www.cdv.cz/en/

Ministry of Transport: https://www.mdcr.cz/?lang=en-GB

Police of Czechia: https://www.policie.cz/clanek/Police-of-the-CzechRepublic.aspx

Road safety observatory: https://www.czrso.cz/

In-depth crash analysis: https://www.vyzkumnehod.cz/en/

Road traffic infrastructure improvement: https://veobez.cdvinfo.cz/

Definition, methodology, data collection

Term	Definition
Road death	a person who dies immediately or within 30 days of a crash. This is used for international data comparisons, but for domestic purposes, a road fatality often refers to a person who dies immediately or within 24 hours.
Person seriously injured	Any injured person with an injury that causes serious harm to the victim's health.

Currently, the severity value of 3+ on the Maximum Abbreviated Injury Scale (MAIS) is not used in crash registration.

However, a new system of crash registration will be implemented to record MAIS 3+ injuries. In 2019, discussions between the Ministry of Transport and hospitals occurred concerning the transfer of data on traffic injuries and fatalities from hospitals to the police.

Crash data in Czechia are collected by the traffic police in 80 districts and transferred to the police headquarters. Data is checked both at district and central levels.

Crash reporting rates in the police database are relatively high due to the legal obligation since 2009 that all crashes with death, injury or material damage over CZK 100 000 must be reported to and registered by the police.

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

Disclaimer

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.

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

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International Transport Forum

2 rue André Pascal

F-75775 Paris Cedex 16

contact@itf-oecd.org

www.itf-oecd.org