



ROAD SAFETY ANNUAL REPORT 2019

SERBIA

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Serbia reported 546 road deaths in 2018, a 5.7% decline on 2017. The mortality rate was 7.8 road deaths per 100 000 inhabitants. Serbia adopted the Law on Roads in 2018. This law provides for the introduction of procedures such as road safety inspections, road safety audits and black spot identification. The current road safety strategy covers the period 2015-20. It has several targets including a 50% reduction of the number of road deaths, seriously injured and seriously injured children between 2011 and 2020.

Trends

Serbia registered an overall **decrease in the number of road deaths in 2018**. According to the latest data, 546 persons lost their lives in traffic crashes in Serbia in 2018. This represents a 5.7% decline on 2017. In 2017, 579 road deaths were reported, itself a 4.6% decline on 2016.

The **longer-term trend for road deaths** in Serbia has shown significant progress. Between 2000 and 2018, the number of annual road fatalities fell by 48%.

The number of **traffic deaths per 100 000 inhabitants** in Serbia has fallen by 44% between 2000 and 2018. In 2018, 7.8 traffic deaths per 100 000 inhabitants were recorded, compared to 13.9 in 2000. By way of comparison, the average in the European Union is 4.9 deaths per 100 000 inhabitants in 2018.

Serbia recorded 2.2 **road fatalities per 10 000 registered vehicles** in 2018. This represents a decrease of 40% compared to the year 2010, when the rate of deaths to registered vehicles stood at 3.6.

Country Profile

Population in 2018: 7 million

GDP per capita in 2018: 7 214 USD

Cost of road crashes: 0.7% of GDP (2017)

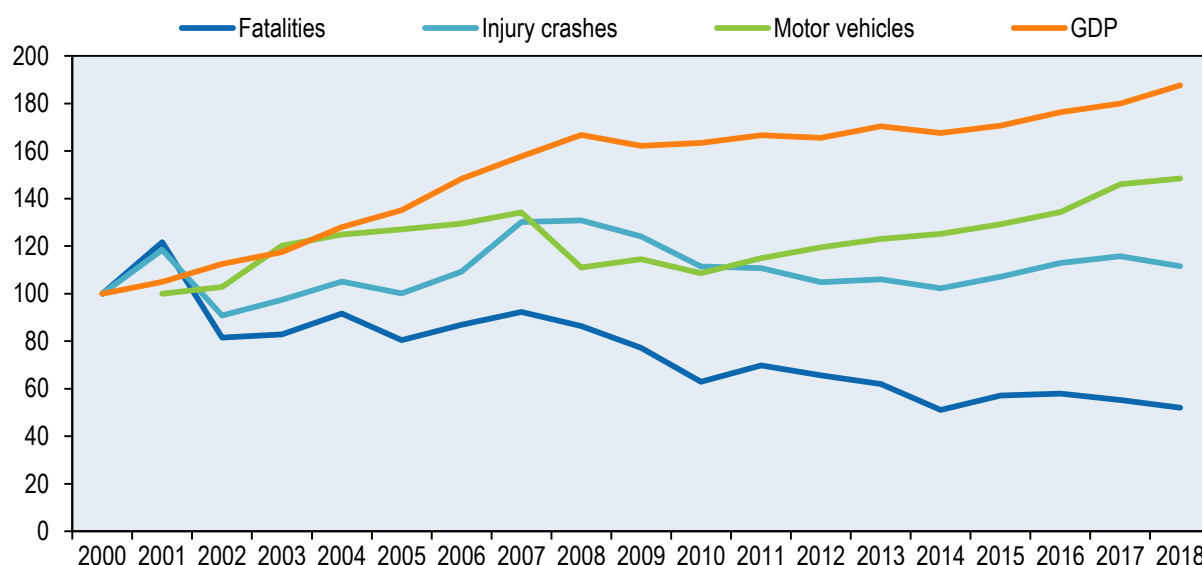
Road network in 2014: 44 406 kilometres

Registered motor vehicles in 2018: 2.5 million
(cars 81%; goods vehicles 9%; motorcycles 2%)

Speed limits: 50 km/h on urban roads; 80-100 km/h on rural roads; 130 km/h on motorways

Limits on Blood Alcohol Content: 0.2 g/l for general drivers; 0.0 g/l for professional drivers, novice drivers and motorcyclists

Figure 1. Road safety, vehicle stock and GDP trends
Index 2000 = 100



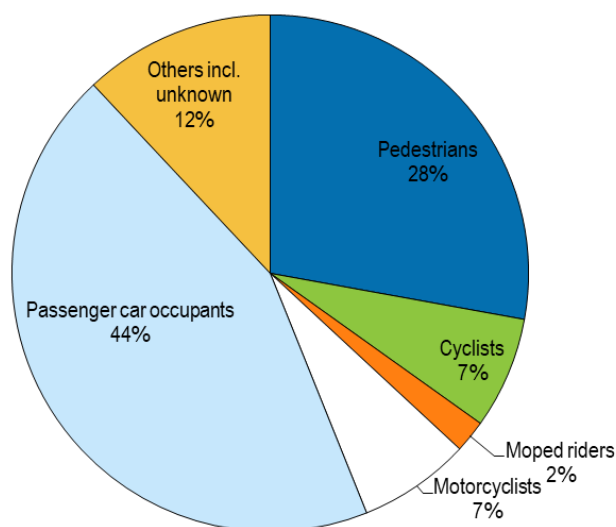
The graph for **fatalities by road user groups** shows that passenger car occupants continue to be the group most affected by road crashes. In 2018, passenger car occupants accounted for the largest share of road deaths with 44% of the total. They were followed by pedestrians (28%), motorcyclists (7%) and cyclists (7%).

The largest increase in 2018 was registered among pedestrians with 10 more deaths (+7.1%) compared to 2017. Moped riders were the only other group to see road fatalities increase in 2018 (1 more road fatality than in 2017).

Passenger car occupants recorded 30 fewer road fatalities (-11.1%) in 2018 than in the year prior. They were followed by cyclists with 10 fewer (-20.8%) and motorcyclists with 9 fewer (-19.1%).

The long-term trend shows that traffic in Serbia has become safer for most but not all road user groups. In particular, motorcyclists have failed to benefit from the road safety improvements implemented in the past decades. The number of annual motorcycle fatalities stood at 29 in 2000 before peaking in 2008 when 79 motorcyclists were killed on Serbian roads. Since, fatalities have receded slightly with 39 motorcyclists killed in 2018 – still a 34.5% increase on 2000. This can be partly explained by the significant increase in registered motorcycles and mopeds in Serbia between 2010 and 2018. During this time motorised two-wheeler registrations increased by 71%.

Since 2000, all other user groups saw the number of road fatalities decline. The strongest decline was registered among moped riders who recorded 73% fewer fatalities in 2018. They were followed by cyclists (-70%), pedestrians (-52%) and passenger car occupants (-43%).

Figure 2. Road fatalities by road user group in percentage of total, 2018

Road deaths by age group in 2018 showed some changes compared to 2017. The number of road deaths decreased for people between 65 and 74 years of age (-17.6%), 25-64 year olds (-13.5%) and children between 0 and 14 years (5 fewer fatalities, -29.4%). The number of fatal casualties increased for adolescents and young adults; each age category between 15 and 24 years of age saw road fatalities increase by 50% or more. People aged 21-24, in particular, saw 52% more fatalities in 2018 - a 13 person increase on their record-low total of 25 in 2017. Likewise, the elderly above 75 saw an uptick of 12.2% more deaths on 2017.

Looking at the longer-term trend, since 2000, the number of road deaths decreased for all groups, with the exception of the elderly. Those over 75 recorded 7 more deaths in 2018 than in 2000 for an increase of 9.2% over this period. The strongest fatality reduction over this period occurred among 0-14 year olds, who registered 31 fewer deaths (-72%).

Despite recent improvements, young people continue to be at very high risk in traffic with a mortality rate much above the average. 18-20 and 21-24 year olds suffer traffic fatalities at rates of 11.4 and 11.8 per 100 000 persons, respectively.

Elderly people above 75 face the highest fatality risk on Serbian roads, however. In 2018, this group perished in traffic at a rate of 14.3 per 100 000 persons. The elderly are particularly vulnerable as pedestrians with slightly over 50% of this group's 2018 road fatalities occurring as pedestrians.

Figure 3. Road fatality rates by age group, 2000-2018
Deaths per 100 000 population in a given age group

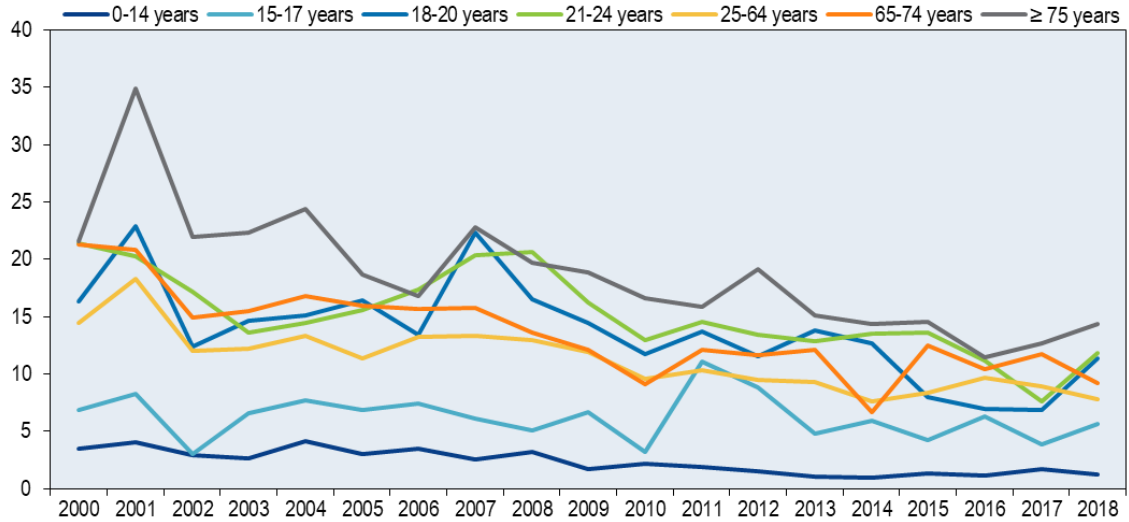
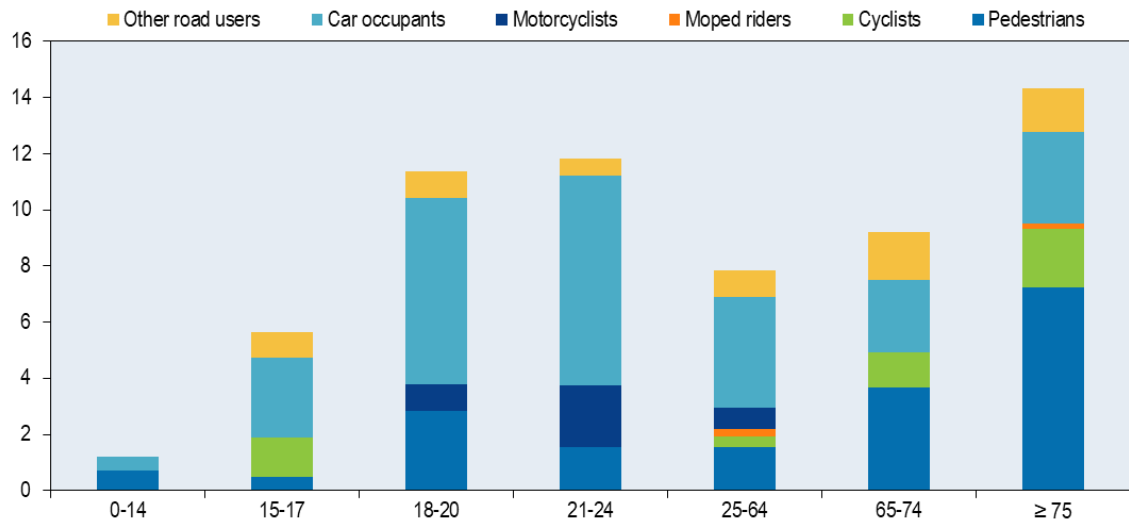
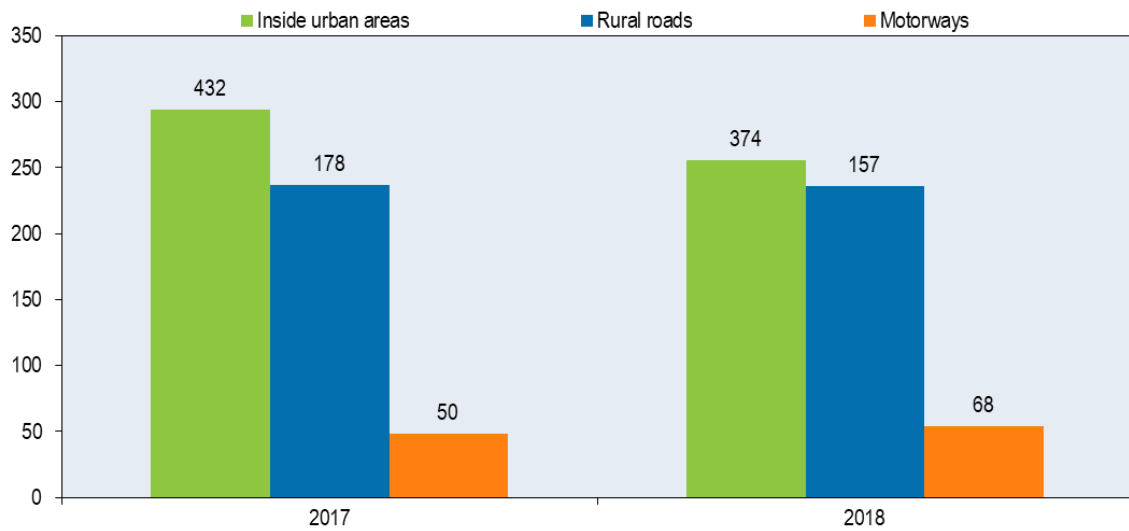
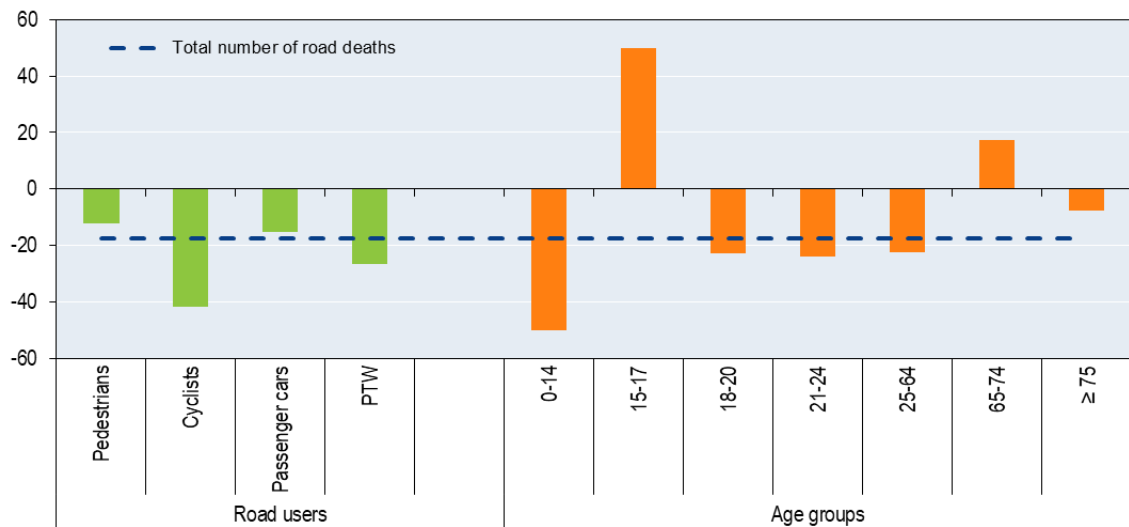


Figure 4. Road fatality rate by age and road user group, 2018
Fatalities per 100 000 population



Analysis of **fatalities by road type** shows that the majority of fatalities in Serbia occur in urban areas. In 2018, 47% of fatalities occurred on urban roads, 43% on rural roads and 10% on motorways. Data prior to and following 2016 are not fully comparable due to a change in definition.

Figure 5. Road fatalities by road type**Figure 6. Evolution of road deaths by user category, age group and road type, 2010-2018**

Fatality data are essential to understand road safety issues but hardly sufficient. Information on **serious injuries from crashes** is also critically important. Since 2010, there has been a downward trend in the number of serious injuries from crashes in Serbia. In 2018, there were 3 338 serious injuries, 545 fewer than in 2010 (-14%). A reduction in the number of serious injuries from crashes is present in all categories of road users. In response to the European Commission recommendation to collect MAIS3+ data, research was undertaken on options for implementing the MAIS3+ injury scale. The full scale implementation of this project started in 2019.

Economic costs of road crashes

Serbia estimates the costs of road crashes (fatalities, severe and slight injuries) by multiplying the number of road fatalities by EUR 470 000. On that basis, the total costs of road crashes in Serbia in 2017 amount to EUR 272.1 million, or 0.7% of Serbia's GDP.

Based on experience from other countries and methodologies used to assess the cost of road crashes, it seems that this estimate could be largely underreported.

Table 1. Costs of road crashes, 2017

	Unit cost [EUR]	Total [EUR]
Total	470 000	272 130 000
Total as % of GDP		0.7%

Behaviour

The behaviour of road users is an important determinant of a country's road safety performance. **Inappropriate or excessive speed** is the most frequent cause of road crashes in Serbia. In 2018, speed was identified as a factor in 52% of fatal road crashes. The improvement in road crash data collection from January 2016 has enabled a more precise analysis of crash contributing factors including the contribution of excessive speed for various types of crashes.

Speed measurement conducted in 2018 showed that 48% of passenger car drivers exceeded the speed limit in urban areas (54% in 2016). Drivers are better behaved on other road types as this share drops to 15% on motorways and 30% on all other roads outside urban areas.

The table below summarises the main speed limits in Serbia.

Table 2. Passenger car speed limits by road type, 2019

	General speed limit	Comments
Urban roads	50 km/h	Speed limit for novice driver are 90% of the defined speed limits on certain roads
Rural roads	80/100 ¹ km/h	
Motorways	120 km/h	

1. Speed limit on roads (usually called "motor roads") dedicated only to motorcyclists, passenger cars, cargo vehicles and buses, with or without trailers, marked by a special traffic sign.

Driving under the influence of alcohol is another major cause of road crashes in Serbia. In 2016, about 17% of fatal road crashes were related to driving under the influence of alcohol. This share was lower in previous years before a change in data collection and compilation procedures was introduced in 2016. In 2018, 0.6% of drivers were under the influence of alcohol while driving.

In Serbia, the maximum authorised blood alcohol content (BAC) is 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 over than 3.5 tonnes, drivers of motorcycles, mopeds, light tricycles and quadricycles.

The Law on Road Traffic Safety forbids **driving under the influence of illicit drugs**. Driving under the influence of drugs or forbidden medications was detected as a factor in only 2 fatal road crashes in 2018. Improvement in data related to driving under the influence of drugs is needed to fully recognise the true scale of the problem.

An increasing problem for traffic safety in Serbia is **distraction** for instance through the use of mobile phones while driving or crossing a street. In 2018, 4.7% of drivers used mobile phones while driving passenger cars. There is no data on the impact of the use of mobile phones on crashes.

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

Nevertheless, seatbelt usage is still low in Serbia and many lives could be saved with a higher usage rate. A roadside survey undertaken in 2018 indicated that the seat belt wearing rate is 85% for drivers and 80% for front seat passengers but only 12% for rear-seat occupants. In 2018, child restraints were used for 60% of children up to 3 years old, but for only 45% of children between 4 and 12 years old.

Table 3. Seatbelt and helmet wearing rates
Percentages

	2013	2015	2018
Front seats			
Driver	68	74	85
Passenger	66	70	80
Urban roads (driver)	65	70	82
Rural roads (driver)	72	78	84
Motorways (driver)	81	83	91
Rear seats			
General	3	7	12
Children 0-3 (use of child restraint)	32	44	60
Children 4-12 (use of child restraint)	7	15	45
Helmet			
Riders of mopeds	84	74	85
Riders of motorcycles	94	89	95
Riders of motorised two-wheelers	87	80	90

For motorcyclists, **helmet wearing** is the most effective passive safety habit. In Serbia, helmets have been compulsory for users of all powered-two wheelers since 1982. In 2018, the helmet-wearing rate was 85% for moped riders and 95% for motorcyclists. There is no mandatory helmet law for cyclists.

Road safety management and strategies

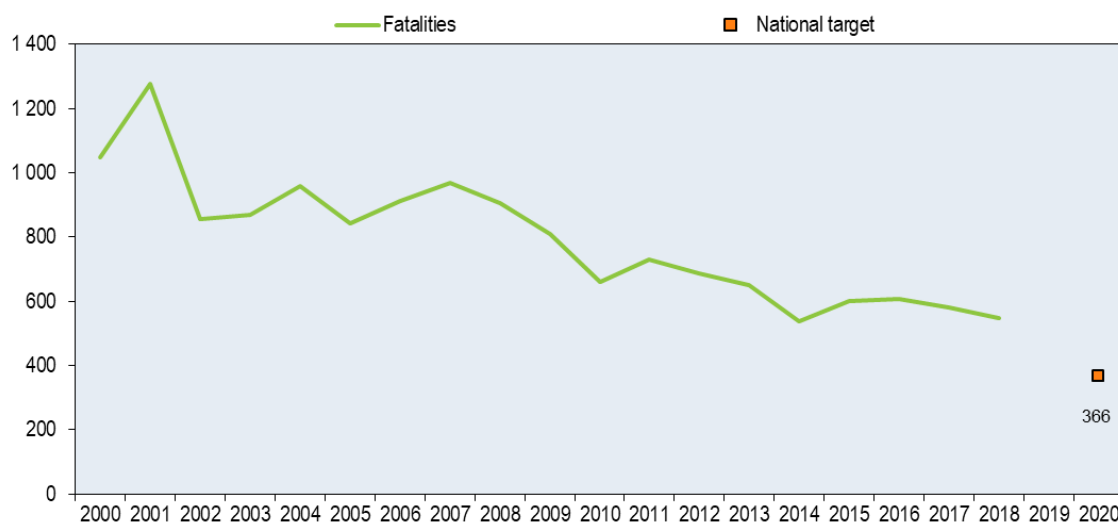
There are several **factors that influence road safety performance** of Serbia as captured by the above indicators. The Law on Road Traffic Safety, adopted in 2009, led to the implementation of several important measures, including:

- the establishment of institutions such as the national Road Traffic Safety Coordination Body, Road Traffic Safety Agency, etc.;
- the introduction of a penalty point system in 2009;
- the introduction of a graduated licensing system in 2012;
- the reduction of the maximum legal blood alcohol content (BAC) to 0.3 g/l in 2009 and to 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.

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

In June 2015, Serbia adopted the **National Strategy for Road Traffic Safety** for the period 2015-2020. The National Strategy includes several targets, including a 50% reduction of the number of road deaths, seriously injured and seriously injured children between 2011 and 2020, a 50% reduction of the total annual social-economic costs of road crashes and no children killed in traffic by 2020.

To guide actions towards the achievement of these goals, a set of performance indicators has been established based on recommendations from the European SafetyNet project. This includes indicators on the use of protective equipment (seatbelts, child restraints, motorcycle helmets), speeding, drink driving and the use of daytime running lights.

Figure 7. Trends in road fatalities towards national target

Measures

Serbia adopted the Law on Roads in 2018. The main improvements are the introduction of procedures such as road safety inspections, road safety audits and black spot identification. In addition, in 2018, amendments and additions to the Law on Road Traffic Safety were adopted. They have improved regulations for novice drivers and child restraint systems. The Road Traffic Safety Agency is currently preparing the rulebook on licencing of road safety auditors and road safety inspectors.

Road safety management

- In 2018, software for traffic police operations in the field has been established at the Ministry of Interior. The software enables targeted control of compliance of traffic regulations based on data about traffic crash locations, factors leading to traffic crashes and data about behaviour in traffic observed for the area in each local government.
- In 2016, the RTSA continued its safety analysis of each local community in Serbia (161 local communities). Safety analysis is based on road crash data, injuries and safety performance indicators. The objective is to provide all local communities with a basic and common review so that they can quickly create measures based on the data. Specific short reports on road safety have been prepared for each local community.
- Since the start of 2016, collection of data on road crashes has been based on the European Commission's Common Accident Data Set (CADaS) protocol. Preparation for use of the MAIS 3+ scale for injuries began in 2017.

Road users

- The RTSA conducts several road safety campaigns each year. In 2016, emphasis was placed on motorcycle safety, restraint system usage, driving under the influence of alcohol, 65+ participants in traffic and the campaign “My Personal Story,” which used testimony by victims disabled by road crashes.
- Local communities hold locally-controlled funds designated for road safety improvement. These communities organise individual programs in the fields of human behaviour and infrastructure development.
- The RTSA manages two notable educational projects. The first concerns peer education for future and young drivers in secondary school. The second, named “I’m still driving”, organises paraplegics injured in road crashes to present the importance of safe behaviour in road traffic via their personal experience. The RTSA also regularly conducts education for children in elementary schools by means of a mascot, Pažljivko, who knows all the road traffic rules and behaves safely in traffic.
- The RTSA has also introduced seminars for lecturers in pre-schools, primary and secondary schools.

Infrastructure

- The Republic of Serbia adopted the Law on Roads in 2018. This law introduces road safety inspections and audit processes and describes in detail the responsibilities and organisation of these activities.
- In 2018 and 2019, accompanying legal acts were adopted. The acts regulate the way road safety audits and road safety inspections need to be conducted.

Definition, methodology, data collection

- Road fatality: any 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. Establishment of a system for recording injuries of road traffic accidents 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 accident database was conducted in 2015 and 2016. Following these revisions, the road accident database is

now completely harmonised with the European Commission's Common Accident Data Set (CADaS) requirements and 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. For other crashes, participants are allowed to fill in a special form without calling traffic police. However, if one of the participants requests the presence of the police, they are required to attend the crash scene. Data on crashes not covered by the traffic police are collected by insurance companies.

Information on injury severity is recorded by the traffic police based on information from hospitals. Hospitals are obliged to inform the police of every person admitted to hospital claiming 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 the crossing of road-rail crossings was defined. The methodology will be used in a future survey.

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

Resources

Recent research

Five important research projects were completed in 2018-2019:

- Measurement of road safety performance indicators (SPIs).
The RTSA in 2018 continued its on-going monitoring programme, started in 2013. The 2019 survey will be conducted in each of the 161 local governments in Serbia. In 2018, Serbia joined the ESRA countries team. Accordingly, at the end of 2018, an ESRA2 survey of attitudes of traffic participants on traffic safety in Serbia was completed.
- Recording data on injuries in road crashes based on MAIS3+.
In response to the European Commission recommendation to collect MAIS3+ data, research was undertaken on options for implementing the MAIS3+ injury scale. The full scale implementation of this project started in 2019.

- Professional development of road safety auditors and road safety inspectors. In 2017, a program for the training and professional development of road safety auditors and road safety inspectors was developed with the purpose of establishing a system for certified auditors and inspectors in the Republic of Serbia. In 2018, documentation was completed.
- In 2018, RTSA conducted a pilot project based on the methodology for collecting data on the behaviour of road users at road-rail crossings.
- In 2018, RTSA conducted research on speeding on the main road network and motorways.

Websites

Road Traffic Safety Agency of Serbia: <http://www.abs.gov.rs/>

Reports on road safety by local community: <http://www.abs.gov.rs/analize-i-istrazivanja/statistika-lokalne-samouprave/analiza-stanja-bezbednosti-saobracaja>

Integrated road safety database: <http://195.222.96.212/ibbsPublic/>

Road safety and traffic data

	2000	2010	2017	2018	2018 % change over		
					2017	2010	2000
Reported safety data							
Fatalities	1 048	660	579	546	-5.7%	-17.3%	-47.9%
Injury crashes	12 749	14 197	14 756	14 223	-3.6%	0.2%	11.6%
Deaths per 100,000 population	13.9	9.0	8.2	7.8	-5.2%	-13.7%	-44.0%
Deaths per 10,000 registered vehicles	..	3.6	2.4	2.2	-7.2%	-39.5%	..
Fatalities by road user							
Pedestrians	315	172	141	151	7.1%	-12.2%	-52.1%
Cyclists	129	65	48	38	-20.8%	-41.5%	-70.5%
Moped riders	40	20	10	11	10.0%	-45.0%	-72.5%
Motorcyclists	29	48	47	39	-17.0%	-18.8%	34.5%
Passenger car occupants	424	282	271	239	-11.8%	-15.2%	-43.6%
Other road users	111	73	62	65	4.8%	-11.0%	-41.4%
Fatalities by age group							
0-14 years	43	24	17	12	-29.4%	-50.0%	-72.1%
15-17 years	21	8	8	12	50.0%	50.0%	-42.9%
18-20 years	50	31	15	24	60.0%	-22.6%	-52.0%
21-24 years	89	50	25	38	52.0%	-24.0%	-57.3%
25-64 years	587	389	349	302	-13.5%	-22.4%	-48.6%
65-74 years	181	64	91	75	-17.6%	17.2%	-58.6%
≥ 75 years	76	90	74	83	12.2%	-7.8%	9.2%
Fatalities by road type							
Urban roads	..	432	294	256	-12.9%	-40.7%	..
Rural roads	..	178	237	236	-0.4%	32.6%	..
Motorways	..	50	48	54	12.5%	8.0%	..
Traffic data							
Registered vehicles (thousands)	..	1 810	2 433	2 473	1.7%	36.6%	..
Registered vehicles per 1,000 population	..	247.7	345.5	353.2	2.2%	42.6%	..