



This document is part of a series of 30 country profiles: one for each Member State of the EU 27 and three EFTA countries (Iceland, Norway, and Switzerland). The purpose of this series is to provide an overview of the road safety situation in a specific country.

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Version: February 8, 2024

Authors: Katerina Folla, Konstantinos Kaselouris (NTUA)

Internal Reviewers: Ingrid van Schagen, Govert Schermers (SWOV)

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European Commission (2023), Country Profile Estonia. Road Safety Observatory. Brussels, European Commission,

Directorate General for Transport.

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1. Highlights

Road Safety Outcomes

- In 2021, 55 people were killed in road crashes in Estonia.
- Estonia is 10th out of 27 EU countries in terms of the lowest numbers of fatalities per million inhabitants.
- Compared to the EU average, the distribution of fatalities in Estonia shows a relatively high proportion of fatalities occurred on rural roads.
- Over the period 2012-2021, Estonia recorded a higher decrease in road fatalities compared to the EU on average.

Road Safety Performance Indicators

- The use rates of seat-belts among car occupants are higher in Estonia compared to the EU average.
- The passenger car fleet in Estonia is considerably older than the EU average.

Road Safety Policy Measures & Country Characteristics

- The alcohol limit for the general population in Estonia is 0.2 g/l, which is lower than in most EU countries.
- Helmet use for cyclists is mandatory for children aged up to 16 years old.
- Road infrastructure is characterized by relatively high road density compared to the EU average. No motorways exist currently in Estonia.

2. Road Safety Outcomes

2.1 Road Safety Trends

In Estonia, 55 people were killed in road crashes in 2021^a. Over the period 2012-2021, the number of fatalities in Estonia decreased by 37%, which is higher than the European Union (EU) decrease (25%).

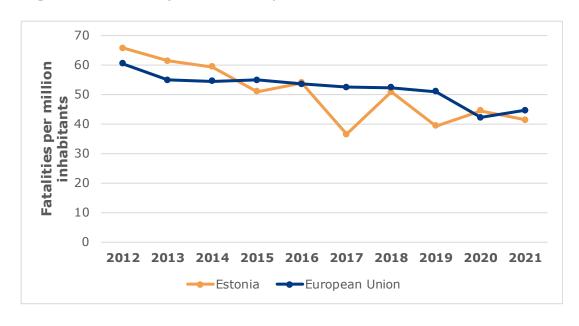
In terms of mortality rates, 41 road fatalities per million inhabitants were recorded in 2021, which is slightly lower than the EU average (45). Over the period 2012-2021, the Estonian trend of mortality rate was downward, with more fluctuations compared to the EU trend.

Data for serious injuries are not available for Estonia in the CARE database.

Table 1. Number of fatalities and serious injuries, 2012 and 2021

	2012	2021	Trend	EU trend
Fatalities	87	55	-37%	-25%
Serious Injuries	-	-	-	-

Figure 1. Mortality rate development, 2012 – 2021



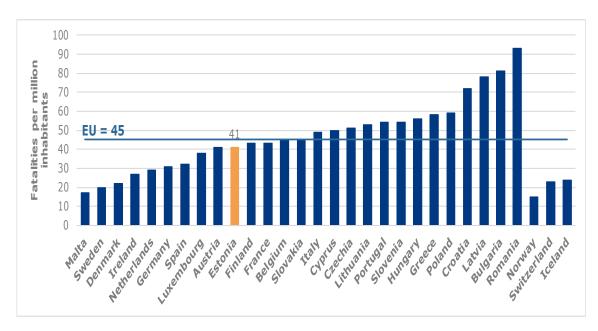
^a It is noted that the global COVID-19 pandemic had an impact on the CARE data for 2020 and 2021 for many European countries. Traffic volumes dropped sharply during the pandemic due to traffic restrictions, which was associated with a significant drop in road traffic crashes and fatalities.

European Commission

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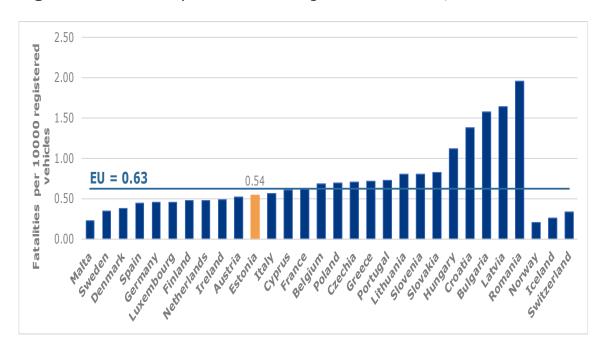
2.2 Risk Figures

Figure 2. Mortality rates by country, 2021



Taking into account the number of vehicles, Estonia performs somewhat better compared to the EU average. The rate of 0.54 fatalities per 10,000 registered vehicles in Estonia is below the EU average of 0.63.

Figure 3. Fatalities per thousand registered vehicles, 2021



2.3 Transport Mode

In 2021^b, car occupants accounted for 40% of road traffic fatalities in Estonia. This percentage is lower than that observed in the EU as a whole (45%). Pedestrians accounted for 5% of road fatalities, which is well below the EU proportion (19%).

Over the period 2012-2021, there has been a decrease in road fatalities in Estonia for all transport modes. The highest decrease was recorded for pedestrians and car occupants (55% and 48% respectively).

Of those vulnerable road users (VRUs: pedestrians, cyclists and powered two-wheelers) that were fatally injured in Estonia in crashes involving either passenger cars or buses/coaches or lorries and heavy goods vehicles, 62% were involved in a crash with a passenger car, and 29% were involved in a crash with a lorry or heavy goods vehicle. Over time Estonia showed a larger decrease of fatalities in crashes with a passenger car involved than the European Union.

The number of fatalities in single vehicle crashes has decreased less than in the European Union: 15% versus 24%.

Table 2: Number of fatalities by transport mode, 2012 and 2021

	2012	2021	Trend	EU trend
Bus/coach occupants	2	0	-	+26%
Car occupants	42	22	-48%	-28%
Cyclists	0	7	-	-12%
Heavy goods vehicles	1	2	-	-11%
Lorries, under 3.5t	0	0	-	-14%
Other/unknown	12	8	-33%	-13%
Pedestrians	29	13	-55%	-34%
Powered two-wheelers	1	3	-	-18%
Total	87	55	-37%	-25%

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^b Different shares of transport modes in the casualty numbers, as shown in this section, may also reflect differences in the size of the vehicle fleet and the usage of different modes rather than a difference in safety level.

Figure 4. Distribution of road fatalities by transport mode, 2021

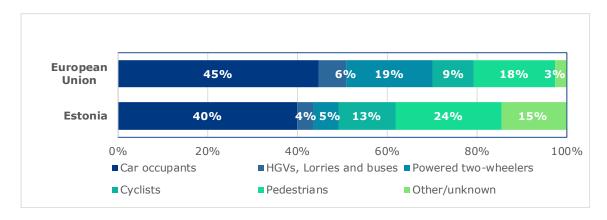


Table 3: Number of VRU fatalities in crashes involving passenger cars, buses or coaches and lorries or heavy goods vehicles, 2012 and 2021

	2012	2021	Trend	EU trend
Crashes involving buses or coaches	2	2	-	-47%
Crashes involving cars	22	13	-41%	-29%
Crashes involving lorries or heavy goods vehicles	4	6	-	-15%

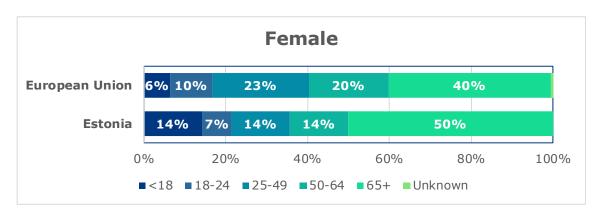
Table 4: Number of fatalities in single vehicle crashes by transport mode, 2012 and 2021

	2012	2021	Trend	EU trend
Bus/coach occupants	0	0	_	+47%
Car occupants	16	12	-25%	-28%
Cyclists	0	1	-	+37%
Heavy goods vehicles	0	0	-	-44%
Lorries, under 3.5t	0	0	-	-12%
Other/unknown	4	4	-	-20%
Powered two-wheelers	0	0	-	-16%
Total	20	17	-15%	-23%

2.4 Age and Gender

The distribution of road fatalities across age groups in Estonia differs from that of the EU for women, with a higher share of fatalities aged above 65 years old. For male the distribution in Estonia is very similar to that of the EU. Over the period 2012-2021, the number of fatalities dropped for all age groups and both genders.

Figure 5. Distribution of road fatalities by age and gender, 2021



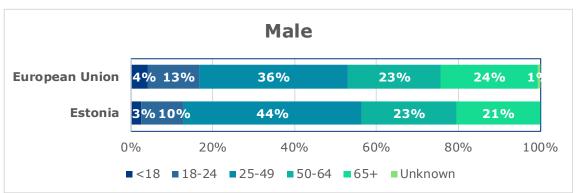


Table 5: Number of fatalities by age and gender, 2012 and 2021

	2012	2021	Trend	EU trend
Female				
<18	0	2	-	-44%
18-24	4	1	-	-40%
25-49	4	2	_	-37%
50-64	5	2	_	-23%
65+	10	7	-30%	-25%
Unknown	0	0	_	-22%
Total	23	14	-39%	-31%
Male				
<18	1	1	-	-27%
18-24	13	4	-69%	-37%
25-49	22	17	-23%	-30%
50-64	20	9	-55%	-13%
65+	8	8	-	-8%
Unknown	0	0	-	-9%
Total	64	39	-39%	-23%

2.5 Area and Road Type

The majority of road fatalities in Estonia occurred on rural roads (80%) which is substantially higher than the EU average. It is noted that in Estonia there are no motorways. Over the period 2012-2021, the number of fatalities decreased on all road types in Estonia. Inside urban areas, the share of pedestrian fatalities is much higher than the respective EU average (more than half of the fatalities). In Estonia no fatalities were reported for buses, HGVs, lorries and powered two wheelers.

Table 6: Number of fatalities by road type, 2012 and 2021

	2012	2021	Trend	EU trend
Motorway	/	/	-	-6%
Rural	/	44	-	-28%
Urban	/	11	-	-24%
Unknown	/	0	_	-48%
Total	/	55	-	-25%

Figure 6. Distribution of road fatalities by road type, 2021

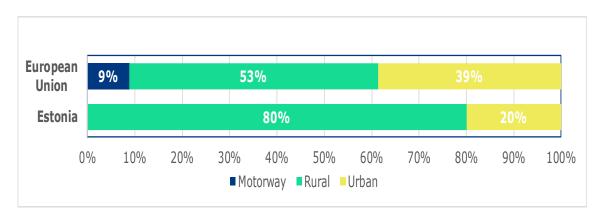
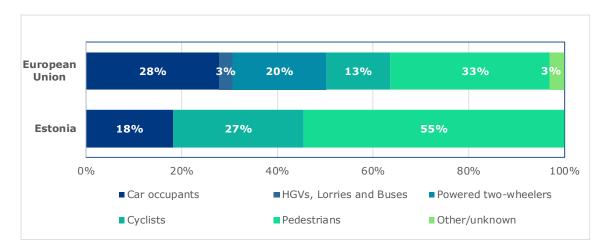


Figure 7. Distribution of road fatalities inside urban areas by type of transport mode, 2021



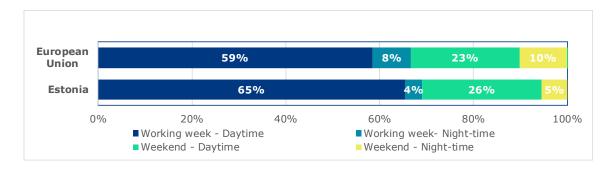
2.6 Time Period

The distribution of fatalities by day of the week and time of the day is similar to that for the European Union. Most fatalities occurred during working weekdays.

Table 7: Number of fatalities by time period, 2012 and 2021

	2012	2021	Trend	EU trend
Working week - Daytime	45	36	-20%	-21%
Working week- Night-time	7	2	-	-30%
Weekend - Daytime	25	14	-44%	-25%
Weekend - Night-time	10	3	-	-39%
Unknown	0	0	-	-75%
Total	87	55	-37%	-25%

Figure 8. Distribution of road fatalities by time period, 2021



2.7 Lighting and Weather Conditions

According to the distribution of fatalities by lighting and weather conditions, the majority of fatalities in Estonia are during daylight and with dry weather conditions. Contrary to the EU, over the period 2012-2021, Estonia recorded an increase in crash fatalities during darkness.

Table 8: Number of fatalities by lighting and weather conditions, 2012 and 2021

	2012	2021	Trend	EU trend
Lighting Conditions				
Daylight	83	35	-58%	-17%
Twilight	0	0	-	-25%
Darkness	4	20	-	-33%
Weather Conditions				
Dry	1	26	-	-24%
Rain	-	23	-	-28%
Other/Unknown	86	6	-93%	-25%

3. Safety Performance Indicators

3.1 Road User Behaviour

Table 9: Road Safety Performance Indicators, 2022 or latest available year

Estonia	EU					
Speeding ^c % of passenger cars travelling within speed limits ¹						
/	-					
/	-					
/	-					
99.0	93.3					
87.0	75.5					
/	67.0					
/	97.0					
/	94.4					
/	37.8					
/	11.8					
/	94.8					
	limits ¹ / / / 99.0					

Sources: ¹Baseline project, ²ETSC (2022), ³ESRA3 project (2024), ⁴national sources

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^c An EU average is not available for speeding, due to different legal speed limits among countries, which does not allow for a straightforward comparison. Please also note that for some Safety Performance Indicators of Section 3, the EU average is based on a small number of EU Member States with available data (see Section 6.1).

3.2 Vehicle Safety

Table 10: Vehicle Safety Performance Indicators, 2019

	Estonia	EU
% of new passenger cars rated with 4 EuroNCAP stars and above ¹	/	83.6
Average age of passenger car fleet (years) ²	16.7	11.8

Sources: ¹Baseline project, ²ACEA (2022)

3.3 Enforcement

Table 11: Number of traffic police tickets per thousand population, 2020

Tickets per 1,000 population	Estonia	EU
Speeding	181.9	139.7
Non-use of seat-belt	1.9	5.7
Illegal use of mobile phone	/	4.4
Driving above legal alcohol limits	5.0	1.9

Source: ETSC (2022)

4. Road Safety Policy and Measures

4.1 National Road Safety Strategy

Table 12: National road safety strategy and targets

	Estonia
Timeframe	2016-2025
Lead Authority	multidiscipline working groups leaded by the Transport Administration
Targets	
Fatalities	max 40 (as a 3-year average by 2025)
Serious injuries	max 330 (as a 3-year average by 2025)
Baseline Year	Average 2012-2014
SPIs	-
Link	https://transpordiamet.ee/media/618/download

Source: national sources

4.2 Traffic Laws and Regulations

National road safety legislation in Estonia reflects the situation in the majority of EU countries with one exception. The alcohol limit for the general population is 0.2 g/l, which is lower than in most EU countries that have a limit of 0.5 g/l.

Table 13: National road safety legislation

	Estonia	Most common in EU
Speed limits for		
passenger cars (km/h)		
Urban roads	50	50: 26/27
Rural roads	90	90: 17/27
Motorways	-	130: 14/27
Allowed BAC levels (g/l)		
General population	0.2	0.5: 19/27
Novice drivers	0.2	0.2: 12/27, 0.0: 9/27
Professional drivers	0.2	0.2: 10/27, 0.0: 9/27, 0.5: 6/27
Seatbelt requirement		
Drivers	Yes	Yes: 27/27
Front Passenger	Yes	Yes: 27/27
Rear Passenger	Yes	Yes: 27/27
Child restraint systems		
CRS required	Use of an appropriate safety system (CRS or seat belt) based on the height or weight of the child	up to 135 cm: 11/27, up to 150 cm: 11/27

	Estonia	Most common in EU
Children in front seats	Not restricted	Allowed in CRS: 22/27
Children on motorcycles	Prohibited under 12 years old	Prohibited under certain age/height: 18/27
Helmet requirement		
Powered Two Wheelers	Yes	Yes: 27/27
All roads	Yes	Yes: 27/27
All engines	Yes	Yes: 25/27
Cyclists	Yes	Not mandatory: 19/27
Age restriction	Up to 16 years old	Not restricted: 16/27
Mobile phone use		
Hand-held phone use allowed	No	No: 26/27
Hands-free phone use allowed	Yes	Yes: 27/27
E-scooters		
Age restriction	No	Not restricted: 9/27, Allowed from 14 years: 6/27
Max. speed limit (km/h)	25	25: 18/27
Helmet required	Up to 16 years old	Not required: 12/27
Allowed on road lanes	No	Yes: 18/27
Allowed on pavements	Yes	No: 13/27, Yes: 9/27
Allowed on bicycle paths	Yes	Yes: 21/27

Sources: EC (2023), WHO (2018), FERSI (2020), National sources

4.3 Driving Licences

Table 14: Policies and regulations related to driving licences

	Estonia	Most common in EU
Novice Drivers		
Accompanied driving	16 years old	17 years: 13/27, No: 7/27
Probation period for novice drivers	No specific probationary period	2 years: 7/27, 3 years: 5/27
Renewal procedure		
Renewal procedure (compulsory)	Yes	Yes: 26/27
Renewal interval	Every 10 years	Every 10years: 13/27, Every 15years: 9/27
Medical requirements	Yes	Yes: 22/27

Source: National sources

4.4 Road Infrastructure

Table 15: Policies and regulations related to road infrastructure

	Estonia	Most common in EU
Audits or star rating required for new road infrastructure	Partial	Yes: 10/27, Partial:17/27
Inspections / star rating of existing roads	Yes	Yes:26/27
Design standards for the safety of pedestrians / cyclists	Yes	Yes:25/27
Investments to upgrade high risk locations	Yes	Yes:20/27
Policies & investment in urban public transport	No	Yes:23/27
Policies promoting walking and cycling	Yes	Yes: 21/27

Source: WHO (2018)

5. Structure and Culture

5.1 Country Characteristics

Population density in Estonia is below the EU average. Its GDP per capita is below that of the European Union.

Table 16: Country Characteristics, 2021

	Estonia	EU
Demographics ²		
Population (inhabitants)	1,330,068	447,000,548
Population density (inh./km²)	30.6	109.0
% children (0-17)	19.4	18.2
% adults (18-64)	60.2	61.6
% elderly (65+)	20.3	20.3
% of urban population	69.5	75.2
Economic Data ²		
GDP per capita (euro)	23,640	32,560
Infrastructure ¹		
Country Area (km²)	45336	4,225,134
Road network length (km)	65,656	4,473,380
Road density (km/km²)	1.45	1.1
% of motorways	/	1.67
% GDP spent to road infrastructure ³	0.9	0.4
Vehicle Fleet ¹		
Vehicles per population	0.78	0.73
% of passenger cars	79.8	77.3
% of motorcycles	6.1	11.4
% of HGVs	13.5	11.1
% of buses	0.5	0.2
Exposure ¹		
Modal split of passenger transport on		
land (passenger-km in %):		
- Passenger cars	88.9	85.2
- Bus/coach/Metro/Tram	9.1	8.7
Modal split of freight transport on land		
(tonne-km in %): - Road	59.9	74.6
- Road - Rail	59.9 40.1	74.6 16.4
Environment ¹	40.1	10.4
CO2 emissions from road transport		
(million tonnes)	2.3	739.8
Share of road transport emissions in	66.5	76.3
total transport emissions (%) Sources: ¹ FC (2023b) ² Furestat ³ OFCD (2023)	00.3	/0.3

Sources: ¹EC (2023b), ²Eurostat, ³OECD (2023)

5.2 Structure of Road Safety Management

Table 17: Road Safety Management Structure

Key Functions	Key Actors
Formulation of national road safety strategy	 Ministry of Economic Affairs and Communications The Governments: responsible for setting targets Estonian Transport Agency (ETA): responsible for the formulation and the development of the national RS strategies
Monitoring of the road safety development	- ETA
Improvements in road infrastructure	ETA: national roadsLocal governments: local roads
Improvement in vehicles	 Motor Vehicle Registration Centre of ETA: driver licensing and motor vehicles registration activities
Improvement in road user education	Police and ETAMinistry of Education and Research
Publicity campaigns	 ETA (National) Police and Border Guard Board Regional and local authorities: regional and local campaigns
Enforcement of traffic laws	- Police and Border Guard Board
Other relevant actors	 The Ministry of Health Research: e.g. Tallinn Technical University, the University of Tartu, the University of Tallinn, Tallinn University of Applied Sciences The Ministry of Justice

Source: National sources

5.3 Self-declared behaviour & Attitudes

For Estonia there are no data available on self-declared behaviour and attitudes.

6. Notes

6.1 Data Sources

CARE (Community database on road accidents in Europe)

All information in section 1 of the Country Profile is based on the CARE database. The full glossary of definitions of variables used in this Report is available at EC Mobility & Transport - Road Safety webpage.

The European average is based on the average of the 27 EU countries. EU trends and aggregated figures are based on the most recent figures available (2021). In case of missing values, the EU averages and aggregated data were produced by imputing figures based on data from previous years. For values less than 10, the trend is not shown since it may be due to randomness. Also, due to missing data on serious injuries for some EU countries, EU total/average is not calculated. Date of extraction: July 2023

ACEA (2022)

European Automobile Manufacturers' Association. *The automobile industry - Pocket guide 2022/2023*. ACEA, 2022. https://www.acea.auto/files/ACEA Pocket Guide 2022-2023.pdf

Data on the average age of the passenger car fleet come from the ACEA. The European average is based on the average of 24 EU countries. Date of extraction: July 2023

Baseline project

Information in section 3 is based on Key Performance Indicators collected within the Baseline project.

https://road-safety.transport.ec.europa.eu/statistics-and-analysis/data-and-analysis/key-performance-indicators-kpis en

Alternative sources were used for countries with no available data in the Baseline project (e.g., ETSC, national sources). The European average is based on the average of 17 EU countries for speeding, 23 EU countries for seat-belt use, 13 EU countries for CRS use, 14 EU countries for helmet use, 14 EU countries for driver distraction and 13 EU countries for vehicle safety. Date of extraction: July 2023

European Commission 2023

Data were retrieved from EC Mobility & Transport - Road Safety website: https://europa.eu/youreurope/citizens/travel/driving-abroad/road-rules-and-safety/index en.htm

Date of extraction: July 2023

European Commission

European Commission - Statistical Pocketbook 2023 (b)

European Commission, Directorate-General for Mobility and Transport. *EU transport in figures – Statistical pocketbook 2023*. Publications Office of the European Union, 2023. Date of extraction: November 2023 https://data.europa.eu/doi/10.2832/319371

Eurostat

Data were retrieved from Eurostat: https://ec.europa.eu/eurostat The European average is based on the average of the 27 EU countries. Date of extraction: July 2023

ESRA project

Information in sections 3 (drink-driving) and 5.3 is based on data from the ESRA 3 (E-Survey of Road Users' Attitudes) project (2023). https://www.esranet.eu/

The European average is the average of 17 European countries. In the ranking of the countries in Table 21, Switzerland is also included. Date of extraction: November 2023

ETSC

Information in section 3 is based on data from the following ETSC report. The European average is the average of 24 European countries for all indicators, except the alcohol related tickets (20 countries).

European Transport Safety Council. *How traffic law enforcement can contribute to safer roads*. PIN Flash Report 42. ETSC, 2022. https://etsc.eu/how-traffic-law-enforcement-can-contribute-to-safer-roads-pin-flash-42/

FERSI (2020)

Kamphuis, K. & van Schagen, I. (2020) E-scooters in Europe: legal status, usage and safety. Results of a survey in FERSI countries. FERSI paper. https://fersi.org/. Date of extraction: July 2023

IRTAD (International Traffic Safety Data and Analysis Group)

Data related to the percentage of GDP spent to road infrastructure (Section 5.1) is retrieved from the OECD database: https://stats.oecd.org/. Date of extraction: July 2023

WHO

Data were retrieved from the WHO Global Status Report on Road Safety, published in 2018. The European average is based on the average of the 27 EU countries.

https://www.who.int/violence injury prevention/road safety status/

2018/en/. Date of extraction: July 2023

6.2 Definitions

Road Crash

Any crash involving at least one road vehicle in motion on a public road or private road to which the public has right of access, resulting in at least one injured or killed person. Data are based on police reports and there may be an underestimate because of underreporting (especially for non-fatal crashes and crashes not involving a motorised vehicle).

Fatalities

Total number of persons fatally injured within 30 days of the road crash; correction factors applied when needed. Confirmed suicide and natural death are not included.

Seriously injured (at 30 days)

Total number of persons seriously injured corrected by correction factors when needed. Injured (although not killed) in the road crash and hospitalized at least 24 hours. The definition of "serious injury" varies considerably among EU countries, affecting, thus, the reliability of cross-country comparisons.

Lorry, under 3.5tn

Goods vehicle under 3.5t maximum gross weight. Smaller motor vehicles used only for the transport of goods.

Heavy Goods Vehicles

Goods vehicle over 3.5t maximum gross weight. Larger motor vehicles used only for the transport of goods.

Powered two-wheelers

Driver or passenger of either a moped (two or three wheeled vehicle equipped with engine size of maximum 50cc and maximum speed that does not exceed 45 km/h. A moped can also have an electric motor. Speed pedelecs and electric powered bicycles that offer pedal assistance up to 45 km/h, also belong to this category of vehicles.) or a motorcycle (motor vehicle with two or three wheels, with an engine size of more than 50 cc. A motorcycle can also have an electric motor.).

Working week - Daytime

Monday to Friday 6.00 a.m. to 9.59 p.m.

Working week - Night-time

Monday 10 p.m. to Tuesday 5.59 a.m. Tuesday 10 p.m. to Wednesday 5.59 a.m.

Wednesday 10 p.m. to Thursday 5.59 a.m. Thursday 10 p.m. to Friday 5.59 a.m.

Weekend - Daytime

Saturday to Sunday 6.00 a.m. to 9.59 p.m.

Weekend - Night-time

Friday 10 p.m. to Saturday 5.59 a.m. Saturday 10 p.m. to Sunday 5.59 a.m. Sunday 10 p.m. to Monday 5.59 a.m.

Speeding

The percentage of passenger cars travelling within legal maximum speed limits based on roadside measurements during daytime.

Seat belt & CRS use rates

The percentage of passenger car occupants using seat belts and child restraint systems (CRS) based on roadside observations during daytime.

Helmet use rates

The percentage of powered two-wheeler riders and cyclists using helmets based on roadside observations during daytime. Helmet use rates for cyclists in some countries concern only urban roads. Please note that in some countries the use of helmets is not obligatory for cyclists (see Table 13).

DUI of Alcohol

The percentage of car drivers who have driven at least once in the last 30 days over the legal alcohol limit based on a self-reported survey.

Driver Distraction

The percentage of drivers not using a hand-held mobile device/phone while driving based on roadside surveys during daytime on working days. The vehicle types included are passenger cars, light goods vehicles and buses/coaches.

Explanations of symbols in tables:

/ : not available

- : not applicable (e.g. calculation cannot be performed)



