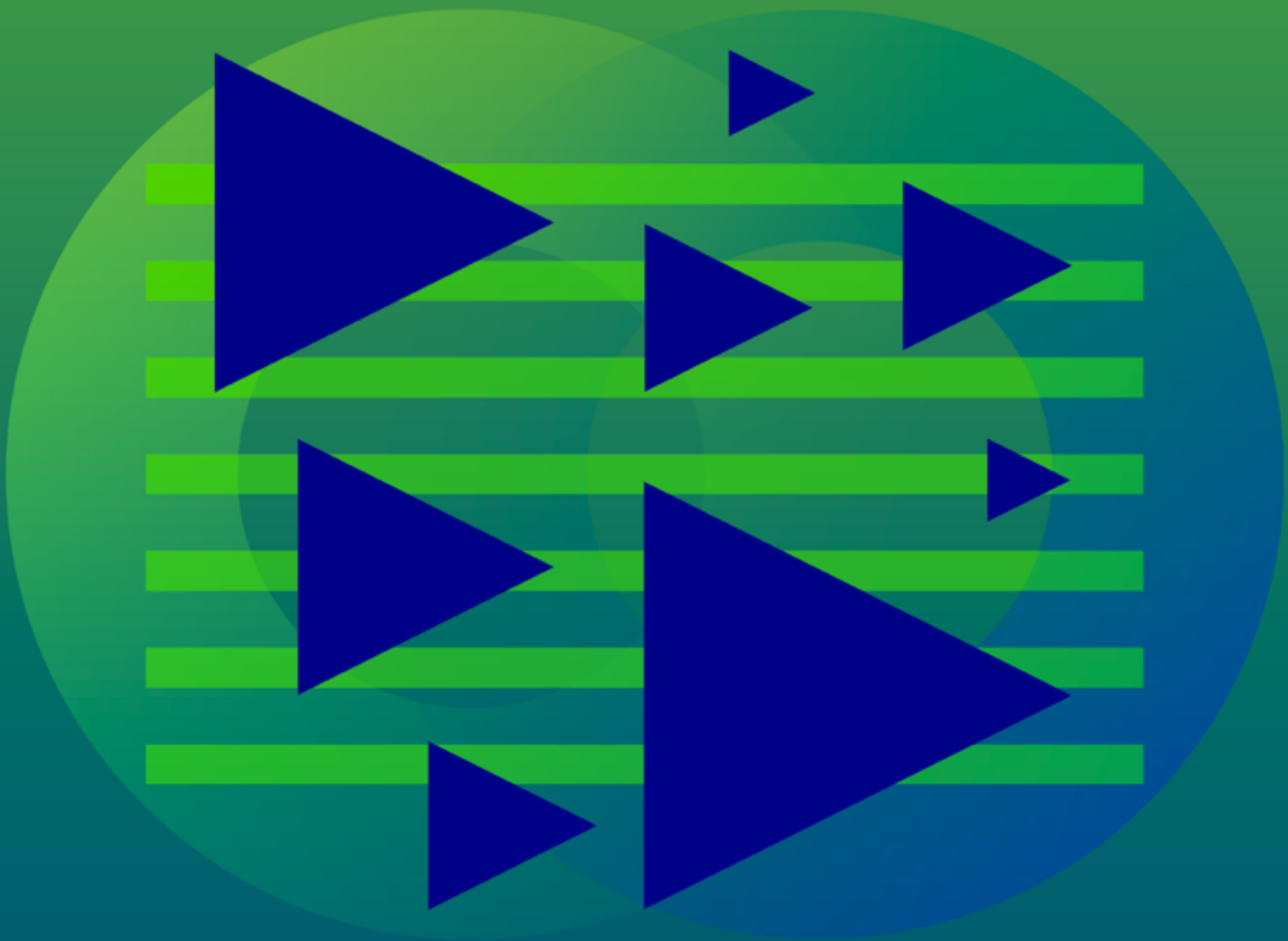
International Transport Forum

Road Safety Country Profile
Serbia 2024



Overview

In 2023, Serbia recorded 503 road deaths, a 9% decrease from 2022 and the lowest in a decade (excluding 2020), though its road fatality rate (7.6 per 100 000 inhabitants) remains above the EU average. In September 2023, Serbia adopted the National Road Safety Strategy 2023-2030 and Action Plan 2023-2025. The main target is to reduce the number of road deaths and serious injuries by 50% by 2030.

Quick facts: Serbia (all data from 2023, unless otherwise stated)

Population	6.6 million				
GDP per capita	11 383 USD				
Road network	44 794 km (2021)				
Total number of motor vehicles	2.9 million				
	Motorised two-wheelers	Passenger cars	Goods road motor vehicles	Buses	
	3%	83%	10%	0.4%	
Speed limits	Urban roads	Rural roads	Motorways		
	50 km/h	80 km/h	130 km/h		
Limits on blood alcohol content	0.2 g/l				
Road fatalities	503				
	Pedestrians	Cyclists	Car occupants	Motorised two-wheelers	Other and unknown
	27%	9%	46%	8%	10%
Road fatalities per 100 000 population	7.6				
Road fatalities per 10 000 vehicles	1.7				
Cost of road crashes	4.4% of GDP				

Short-term trends

Road deaths in 2023 and 2024

Based on provisional data for the year 2024, the number of road deaths decreased by 2.7% in 2024 compared to the 2022–2023 average.

In 2023, Serbia recorded 503 road deaths, representing a 9% decrease compared to 2022. This is the lowest figure in the past ten years, excluding 2020, which is not representative due to the impact of the COVID-19 pandemic.

Table 1. Road fatalities in Serbia, 2019-2024

	2019	2020	2021	2022	2023	2024	2024 compared to average 2022-23
January	34	44	36	40	35	42	12.0%
February	20	42	20	30	31	28	-8.2%
March	28	20	29	43	40	42	1.2%
April	47	24	26	31	36	25	-25.4%
May	32	35	47	49	39	35	-20.5%
June	55	48	45	47	39	43	0.0%
July	68	62	47	63	35	53	8.2%
August	63	34	56	54	41	70	47.4%
September	51	59	54	58	47	52	-1.0%
October	52	53	44	52	56	40	-25.9%
November	49	28	57	38	46	43	2.4%
December	35	43	60	48	58	41	-22.6%
Total	534	492	521	553	503	514	-2.7%

Figure 1 illustrates the evolution of road fatalities by user category, age group and road type between 2022 and 2023. There was a marked increase in the number of cyclists killed. As for the evolution by age group, road deaths decreased across all age groups except among the elderly.

In 2023, Serbia had a mortality rate of 7.6 road deaths per 100 000 inhabitants. The fatality risk was 1.7 road deaths per 1 000 registered motor vehicles (Figures 2 and 3). The mortality rate is the highest for people above 75, who are mainly victims as pedestrians (Figure 4). Despite improvements, Serbia's road fatality rate remains higher than the EU average of 4.6 road deaths per 100 000 inhabitants.

In 2023, car occupants represented 46% of all road deaths, followed by pedestrians (27%), cyclists (9%), and users of motorised two-wheelers (8%) (Figure 5).

The number of road deaths is equally shared between the rural and urban networks (Figure 6).

The collision matrix shows that pedestrians are particularly vulnerable, most often following a collision with a car (Figure 7). Regarding road deaths among car occupants, in the majority of cases, this happens in single-vehicle crashes.

Figure 1. Evolution of road fatalities in Serbia by user category, age group and road type, 2023 compared to 2022

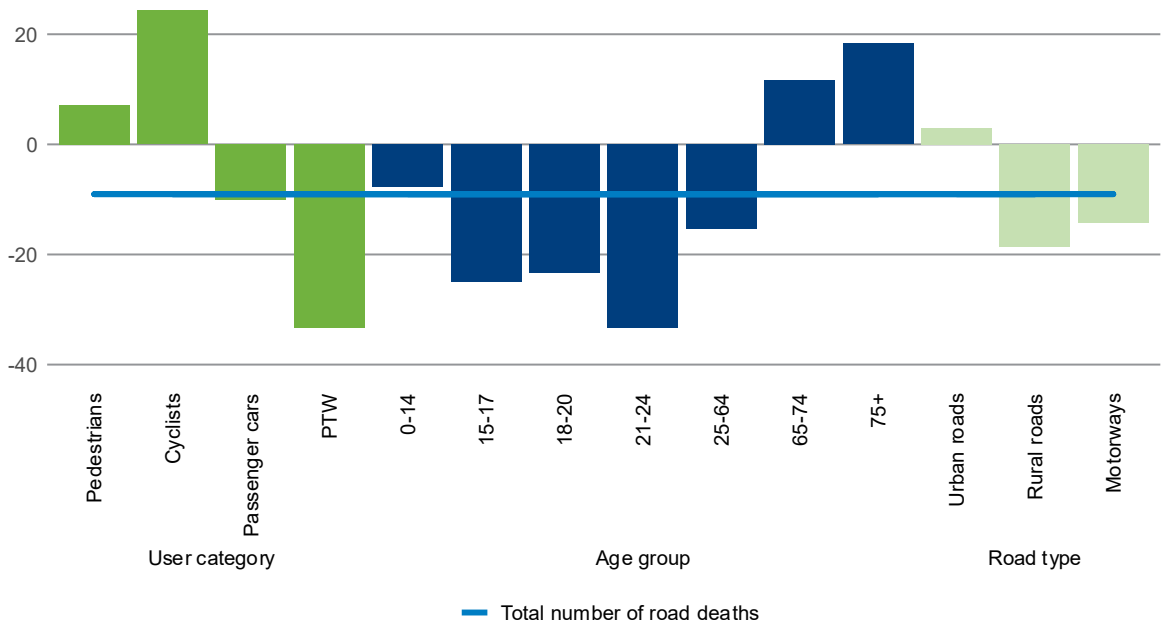


Figure 2. Road fatalities per 100 000 inhabitants in Serbia compared to other IRTAD countries, 2023

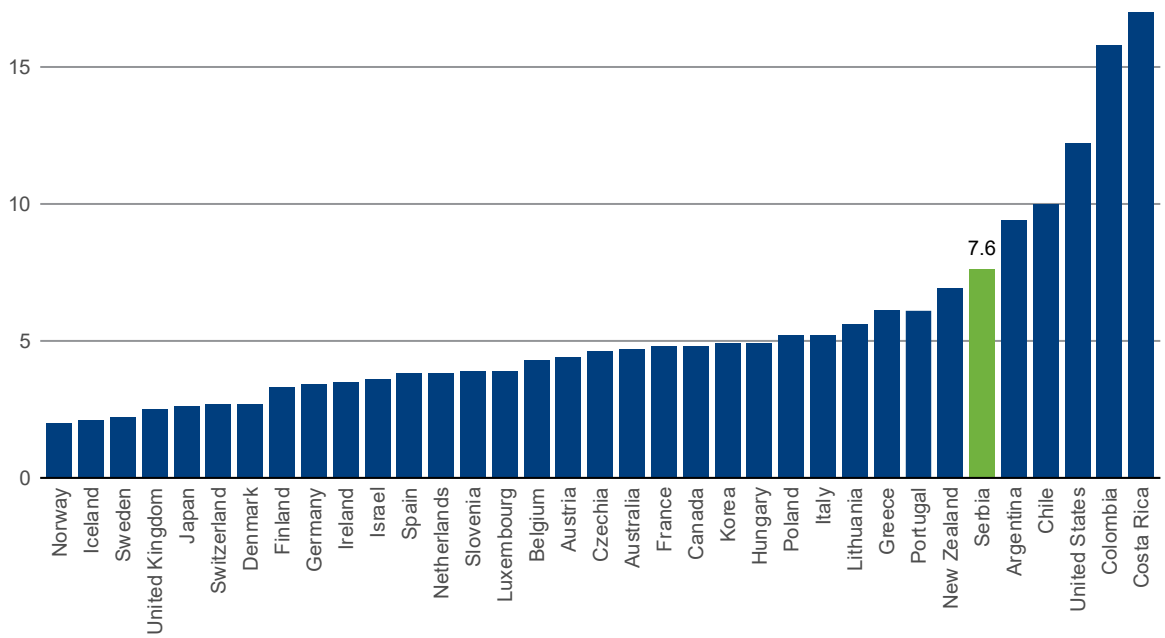
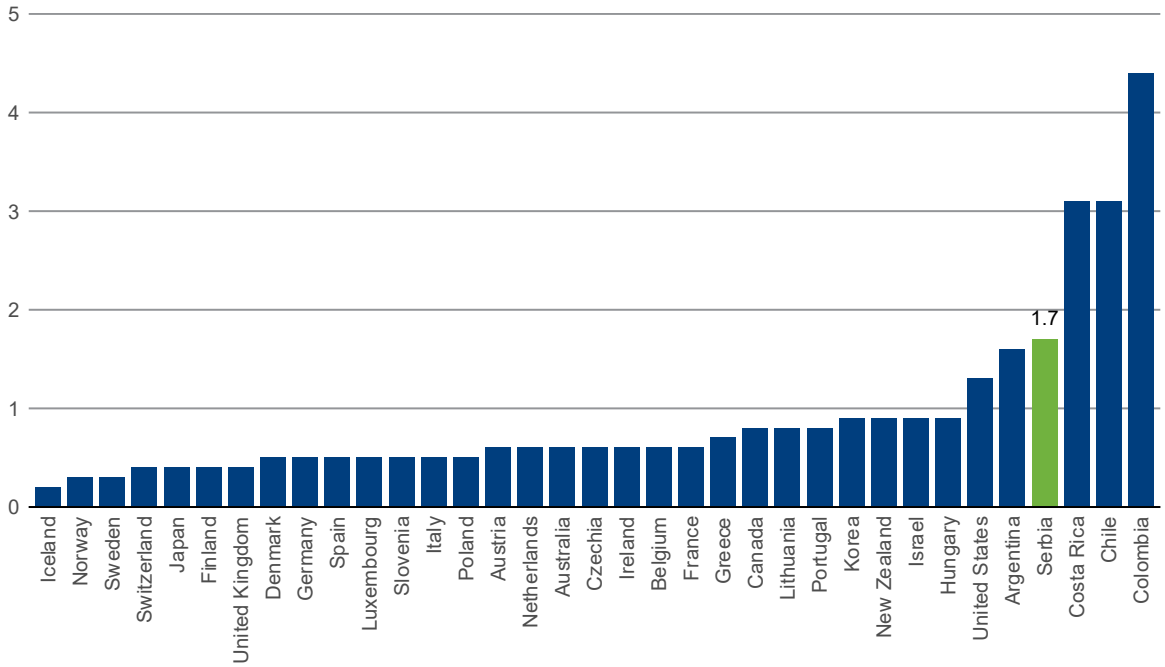


Figure 3. Road fatalities per 10 000 registered vehicles in Serbia compared to other IRTAD countries, 2023



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

Figure 4. Road fatality rate in Serbia by user category and age group, 2023

Rate per 100 000 population in the same age group

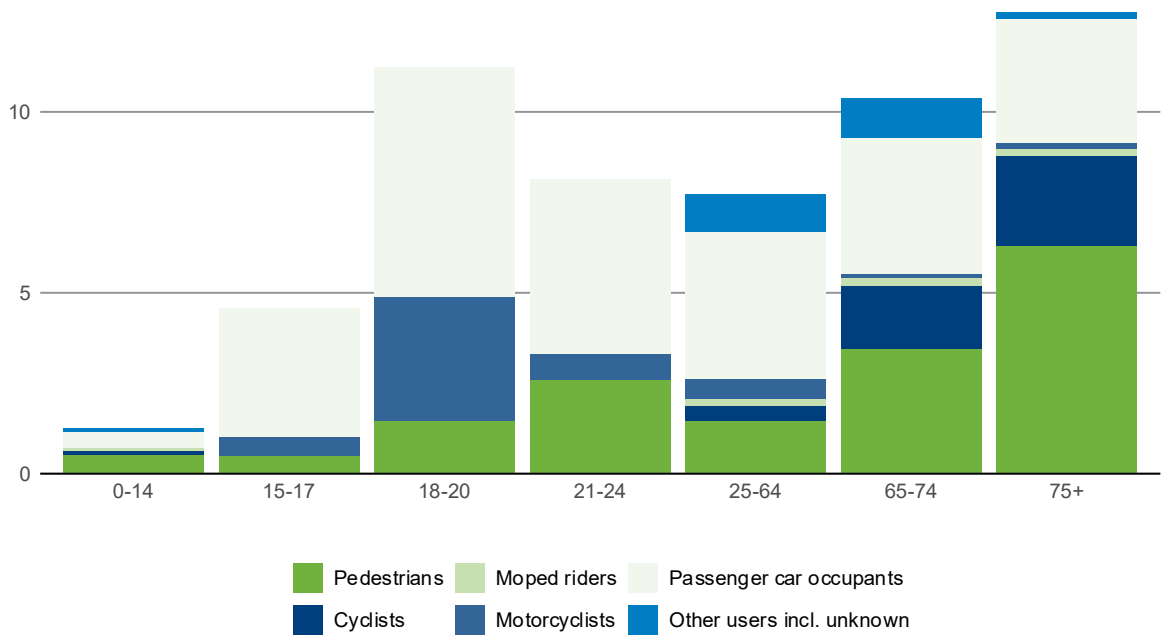


Figure 5. Road fatalities in Serbia by user category, 2023

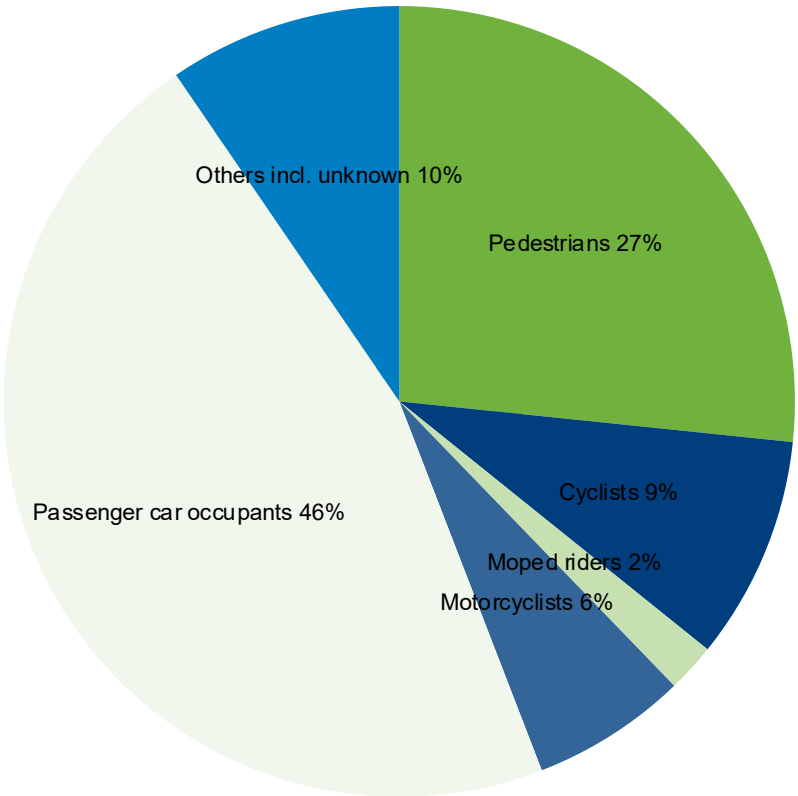


Figure 6. Road fatalities by road type, 2023

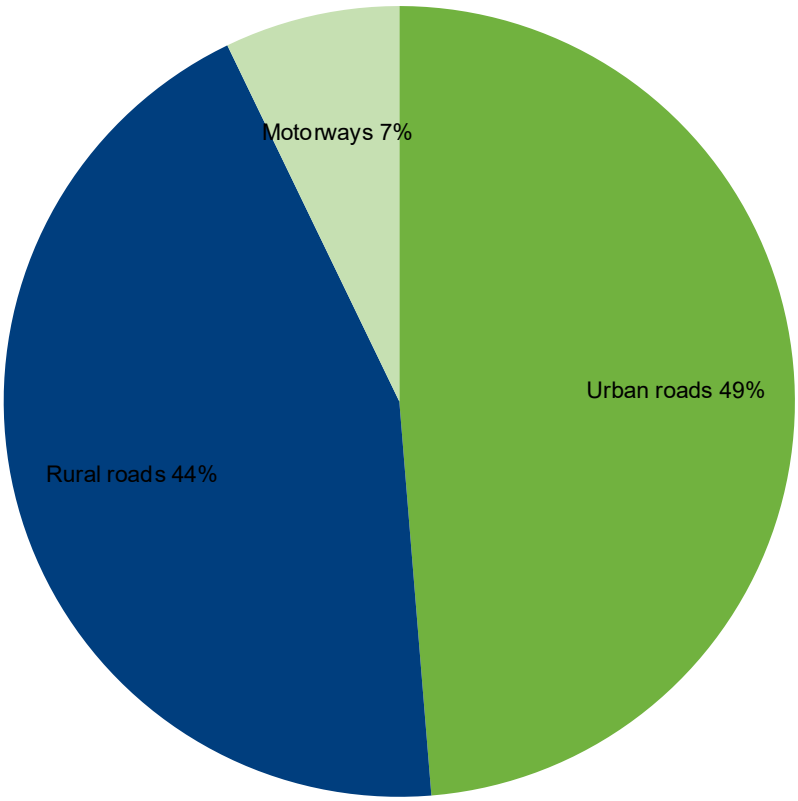


Table 2. Collision matrix in Serbia, 2023

Row = road user category

Column = other main vehicle involved in the crash

	pedestrian	motorised micro-mobility device	pedal cycle	moped	motorcycle	car	HGV	bus or coach	other/unknown	no other vehicle involved
pedestrian		0	0	0	3	93	29	5	4	
motorised micro-mobility device						0	0		0	0
pedal cycle	0		0	0	0	32	8	1	1	4
moped	0		0	2	0	5	0	0	0	3
motorcycle	0		0	0	0	16	3	1	1	11
car	0	0	1	0	0	64	55	10	8	95
HGV			0		0	0	7	1	0	10
bus or coach	0		0		0	0	0	0	0	0
other/unknown					0	1	2	0	10	17

Source: CARE database.

Road safety data 2013-23

Between 2013 and 2023, road deaths decreased by 23%. During the same period, motorisation increased by 53% (Table 3 and Figure 7).

The number of road fatalities declined across all categories of road users. Among age groups, there were significant decreases for young people aged 18–20 and 21–24, with reductions of 32% and 51%, respectively. In contrast, an increase of 9% was observed among children aged 0–14 (Table 3 and Figure 9). This trend is attributed to changes in driver education, including the introduction of mandatory theoretical training and a probationary driving license with specific restrictions.

There was a significant contrast in performance between urban and rural road networks. Road deaths dropped sharply on urban roads (-46%), while they increased by 46% on rural roads (Table 3 and Figure 9). However, it is important to note that in 2015 Serbia implemented a new data collection system based on the European CADAS protocol. This also involved a more precise distinction between urban and rural areas, which led to some locations previously classified as "urban" in 2013 being reclassified as "rural" in subsequent years.

Table 3. Crash, casualty, and traffic data in Serbia, 2013-23

	2013	2021	2022	2023	Evolution 2013-23
Reported safety data					
Fatalities	650	521	553	503	-23%
Injury crashes	13 526	13 753	13 307	13 463	0%
Serious injuries	3 422	3 347	3 302	3 397	-1%
Deaths per 100 000 population	9.1	7.7	8.3	7.6	-16%
Deaths per 10 000 registered vehicles	3.2	1.9	2.0	1.7	-45%
Fatalities by road user					
Pedestrians	175	148	125	134	-23%
Cyclists	59	48	37	46	-22%
Moped riders	19	8	18	10	-47%
Motorcyclists	37	38	45	32	-14%
Passenger car occupants	300	230	259	233	-22%
Other road users	60	49	69	48	-20%
Fatalities by age group					
0-14 years	11	11	13	12	9%
15-17 years	11	11	12	9	-18%
18-20 years	34	24	30	23	-32%
21-24 years	45	27	33	22	-51%
25-64 years	377	273	319	270	-28%
65-74 years	85	98	86	96	13%
≥ 75 years	85	77	60	71	-16%
Fatalities by road type					
Urban roads	455	241	238	245	-46%
Rural roads	152	252	273	222	46%
Motorways	43	28	42	36	-16%
Traffic data					
Registered vehicles (thousands)	2 049	2 781	2 819	2 889	41%
Registered vehicles per 1 000 population	285	409	424	437	53%

Figure 7. Evolution of road fatalities, motorisation and GDP in Serbia, 2013-23

Index 2013 = 100

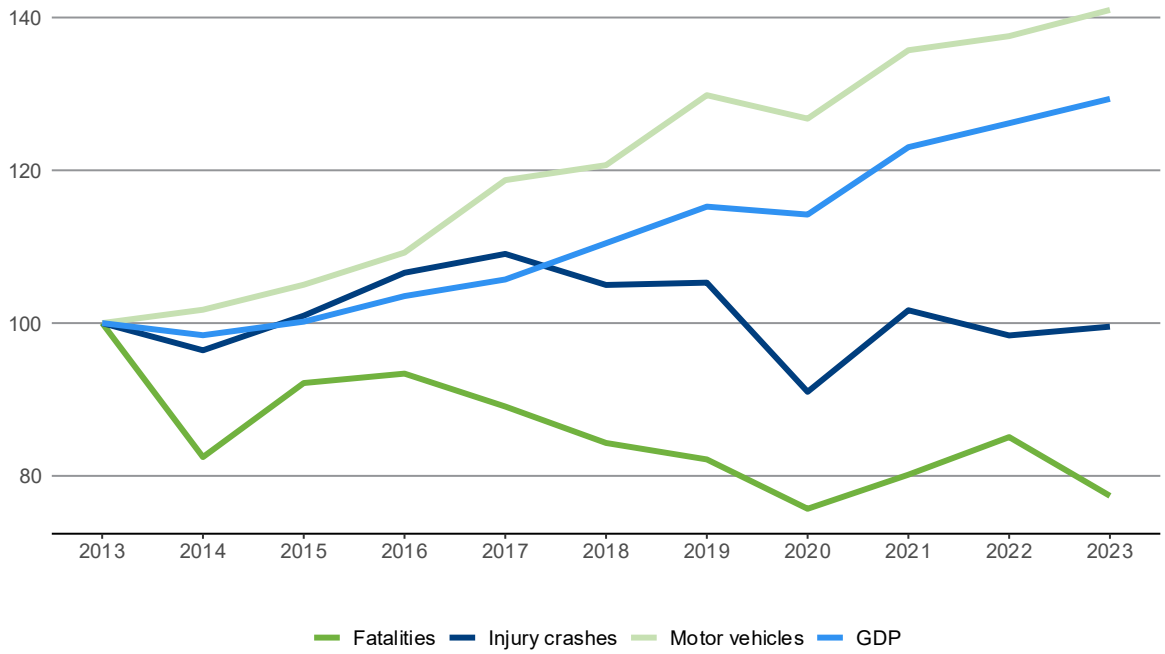


Figure 8. Road fatalities in Serbia in 2021, 2022 and-2023 compared to the linear trend since 2012 (excluding 2020 and 2021)

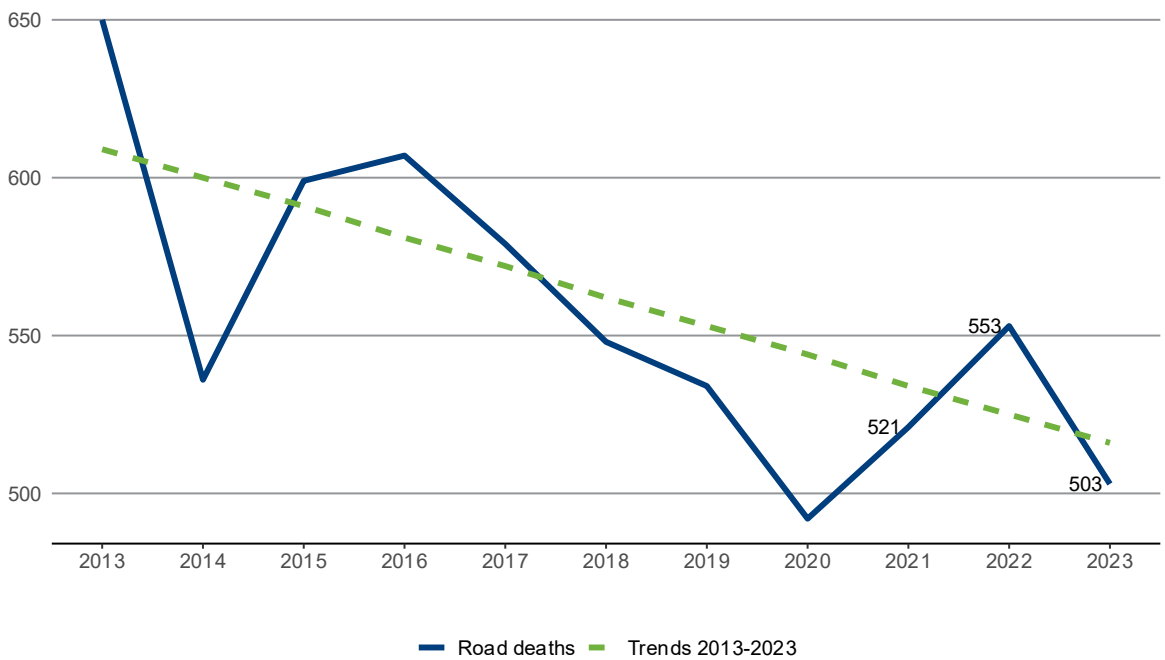
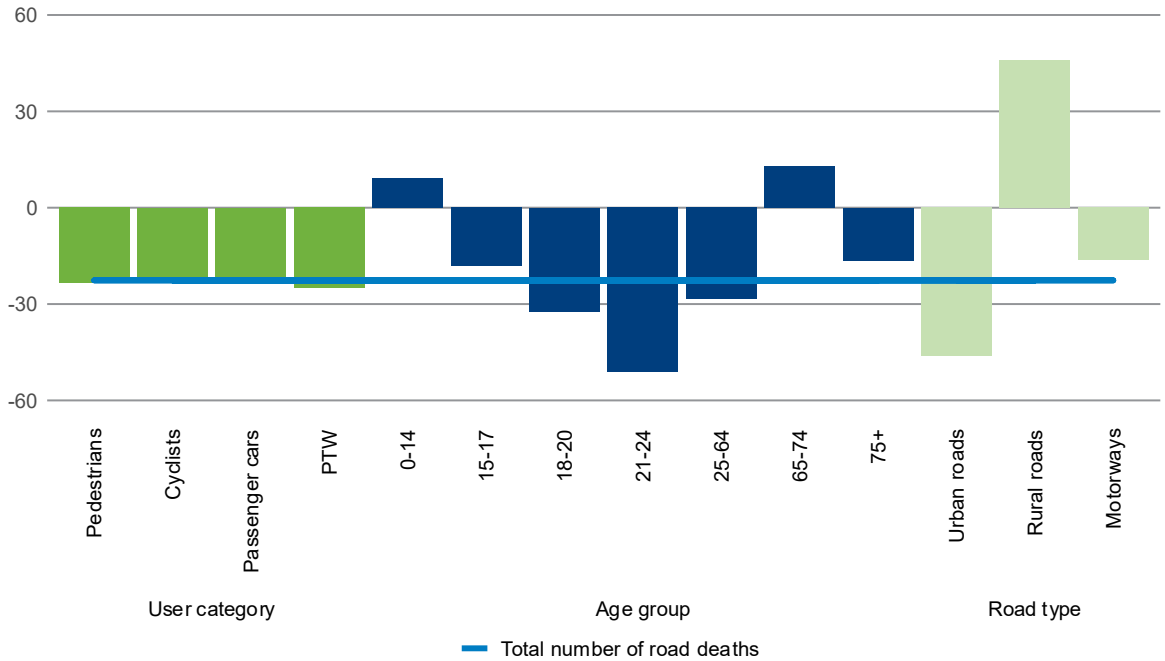


Figure 9. Evolution of road fatalities by user category, age group and road type, 2013-23



Safety performance indicators

Speed

Exceeding the speed limit is one of the main contributory factors to road crashes. In Serbia, 44% of all reported road fatalities in 2023 involved excessive speed as a contributory factor.

Since 2019, the Republic of Serbia has defined and monitored several speed-related performance indicators. These include:

- the percentage of vehicles complying with the speed limit;
- the average speed;
- the 85th percentile speed;
- the average speed of exceedance;
- the percentage of drivers obeying the speed limit increased by 10 km/h.

These indicators are monitored by local authorities across different road categories (urban roads, rural roads, and motorways) and for various vehicle types. These indicators are reported on the National Road Safety Agency website (https://abs.gov.rs/rsc/statistika).

Table 3 summarises the main speed limits for passenger cars.

Table 3. Passenger car speed limits by road type, 2025

	General speed limit (km/h)
Urban roads	50
Rural roads	80 100 on "motor roads" accessible only to motor vehicles and marked with a special traffic sign
Motorways	130

Note: on certain roads, the speed limit for novice drivers is 90% of the defined speed limit.

Drink driving

Driving under the influence of alcohol is another cause of road crashes. In 2023, 14% of road deaths involved at least one driver who was over the BAC limit.

The police regularly conduct random breath testing. In 2024, 0.5% of drivers were found to be over the legal alcohol limit, while 0.4% had alcohol in their blood but remained within the legal limit. Drink-driving indicators are routinely collected on urban and rural roads, with data disaggregated by gender, time of day (day/night), and day of the week (weekday/weekend).

In Serbia, the maximum authorised blood alcohol content (BAC) has been 0.2 g/l since 2018 (0.3 g/l before). A lower limit of 0.0 g/l is applied to several categories of road users, including novice drivers, professional drivers, drivers of vehicles with a maximum allowed weight of more than 3.5 tonnes, and drivers of motorcycles, mopeds, light tricycles and quadricycles.

For statistical purposes, a drink-driving crash is defined as a crash where at least one of the drivers was under the influence of alcohol.

Drugs and driving

The Law on Road Traffic Safety prohibits driving under the influence of illicit drugs. In 2023, drug or prohibited medication use was a contributing factor in 4% of road deaths. Police officers may test drivers if there is reasonable suspicion of drug use, and data is available on the number of such violations. Although Serbia has not yet established drug-related road safety performance indicators (SPIs), plans are in place to develop them.

Use of mobile phones while driving

Driver distraction, such as using mobile phones while driving or crossing the street, is an increasing traffic safety concern in Serbia. In 2023, 3.7% of drivers were observed using mobile phones while driving passenger cars. However, mobile phone use is reported in only a few fatal crashes.

The SPI related to mobile phone use is defined as the percentage of drivers who do not use a hand-held mobile phone, with data disaggregated by vehicle category and road type. Local authorities measure this SPI.

Driving while using a hand-held device in Serbia is not allowed, although hands-free devices are tolerated.

Seatbelt and helmet use

Seatbelt wearing has been compulsory in front seats since 1982 and in rear seats since 2009. Child restraints have been mandatory for children up to 3 years old since 2009. Amendments and additions to the Law on Road Traffic Safety include new requirements, including dedicated child seats for children under 12 years of age and below 135 cm in height.

The Republic of Serbia monitors several seatbelt-related indicators, including usage rates in front and rear seats across different types of vehicles.

Seatbelt usage is measured annually for both front and rear seats. In 2024, 86% of drivers and front-seat passengers wore seatbelts, while only 21% of rear-seat passengers did so, an increase from 17% in 2023. These figures indicate that rear-seat seatbelt use remains low in Serbia, and many lives could be saved through higher usage rates.

Among all fatalities in passenger cars and heavy vehicles, police records show that 31% of the victims were not wearing a seatbelt at the time of the crash.

Helmet wearing is the most effective passive safety habit for motorcyclists. In Serbia, helmets have been compulsory for all powered two-wheeler users since 1982. In 2023, the helmet-wearing rate was 88% and 80% for motorcycle riders and passengers but much lower for moped users (67% for riders and 50% for passengers).

Wearing a helmet is not mandatory for cyclists in Serbia; however, it is compulsory for users of light electric vehicles (e.g., e-scooters).

Table 4. Seat belt and helmet wearing rates in Serbia

Percentages

	2013	2019	2023	2024
Seat belt use - Front seats				
Driver	70	85	87	87
Passenger	68	82	85	84
Seat belt use - Rear seats				
General	3	19	17	21
Helmet use				
Motorcyclists				
Riders	94	88	88	83
Passengers	..	82	80	69
Moped users				
Riders	84	68	67	58
Passengers	..	37	50	50
Cyclists	..	..	6.4	6
E-scooters	..	..		24.5

Infrastructure safety

The Republic of Serbia has adopted the following SPIs for infrastructure safety, which are measured every four years:

- the percentage of roads of a certain category that meet adequacy standards (85.1% in 2023);
- the percentage of motorways within the total length of the state road network (6% in 2023);
- the percentage of first- and second category roads within the total length of the road network.

Vehicle safety

Vehicle-related SPIs are assessed every two years. These indicators provide insight into the condition and composition of the vehicle fleet and include the following:

- the average age of the total vehicle fleet (16.7 years in 2023);
- the average age of the passenger car fleet (16.9 years in 2023);
- the percentage of passenger cars under 6 years of age (6.5% in 2023);
- the percentage of passenger cars older than 10 years (84% in 2023);

- the percentage of commercial vehicles in the fleet;
- the percentage of motorcycles and mopeds in the vehicle fleet.

Cost of road crashes

In the absence of an official national methodology, the Republic of Serbia applied the European Commission's methodology to estimate the overall socio-economic impact of road crashes. This approach calculates costs based on standardised unit values for fatal, serious, and slight injury crashes.

Using this methodology, the total socio-economic cost of traffic crashes in Serbia in 2023 was estimated at EUR 3.4 billion, representing 4.4% of the country's Gross Domestic Product (GDP). However, the actual costs are likely even higher, as crashes involving only material damage were not included in the calculation.

Table 5. Cost of road crashes in 2023

	Unit cost (EUR) (2019 value)	Number of crashes	Total Cost (EUR)
Fatal crashes	3 273 909	470	1.53 billion
Serious injury crashes	498 591	3 035	1.51 billion
Slight injury crashes	38 514	9 958	0.38 billion
Total		13.463	3.44 billion
Total as % of GDP	.		4.6%

Note: the unit costs are according to the methodology of the European Commission for the year 2019[1].

Road safety management and strategy

Evolution of road safety

Data in the IRTAD database go back to 1990, where there were 1 955 road deaths in Serbia. By 2023, this number had dropped to 503, representing a fourfold decrease over the past three decades.

An important milestone in road safety in Serbia was the adoption of the Law on Road Traffic Safety in 2009, which led to the implementation of important measures, such as:

- The establishment of institutions such as the National Road Traffic Safety co-ordination Body, Road Traffic Safety Agency, etc.
- The introduction of a penalty point system in 2009.
- The introduction of a graduated licensing system in 2012.

[1] European Commission (2020), Handbook on the external costs of transport, https://op.europa.eu/en/publication-detail/-/publication/9781f65f-8448-11ea-bf12-01aa75ed71a1

- The reduction of the maximum legal blood alcohol content (BAC) to 0.3 g/l in 2009 and 0.2 g/l in 2018.
- The introduction of a 50 km/h speed limit in urban areas in 2009.
- Compulsory seat belt wearing for rear seats in 2009.
- Formation of Traffic Safety Councils within Local Self-Governments (LSGs) and the establishment of a new financing system to support their activities.
- Since 2016, traffic crash data has been collected following the CADaS protocol, enabling more accurate analysis and the implementation of evidence-based safety measures.

Governance of road safety

Responsibility for the organisation of road safety in Serbia lies with the Ministry of Transport and the Ministry of Interior. They are supported by the Road Traffic Safety Agency (RTSA), which manages legal and technical issues in road traffic safety. The agency also cooperates with regional and local bodies for road traffic safety. The National Road Traffic Safety Co-ordination Body is composed of ministers in charge of traffic, interior affairs, health, labour, justice, education, and trade and services, as well as the director of RTSA, with the main aim of harmonising efforts to improve road safety.

National road safety strategy

In September 2023, Serbia adopted the National Road Safety Strategy 2023–2030 and the accompanying Action Plan 2023–2025. The strategy is grounded in the principles of Vision Zero and the Safe System approach, reflecting a strong commitment to eliminating road fatalities and reducing serious injuries.

The strategy's primary goal is a 50% reduction in road deaths and serious injuries by 2030, using 2019 as the baseline year. A key additional target is to achieve zero child fatalities in road traffic by 2030, alongside a significant reduction in the number of seriously injured children.

The strategy includes:

- Specific targets for the five Safe System pillars (Safe Roads, Safe Vehicles, Safe Road Users, Safe Speeds, and Post-Crash Response).
- Interim targets set for key years before 2030 to monitor progress.
- A comprehensive framework of measurable indicators used to track and assess implementation outcomes.

Both the Strategy and the Action Plan are available on the website of the Road Traffic Safety Agency (RTSA):https://www.abs.gov.rs/rsc/strateska-dokumenta.

Recent measures

The financing system for local traffic safety councils has been improved to better support their activities.

The law now officially defines and regulates light electric vehicles, such as e-scooters.

Tougher sanctions have been introduced for major traffic offenses, including measures like the temporary confiscation of vehicles.

Authorities have started measuring drivers' average speed on highways to improve speed enforcement.

Serbia is currently drafting a new Law on Traffic Safety aimed at further aligning national legislation with EU standards and potentially introducing even stricter penalties for serious traffic violations.

Research and resources

Publications

Measurement of road SPIs in each of the 161 local governments in Serbia:

- https://www.abs.gov.rs/static/uploads/17268_IBS-2024-Brosura.pdf
- https://www.abs.gov.rs/rsc/indikatori
- https://www.abs.gov.rs/static/uploads/17299_2024-Indikatori-Srbija.pdf
- https://www.abs.gov.rs/rsc/indikatori-bezbednosti-saobracaja-po-lokalnim-samupravama
- https://www.abs.gov.rs/rsc/indikatori-bezbednosti-saobracaja-po-policijskim-upravama

ESRA3 survey of attitudes of traffic participants on traffic safety in Serbia: https://www.abs.gov.rs/static/uploads/16769_ESRA-3-izvestaj.pdf

Guidelines for young drivers:
https://www.abs.gov.rs/static/uploads/16770_Prakticni_vodic_za_mlade_vozace.pdf

Research

The project "Better Road Safety System Based on In-Depth Analysis of Road Crashes in Bosnia and Herzegovina and Serbia" is currently in progress. It is being implemented by the United Nations Economic Commission for Europe (UNECE) in collaboration with the World Health Organization (WHO).

The project "Road Safety Audit and Road Safety Inspection Implementation Practices" is also underway, led by UNECE.

The Road Traffic Safety Agency is participating in the Road3All Horizon Project, scheduled to begin in July 2025. The project's primary goal is to enhance road safety culture across participating European countries.

Websites

Road Traffic Safety Agency of Serbia: https://www.abs.gov.rs/rsc

National road safety strategy: https://abs.gov.rs/rsc/strateska-dokumenta

National road safety database: https://bazaabs.abs.gov.rs/smartPortal/saobNezgodeENG

Reports on road safety by local community: https://www.abs.gov.rs/rsc/analize-stanja-bezbednosti-saobracaja-za-period-od-2019.-do-2023.-godine--po-lokalnim-samoupravama

Definition, methodology, data collection

Term	Definition
Road death	A person who is killed immediately or within 30 days as a result of a road crash.

Serbia has not yet adopted a definition for serious or slight injury in police records. Nevertheless, criteria exist for both categories, enabling doctors to determine the degree of injury of a person involved in a road accident. In 2017, Serbia conducted research on the options for implementing the Maximum Abbreviated Injury Scale (MAIS3+) on the number of people injured in road crashes in Serbia. The establishment of a system for recording road traffic crash injuries in accordance with the MAIS 3+ scale began in mid-2019.

Data on road deaths have been available since 1981. More detailed information on road crashes is available from 1996 onward and is included in the police crash database established in 1996. The latest major revision of the road crash database was conducted in 2015 and 2016. Following these revisions, the road crash database is now completely harmonised with the European Commission's Common Accident Data Set (CADaS) requirements. Since January 2016, traffic police have been collecting data on road crashes in accordance with the CADaS recommendations.

Traffic police must attend the scene of all fatal and injury road crashes and crashes with important material damage. Participants can fill in a special form for other crashes without calling the traffic police. However, if one of the participants requests the presence of the police, they must attend the crash scene. Insurance companies collect data on crashes not covered by the traffic police.

The traffic police record information on injury severity based on information from hospitals. Hospitals must inform the police of every person admitted to the hospital who claims to have been involved in a road crash. There is no information on the level of underreporting.

A project entitled "New Road Crash Database", funded by the World Bank, was finalised in 2016. The main aim of the project was to connect all relevant road safety data holders into an integrated database managed by the RTSA.

In Serbia, during 2018, a methodology for collecting data on the behaviour of road users at road-rail crossings was defined. The methodology will be used in a future survey.

In 2019, RTSA started developing a project to define a methodology for measuring traffic exposure in Serbia. As part of the methodology definition, RTSA seeks to identify the most relevant and important indicators to be monitored for this project.