



# European Road Safety Observatory

Facts and Figures

Motorcyclists and moped riders - 2020

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 2020 refer to 2018.

The topic “Mopeds” and the topic “Motorcyclists” is also addressed in the “Road Safety Thematic Report Powered two-wheelers”, presenting an overview of the most important research questions and results on these topics.

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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: 27 December, 2020

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# 1 Key Facts

## Fatalities 2018

### Motorcyclists



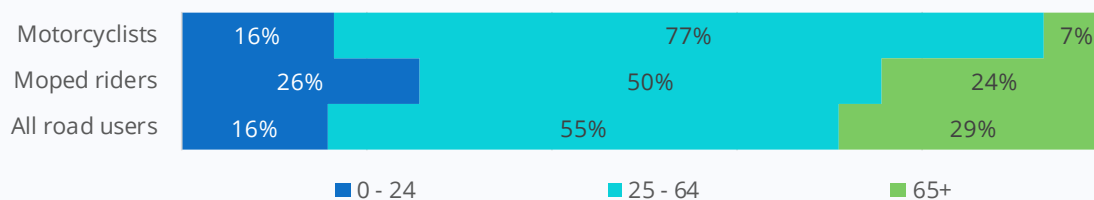
3526 fatalities  
(15.5% of all fatalities)

### Moped riders

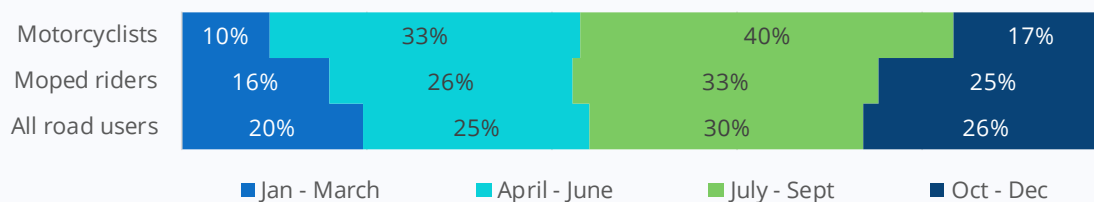


664 fatalities  
(2.9% of all fatalities)

### Age category



### Season



### Basic definition

Moped: two or three wheeled motor 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, electric powered bicycles that offer pedal assistance till 45 km/h, also belong to this category of vehicles.

Motorcycle: two or three wheeled motor vehicle, with engine size up to 125 cc, or maximum speed exceeding 45km/h. A motorcycle can also have an electric motor.

Powered two-wheelers: sum of mopeds and motorcycles

Together with pedestrians and cyclists, motorcyclists and moped riders form part of the group of "vulnerable road users". **Motorcyclists and moped riders have similarities but also many differences**, such as cylinder capacity, mass, and speed of their vehicles, the road user's clothing requirements, the age of the users, and the type of use (utilitarian / leisure). Because of these differences, it is important to analyse these two transport modes separately, as has been done in this report.

**Respectively 15.5% and 2.9% of all road fatalities in the EU in 2018 were motorcyclists and moped riders.** Taken together therefore, almost one in five road fatalities are powered two-wheeler riders ("PTW riders"). The proportion of motorcyclists in the total number has increased over the past decade, with the proportion of moped riders decreasing. In fact, across all transport modes, moped crashes have seen the greatest decrease in fatalities.

Although the number of motorcyclist and moped fatalities in **Italy and France** has decreased more than the EU average over the past decade, these two countries still have the **highest number of fatalities in 2018**. In these two countries, both the mortality rate and the proportion of motorcycle fatalities and moped fatalities within the total number of fatalities are higher than the EU average. **Overall, mortality rates and proportion rates (within the total number of fatalities) for both types of PTW riders are higher in the south of the EU.** The popularity of these transport modes in these countries needs to be taken into account when interpreting levels. Greece has the highest mortality and proportion rates for motorcyclists, and along with Portugal, also has one of the highest mortality and proportion rates for moped riders.

**More than 9 out of 10 fatalities in PTW riders are male** (compared with 76% for all road fatalities). 77% of motorcyclists and 50% of moped riders are between 25 and 64 years old. **For both modes of transport, the proportion of over-65s is increasing, and the proportion of young people up to 24 is decreasing.** With moped riders, a high peak in the number of fatalities occurs among 15-19 year olds while with motorcyclists, a peak is reached with people in their twenties.

Only a small minority of fatalities are passengers of motorcycles/mopeds. 93% of all fatalities in fatal crashes involving motorcyclists or moped riders are those road users themselves. **36% and 33% of motorcyclists and moped riders respectively died in a unilateral crash** (i.e. a crash in which only one vehicle and no pedestrians are involved).

Regarding time, **motorcyclists are relatively more likely to have a fatal crash during daytime at the weekend**, and less in the morning during the working week. The distribution of moped fatalities over the week hardly differs from the distribution of all fatalities. Both transport modes show a pronounced seasonal variation, with **far fewer fatalities during the winter months and more during the spring and summer months.**

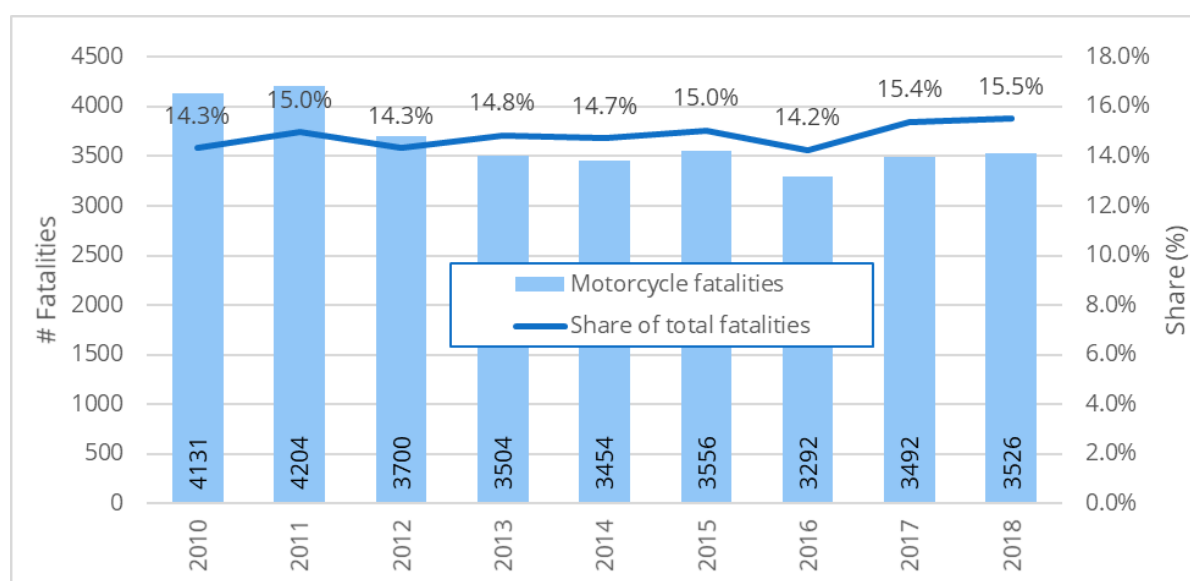
For motorcyclists, the proportion on rural roads is 57% in 2018 (compared with 36% on urban roads); for moped riders, 46% (compared with 53%). Of all road fatalities, 81% occurred on a road stretch, while for motorcyclists and moped riders the figures are 74% and 68% respectively. Surface conditions were dry in the cases of 92% and 86% of motorcyclist and moped fatalities respectively.

## 2 Main trends

### 2.1 Fatalities

15.5% of all road fatalities in the EU27 in 2018 were motorcyclists. Although the number of motorcycle fatalities decreased by 15% between 2010 and 2018, the total number of road fatalities decreased even more (-21%). As a result, **the relative proportion of motorcycle fatalities within the total number of road fatalities increased slightly from 14.3% in 2010 to 15.5% in 2018.**

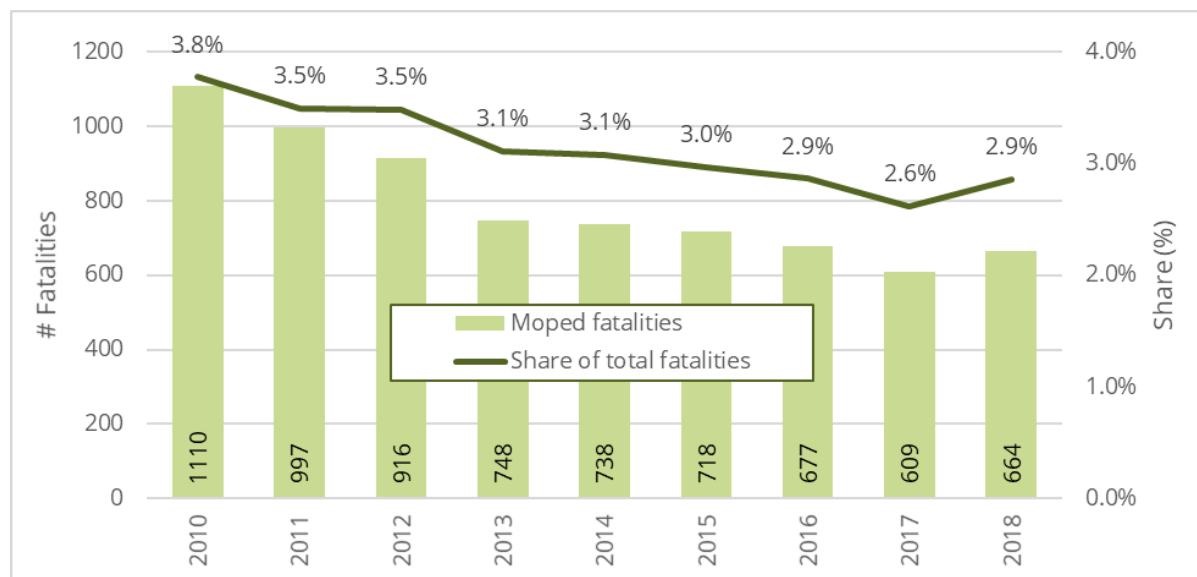
Figure 1. Annual number of motorcycle fatalities, and their share in the total number of fatalities in the EU27 (2010-2018). Source: CARE



Note: imputation (explained in "Notes") was used for missing values for specific combinations of years and countries.

The proportion of moped fatalities within the total number of road fatalities in **2018 was 2.9%**. Hence in 2018 there were about five times more motorcycle fatalities than moped fatalities. In contrast to motorcycle fatalities, **the proportion of moped fatalities has decreased since 2010.**

Figure 2. Annual number of moped fatalities, and their share in the total number of fatalities in the EU27 (2010-2018). Source: CARE

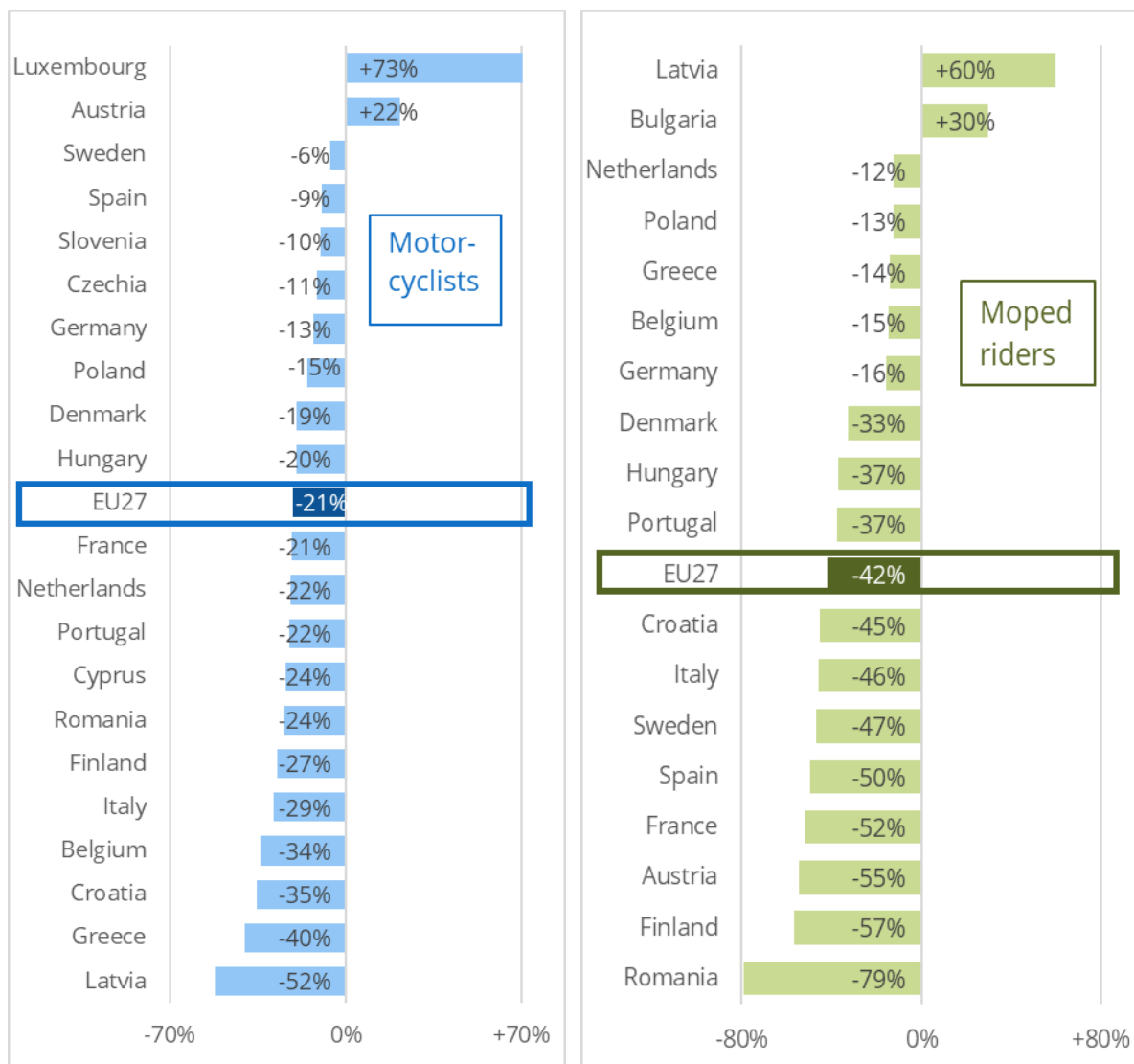


Note: imputation was used for missing values for specific combinations of years and countries.

The EU Member States with the highest number of motorcycle fatalities are (highest to lowest numbers) **Italy, France, Germany, Spain, and Poland**. These are also the countries with the highest numbers of moped fatalities; only the order of the countries is different. France has the highest number of moped fatalities followed by Italy, Germany, Poland, and Spain. For the two transport modes combined, Italy has the highest number of powered two-wheeler riders killed.

The Figure below shows that in Italy and France both motorcycle and moped fatalities have seen a more pronounced decline than the EU average over the last decade. In Germany and Poland, the trend was worse than average. In Spain, the trend in motorcycle fatalities was worse than average, but the trend in moped fatalities was slightly better than average.

Figure 3. Percentage change in the number of fatalities among powered two-wheeler riders per country in the EU27 (2016-2018 versus 2009-2011). Source: CARE



Notes:

- Imputation was used to compute the trend for EU27.
- Countries that are not included in the Figures: countries with missing values or too many "0"-values, and countries with (extreme percentage changes due to) small absolute numbers.



Table 1. Number and trend of motorcycle fatalities per country in the EU27, EFTA and UK (2010; 2016-2018).  
Source: CARE

	2010	2016	2017	2018	Trend (2016-2018 VS 2009-2011) (%)	Miniplot trend since 2010
Austria	68	85	83	102	+22%	
Belgium	103	79	77	87	-34%	
Croatia	51	38	42	55	-35%	
Cyprus	18	10	14	14	-24%	
Czechia	92	62	69	94	-11%	
Denmark	22	26	11	21	-19%	
Estonia	0	1	0	6	/	
Finland	18	17	13	24	-27%	
France	734	613	669	627	-21%	
Germany	635	536	583	619	-13%	
Greece	367	240	216	190	-40%	
Hungary	49	48	43	49	-20%	
Ireland	17	22	NA	NA	/	
Italy	950	657	735	687	-29%	
Latvia	17	12	1	3	-52%	
Lithuania	NA	NA	NA	NA	/	
Luxembourg	1	3	7	9	+73%	
Malta	3	9	2	8	/	
Netherlands	60	44	53	42	-22%	
Poland	259	244	231	238	-15%	
Portugal	126	59	106	112	-22%	
Romania	59	46	52	55	-24%	
Slovakia	27	NA	NA	NA	/	
Slovenia	17	22	25	16	-10%	
Spain	386	343	359	359	-9%	
Sweden	37	36	39	47	-6%	
<b>Total EU27</b>	<b>4131</b>	<b>3292</b>	<b>3492</b>	<b>3526</b>	<b>-21%</b>	
Iceland	1	2	2	0	/	
Norway	26	22	20	NA	/	
Switzerland	68	43	51	42	-36%	
United Kingdom	403	316	355	353	-17%	

Notes:

- Imputation was used to compute the trend for EU27.
- For countries with missing values, no or less information is included about trends.
- Due to small absolute numbers, no trend percentage is given for Iceland and Estonia.

Table 2. Number and trend of moped fatalities per country in the EU27, EFTA and UK (2010; 2016-2018).

Source: CARE

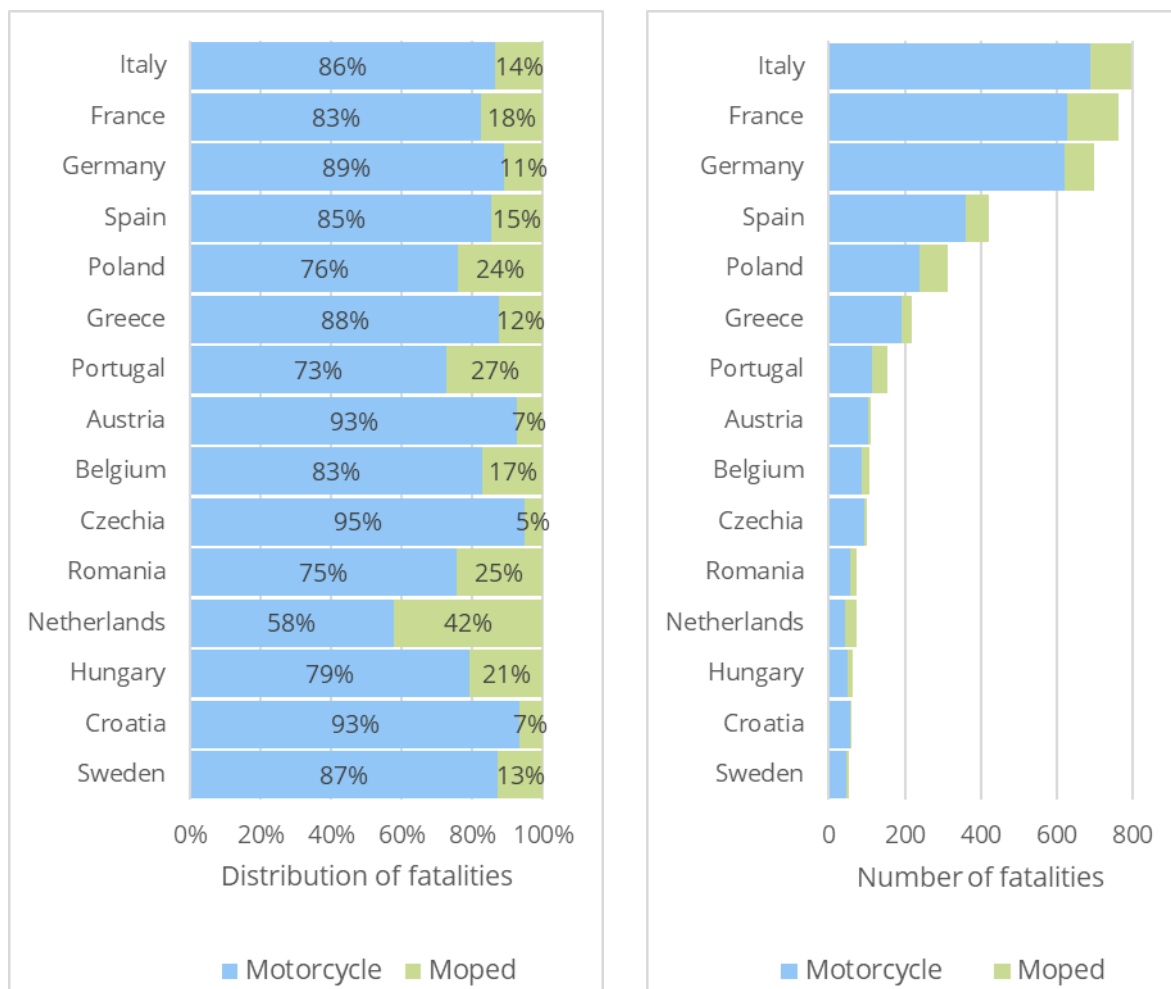
	2010	2016	2017	2018	Trend (2016-2018 VS 2009-2011) (%)	Miniplot trend since 2010
Austria	18	8	14	8	-55%	
Belgium	23	16	24	18	-15%	
Bulgaria	5	8	11	7	+30%	
Croatia	15	10	8	4	-45%	
Cyprus	3	2	2	2	/	
Czechia	7	1	2	5	/	
Denmark	11	8	9	10	-33%	
Estonia	0	3	1	0	/	
Finland	9	5	5	3	-57%	
France	248	121	117	133	-52%	
Germany	74	68	59	78	-16%	
Greece	36	25	32	27	-14%	
Hungary	19	16	17	13	-37%	
Italy	206	116	92	108	-46%	
Latvia	4	6	6	4	+60%	
Lithuania	NA	NA	NA	NA	/	
Luxembourg	0	0	0	0	/	
Malta	NA	0	0	0	/	
Netherlands	32	34	36	31	-12%	
Poland	83	77	55	76	-13%	
Portugal	77	44	43	42	-37%	
Romania	114	33	17	18	-79%	
Slovakia	NA	8	2	3	/	
Slovenia	7	3	4	2	/	
Spain	99	54	49	62	-50%	
Sweden	8	8	1	7	-47%	
<b>Total EU27</b>	<b>1110</b>	<b>677</b>	<b>609</b>	<b>664</b>	<b>-42%</b>	
Iceland	0	0	0	0	/	
Norway	0	1	1	NA	/	
Switzerland	4	6	2	5	-19%	
United Kingdom	10	8	3	8	-47%	

Notes:

- Imputation was used to compute the trend for EU27.
- For countries with missing values, no or less information is included about trends.
- Due to small absolute numbers, no trend percentage is given for Cyprus, Czechia, Luxembourg, Slovenia and Malta.

About 16% of powered two-wheeler riders killed in the EU are moped riders, but in some countries the proportion of moped riders is higher. In the Netherlands, for example, 42% of all powered two-wheelers riders killed are moped riders. This may be related to legislation in this country as it is not compulsory to wear a helmet on mopeds up to 25 km/h, while it is in most other EU countries.

Figure 4. Relative and absolute number of motorcycle and moped fatalities per country in the EU27 (2018).  
Source: CARE



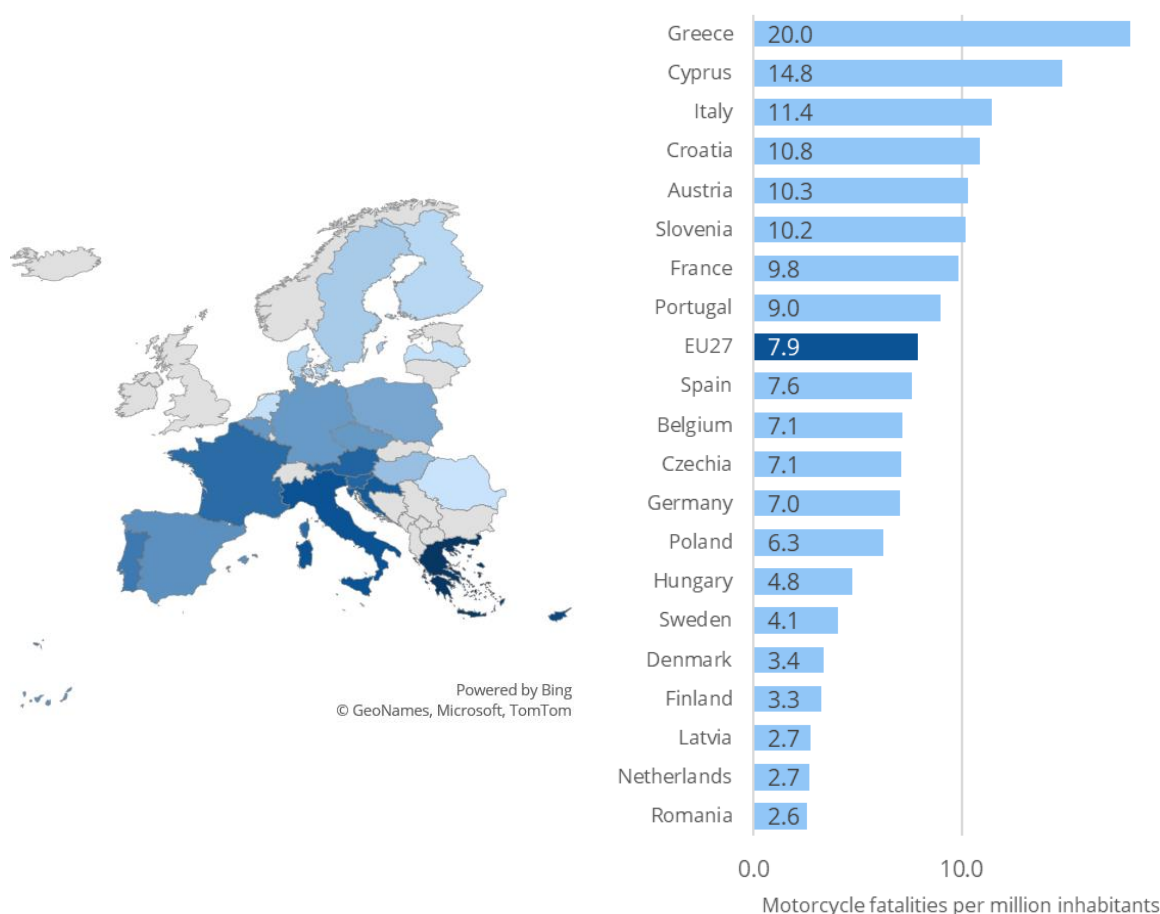
Notes:

- Countries with incomplete data or with less than 35 PTW fatalities in 2018 are not included in the figure.

## 2.2 Mortality : number of fatalities among powered two-wheeler riders per million inhabitants

Only two of the top five countries with the highest number of motorcycle fatalities have a motorcycle mortality rate (i.e. the number of motorcycle fatalities per million inhabitants) higher than the EU average, namely France and Italy. Greece has the highest motorcycle mortality rate. **In general, motorcycle mortality rates are higher in the south of the EU than in other parts of the EU.** The higher popularity of PTWs in the south of the EU needs to be taken into account when interpreting levels. According to the ESRA survey (Yannis et al., 2020)<sup>1</sup>, 21% and 23% of adult Italians and Greeks, respectively, made a trip with a PTW in 2018. This percentage was 13% for all 20 EU countries participating in the survey. **Compared with the mortality rate for mopeds, the mortality rate for motorcyclists is five times higher.**

Figure 5. Motorcycle fatalities per million inhabitants per country in the EU27 (2016-2018). Sources: CARE & EUROSTAT



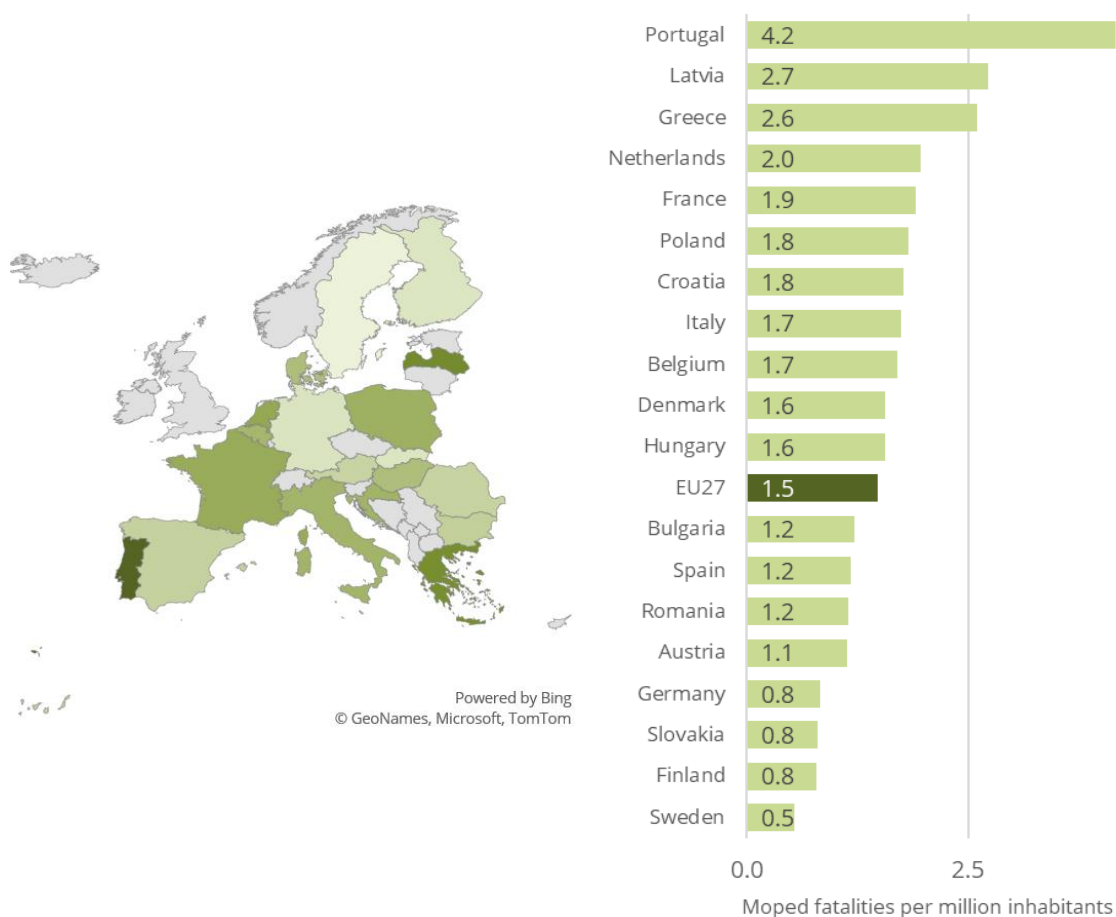
### Notes:

- Imputation was used to compute the overall proportion for EU27.
- Due to small numbers of fatalities, Estonia, Malta and Luxembourg are not included.
- Due to a high number of missing values, Ireland, Lithuania and Slovakia are not included.

<sup>1</sup> Yannis, G., Laiou, A., Nikolaou, D., Usami, D.S., Sgarra, V., Azarko, A. (2020) Moped drivers and motorcyclists. ESRA2 Thematic report Nr. 12. ESRA project (E-Survey of Road users' Attitudes). Athens, Greece: National Technical University of Athens.

Three of the top five countries with the highest number of moped fatalities have a moped mortality rate higher than the EU average: Italy, France and Poland. However, **Portugal and Greece have higher mortality rates** than these three countries<sup>2</sup>. As with motorcycle mortality rates, **moped mortality rates are generally higher in the south of the EU** than in other parts of the EU. However, the Netherlands also has a high moped mortality rate compared with the EU average.

Figure 6. Moped fatalities per million inhabitants per country in the EU27 (2016-2018). Sources: CARE & EUROSTAT



Notes:

- Imputation was used to compute the overall proportion for EU27.
- Due to small numbers of fatalities, Cyprus, Czechia, Estonia, Malta, Luxembourg, and Slovenia are not included.
- Due to a high number of missing values, Ireland and Lithuania are not included.

## 2.3 Proportion of fatalities : number of fatalities among powered two-wheeler riders in the total number of road 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 the mortality rate for powered two-wheeler riders in a specific country is high because the total mortality rate for all road users in that country is high. Therefore, it is important to also look

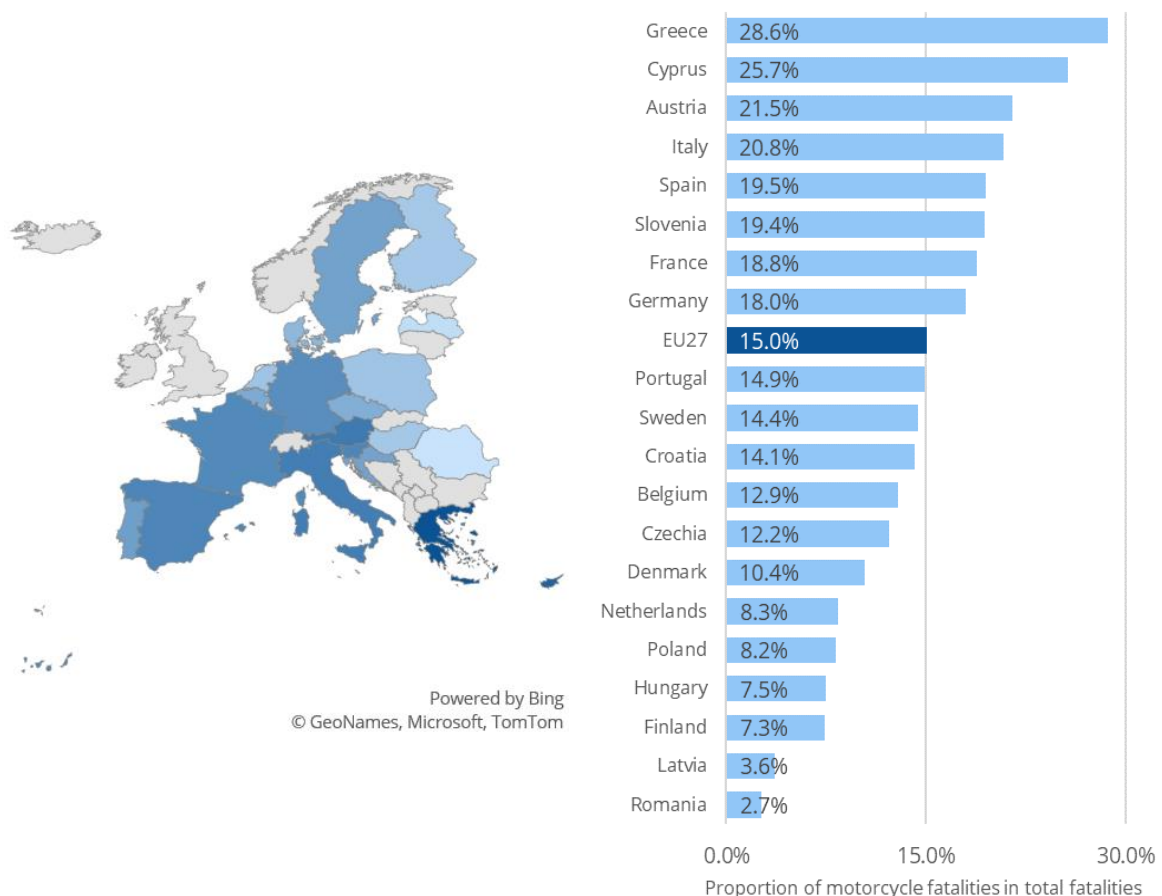
<sup>2</sup> Latvia also has a high moped mortality rate but has a low absolute number of moped fatalities.

at the proportion of motorcyclist/moped fatalities within the total number of road fatalities. The proportion rate shows the relative incidence of fatalities among powered two-wheeler riders for a specific country.

As in the case for motorcycle mortality rates, motorcycle proportion rates (in the total number of fatalities) are generally **higher in southern EU Member States**. In Italy and France both mortality rates and proportion rates for motorcyclists are above average. Greece has both the highest proportion of motorcycle fatalities and the highest motorcycle mortality.

For this report, we also related the number of motorcycle fatalities to the number of motorcycle vehicles per country. Information about the motorcycle vehicle fleet per country is published by Eurostat but is not available for all EU countries and probably not complete in some countries. These results should therefore be interpreted with caution. The most remarkable finding on the basis of this indicator is that Greece, Italy and Spain - in contrast to their ranking according to the other indicators - appear to be among the better half of the EU Member States in terms of fatality rates by vehicle fleet volume.

Figure 7. Number of motorcycle fatalities in the total number of fatalities, per country in the EU27 (2016-2018). Source: CARE

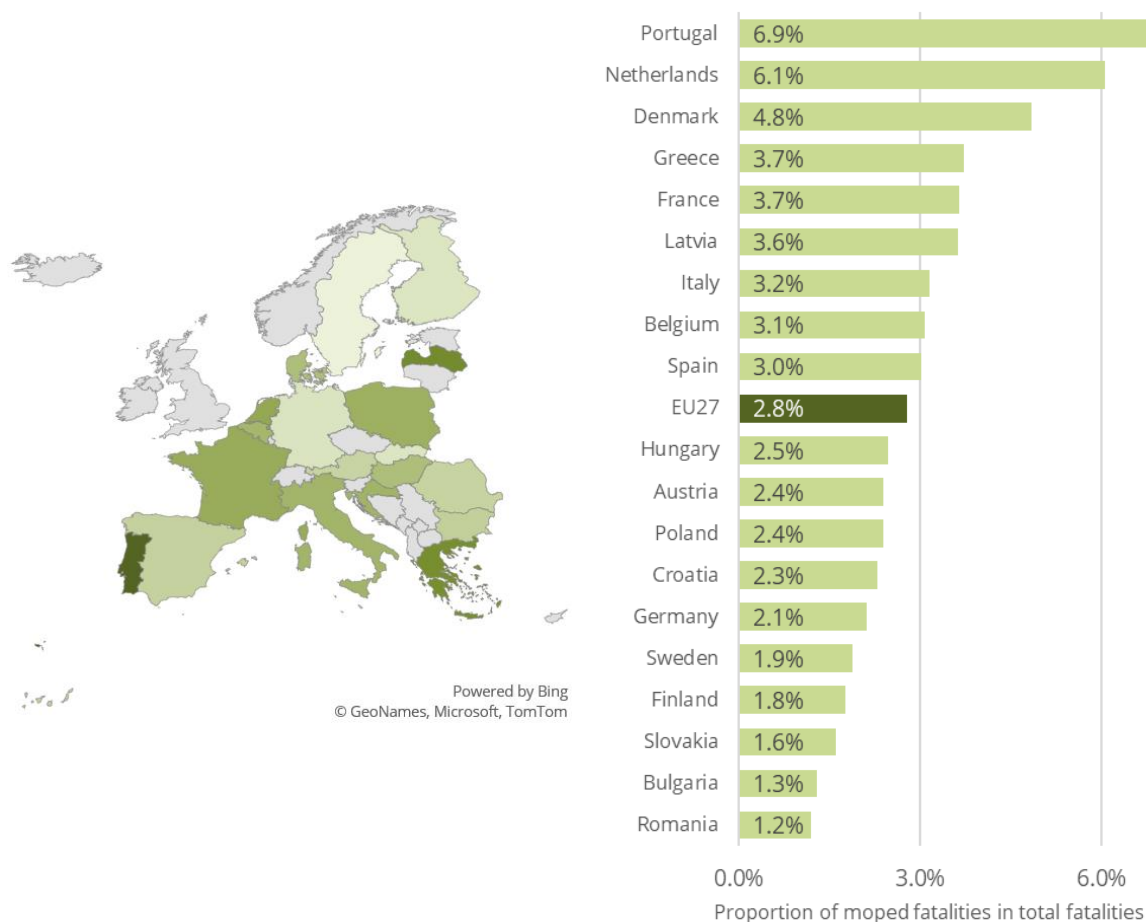


Notes:

- Imputation was used to compute the overall proportion for EU27.
- Due to small numbers of fatalities, Estonia, Malta and Luxembourg are not included.
- Due to a high number of missing values, Ireland, Lithuania and Slovakia are not included.

As with moped mortality, the proportion of moped fatalities generally appears to be higher in the southern EU Member States. In Italy and France both mortality rates and proportion rates for mopeds are above average. However, Portugal and Greece score higher than France and Italy on both indicators. The Netherlands also has a high proportion of moped fatalities.

Figure 8. Number of moped fatalities in the total number of fatalities, per country in the EU27 (2016-2018).  
Source: CARE



Notes:

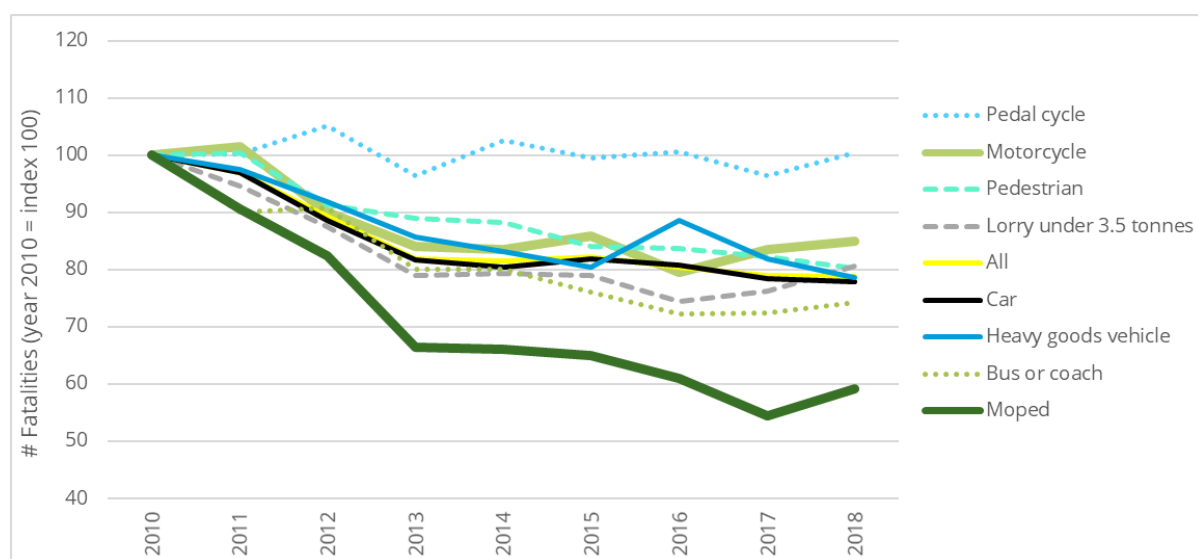
- Imputation was used to compute the overall proportion for EU27.
- Due to small numbers of fatalities, Cyprus, Czechia, Estonia, Malta, Luxembourg, and Slovenia are not included.
- Due to a high number of missing values, Ireland and Lithuania are not included.

## 2.4 Comparison of powered two-wheeler riders with other transport modes

The Figure below shows the total number of fatalities in road crashes involving particular modes of transport over the period 2010-2018. 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).

**No other mode of transport shows a greater reduction in fatalities than mopeds, while the reduction of fatalities in motorcycle crashes is less than average.**

Figure 9. Trend of fatalities in crashes involving motorcyclists and moped riders and other transport modes in the EU27 (2010-2018). 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.

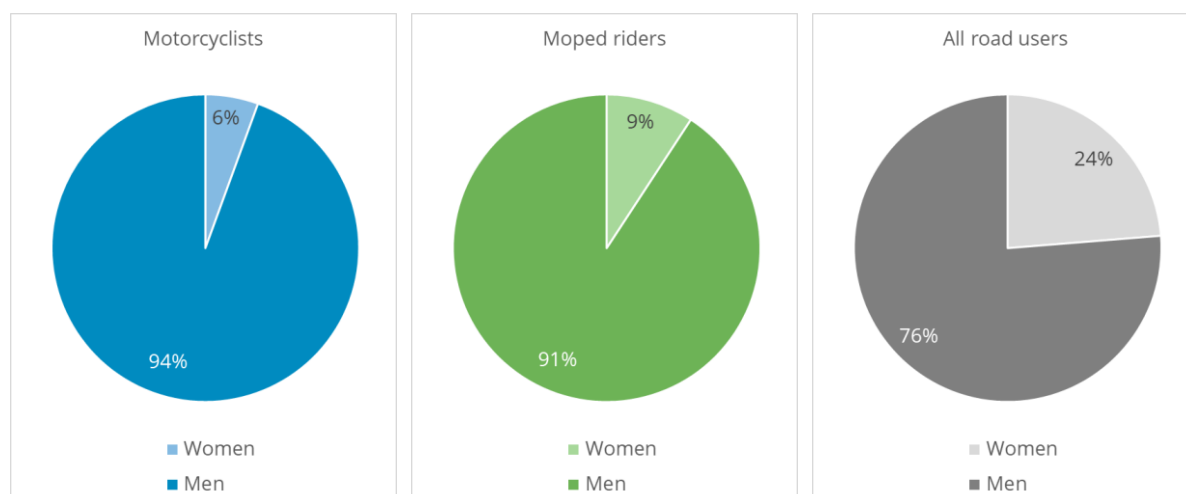


## 3 Road user

### 3.1 Gender

76% of all road fatalities in the EU in 2018 are male. **The proportion of men is even higher with PTW riders: 91% in the case of moped riders and 94% in the case of motorcyclists.**

Figure 10. Distribution of motorcyclist fatalities, moped fatalities and all fatalities by gender in the EU27 (2018). Source: CARE



Note: the relative share of fatalities among powered two-wheeler riders with gender "unknown" is smaller than 0.1% in 2018. Therefore, the category "unknown" is omitted from the Figure.

As far as the proportion of men in motorcycle fatalities is concerned, few differences can be observed between EU Member States. In none of the EU Member States is the share below 88%. With regard to moped fatalities also, few differences can be observed between countries. In the Netherlands, the proportion of men is - in relative terms - low at 74% in 2018. The excel file "F&F Motorcyclists and moped riders" contains more information and figures on this.

### 3.2 Age

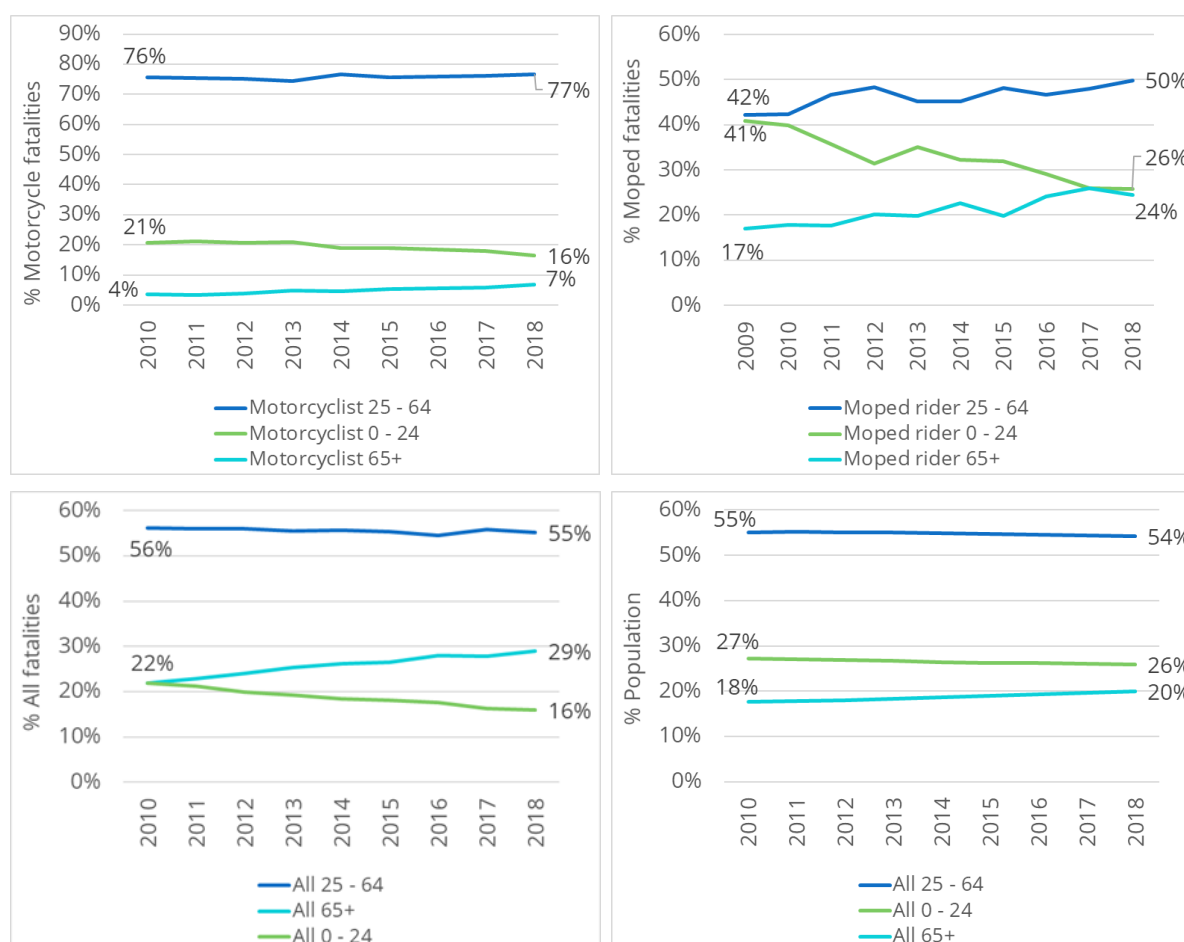
The 25-64 age group accounts for the largest proportion of fatalities among PTW riders: 77% among motorcyclists in 2018 and 50% among moped riders.

With regard to motorcyclists, the proportion of 25-64-year-olds has remained stable since 2010, but the proportion of over-65s has almost doubled (from 4% in 2010 to 7% in 2018) while the proportion of up to 24-year-olds has decreased (from 21% to 16% in the same period).

**As with motorcycle fatalities, the proportion of over-65s and 25-64-year-olds among moped riders increased and the proportion of young people up to 24 years of age decreased.** These trends may be linked to trends in the characteristics of users of these modes of transport.

As regards the distribution of motorcycle fatalities and moped fatalities across the three age groups, no major differences can be observed between EU Member States (see excel file "F&F Motorcyclists and moped riders").

Figure 11. Distribution of motorcyclist and moped fatalities and all fatalities by age group in the EU27 (2010-2018). Source: CARE & Eurostat



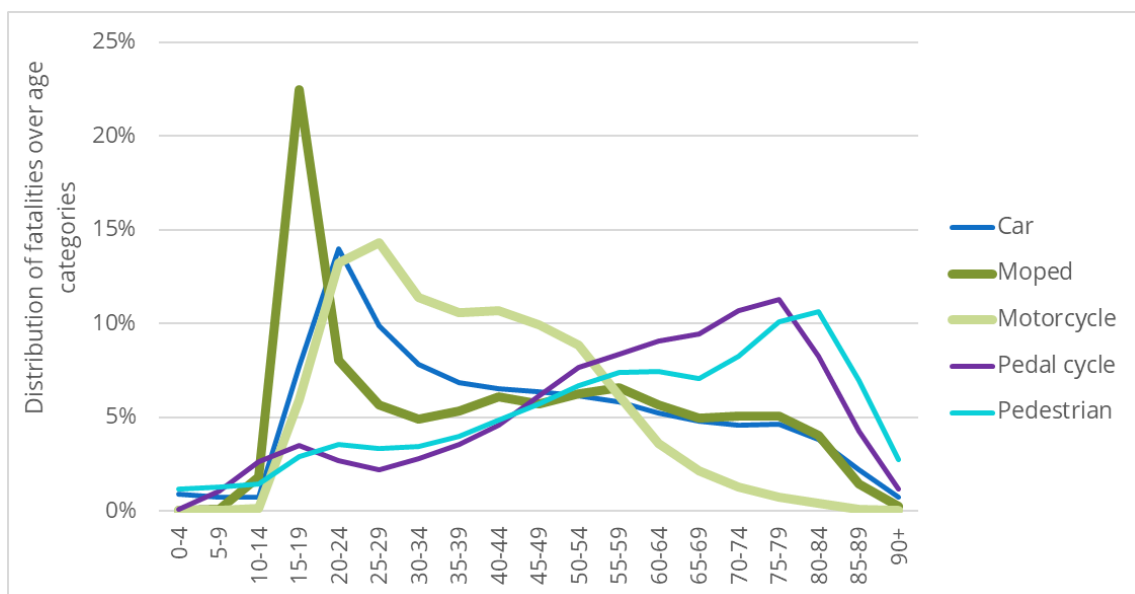
Note: the relative share of fatalities among powered two-wheeler riders with age "unknown" is smaller than 0.5% in 2018. Therefore, the category "unknown" is omitted from the Figure.

The Figure below provides a more detailed picture of the distribution of motorcyclist and moped fatalities by age. **With moped riders a high peak occurs in the age category**

of 15-19 years; this is the age category from which this means of transport may be used. The peak decreases sharply until the age of 25-29, after which the numbers of moped fatalities hit a plateau. **With motorcyclists, a peak is reached in people in their twenties.** After that, the number of fatalities also decreases, but in a much more gradual way than with moped riders.

The distribution of fatalities among powered two-wheeler riders is very different from the distribution among other vulnerable road users, namely pedestrians and cyclists, for whom the number increases in line with age.

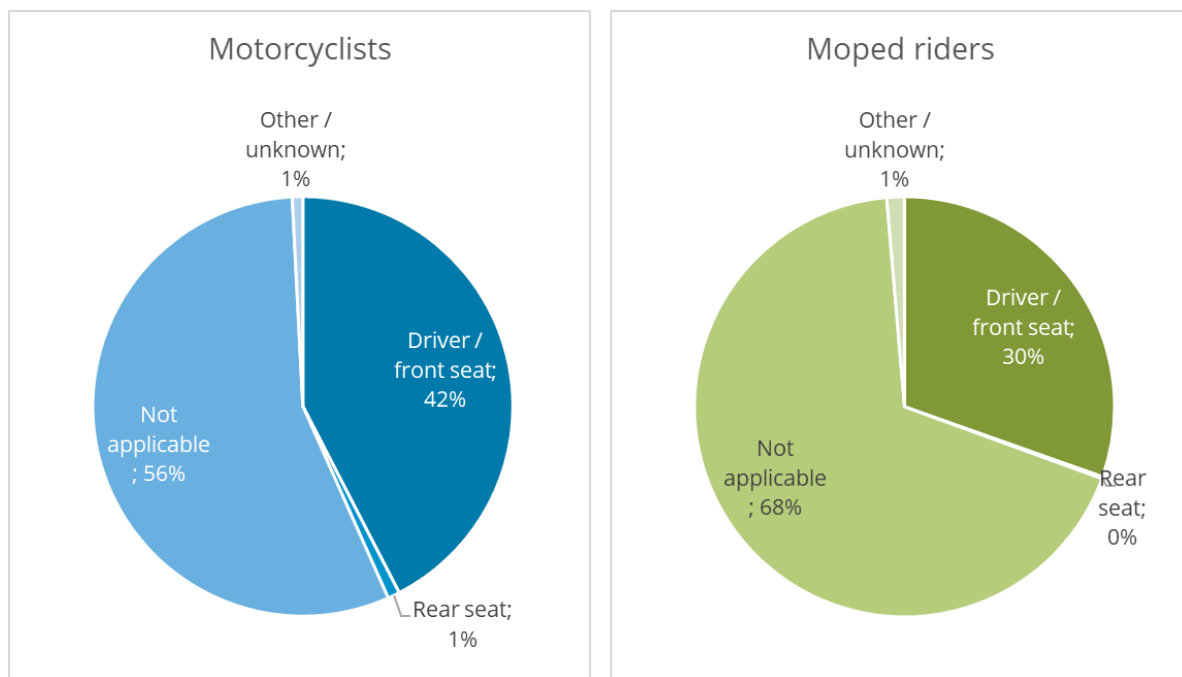
Figure 12. Distribution of fatalities over 5-year age categories, by transport mode, in the EU27 (2010-2018).  
Source: CARE



### 3.3 Seating position

In relation to the seating position of powered two-wheeler riders killed, the information in the CARE database is very incomplete. Nevertheless, the limited information in the Figure below seems to suggest that **passengers are a small minority of those killed**.

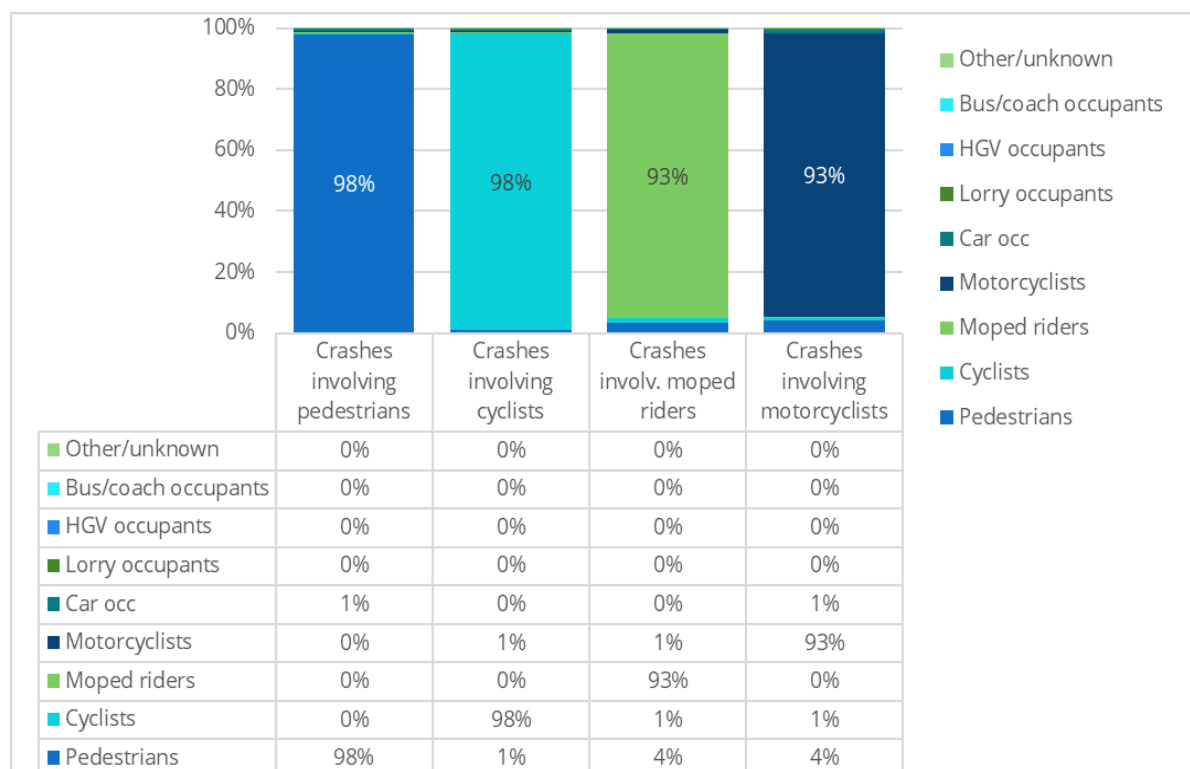
Figure 13. Distribution of fatalities among users of powered two-wheeler riders by seating position on vehicle in the EU27 (2010-2018). Source: CARE



### 3.4 Other transport modes involved

In 2018, the **percentages of motorcyclists and moped riders killed in a unilateral crash** (a crash in which only one vehicle and no pedestrians are involved) **were 36% and 33% respectively**. In all crashes involving motorcyclists or moped riders, **more than 9 out of 10 fatalities are the motorcyclists/moped riders themselves**.

Figure 14. Distribution of fatalities by transport mode in crashes involving pedestrians, cyclists, moped riders and motorcyclists in the EU27 (2018). Source: CARE

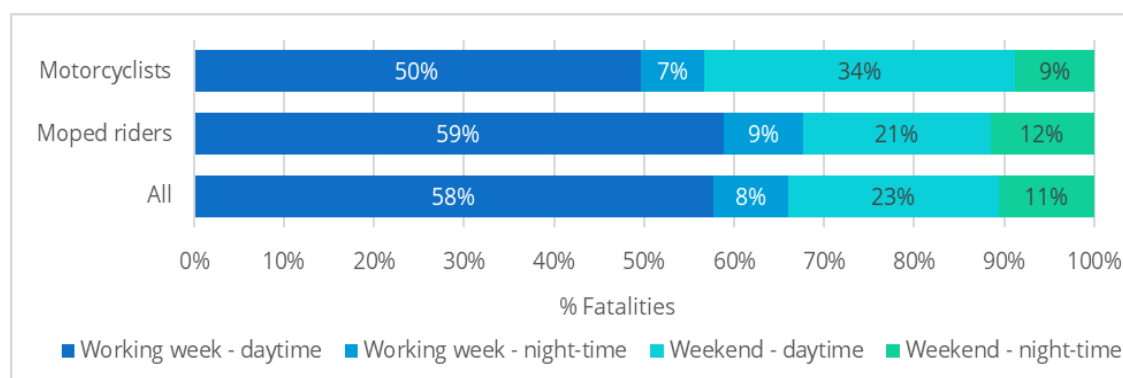


# 4 Time

## 4.1 Period of the week

The distribution of moped fatalities according to period of the week is very similar to the distribution of total fatalities over the week. This is not the case for motorcycle fatalities. The share of motorcycle fatalities is proportionally higher during day-time in the weekend, compared with moped and all fatalities. Differences in the time-spread of motorcycle fatalities and moped fatalities can probably be explained by differences in utilisation of these modes of transport, where mopeds are driven mainly for utilitarian reasons (e.g. commuter traffic) while motorcycle are driven for utilitarian reasons and leisure activities.

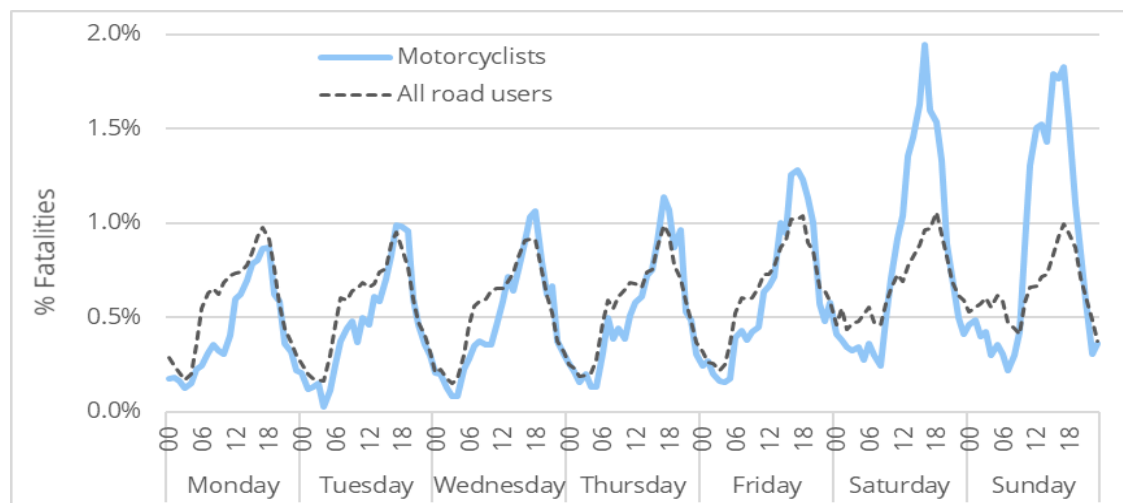
Figure 15. Distribution of fatalities among powered two-wheeler riders and all fatalities according to period of the week in the EU27 (2018). Source: CARE



## 4.2 Day of the week and hour

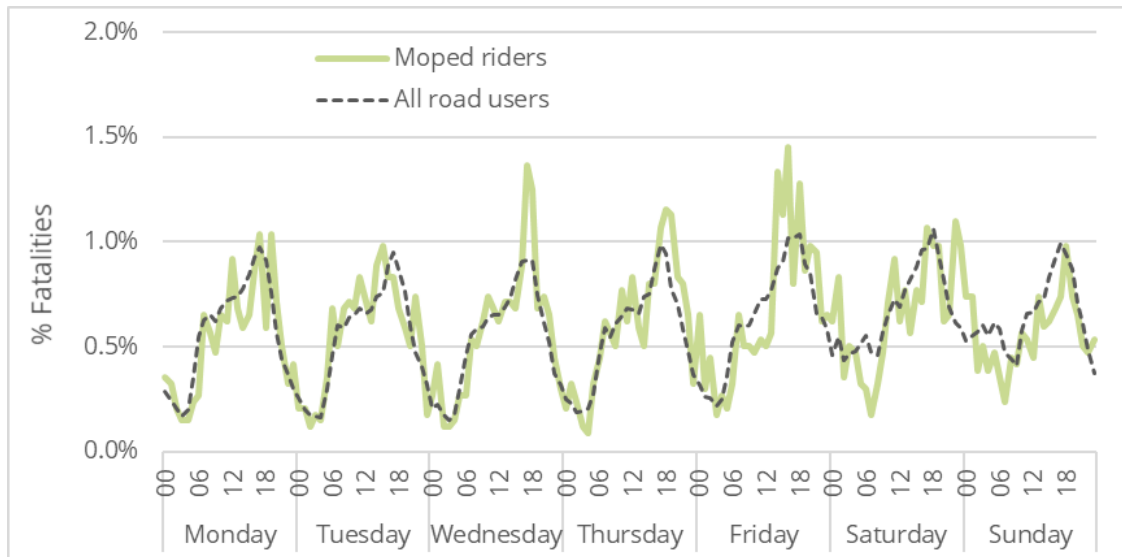
The Figure below on motorcycle fatalities confirms the above finding that proportionately many more motorcyclists are involved in a fatal crash in **daytime at the weekend**. In the working week, they are less likely to be involved in a fatal crash in the morning but just as likely in the afternoon as compared to road fatalities generally.

Figure 16. Distribution of motorcycle fatalities and all fatalities by day of the week and hour in the EU27 (2018). Source: CARE



The distribution of moped fatalities and all fatalities over the hours of the week is very similar. One must be careful in interpreting the Figure below because due to small number, the line of moped fatalities shows some random outliers.

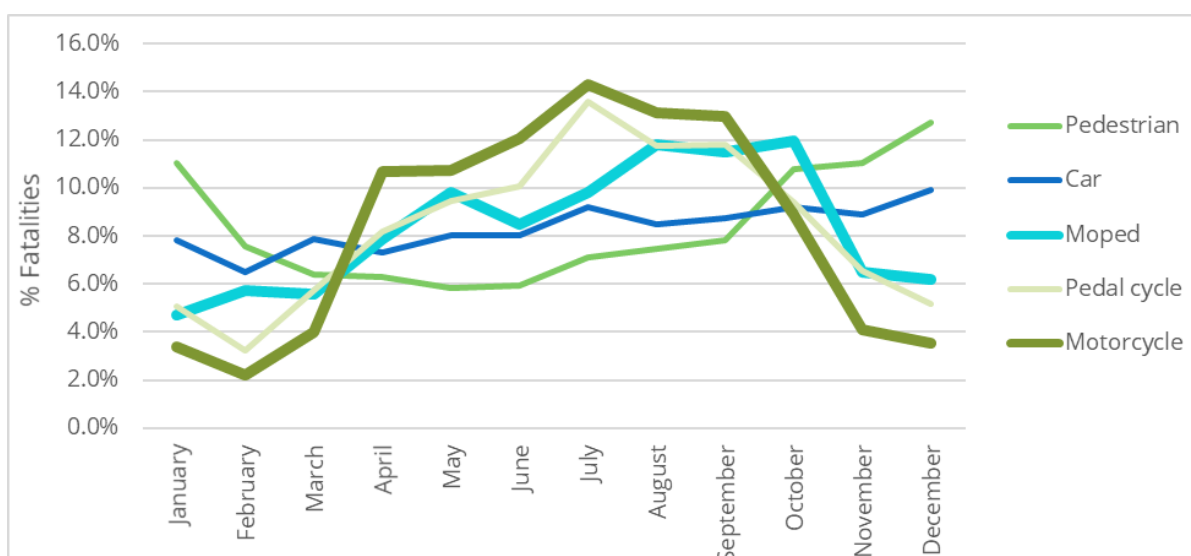
Figure 17. Distribution of moped fatalities and all fatalities by day of the week and hour in the EU27 (2018). Source: CARE



### 4.3 Month

The Figure below shows the distribution of fatalities by mode of transport over the months of the year. **Of all transport modes, we see the most pronounced seasonal variation for motorcyclists, showing a low proportion of fatalities during the winter months (November to March) and a high proportion from April to September.** In the month of July there are 6.5 times more motorcycle fatalities than in February. The seasonal pattern for moped fatalities and cyclist fatalities is similar to that for motorcycle fatalities, but less pronounced. Again, this may be due to the nature of travel behaviour with these vehicles.

Figure 18. Monthly distribution of fatalities by transport mode, in the EU27 (2018). Source: CARE

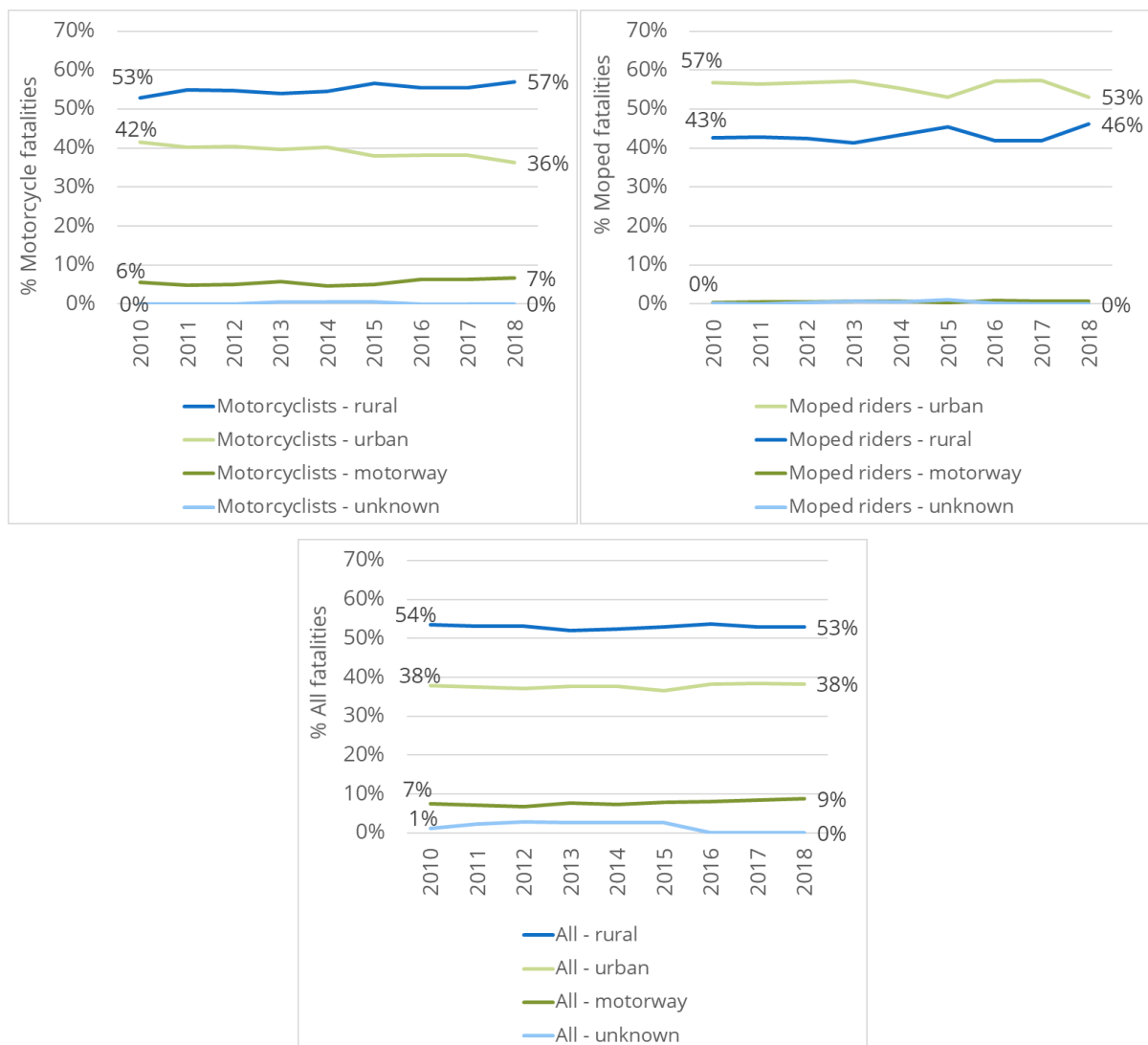


# 5 Location

## 5.1 Road type

Overall, rural roads accounted for the highest number of road fatalities in 2018 (53%), followed by urban roads (38%), and motorways (9%). For **motorcyclists**, the distribution of fatalities according to road type is quite similar to the general distribution. For **moped riders**, the share of fatalities on rural roads is slightly lower on rural roads than on urban roads (53% on urban roads compared with 46% in 2018).

Figure 19. Distribution of motorcyclist and moped fatalities and all fatalities by road type in the EU27 (2010-2018). Source: CARE



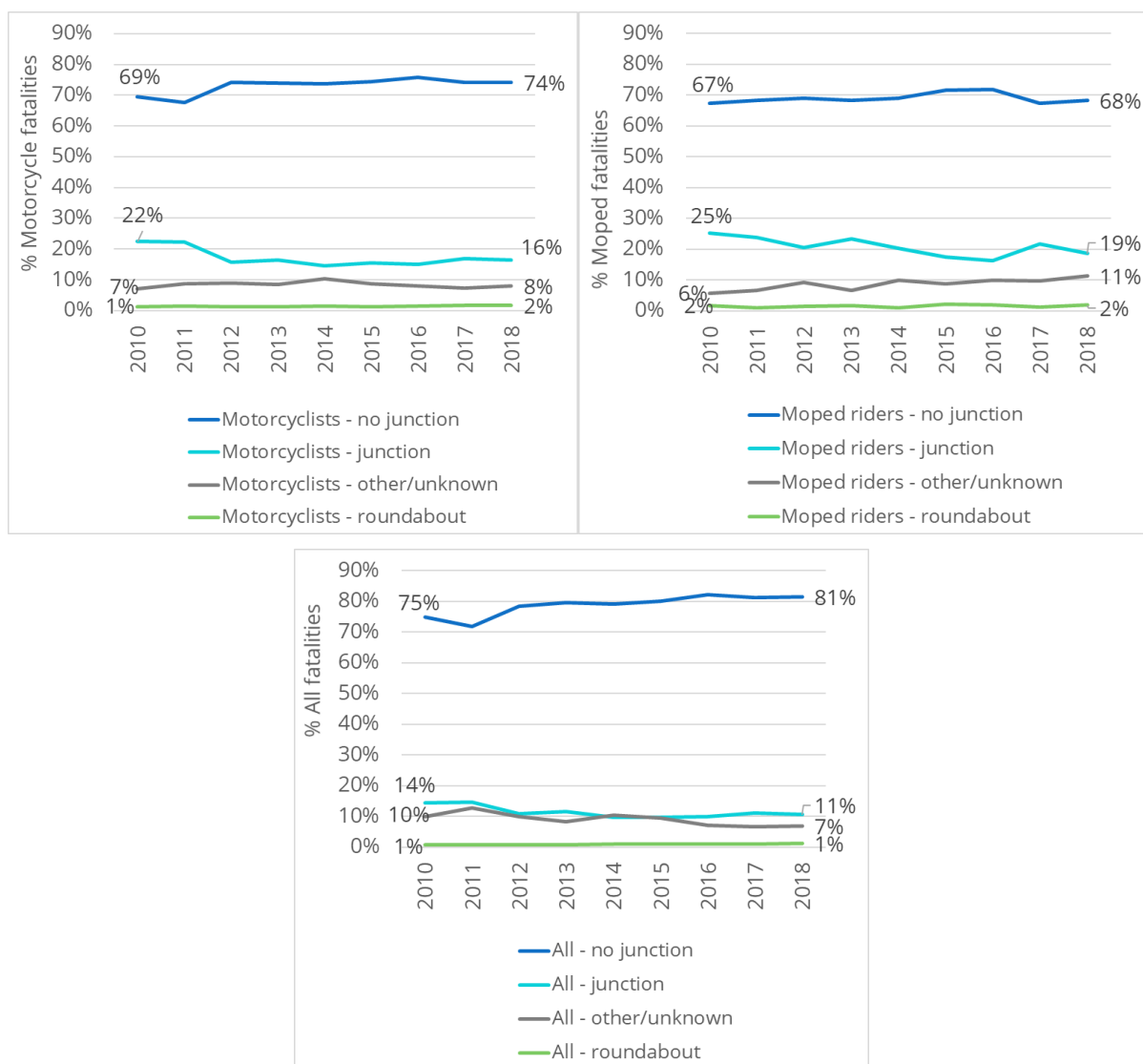


## 5.2 Junction type

The majority of road fatalities occur on road stretches (81%). There are far fewer fatalities at junctions (11%) or roundabouts (1%). The same finding applies to motorcycle fatalities and moped fatalities, although the proportion on road stretches is lower for these modes of transport and higher at junctions and roundabouts.

The proportion at junctions has decreased for powered two-wheeler riders and all fatalities since 2010, and has risen on road stretches for motorcycle fatalities and all fatalities.

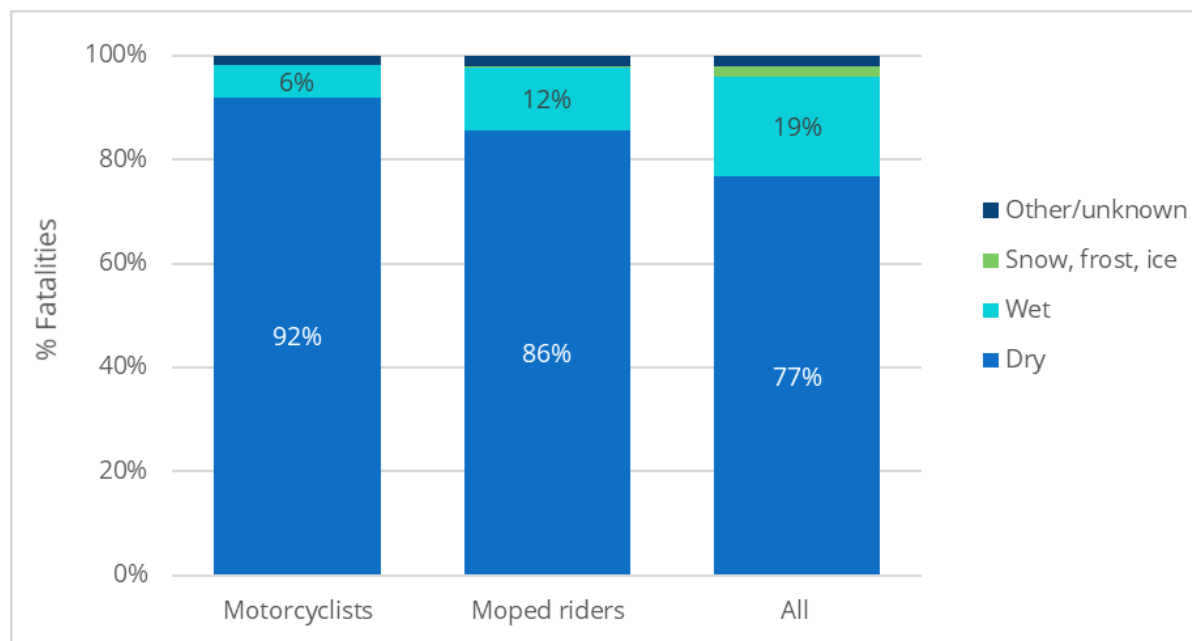
Figure 20. Distribution of motorcycle and moped fatalities and all fatalities by junction type in the EU27 (2010-2018). Source: CARE



## 5.3 Surface

Surface conditions were dry in the case of 77% of all road fatalities and wet for 19% of them. For only 2% of them were the surface conditions snowy, frosty or icy. **In fatal crashes involving motorcyclists and moped riders, the surface conditions are even more often dry (respectively 92% and 86%).** Again, this may be due to travel behaviour with these vehicles whereby less frequent trips are made when surface conditions are not as favourable (such as in winter).

Figure 21. Distribution of motorcycle and moped fatalities and all fatalities by surface conditions in the EU27 (2018). Source: CARE



## Notes

### Definitions

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

*CADAS Glossary: [https://ec.europa.eu/transport/road\\_safety/sites/roadsafety/files/pdf/statistics/cadas\\_glossary.pdf](https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/statistics/cadas_glossary.pdf)*

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

#### Crash (Source: UNECE/ITF/Eurostat Glossary)

Any accident 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.

#### Fatality (Source: CADAS Glossary)

Death within 30 days of the road accident; confirmed suicide and natural death are not included.

#### Victims (Source: CARE database)

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

#### Vulnerable road users

In the Facts and Figures reports vulnerable road users refer to pedestrians, cyclists, riders of mopeds and motorcyclists.

#### 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.

### 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 27 December 2020.

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.

## 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.

## 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.

## Countries included

The Figures in this report present the information for the countries that are members of the EU at the time of publication of the report. In December 2020, 27 countries were members of the European Union, excluding the UK. The EFTA countries and the UK are included in Table 1 and Table 2.

Liechtenstein is excluded from this report because no recent accident data containing breakdowns according to transport mode and other variables data are available for this country.

Bulgaria is excluded in the Figures on motorcycle fatalities because the time series for this country is not correct in the CARE database. Due to the lack of a complete data series, Ireland has not been included in the Figures on moped fatalities.

