



European Road Safety Observatory

Facts and Figures - Pedestrians - 2021

This document is part of a series of 18 *Facts and Figures* reports. The purpose of these *Facts and Figures* reports is to provide recent statistics related to a specific road safety topic, for example a specific age group or transport mode. The *Facts and Figures* reports replace the Basic Fact Sheets series that were available until 2018 (containing data up to 2016). The most recent figures in this *Facts and Figures* report of 2021 refer to 2019.

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Sources	Information in this document is based largely on data in the CARE database (Community database on Accidents on the Roads in Europe). Other data are taken from Eurostat. Date of extraction: 12 October 2021

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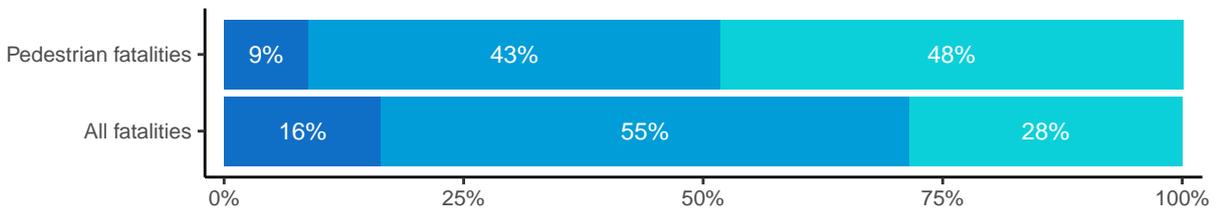
1 Key Facts

Pedestrian Fatalities 2019

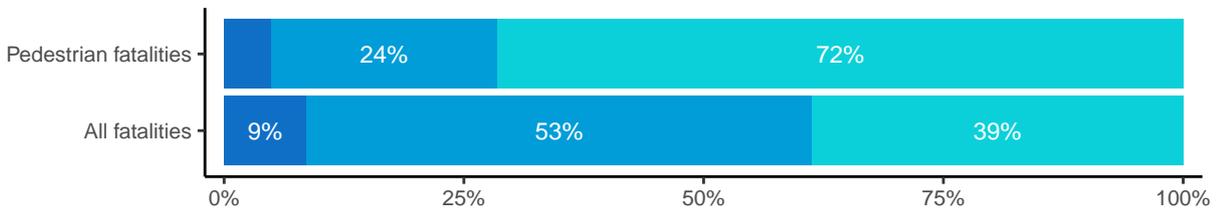


- 4628 fatalities
- 20% of all road fatalities

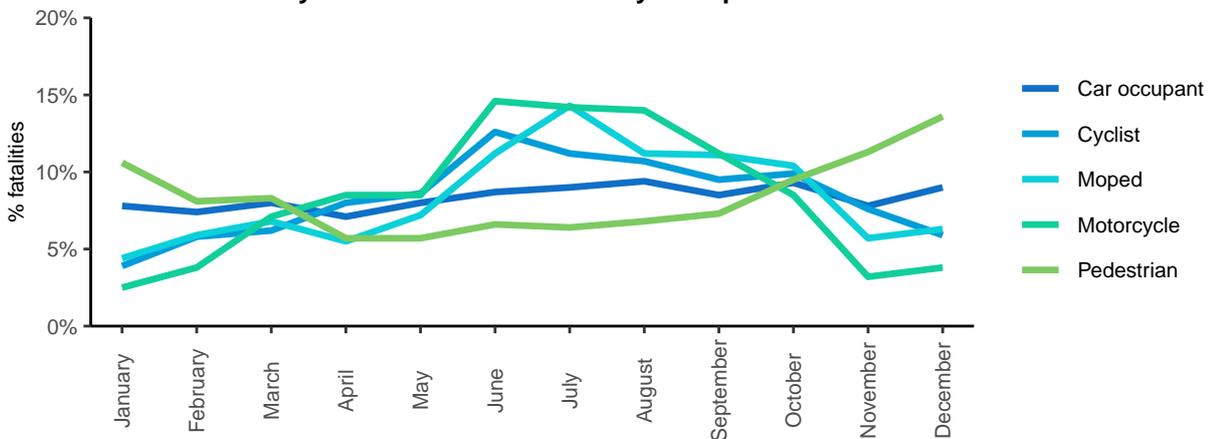
Age



Road type



Monthly distribution of fatalities by transport mode



In this Facts and Figures report, pedestrians are discussed. All differences reported were derived from the available data and not statistically tested.

Pedestrians are a special category within the totality of different transport modes. It is the most universal form of movement, the only mode of transport without a vehicle, and the first form of movement that each person learns. Like bicycles, this mode of transport has no age limit, is often practiced by children and senior citizens (cf. Thematic Report on Pedestrians), and is beneficial for health and the environment. At the same time, **pedestrians are particularly vulnerable**. Usually they do not wear protective clothing and, compared to other transport modes, they have a low and vulnerable position on the road. **As a consequence, almost all fatalities in pedestrian crashes (98%) are the pedestrians themselves.**

Both the share of pedestrian fatalities in the total number of road fatalities and pedestrian mortality were highest in the central and eastern EU Member States.

One in five of all road fatalities across the EU were pedestrians. This proportion was higher than for other vulnerable road users, namely 9% for cyclists, 3% for mopeds and 16% for motorcycles. Although the absolute number of pedestrian fatalities fell from 5,952 to 4,628 fatalities between 2010 and 2019 (-22%), the total number of road fatalities decreased to the same extent (-23%), keeping the proportion of pedestrians in the total number of road fatalities constant.

No fewer than 1 in 2 pedestrian fatalities (48%) in 2019 were seniors aged 65 or older. This was much higher than the proportion of seniors within the total number of road fatalities (28%) and their share in the population (20%). As a consequence, **the mortality rate among senior pedestrians was very high:** 3 times higher than for 25-64 year olds and even 7 times higher than for the under-25s. The proportion of women in pedestrian fatalities was 36%, which was higher than their share in the total number of road fatalities (23%).

Regarding the time and location of pedestrian fatalities, there was a more pronounced morning and evening peak than for all road fatalities. Furthermore, the monthly distribution was very different from other road user types, with **up to two times more pedestrians getting killed on the road in the winter months** than during the months of March to June. Compared to all road fatalities combined, many more pedestrians were killed on urban roads (72% versus 39% in 2018). However, motorways also accounted for 5% of pedestrians killed.

Basic definitions

Pedestrian:

person on foot; person pushing or holding bicycle, person who uses a wheelchair, a pram or a pushchair, leading or herding an animal, riding a toy cycle on the footway, person on roller skates, skateboard or skis. Does not include persons in the act of boarding or alighting from a vehicle.

Fatalities:

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

More detailed data:

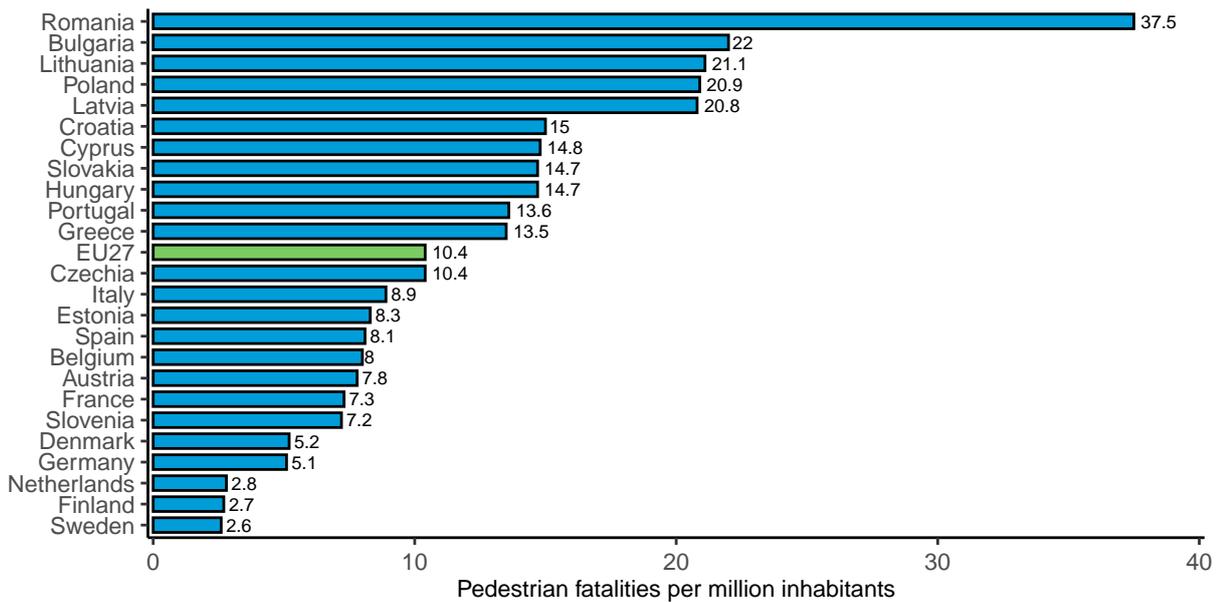
This Facts and Figures report is accompanied by an excel file (available online) containing a large set of additional detailed data. Each sheet in the excel file corresponds to a Figure/Table in the report.

2 Main trends

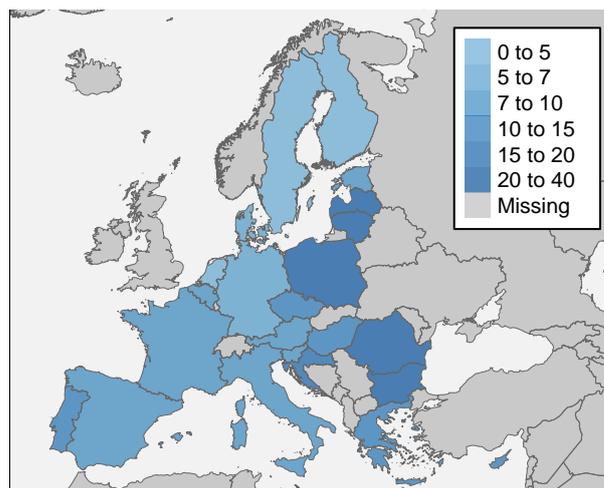
2.1 Mortality rate: number of road fatalities per million inhabitants

The number of pedestrian fatalities per million inhabitants is highest in the central and eastern European Member States of the EU. In Romania, Bulgaria, Lithuania, Poland, and Latvia, the mortality rate for pedestrians in 2019 is at least 2 times higher than the EU average. Despite the fact that Poland shows the strongest decrease in the past decade, the country still has above-average pedestrian mortality. In the south of the EU, Portugal and Greece show above-average figures.

Figure 1. Pedestrian fatalities per million inhabitants per country in the EU27 (2019). Source: CARE, EUROSTAT



Note: Ireland, Luxembourg and Malta are not included due to a high number of missing values or small numbers



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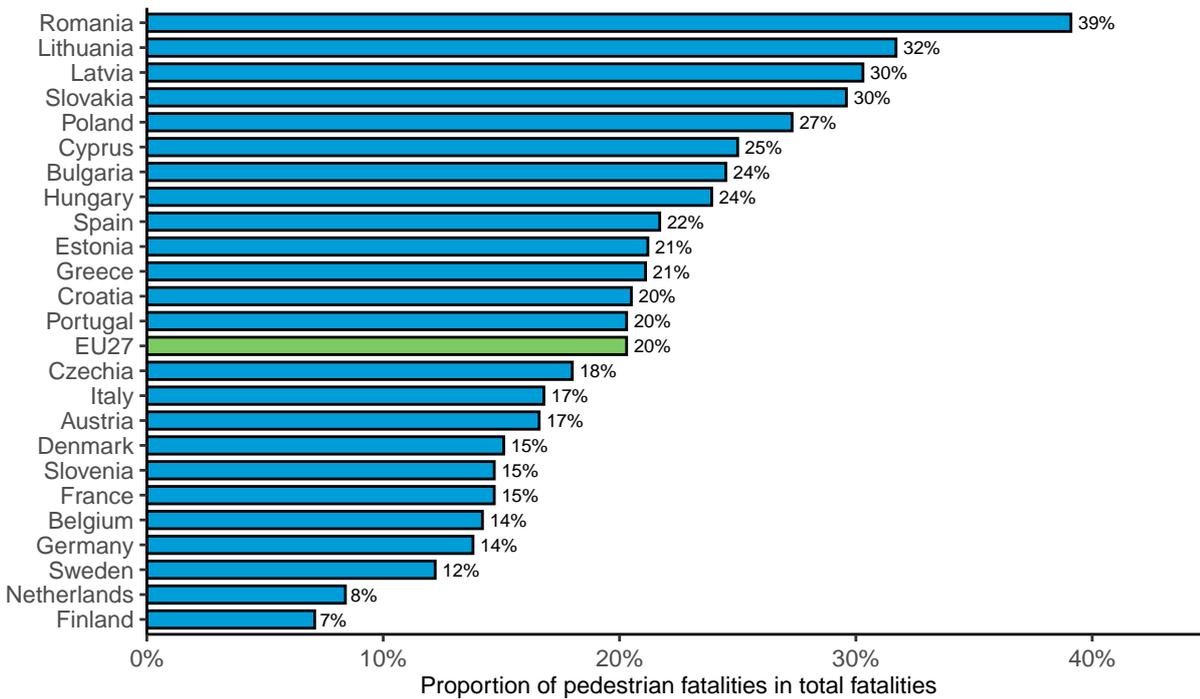
2.2 Number of cyclist fatalities as a proportion of total fatalities

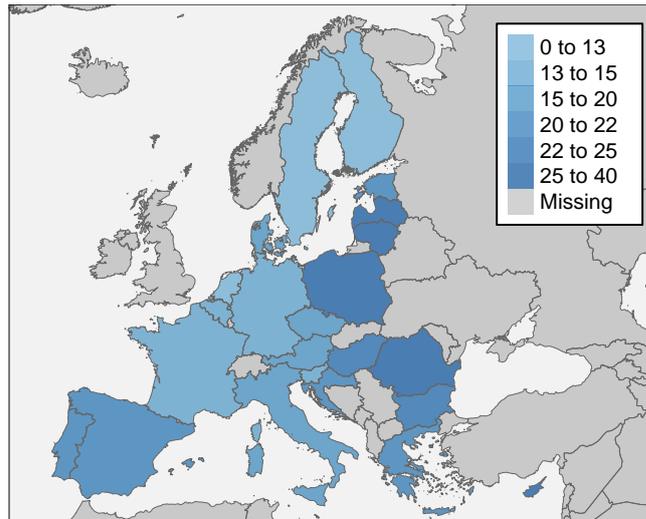
Mortality is an important indicator, but does not take into account differences in the general state of road safety in countries. In other words, it is possible that pedestrian mortality is high because

the total mortality for all road users is high. Therefore, it is important to also look at the proportion of pedestrian fatalities within the total number of road fatalities.

The Figure below is in line with the Figure on mortality. **Central Eastern EU Member States score worst on road safety for pedestrians.** Romania, Lithuania, Latvia, and Poland again have the highest scores, as they do for mortality. And also Greece and Portugal score above average in terms of the share of pedestrian fatalities in the total number of road fatalities. The high position of some countries may be related to the nature of pedestrian mobility in these countries. Unfortunately exposure data on pedestrians, such as the number of trips and the average distance travelled, are either missing or incomplete for most EU countries. On average, across the EU, 15 to 25% of all trips are made on foot according to the Thematic report Pedestrians.

Figure 2. Share of pedestrian fatalities in the total number of fatalities, per country in the EU27 (2019). Source: CARE



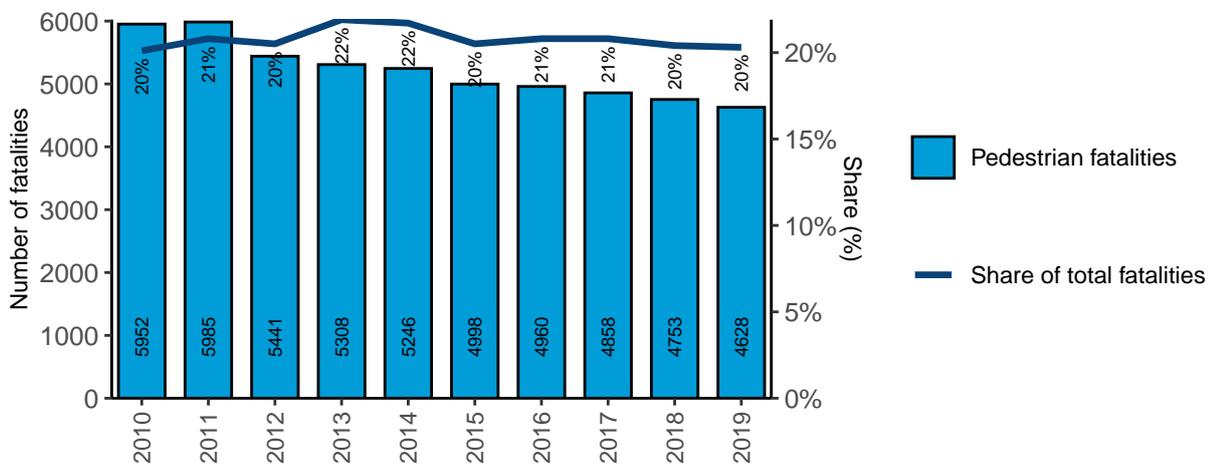


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2.3 Trend in the number of fatalities

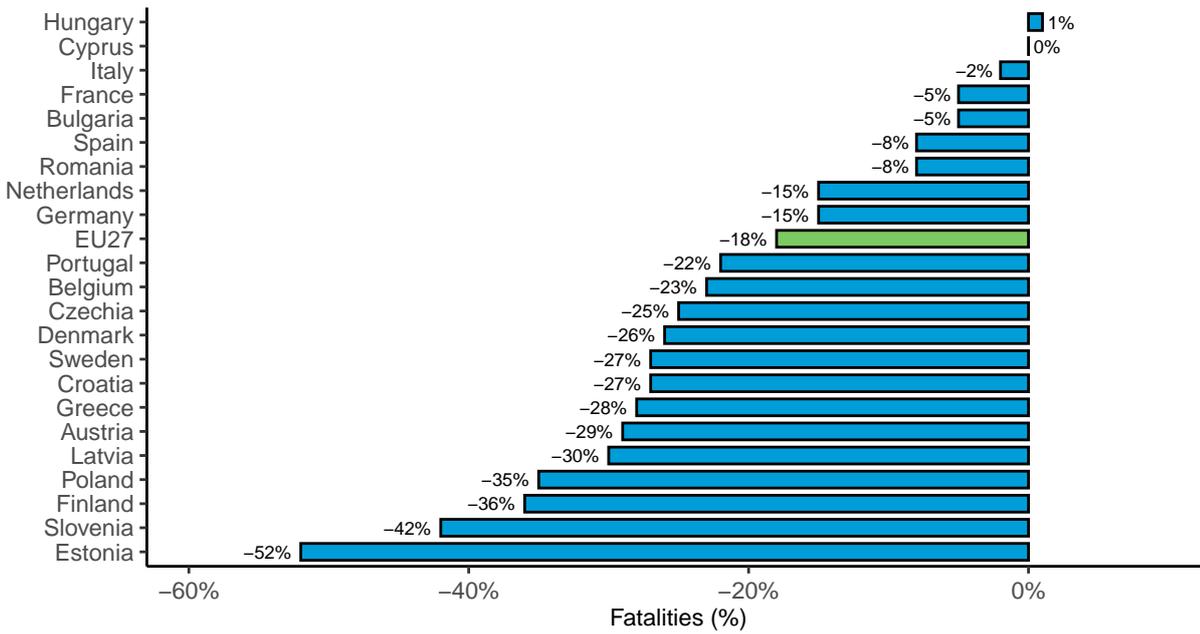
The number of pedestrian fatalities fell from 5952 to 4,628 fatalities between 2010 and 2019. This is a **relative decrease of 22%, which is almost equal to the decrease in all road fatalities together in the same period (- 23%)**. As a result, the proportion of pedestrians has remained almost constant in recent years: **1 in 5 road fatalities in the EU are pedestrians**.

Figure 3. Annual number of pedestrian fatalities, and their share in the total number of fatalities in the EU27 (2010-2019). Source: CARE



In almost all countries of the EU, the number of pedestrian fatalities has decreased over the past decade. This is not the case in Cyprus (a country with few pedestrian fatalities and large annual random fluctuations) and Hungary. **Despite the strong decline in Poland, this country has the highest number of pedestrian fatalities in 2019 (793), followed by Romania (729) and Italy (534).**

Figure 4. Percentage change in the number of pedestrian fatalities per country in the EU27 (2017-2019 and 2010-2012).
Source: CARE



Notes:

- Countries that are not included in the Figure are Ireland, Lithuania, Malta and Slovakia because these countries have missing values in the time series 2010-2019
- Luxembourg is not included in the Figure because of small numbers

Table 1. Number and trend of pedestrian fatalities per country in the EU27 and EFTA (2017-2019 versus 2010-2012).
Source: CARE

	2010	2017	2018	2019	Trend 2017 - 2019 vs 2010 - 2012	Miniplot: trend since 2010
Austria	98	73	47	69	-29%	
Belgium	108	95	74	92	-23%	
Bulgaria	174	157	123	154	-5%	
Croatia	105	56	65	61	-27%	
Cyprus	13	15	8	13		
Czechia	168	129	142	111	-25%	
Denmark	44	20	30	30	-26%	
Estonia	14	10	12	11	-52%	
EU27	5952	4858	4753	4628	-18%	
Finland	35	27	25	15	-36%	
France	485	480	468	476	-5%	
Germany	476	489	464	421	-15%	
Greece	179	118	146	145	-28%	
Hungary	192	170	165	144	1%	
Iceland	2	0	0	1		
Ireland	44	-	-	-		
Italy	621	600	612	534	-2%	
Latvia	79	51	50	40	-30%	
Lithuania	-	69	71	59		
Luxembourg	1	4	3	2		
Malta	-	7	2	-		
Netherlands	62	64	50	49	-15%	
Norway	24	11	13	13	-40%	
Poland	1236	873	803	793	-35%	
Portugal	195	130	163	140	-22%	
Romania	868	733	690	729	-8%	
Slovakia	126	55	72	80		
Slovenia	26	10	13	15	-42%	
Spain	471	351	386	381	-8%	
Sweden	31	37	34	27	-27%	
Switzerland	75	47	43	37	-42%	

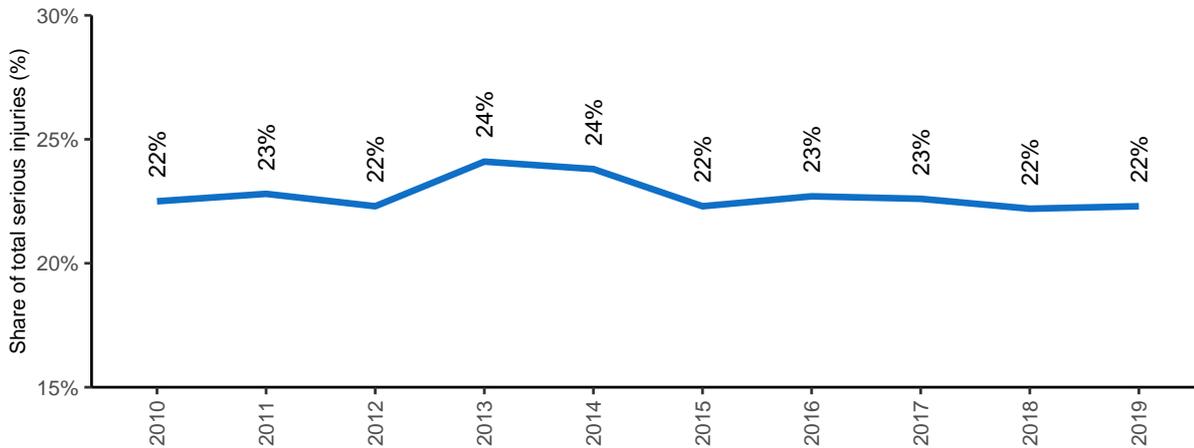
Note:

The trend is not shown if there are less than 10 fatalities in one year

2.4 Trend in the number of serious injuries

22% of all serious injuries in the EU27 in 2019 were pedestrians. The relative proportion of serious injuries has remained constant in the time period 2010-2019.

Figure 5. Share of serious injuries for pedestrians in the total number of serious injuries in the EU27 (2010-2019). Source: CARE



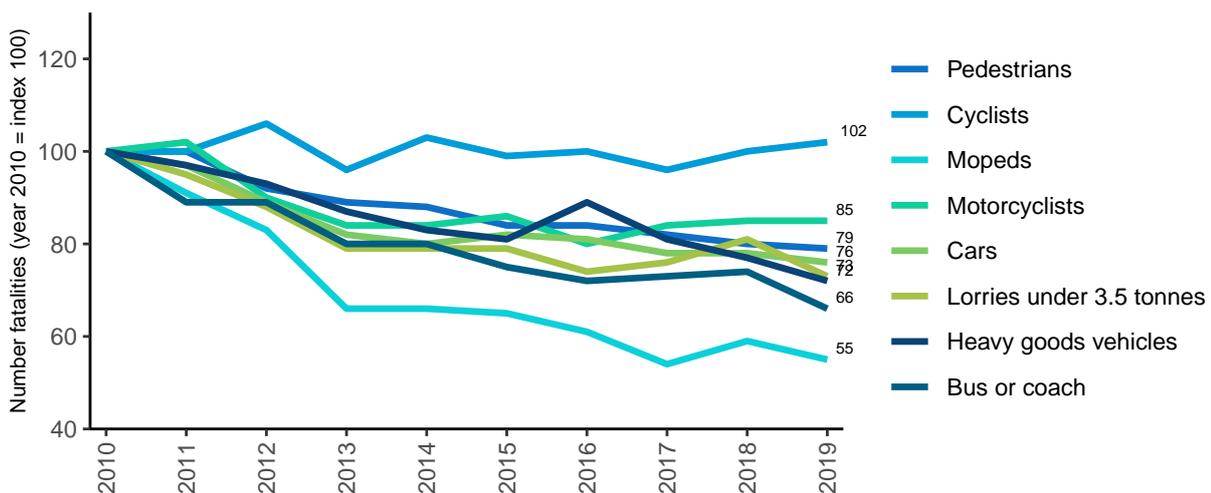
Notes:
 - Countries that are not included in the Figure are France, the Netherlands, Ireland, Italy and Estonia due to problems of comparability, missing data or a break in the time series
 - Germany accounts for a disproportionately high share of 40% of all serious injuries

2.5 Comparison of cyclists with other transport modes

The Figure below shows the total number of fatalities in road crashes involving particular modes of transport over the period 2010-2019. Not only are fatalities by transport mode counted, but also the other party killed in the crash by respective mode of transport (e.g. in car crashes, both the car occupants and the other parties killed are counted).

The Figure below shows that the number of fatalities in pedestrian crashes has decreased to the same extent as the total number of fatalities. Compared to other vulnerable road users, **the trend is worse for pedestrians than for mopeds but better than for motorcyclists and for cyclists.**

Figure 6. Trend of fatalities in crashes involving different transport modes in the EU27 (2010-2019). Source: CARE



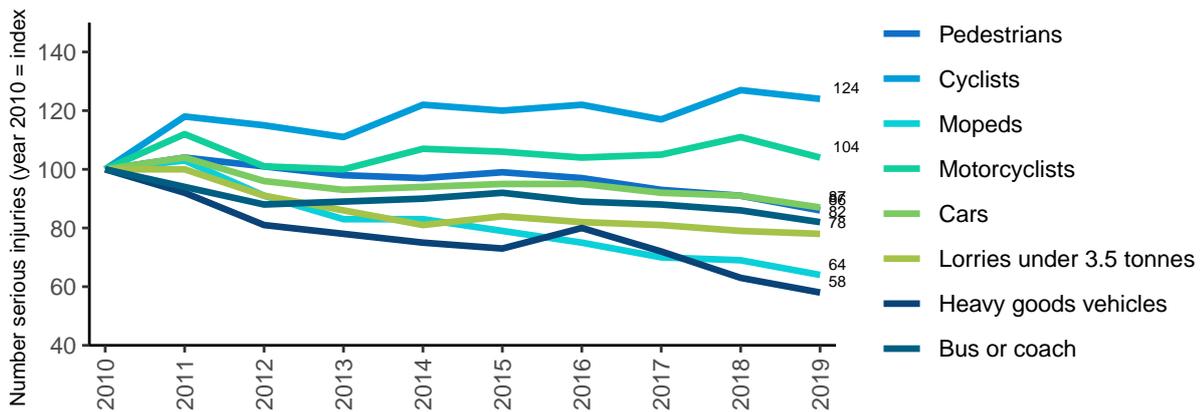
Note: imputation was used for missing values for specific combinations of years and countries. Countries that show an unreliable trend for a particular mode of transport are omitted for that mode of transport.

The analogous Figure for serious injuries is given below. This Figure shows the total number of

serious injuries in road crashes involving particular modes of transport over the period 2010-2019. The same rule applies: both serious injuries by transport mode, and the other parties seriously injured in the crash are counted (e.g. in car crashes, both the car occupants and the other parties seriously injured are counted).

Compared to other vulnerable road users, the trend is worse for pedestrians than for mopeds but better than for motorcyclists and for cyclists.

Figure 7. Trend of serious injuries in crashes involving different transport modes in the EU27 (2010-2019). Source: CARE



- Notes:
- Imputation was used for missing values for specific combinations of years and countries. Countries that show an unreliable trend for a particular mode of transport are omitted for that mode of transport
 - Countries that are not included in the Figure are France, the Netherlands, Ireland, Italy and Estonia due to problems of comparability, missing data or a break in the time series
 - Germany accounts for a disproportionately high share of 40% of all serious injuries

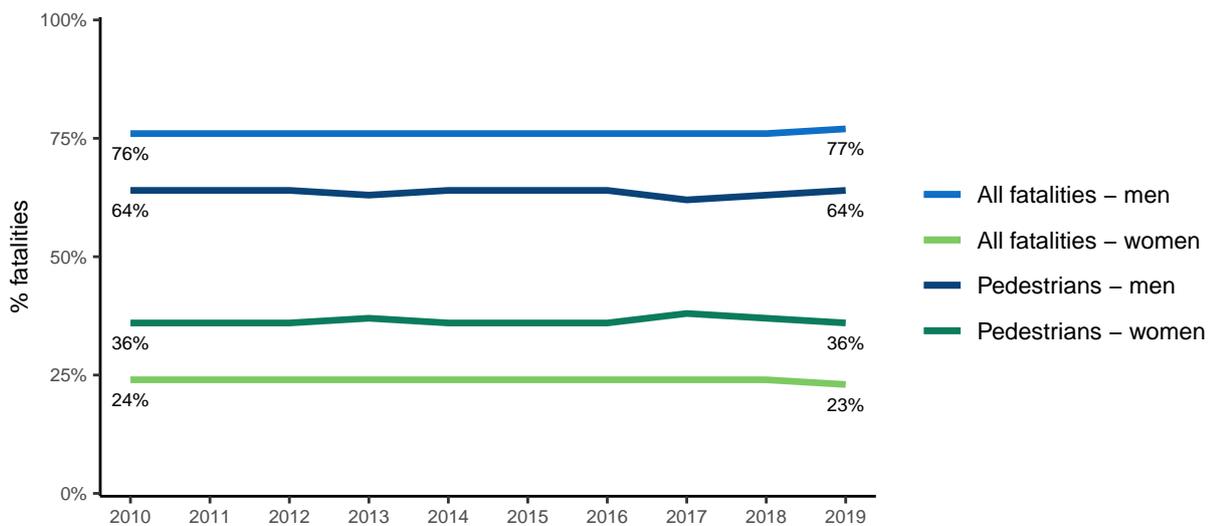
3 Road user

3.1 Gender

77% of all road fatalities in the EU are male. At 64%, the proportion of men among pedestrian fatalities is lower. Both shares have remained more or less stable since 2010.

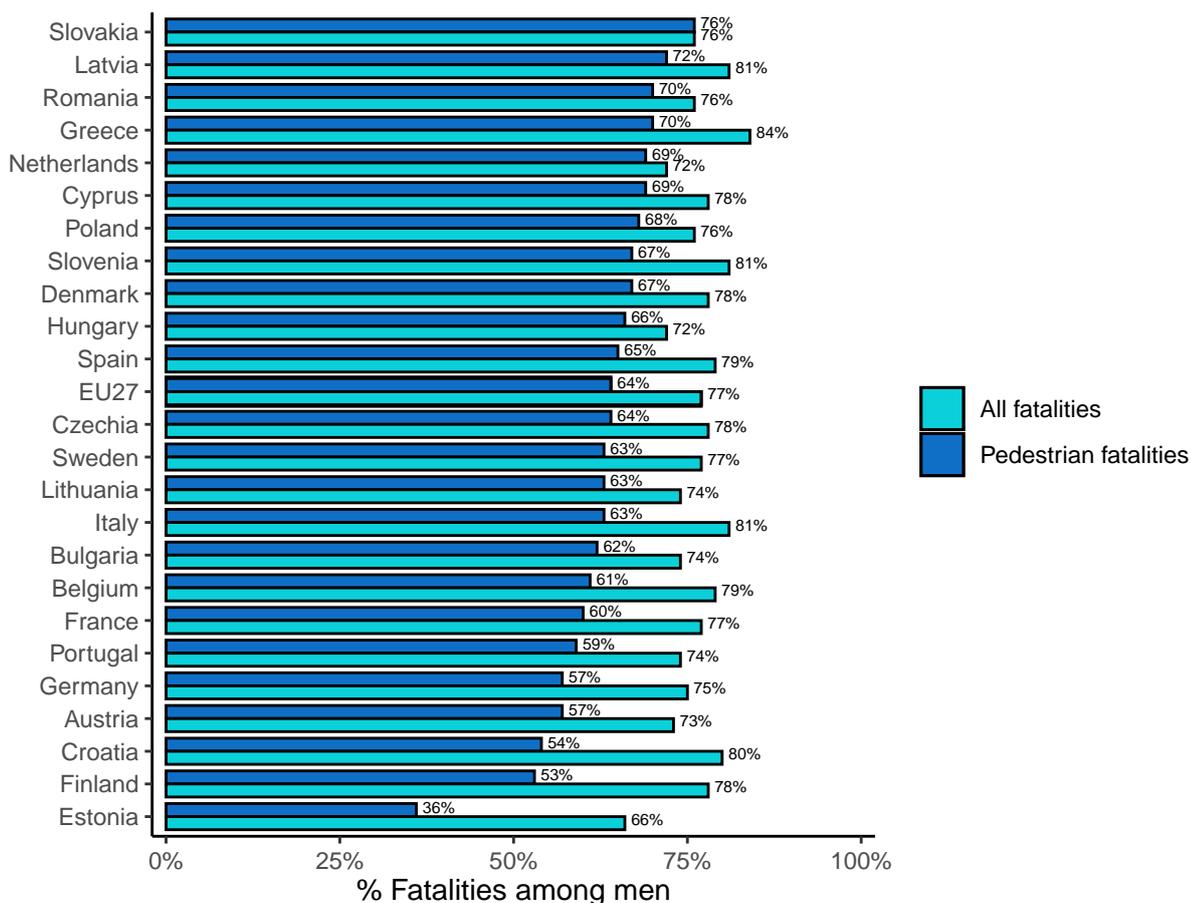
Implicitly, it can be deduced from the two preceding percentages that the proportion of fatalities who are pedestrians is higher among women than among men: 32% of road fatalities in women are pedestrians compared to 17% in men in 2018.

Figure 8. Distribution of pedestrian fatalities and all fatalities by gender in the EU27 (2010-2019). Source: CARE



In some EU countries, the proportion of men among pedestrian fatalities is higher in 2019 (e.g. Slovakia, Latvia, Romania); in other countries it is lower (e.g. Estonia, Finland, Croatia). There is no geographical region in the EU that really stands out in terms of the proportion of men among pedestrian fatalities.

Figure 9. Share of men among pedestrian fatalities per country in the EU27 (2019). Source: CARE



Note: Ireland, Luxembourg and Malta are not included due to a high number of missing values or small numbers

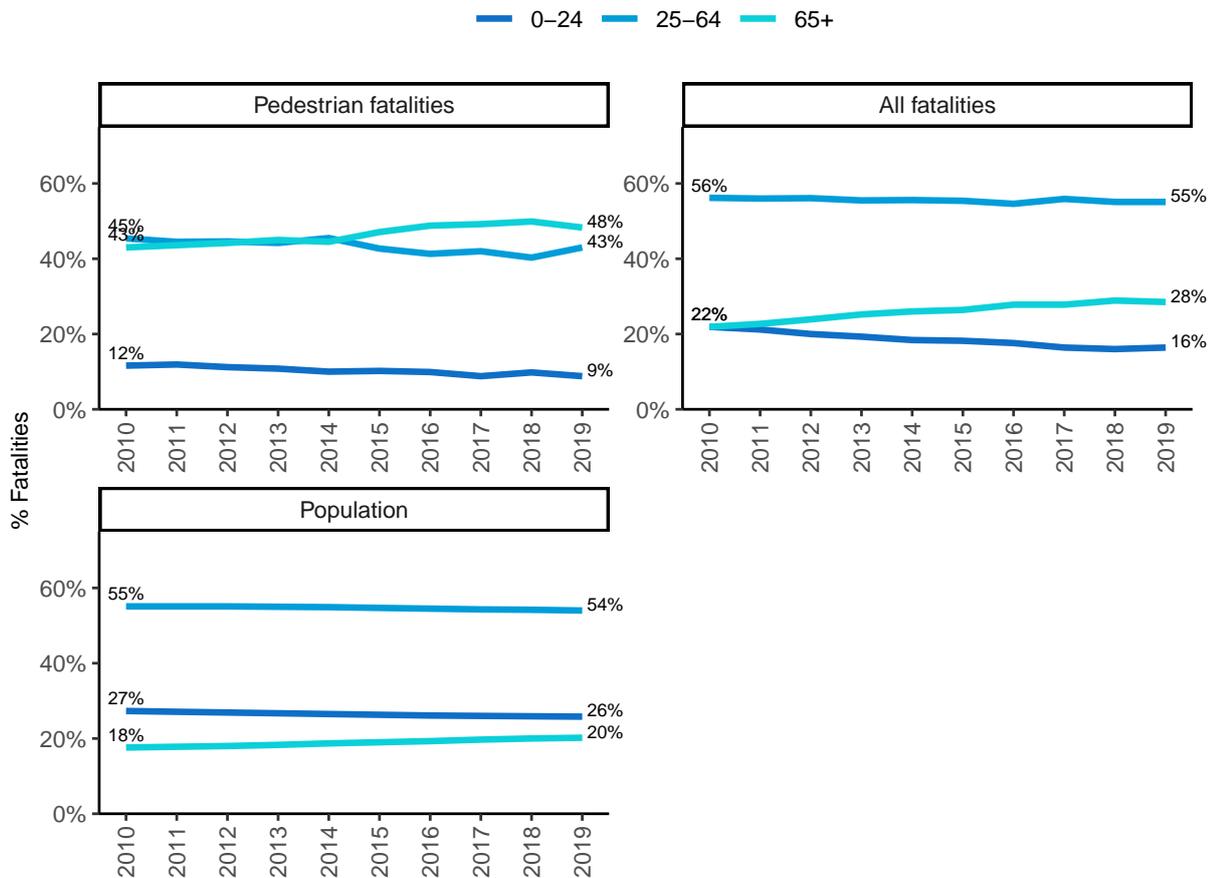
3.2 Age

The Figure below shows an increase of the over-65s within the group of pedestrian fatalities. In 2019, **almost 1 in 2 pedestrian fatalities was a person aged 65 or older**. The proportion of seniors within total road fatalities also increased, but at 28% in 2019 it is not yet as high as the proportion of pedestrians that are over-65. People younger than 25 years have a lower share in the number of pedestrian fatalities (9% in 2019) than in the total number of road fatalities (16% in 2019).

Taking into account their share in the population, seniors are substantially over-represented in pedestrian fatalities while 0-24 year olds are substantially under-represented.

Although children (0-15) only account for a small share of pedestrian fatalities (4%) the proportion of pedestrians among children is 35% which is due to the relatively low number of total road fatalities in this age group compared to other age groups (cf. Thematic Report on Pedestrians).

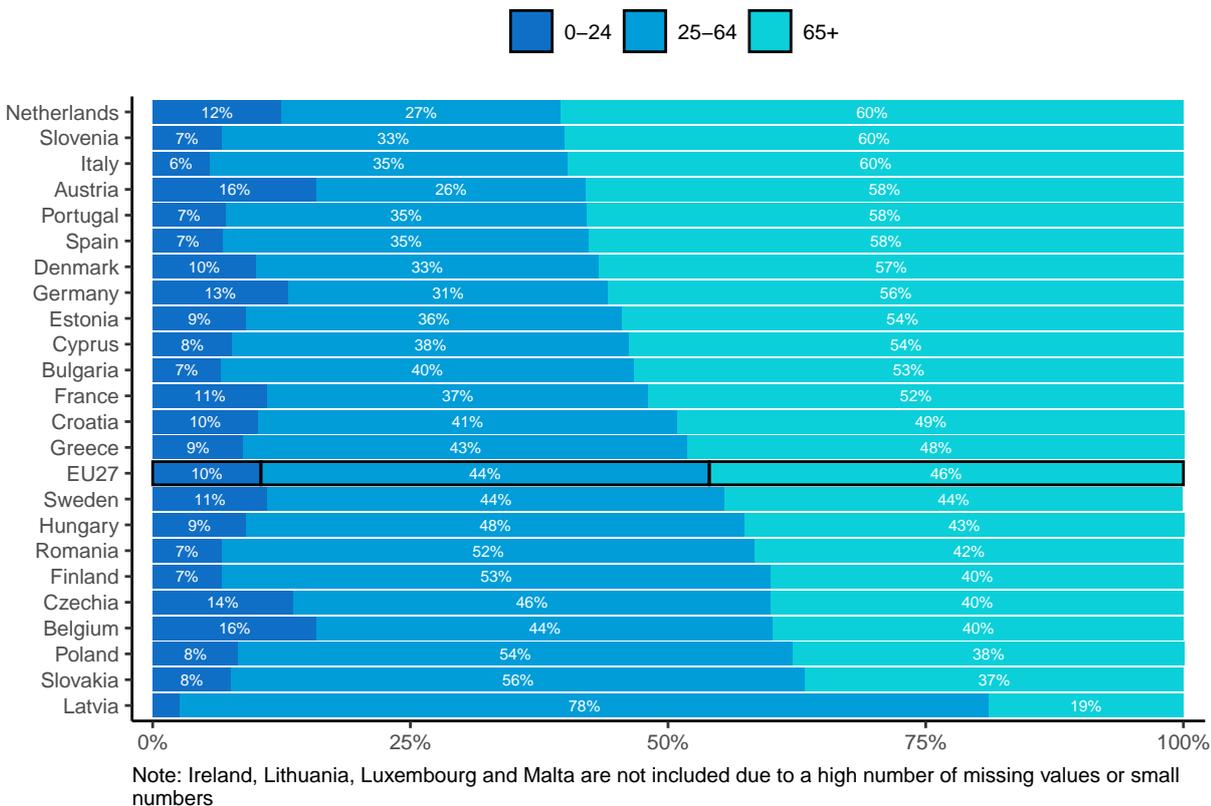
Figure 10. Distribution of pedestrian fatalities and all fatalities by age group in the EU27 (2010-2019). Source: CARE & EUROSTAT



Especially in some countries in the south of the EU, a high proportion of seniors among pedestrian fatalities is observed, such as Italy, Croatia, Portugal, and Spain.

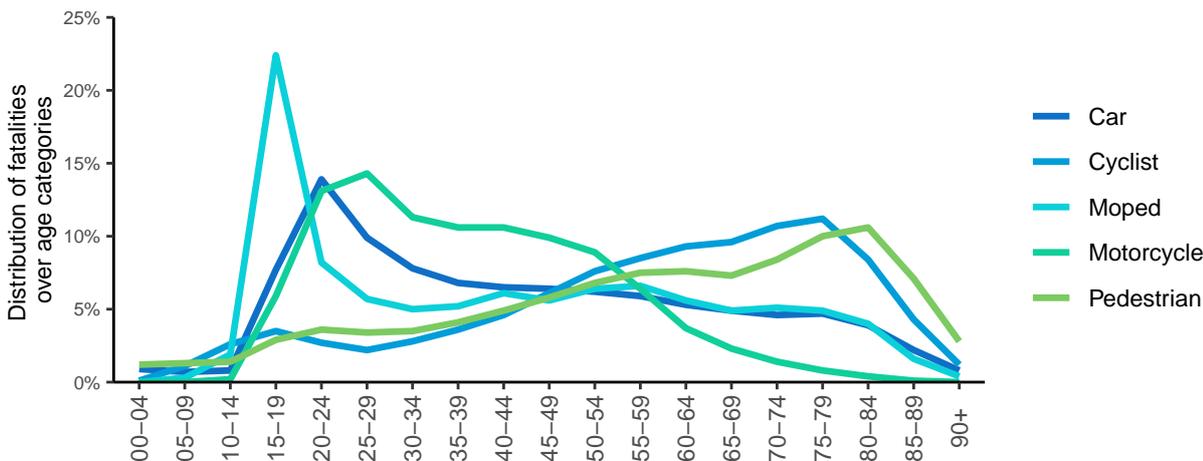
The relative proportion of seniors amongst pedestrian fatalities is already very high at 48%, but if we relate the number of pedestrian fatalities by age group to the number of persons by age group (i.e. mortality), the situation for seniors appears even more pronounced. **The mortality of the over-65s is 3 times higher than among 25-64 year olds and even 7 times higher than among the under-25s.**

Figure 11. Distribution of pedestrian fatalities by age groups per country in the EU27 (2019). Source: CARE



The Figure below provides a more detailed overview of the distribution of pedestrian fatalities by age. **Between the age category 0-4 years and the age category 80-84 years, the number of pedestrian fatalities continues to increase steadily almost without interruption.** We see a very similar distribution for cyclists. For motorized vehicles we see a very different spread with a clear peak at the youngest age category at which the vehicle can be used.

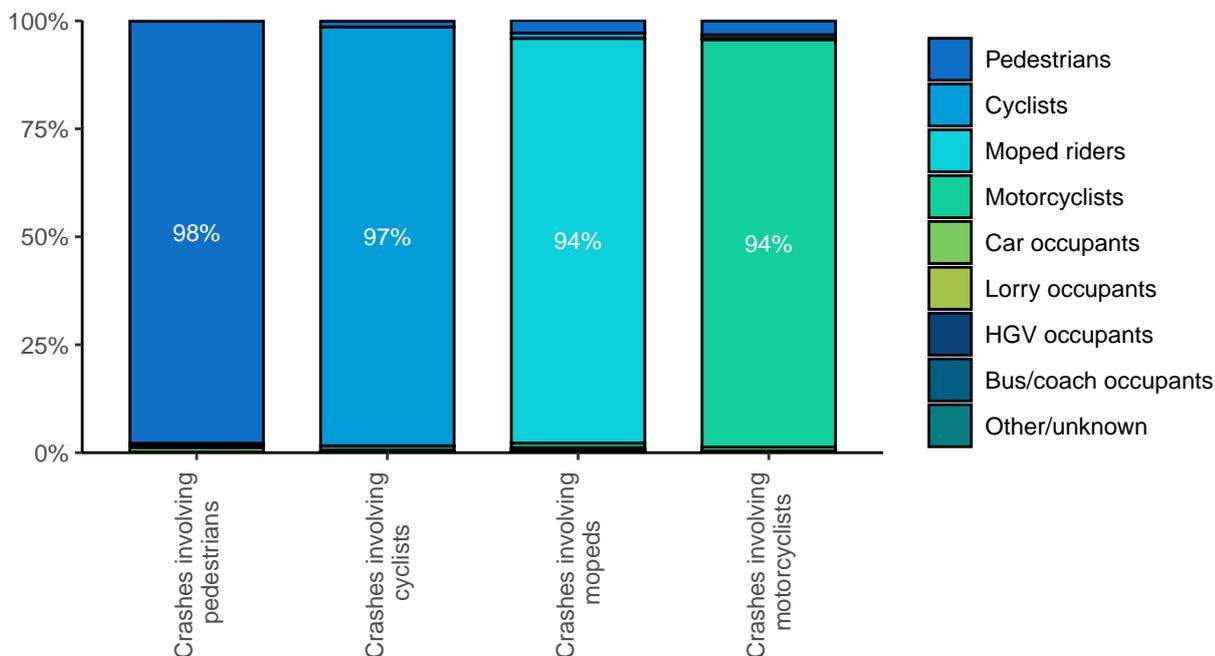
Figure 12. Distribution of fatalities over 5-year age categories, by transport mode, in the EU27 (2010-2019). Source: CARE



3.3 Other transport modes involved

The fatalities in crashes involving pedestrians are virtually always the pedestrians themselves (98%). Also in crashes involving other vulnerable road users than pedestrians, 9 out of 10 fatalities are the vulnerable road users themselves.

Figure 13. Distribution of fatalities by transport mode in pedestrian crashes, cyclist crashes, moped crashes and motor-cycle crashes in the EU27 (2019). Source: CARE

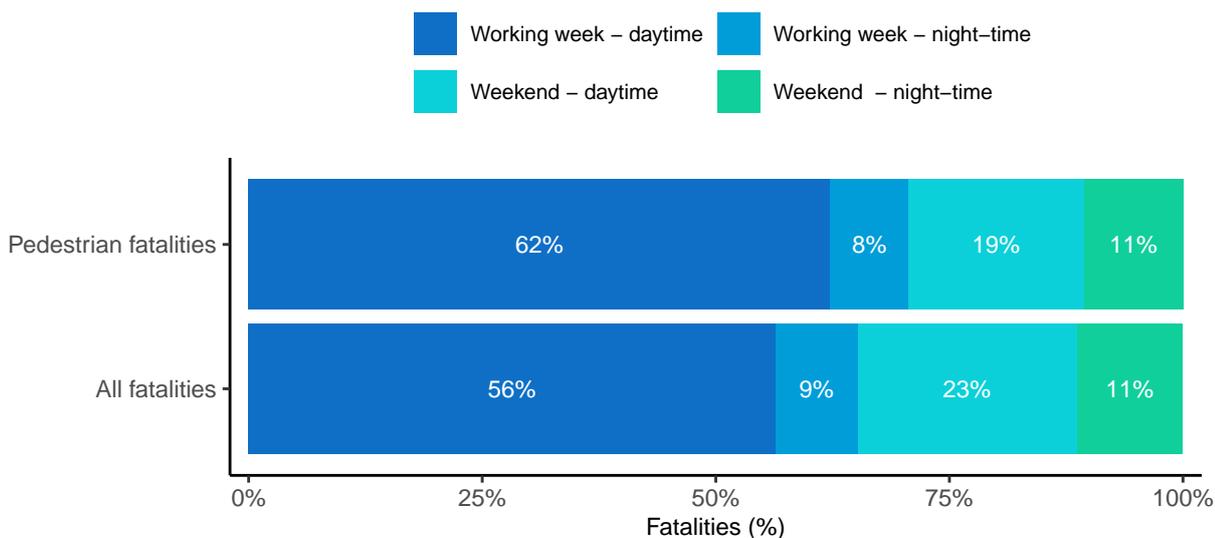


4 Time

4.1 Period of the week

Compared to all fatalities combined, pedestrian fatalities occur more often at daytime during the working week but less often at daytime during the weekend. The proportion of pedestrian fatalities during night-time (from 10 p.m. to 5.59 a.m.) amounts to 19% which is very similar to the proportion all fatalities combined during night-time (20%).

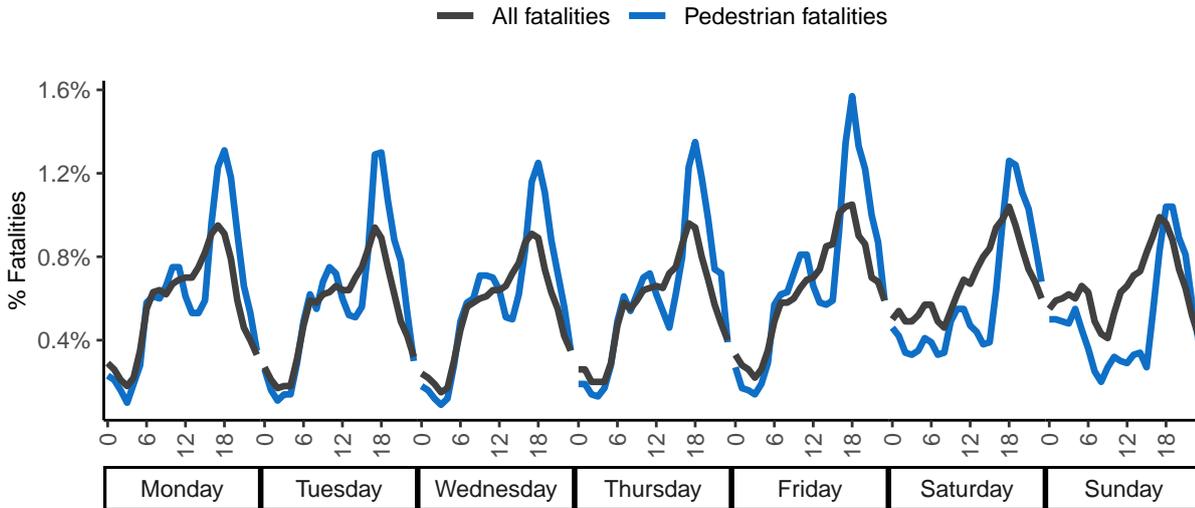
Figure 14. Distribution of pedestrian fatalities and all fatalities according to period of the week in the EU27 (2019). Source: CARE



4.2 Day of the week and hour

Compared to all road fatalities combined, the distribution of pedestrian fatalities over the hours of the week shows even stronger peaks and troughs. During the working week, **a stronger morning and evening peak is observed than for all road fatalities combined**. This is probably related to the commute to work/school on foot. In the weekends, there are few pedestrian fatalities in the morning.

Figure 15. Distribution of pedestrian fatalities and all fatalities by day of the week and hour in the EU27 (2015-2019). Source: CARE

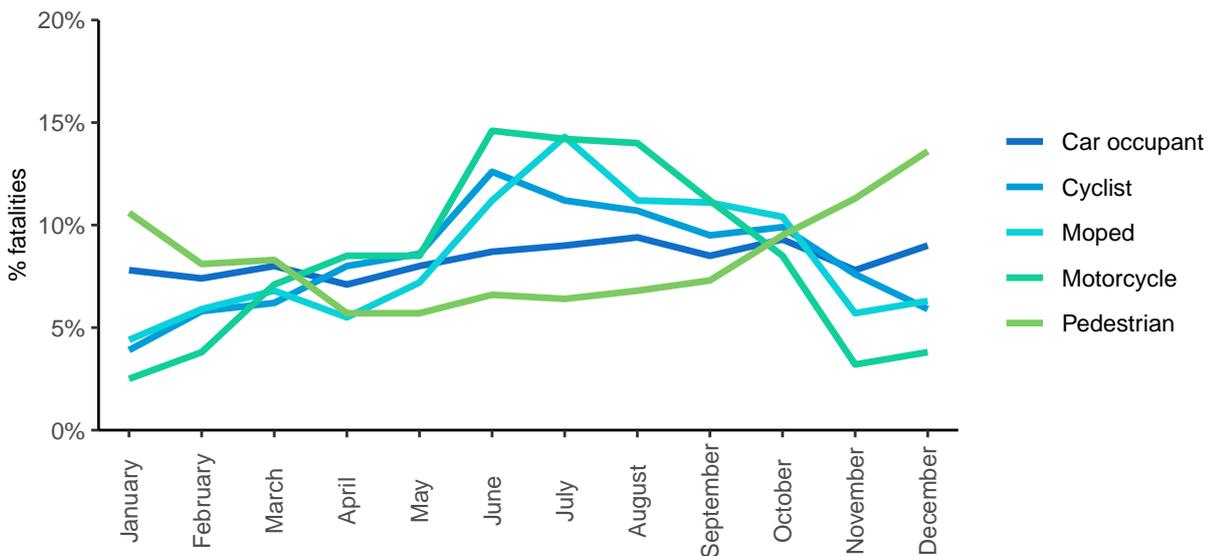


4.3 Month

The Figure below shows the distribution of road fatalities over the months of the year according to transport mode. The line for pedestrians differs markedly from the other lines: while the number of fatalities among cyclists and powered two-wheeler riders is highest during the summer months and lowest during the winter months, we see exactly the opposite pattern for pedestrian fatalities.

In the winter months up to two times more pedestrians are killed on the road than during the months of March to June. A possible explanation is that the number of trips during the winter months decreases for cyclists and powered two-wheeler riders but not in the case of pedestrians. During the winter months it is also more often dark when pedestrians are travelling. Dark lighting conditions make pedestrians less visible to other road users, resulting in more frequent and serious pedestrian crashes.

Figure 16. Monthly distribution of fatalities by transport mode, in the EU27 (2019). Source: CARE



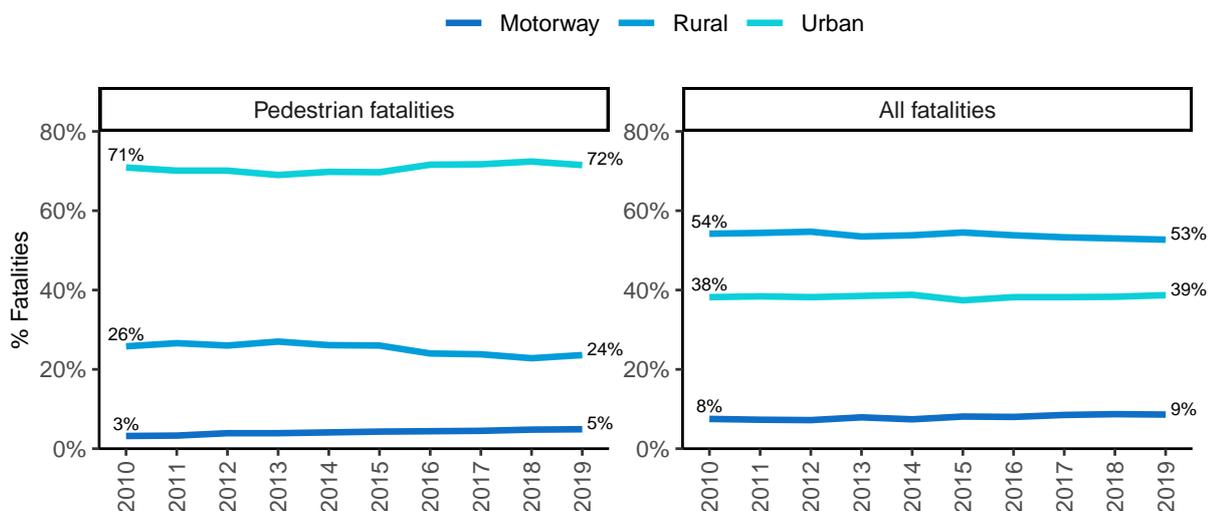
5 Location

5.1 Road type

Compared to all road fatalities combined, far more pedestrian fatalities occur on urban roads (39% versus 72%). Correspondingly, the proportion of pedestrian fatalities on rural roads is much lower (24%) compared to the proportion of all fatalities on rural roads (53%).

A remarkably **high proportion of pedestrian fatalities die on motorways** (5% which corresponds to 223 persons in 2019). These pedestrians include vehicle occupants who have left their vehicles on the motorway.

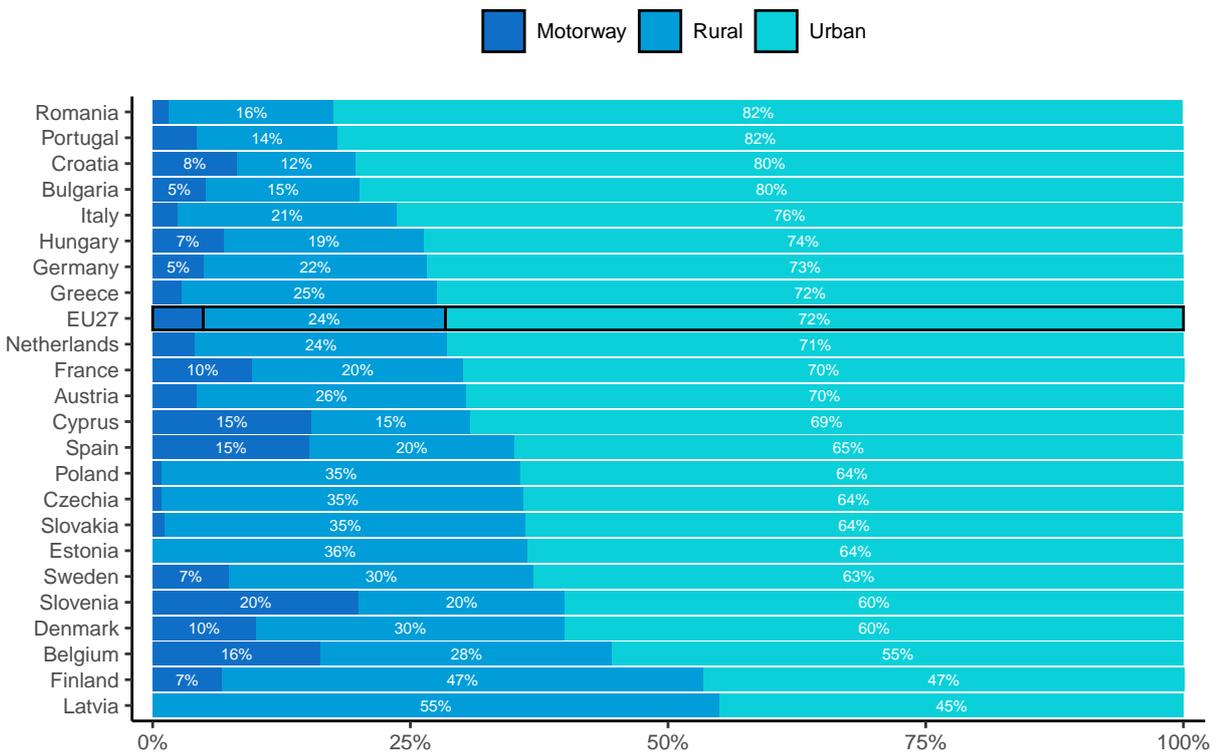
Figure 17. Distribution of pedestrian fatalities and all fatalities by road type in the EU27 (2010-2019). Source: CARE



The proportion of pedestrian fatalities on urban roads is highest in some countries in the south of the EU: Romania, Portugal, Croatia, Bulgaria, and Italy. Except for Romania, these are all countries with an above-average proportion of seniors among pedestrian fatalities.

Some countries with a high number / proportion of motorway fatalities in 2019 were: Slovenia, Belgium, Cyprus and Spain.

Figure 18. Distribution of pedestrian fatalities by road type per country in the EU27 (2019). Source: CARE



Note: countries that are not included in the Figure are Ireland, Lithuania, Luxembourg and Malta because of missing data or small numbers

5.2 Junction type

In relation to the proportion of fatalities according to junction type, there are only minor differences between pedestrian fatalities and all fatalities. **In 2018, 81% of pedestrians died on a road stretch, 11% at a junction (slight decrease compared to 2010), and 1% at a roundabout.**

In Slovakia and Romania, the share of pedestrian fatalities on road stretches was higher than 90% in 2019.

Figure 19. Distribution of pedestrian fatalities and all fatalities by junction type in the EU27 (2010-2019). Source: CARE

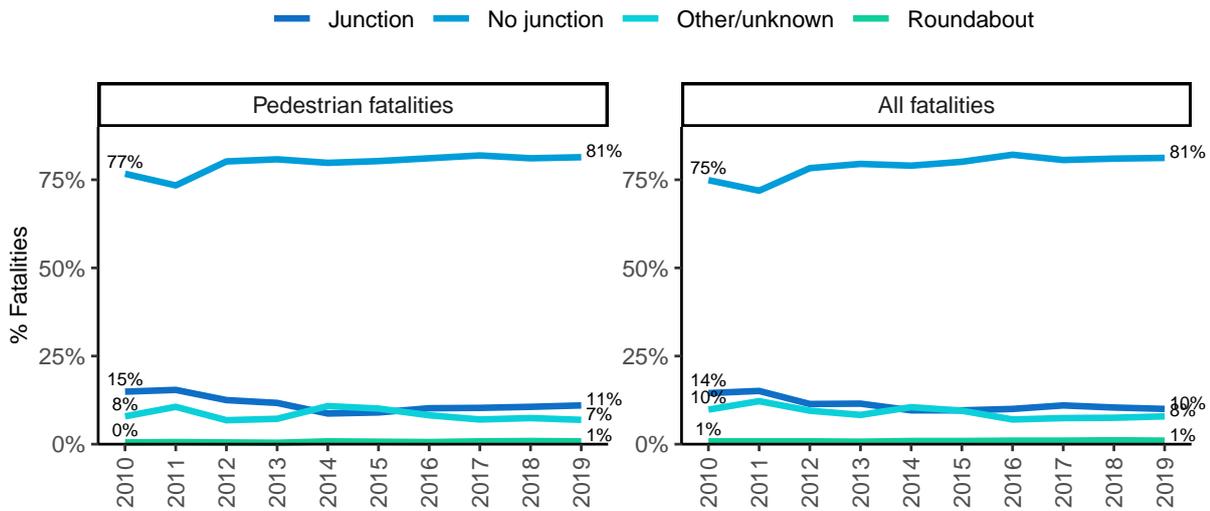
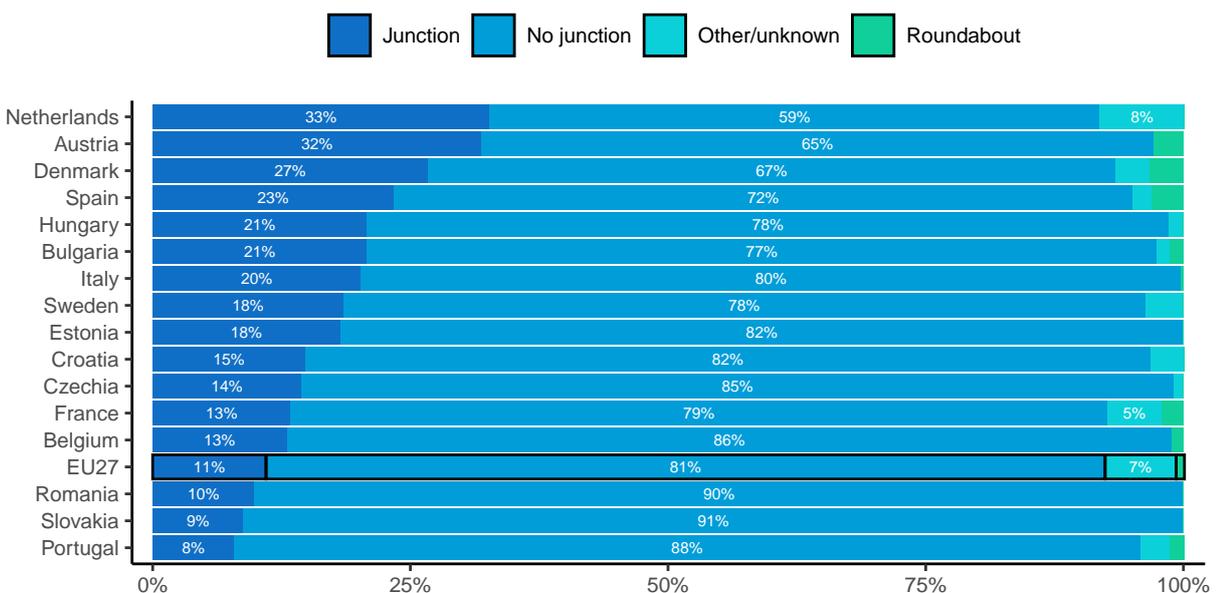


Figure 20. Distribution of pedestrian fatalities by junction type per country in the EU27 (2019). Source: CARE



Notes:

- Countries that are not included in the Figure are Ireland, Luxembourg and Malta because of missing data or small numbers
- Countries that are not included in the Figure are Cyprus, Germany, Finland, Greece, Latvia, Lithuania, Poland and Slovenia because of incomplete information about junction type

5.3 Surface

The surface conditions were dry for three quarters (74%) of pedestrian fatalities. For 24% of the fatalities the surface was wet or damp; and for only 1% of the fatalities were snow, frost, and ice reported. Given great differences in climate, it is not surprising that in EU countries in the south a dry surface is reported more often, while snow is more often reported in countries in the north (see excel file "F&F Pedestrians").

6 Notes

6.1 Definitions

The definitions below are taken from the CADAS Glossary and the UNECE Glossary.

CADAS Glossary: https://ec.europa.eu/transport/road_safety/system/files/2021-07/cadas_glossary_v_3_8.pdf

UNECE/ITF/Eurostat Glossary: <https://www.unece.org/index.php?id=52120>

Accident / crash

Definition: injury road accident, concerns an incident on a public road involving at least one moving vehicle and at least one casualty (person injured or killed). Note: the definition of “injury” varies considerably among EU countries thus affecting the reliability of cross country comparisons.

Fatalities

Definition: total number of persons fatally injured; correction factors applied when needed. Death within 30 days of the road crash, confirmed suicide and natural death are not included.

Victims

Total of fatalities, seriously injured and slightly injured and injured.

Working week – daytime

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

Working week – night

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

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.

6.2 Data source

The main data source for this report is CARE (Community database on Accidents on the Roads in Europe). The database contains data obtained from national data sources, not only EU members but also from the UK and the 4 EFTA countries (Switzerland, Norway, Iceland, and Liechtenstein). The data in the report were extracted on 12 October 2021. As the database is not complete for all countries and all years, additional data were provided by the European Commission in order to be able to calculate the general total for fatalities for the EU27.

6.3 Small cells

Absolute numbers of fatalities can be very small for small countries, which can strongly influence trend indicators and other derived indicators such as mortality. Care should be taken when interpreting these numbers. When commenting on the Figures, countries with small numbers were omitted.

6.4 Missing data

Some countries did not provide data for all years and/or all variables to the CARE database. When data are missing for specific combinations of years and countries, imputation is used to fill in the empty cells. Imputation results for individual countries are never published in the Facts and Figures reports, but they are aggregated to generate an imputed number at EU27 level. The following imputation method for individual countries is used:

- Values missing at the end of a time series are given the last known value in the series.
- Values missing at the beginning of a time series are given the first known value in the series.
- If values are missing in the middle of a time series, linear extrapolation is used.

Figures that only contain information on the relative distribution of fatalities have not been obtained through imputation. These are mostly the Figures from section 3 onwards. The report always mentions in footnotes when imputation was used. If this is not mentioned in the footnotes, no imputation was used.

