



# CZECH REPUBLIC

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The Czech Republic recorded 517 road fatalities in 2020, a 16.2% decrease compared to 2019. In 2020, the traffic volumes decreased by 9.1% compared to 2019, and by 13.9% if only motorways were considered. 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.

## Road safety management and strategy

In recent decades, several factors have influenced the Czech Republic'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 the Czech Republic 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, the number of road deaths dropped by 65%. These positive results are the result of successive national strategic safety plans.

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, consisting of parliament representatives, ministries, civil associations, professional organisations and the private sector. There are also 14 regional BESIP co-ordinators.

The main target of the National Road Safety Strategic Plan for the years 2011-20 was to decrease the fatality rate (deaths per 100 000 inhabitants) to the European average. This

### Czech Republic: Quick facts

**Population:** 10.7 million

**GDP per capita:** USD 22 773

**Road network:** 55 768 km

- urban roads: 30%
- rural roads: 68%
- motorways: 2%

**Registered motor vehicles:** 7.8 million

- cars: 75%
- goods vehicles: 9%
- motorcycles: 9%

**Volume of traffic:** +29.2% (2000-20)

**Speed limits:**

- urban roads: 50 km/h
- rural roads: 90 km/h
- motorways: 130 km/h

**Limits on Blood Alcohol Content:** 0.0 g/l

**Road fatalities:** 517

- pedestrians: 18%
- cyclists: 10%
- car occupants: 52%
- motorcyclists: 12%
- other: 8%

**Road fatalities per 100 000 population:** 4.8

**Road fatalities per 10 000 vehicles:** 0.7

**Cost of road crashes:** 1.4% of GDP (2016)

All data 2020 unless otherwise stated.

corresponded approximately to a 60% reduction in fatalities from 2009 to 2020. The second target is a 40% reduction in the number of persons seriously injured. These targets have not been achieved.

In January 2021, the Government of the Czech Republic 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 formed by road users' behaviour, safe vehicles and safe infrastructure.

## Latest road safety measures

Traffic enforcement is being intensified. Transboundary enforcement is being implemented. Increased penalties for driving across a railway crossing have been introduced. The improvement of the penalty point system is under discussion.

Systems to detect right-of-way violations are being implemented.

Harmonisation with European legislation for vehicles with preferred right-of-way has been introduced.

Police are deploying mobile speed cameras in marked and unmarked vehicles starting on all motorways and national roads.

The compulsory use of helmets by all cyclists is under discussion.

The compulsory use of reflective devices for pedestrians walking along rural roads without public lighting at times of worsened visibility has been introduced.

Work is underway to implement an improved curriculum in driving schools.

Improving the safety of railway crossings has become a priority.

Antilock Braking Systems (ABS) and Electronic Stability Control (ESC) are standard equipment in new vehicles.

## Costs 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 the Czech Republic are published every year. For 2020, they were estimated at EUR 3 billion (1.4% of GDP).

## 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 39% in 2020.

Average speed, the 85<sup>th</sup> percentile speed and the percentage of drivers above the speed limit have been monitored regularly since 2005. The introduction of 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 13% of drivers in rural areas exceeded the speed limit by more than 10 km/h in 2020 (the 85<sup>th</sup> percentile speed is 56 km/h in urban areas and 97 km/h in rural areas).

### Drink-driving

Driving under the influence of alcohol is another major cause of road crashes. In 2020, 10.9% of road fatalities resulted from alcohol-related crashes. This share was 11% in 2002. It decreased to 3.4% in 2007 but then increased again.

There is a zero BAC limit in the Czech Republic. When the police arrive at the scene of a crash, 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 3.5% in 2020. 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 the Czech Republic is distraction, for instance, through the use of 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 2020, it was estimated that 2% of drivers used a mobile phone while driving.

The share of sleepiness and fatigue as a causal factor in crashes is especially challenging to detect. In 2020, 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 rear seats since 1975. However, until recently, the level of enforcement was very low. The situation has significantly improved since 2004. In 2020, 27% 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 2020, the wearing rate was 96%.

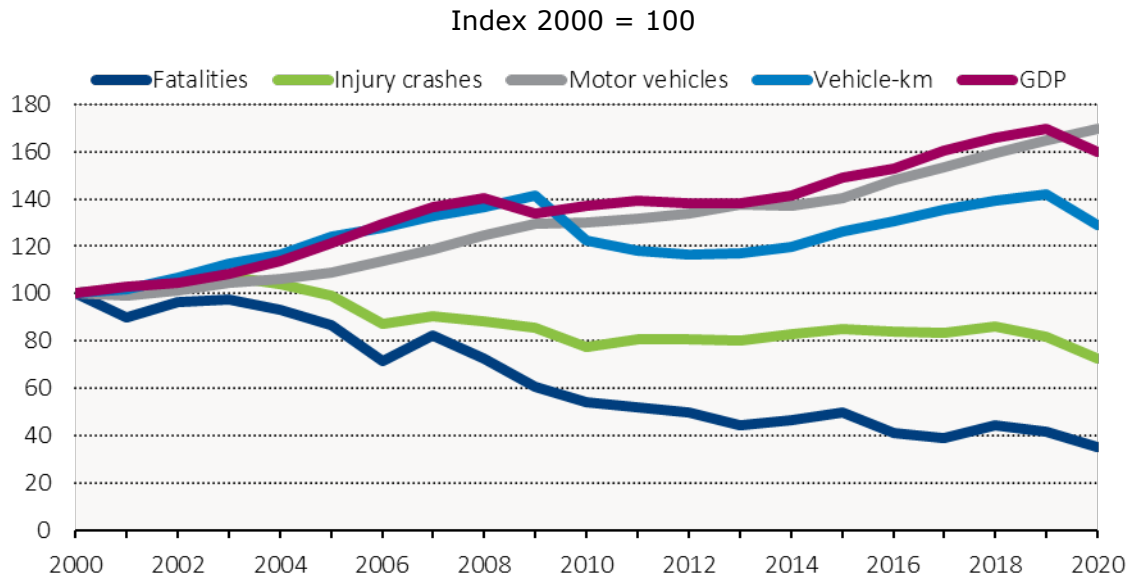
Safety helmets were made mandatory for cyclists up to 15 in 2001 and 18 in 2006. The compulsory wearing of helmets for all cyclists is under discussion.

## Road safety data for the Czech Republic at a glance

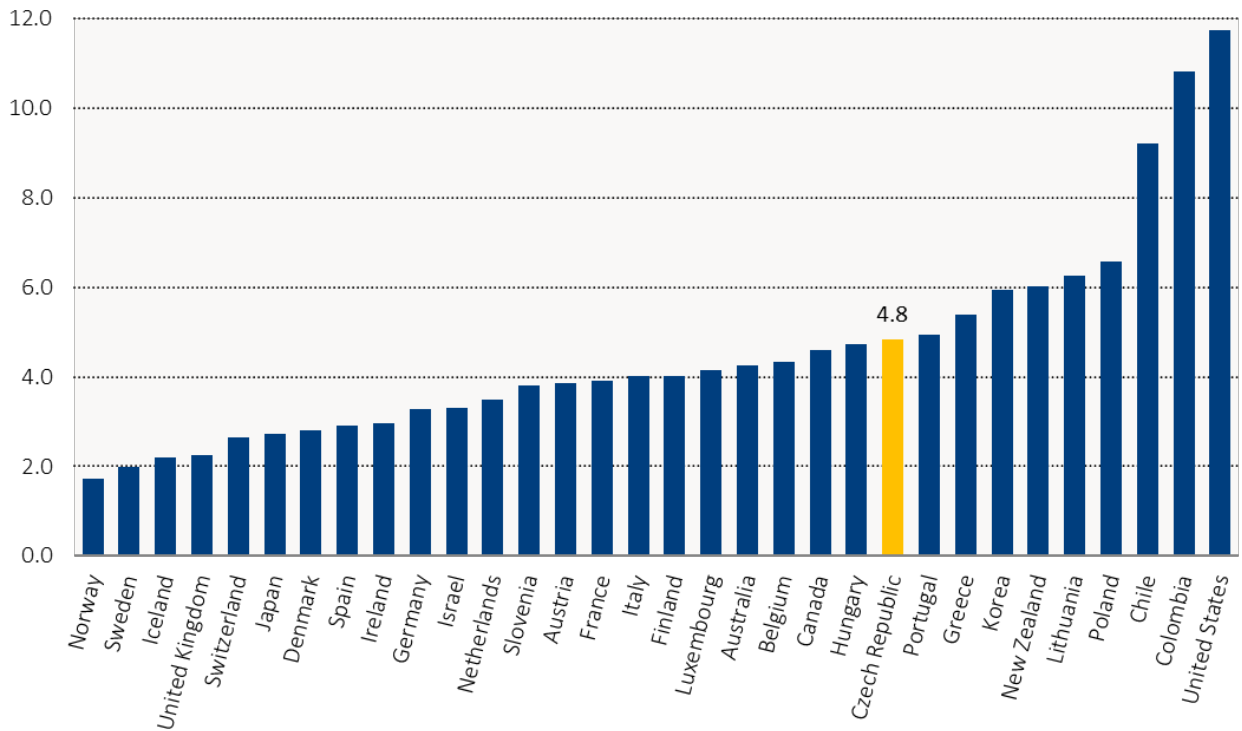
**Table 1. Long-term road safety trends for the Czech Republic**

	1990	2000	2010	2018	2019	2020	2020 % change over			
							2019	2010	2000	1990
<b>Reported safety data</b>										
Fatalities	1 291	1 486	802	658	617	517	-16.2	-35.5	-65.2	-60.0
Injury crashes	21 910	25 445	19 675	21 890	20 806	18 419	-11.5	-6.4	-27.6	-15.9
Injured persons hospitalised	..	27 975	19 447	..	..	..	..	..	..	..
Deaths per 100 000 population	12.5	14.5	7.7	6.2	5.8	4.8	-16.6	-36.9	-66.6	-61.2
Deaths per 10 000 registered vehicles	3.3	3.2	1.3	0.9	0.8	0.7	-18.6	-50.6	-79.5	-80.0
Deaths per billion vehicle kilometres	48.3	36.7	16.2	11.7	10.7	9.9	-7.9	-39.0	-73.1	-79.5
<b>Fatalities by road user</b>										
Pedestrians	359	362	168	142	110	95	-13.6	-43.5	-73.8	-73.5
Cyclists	135	151	80	56	53	51	-3.8	-36.3	-66.2	-62.2
Moped riders	47	16	4	2	1	2	100.0	-50.0	-87.5	-95.7
Motorcyclists	66	100	95	97	85	60	-29.4	-36.8	-40.0	-9.1
Passenger car occupants	597	784	401	334	329	268	-18.5	-33.2	-65.8	-55.1
Other road users	87	73	54	27	39	41	5.1	-24.1	-43.8	-52.9
<b>Fatalities by age group</b>										
0-14 years	59	54	17	22	18	11	-38.9	-35.3	-79.6	-81.4
15-17 years	57	44	17	7	9	3	-66.7	-82.4	-93.2	-94.7
18-20 years	107	103	51	31	34	25	-26.5	-51.0	-75.7	-76.6
21-24 years	123	155	74	47	47	30	-36.2	-59.5	-80.6	-75.6
25-64 years	668	881	471	383	354	311	-12.1	-34.0	-64.7	-53.4
65-74 years	..	123	79	69	75	59	-21.3	-25.3	-52.0	..
≥ 75 years	..	120	86	98	79	75	-5.1	-12.8	-37.5	..
<b>Fatalities by road type</b>										
Urban roads	664	613	291	218	186	154	-17.2	-47.1	-74.9	-76.8
Rural roads	596	828	483	404	400	331	-17.3	-31.5	-60.0	-44.5
Motorways	31	45	28	36	31	32	3.2	14.3	-28.9	3.2
<b>Traffic data</b>										
Vehicle kilometres (millions)	26 710	40 480	49 434	56 450	57 485	52 280	-9.1	5.8	29.2	95.7
Registered vehicles (thousands)	3 933	4 636	6 021	7 386	7 643	7 863	2.9	30.6	69.6	99.9
Registered vehicles per 1 000 population	379.6	451.1	575.5	696.1	717.7	735.3	2.5	27.8	63.0	93.7

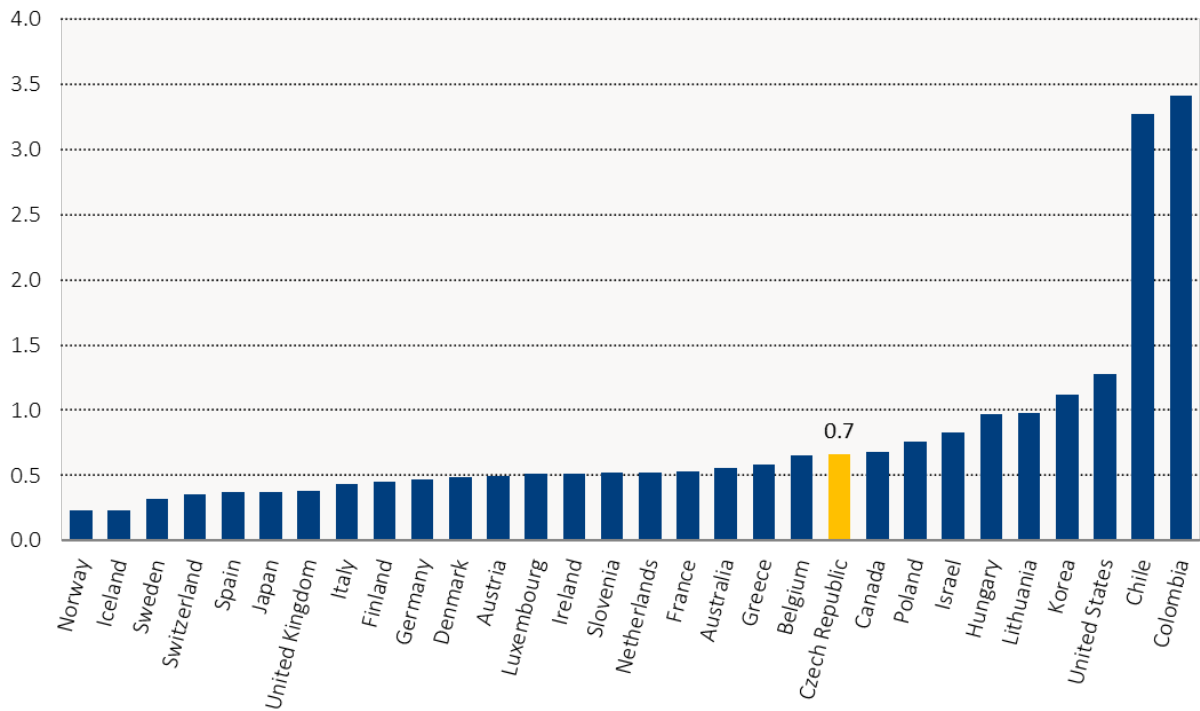
**Figure 1. Evolution of road fatalities, injury crashes, motorisation, traffic and GDP in the Czech Republic, 2000-20**



**Figure 2. Road fatalities per 100 000 inhabitants in the Czech Republic in comparison with IRTAD countries, 2020**



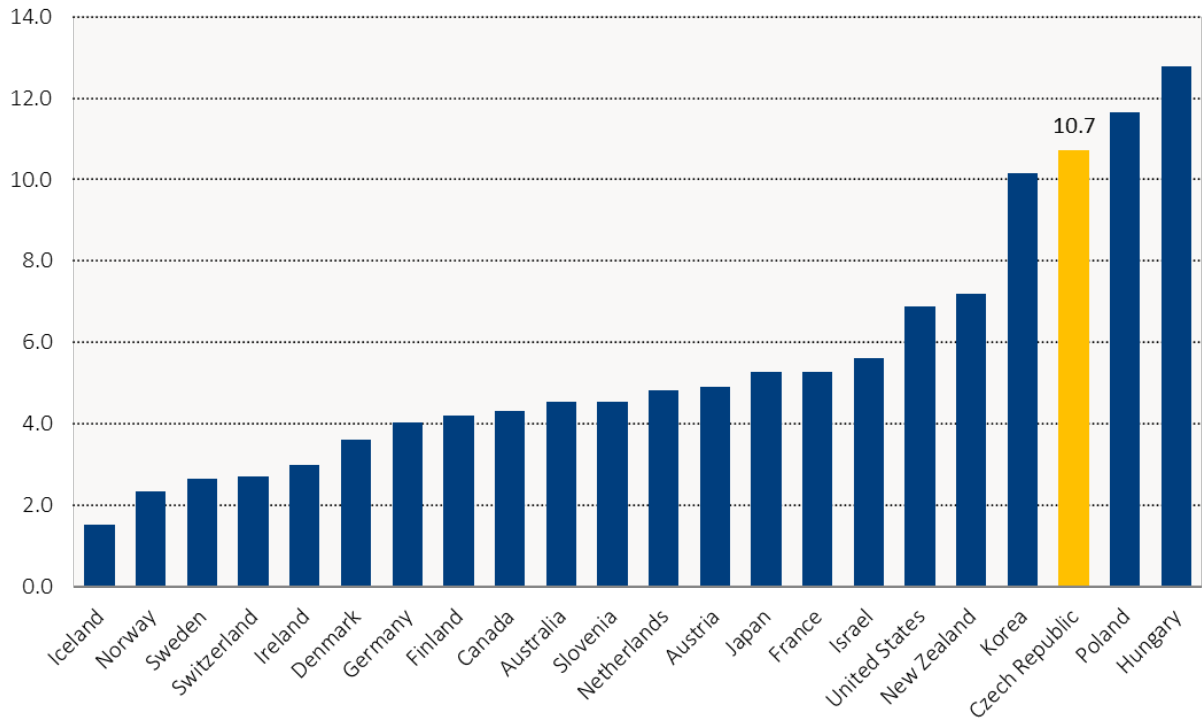
**Figure 3. Road fatalities per 10 000 vehicles in the Czech Republic in comparison with IRTAD countries, 2020**



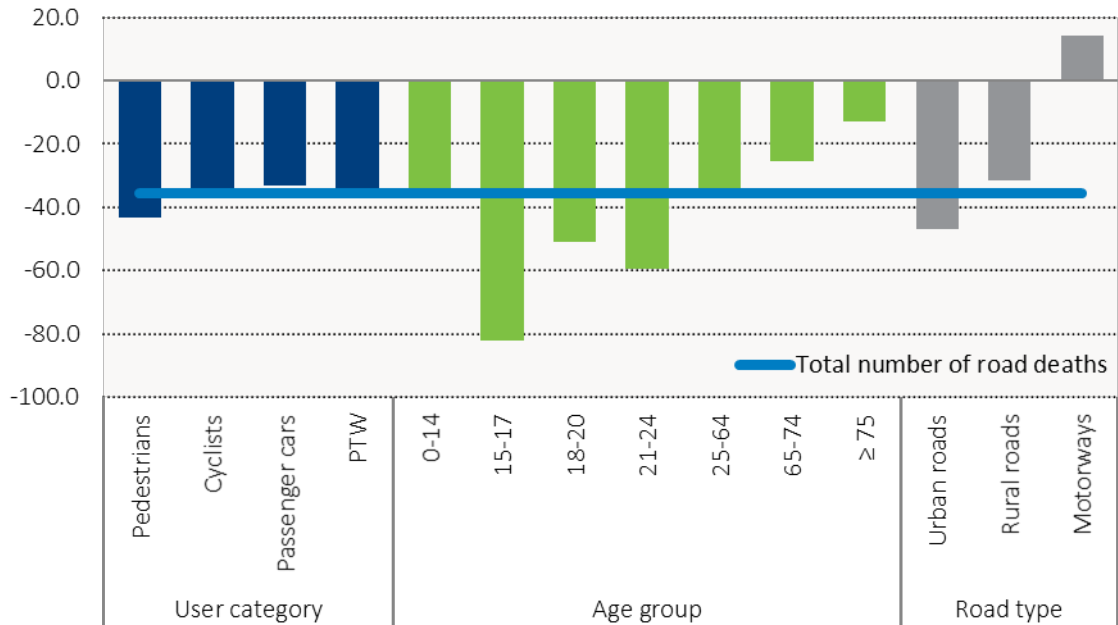
Note: in Belgium, Denmark, Germany and Hungary registered vehicles do not include mopeds.



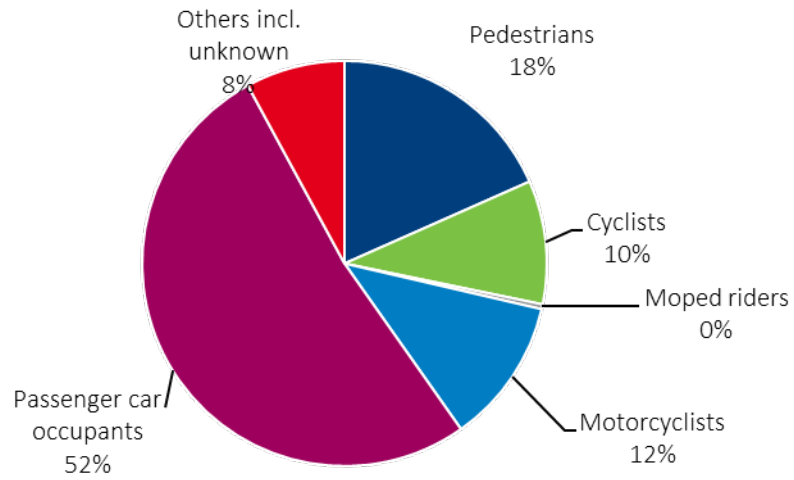
**Figure 4. Road fatalities per billion vehicle-kilometres in the Czech Republic in comparison with IRTAD countries, 2019**



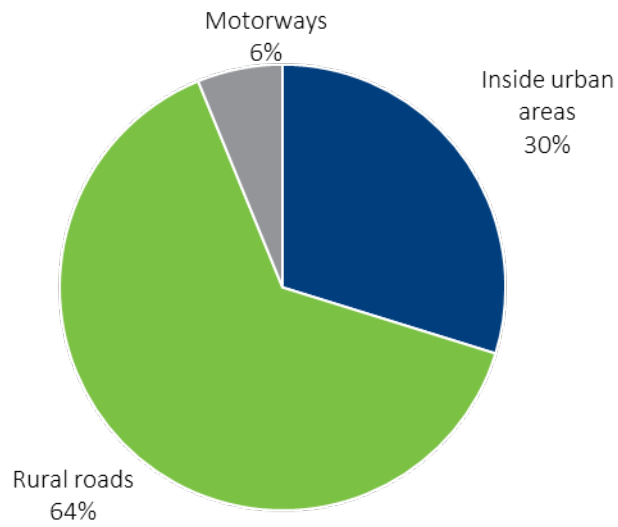
**Figure 5. Evolution of road fatalities in the Czech Republic by user category, age group and road type, 2010-20**

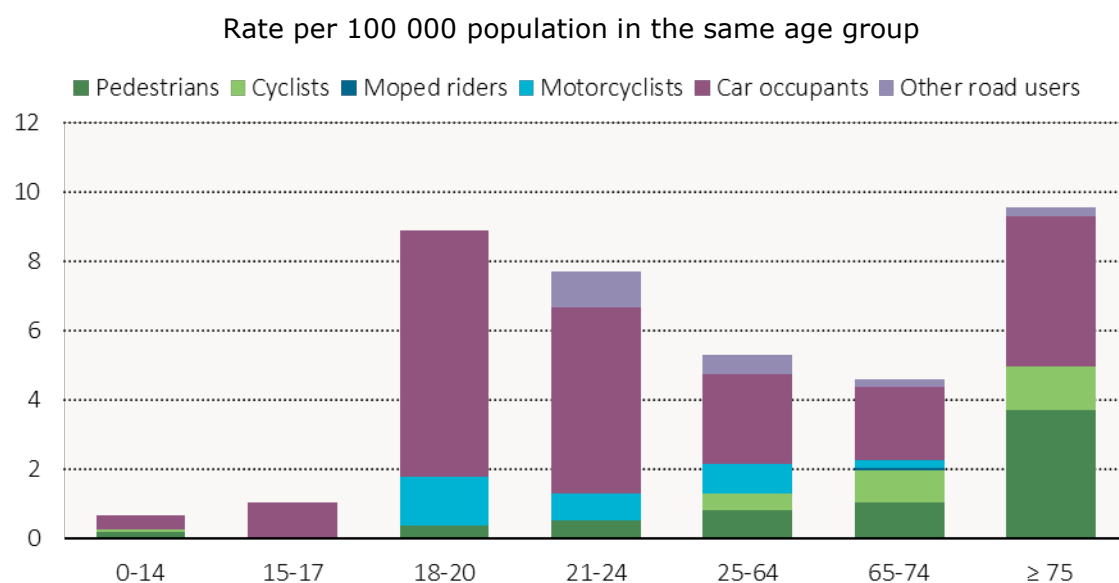


**Figure 6. Road fatalities in the Czech Republic by user category, 2020**



**Figure 7. Road fatalities in the Czech Republic by road type, 2020**



**Figure 8. Road fatality rate in the Czech Republic by user category and age group, 2020****Table 2. Cost of road crashes in the Czech Republic, 2020**

	Unit Cost (EUR)	Total (EUR)
Fatalities	1 324 000	710 million
Hospitalised persons	219 000	440 million
Slight injuries	14 000	661 million
Property damage costs	16 000	1 201 million
<b>Total</b>		<b>3.0 billion</b>
<b>Total as % of GDP</b>		<b>1.4</b>

**Table 3. Seat belt and helmet wearing rates**

Percentages

	2000	2010	2020
<b>Front seats</b>			
General (driver and passenger)	63	..	..
Driver	..	97	96
Passenger	..	96	90
<b>Rear seats</b>			
General	60	79	86

## Research and resources

### Recent research

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

- electromobility problems (cars, bicycles, scooters)
- autonomous vehicles problems
- traffic accident costs analysis
- KPI studies
- in-depth accident analysis
- road infrastructure assessment
- improving safety at railways 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 the Czech Republic: <https://www.policie.cz/clanek/Police-of-the-CzechRepublic.aspx>.

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

In-depth accident analysis: <https://www.vyzkumnehod.cz/en/>.

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

## Definition, methodology, data collection

A road fatality is a person who dies immediately or within 30 days of a crash. (Note 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).

A physician at the scene of the crash or in the hospital within 24 hours of the crash determines whether someone is seriously injured or not. Generally speaking, a serious

injury causes serious harm to the victim's health. At present, 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 this year to record MAIS 3+ injuries. In 2019, discussions between the Ministry of Transport and hospitals took place concerning the transfer of data on traffic injuries and fatalities from hospitals to the police.

Crash data in the Czech Republic are collected by the traffic police in 80 districts and transferred to the police headquarters. Data are 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.