



European  
Commission



Facts & Figures Report  
**Regional distribution**



This document is part of a series of 20 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 most recent figures in this Facts and Figures report of 2024 refer to 2022. These reports can be found on the ERSO website ([https://road-safety.transport.ec.europa.eu/statistics-and-analysis/data-and-analysis/facts-and-figures\\_en](https://road-safety.transport.ec.europa.eu/statistics-and-analysis/data-and-analysis/facts-and-figures_en)).

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# 1. Summary

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This Facts and Figures report looks at the regional distribution of road fatalities on European roads. Within countries, the occurrence of crashes can vary considerably depending on the region. For the purpose of comparing fatalities between regions, **the Eurostat classification system 'NUTS'<sup>1</sup> is used**, more precisely, the NUTS 2 level whenever possible<sup>2</sup>. NUTS 2 currently lists 244 European regions. The analysis of the trend in the number of fatalities considers the changes made to the NUTS definition over the years.

**The number of fatalities per million inhabitants (mortality rate) is highest in Eastern Europe.** Some of the regions with the highest mortality rates can be found in Greece, Romania and Bulgaria. **In most countries, there are regions with a comparatively low mortality rate as well as a comparatively high one.** Furthermore, the trend in the rate over time tends to vary between regions. **In Lithuania, Poland and Slovenia there has been a decrease in all regions.**

The **Portuguese region Alentejo has the highest number of fatalities** per million inhabitants, which is more than three times as high as the overall mortality rate for EU27 in 2022. The **Greek region South Aegean has the second highest mortality rate.** Stockholm, Berlin and Vienna are the regions with the most favourable rates of fatalities per million inhabitants

The **rate of male fatalities per million inhabitants is also high in Eastern Europe**, mainly in certain regions in Romania and Bulgaria. Regarding young people aged 18 to 24, 4 of the 10 regions with the highest mortality rate are Greek ones. In general, the rate in this age group is, again, high in Eastern Europe but also in France. The **mortality rate of seniors aged 65+ is also high in the East**, with a noticeable number of Romanian regions among the highest-ranking regions.

**The mortality rate for pedestrians per million inhabitants is again highest in regions in Eastern Europe**, with many affected regions in Romania. It is important to note that none of these fatality rates are adjusted for distance travelled per mode.

Regarding road types, the share of **fatalities on rural roads within the total number of fatalities is high in Central, North and West Europe**, while the rate for urban roads is high in East and South Europe.

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<sup>1</sup> Nomenclature of territorial units for statistics, <https://ec.europa.eu/eurostat/web/nuts>

<sup>2</sup> NUTS 1 for Germany and NUTS 0 (country level) for Cyprus, Estonia, Latvia, Luxembourg and Malta

## 2. Main Trends

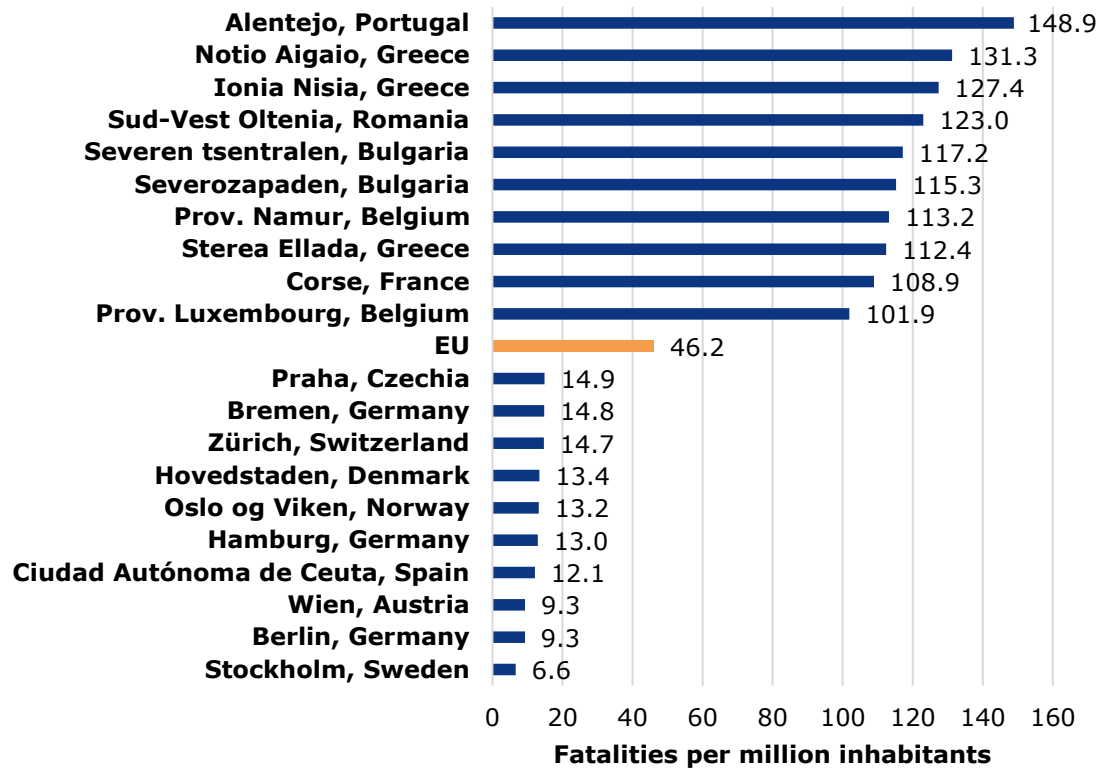
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### 2.1 Mortality rate: number of road fatalities per million inhabitants

The rate of fatalities per million inhabitants is highest in Eastern Europe. Some of the **regions with the highest mortality rates can be found in Greece, Romania and Bulgaria**. 16 regions show 95 or more fatalities per million inhabitants. In Romania and Bulgaria, the mortality rate is high in most of the regions, while Greece also has regions with more comparatively lower rates. Next to the afore-mentioned countries, there are also regions in Portugal and Belgium with high shares (2 regions each) as well as in France, Hungary and Croatia (1 region each). **In most countries, there are regions with a comparatively low mortality rate as well as a comparatively high mortality rate.**

The Portuguese region Alentejo has the highest number of fatalities per million inhabitants (148.9), which is more than three times as high as the overall mortality rate for EU27 in 2022 (46.2). The Greek region South Aegean has the second highest mortality rate (131.3). Stockholm (6.6), Berlin (9.3) and Vienna (9.3) are the regions with the most favourable rates of fatalities per million inhabitants (see figure 1).

**Figure 1.** Fatalities per million inhabitants, ten best and ten worst performing NUTS-2 regions in the EU27 and EFTA (2022). Source: CARE, EUROSTAT

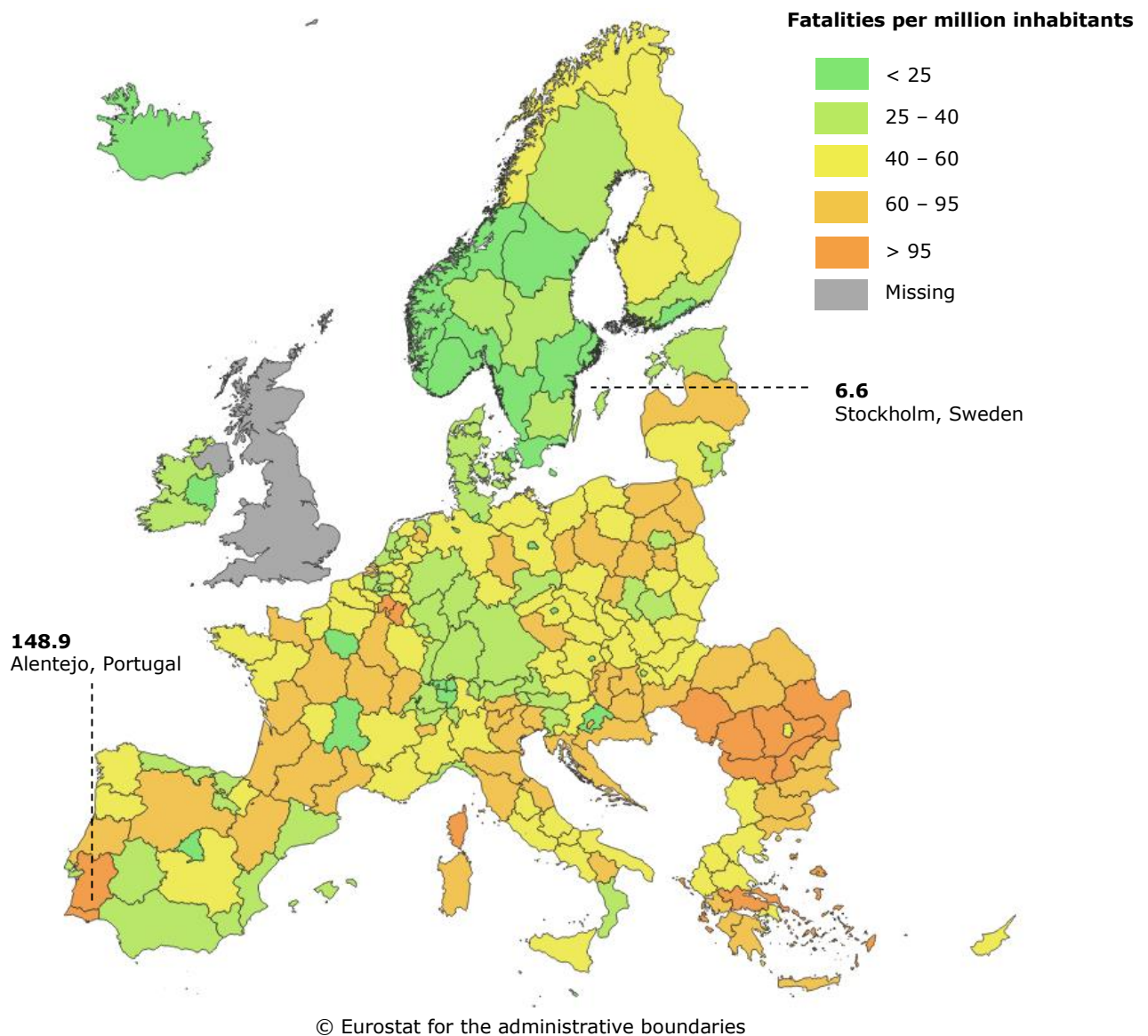


Notes:

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- Regions with less than 10 fatalities have been excluded



**Figure 2.** Fatalities per million inhabitants per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



**Notes:**

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

## 2.2 Trend in the number of fatalities

The evolution in fatalities for European regions draws on comparing the year 2022 over 2019.<sup>3</sup> In this period the **number of fatalities in the EU27 has decreased by 9%**. The range of decreases and increases in fatalities for different regions is considerable.

The absolute numbers in regions can be relatively small and not statistically significant. Furthermore, a region may experience a large increase or decrease in the number but remain well above or below the EU average in terms of the fatality rate per million inhabitants.

Some regions such as Zeeland in the Netherlands, Ioania Nisia in Greece and Basilicata in Italy show particularly large increases. **Among the 10 regions with the highest decreases, five are in Poland.** In Lithuania, Poland and Slovenia there has been a decrease in the number of road fatalities in all regions. In most of the EU27 and EFTA countries, there is a very mixed picture with the number of deaths decreasing in some regions but increasing in others.

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<sup>3</sup> The long-term change over the past decade is not presented in this report due to the many changes in the NUTS region definitions over time.

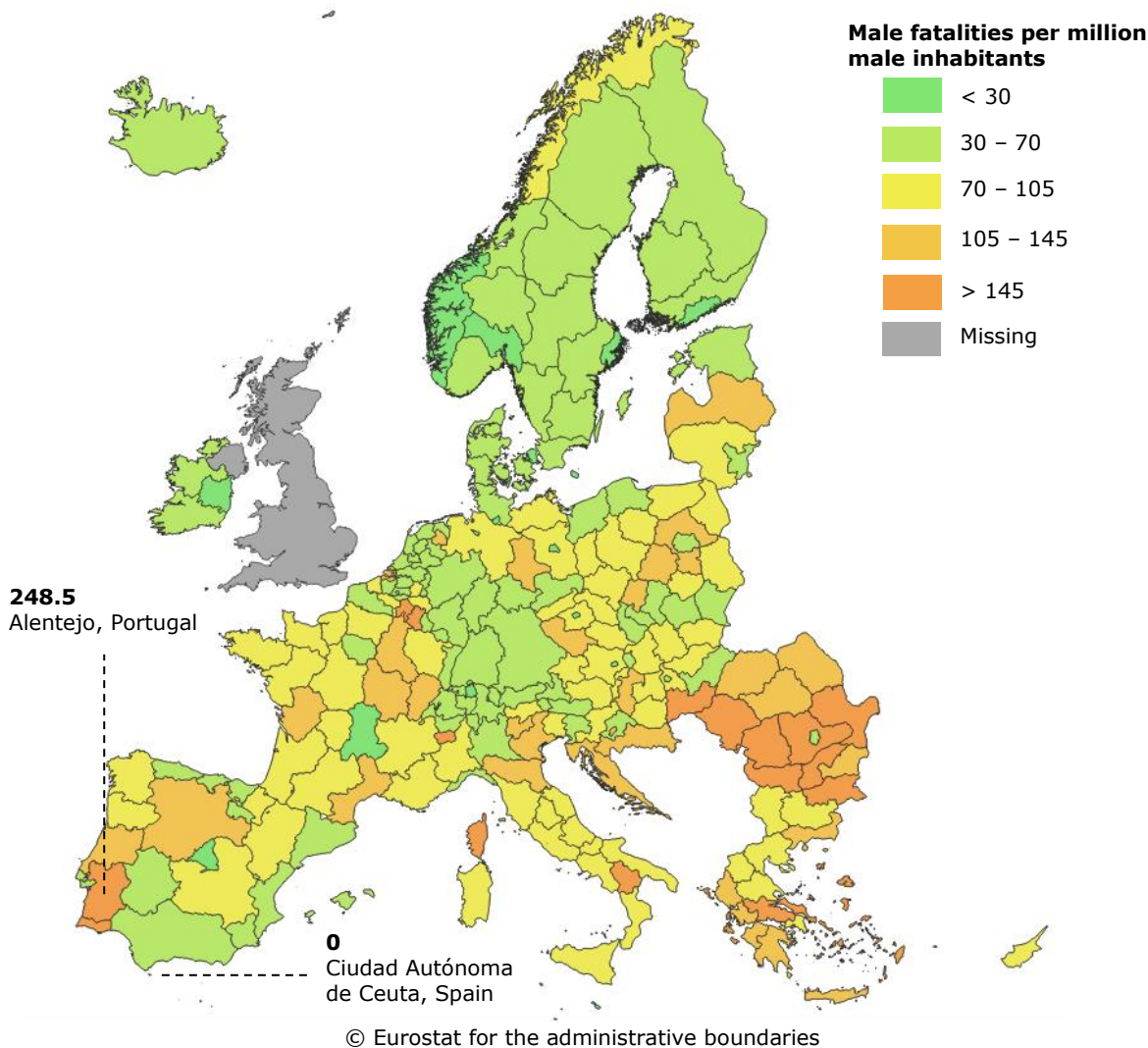


## 3. Road user

### 3.1 Gender

**The rate of male fatalities per million inhabitants is high in Eastern Europe, mainly in certain regions in Romania and Bulgaria.** The highest mortality rates for males can be found in the Portuguese region Alentejo (249), the Greek region Southern Aegean (225) and the French island Corse (195). In contrast, the highest rates of female road fatalities per million inhabitants were recorded for the Bulgarian region Severozapaden (75), Ionia Nisia in Greece (68) and the Croatian region Sjeverna Hrvatska (64).

**Figure 3.** Male fatalities per million male inhabitants per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



Notes:

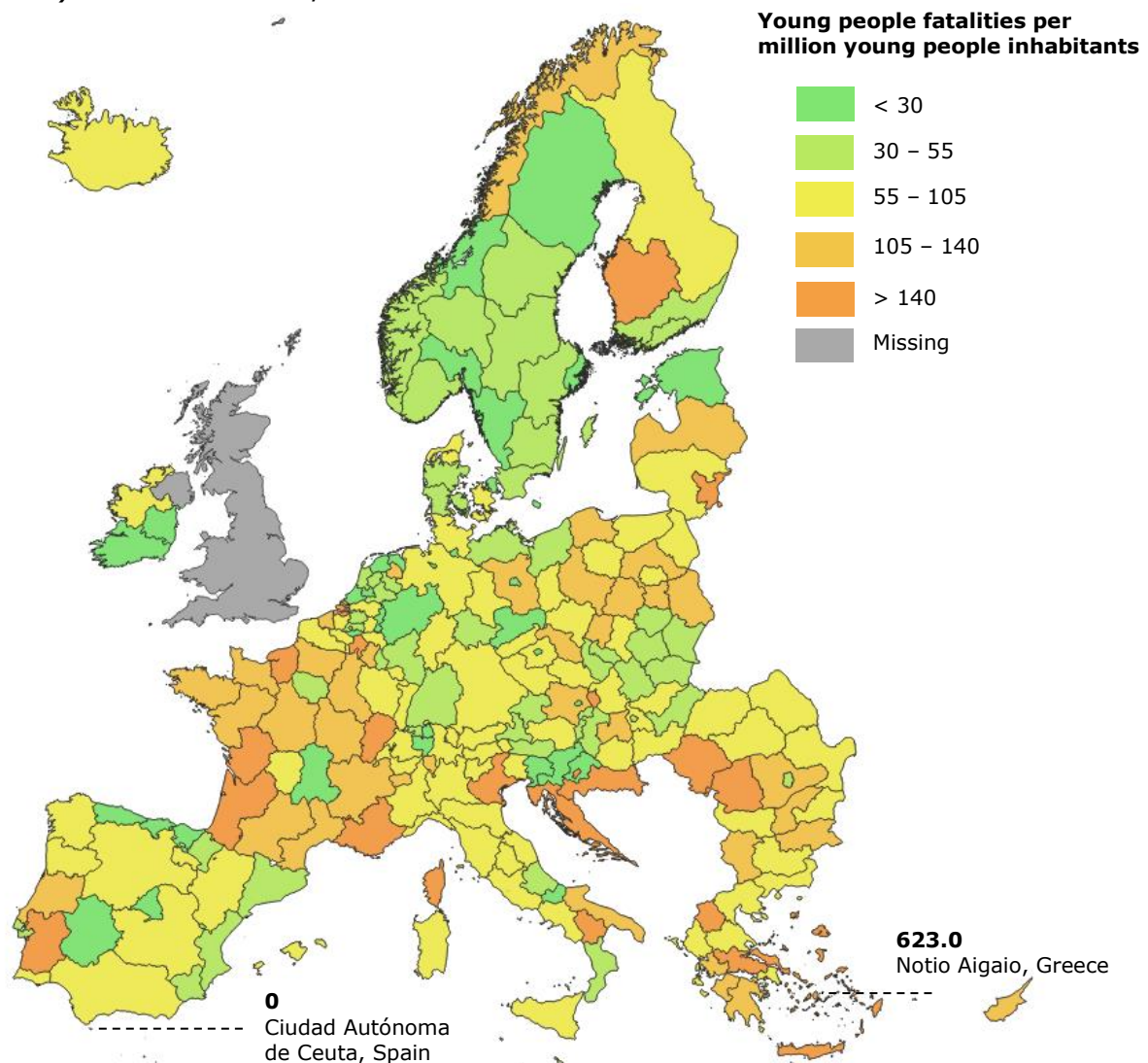
- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

### 3.2 Age

**The number of fatalities among young people aged 18-24 per million inhabitants is high in Eastern Europe but also in France.**

The highest mortality rates for this age group can be found in Greece (Southern Aegean: 623) and France (Corse: 582.9). Among the 10 regions with the highest mortality rates, four are in Greece. The regions with the lowest number of 18- to 24-year-old fatalities per million inhabitants are Hovedstaden in Denmark (6), País Vasco in Spain (7) and Eastern and Midland Ireland (9).

**Figure 4.** Fatalities among young people aged 18-24 per million inhabitants aged 18-24, per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



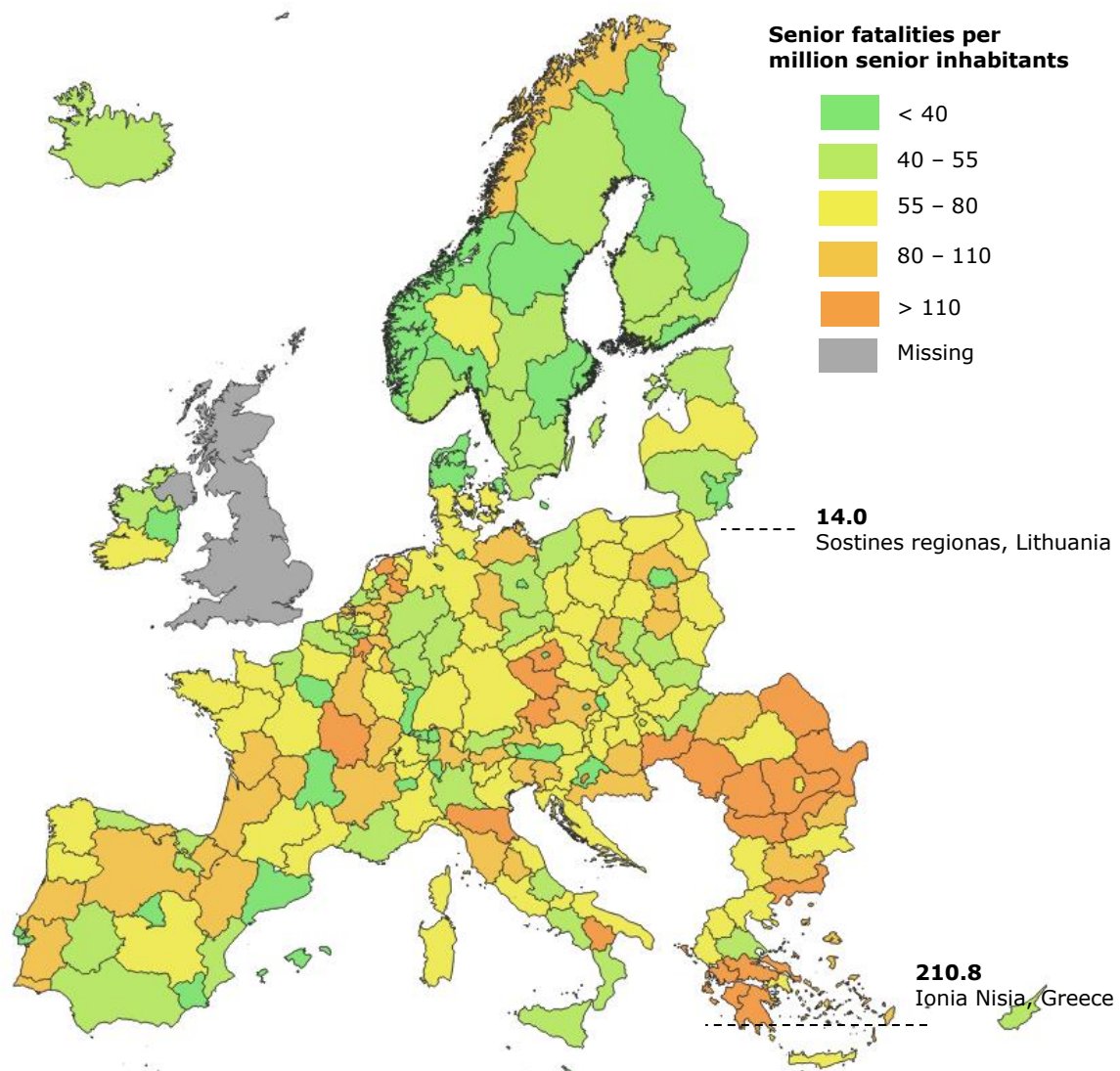
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**Notes:**

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

**The mortality rate for seniors (65+) is highest in regions in Eastern Europe. Among the 10 regions with the highest rates, four are in Romania.** Ionian Islands in Greece and Ciudad Autónoma de Melilla in Spain (exclave on the north African coast) recorded more than 200 senior fatalities per million inhabitants in 2022. The lowest rates are found in Lithuania (Sostines regionas), Sweden (Stockholm) and Spain (Comunidad de Madrid) with less than 20 fatally injured seniors per million inhabitants.

**Figure 5.** Senior fatalities per million senior inhabitants, per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



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Notes:

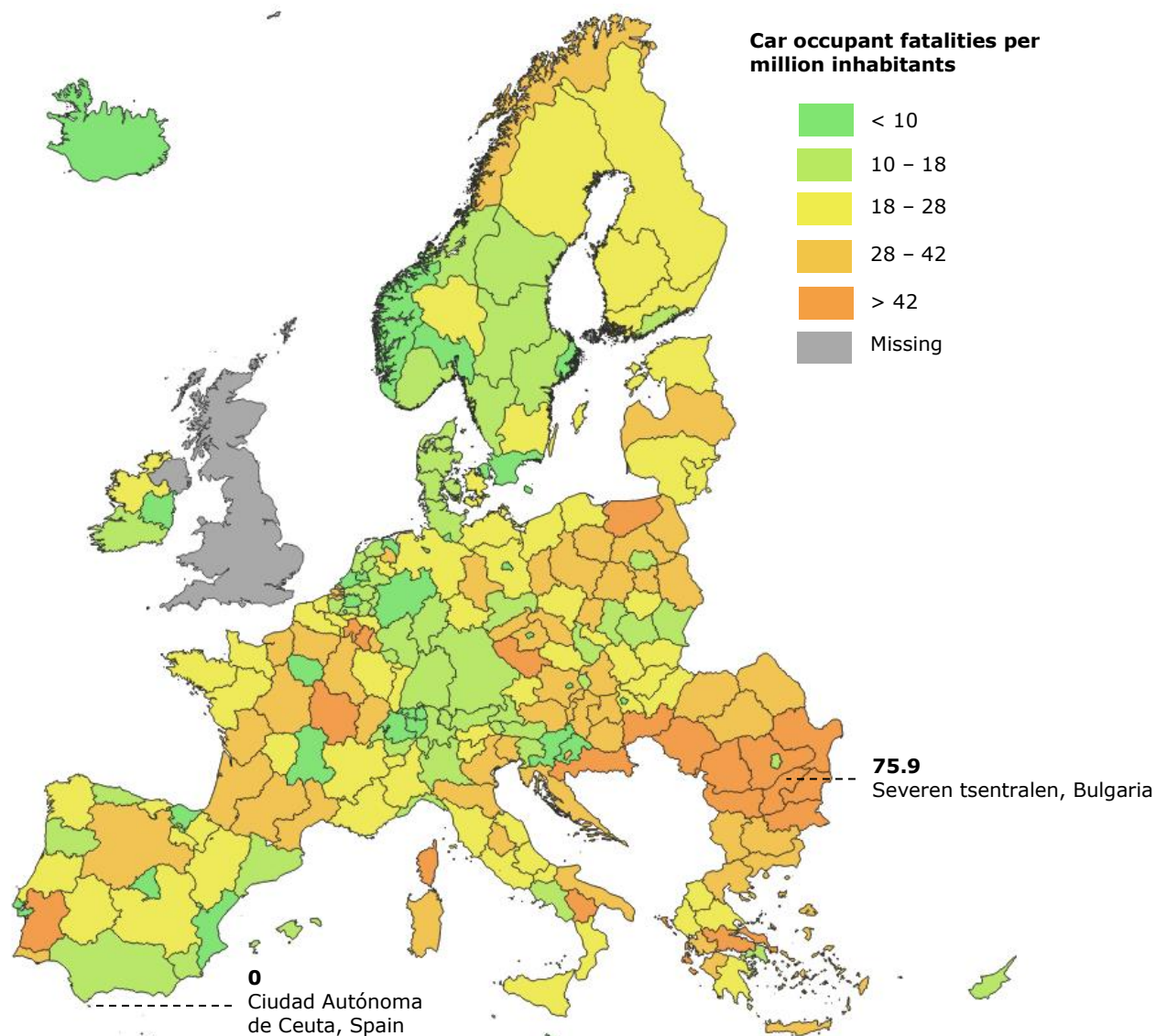
- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.



### 3.3 Transport mode

**The highest mortality rate for car occupants is found in Bulgaria (Severen tsentralen and Severoiztochen) and Belgium (Prov. Luxembourg), with more than 70 car occupant fatalities per million inhabitants each. The lowest rates (below 4) are found in Sweden (Stockholm), Austria (Vienna), Germany (Berlin, Hamburg) and Denmark (Hovedstaden). However, these results are not adjusted for mileage for passenger cars, which differs among Member States.**

**Figure 6.** Car occupant fatalities per million inhabitants, per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT

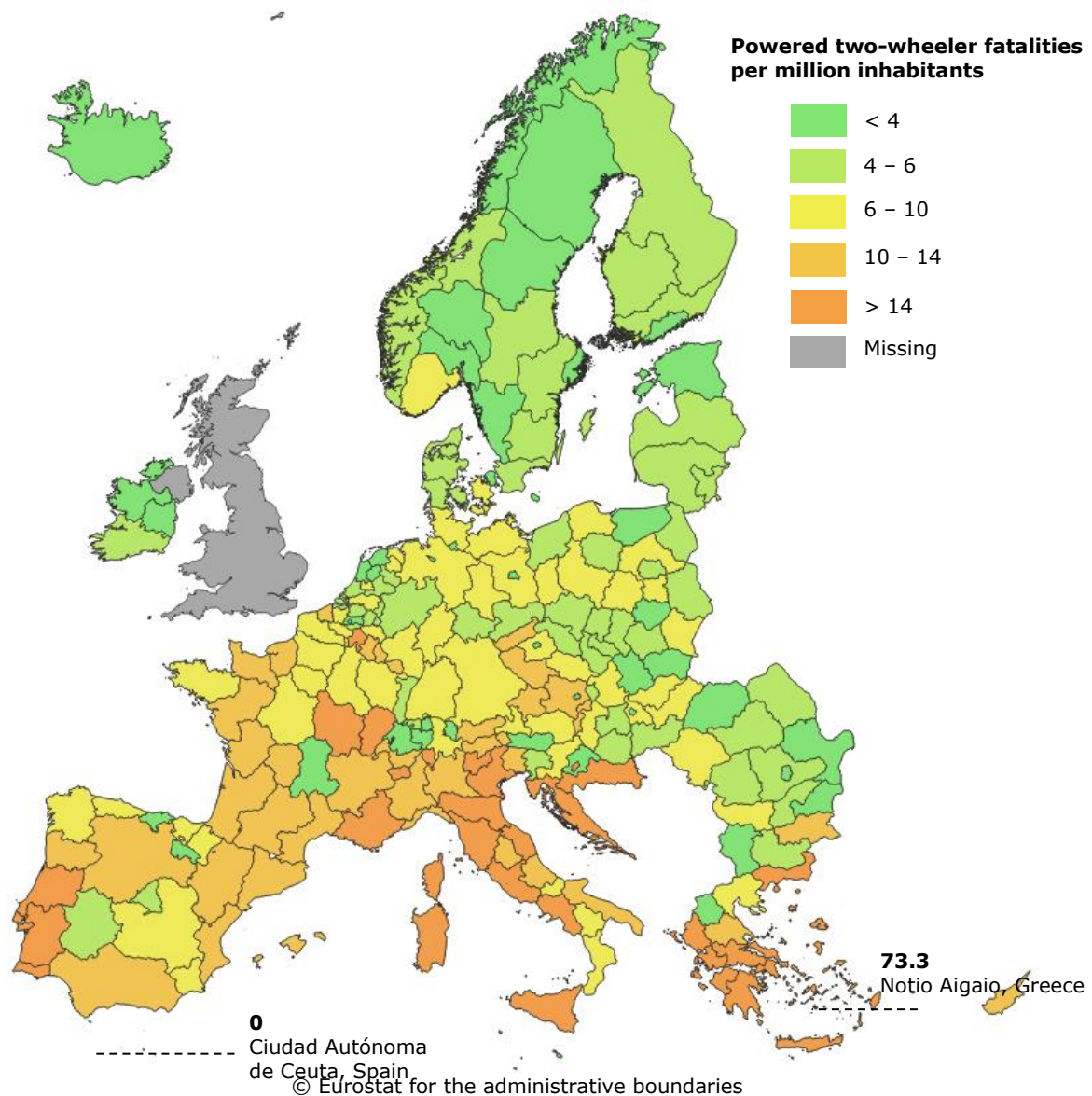


**Notes:**

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

**The mortality rate for powered two-wheelers was high throughout Southern Europe in 2022**, with the highest rates in Greece (Notio Aigaio, Voreio Aigaio, Ipeiros), Italy (Valle d'Aosta), France (Corse) and Portugal (Alentejo), with 30 powered two-wheeler fatalities per million inhabitants or more. Among the 20 regions with the highest mortality rates 10 are Greek regions. The higher popularity of powered two-wheelers (PTWs) in the South of Europe needs to be taken into account when interpreting this map.

**Figure 7.** Powered two-wheeler fatalities per million inhabitants, per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT

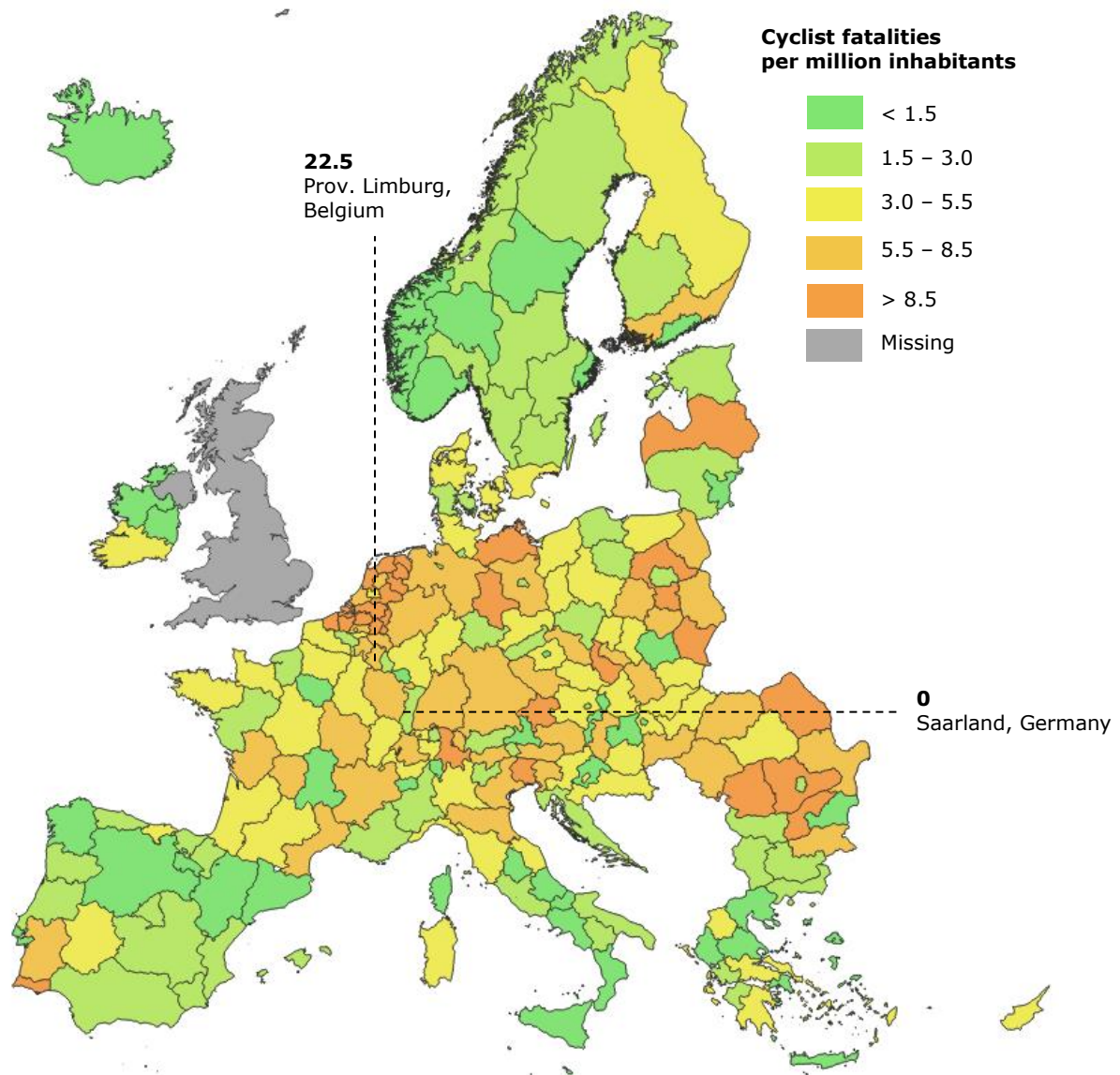


**Notes:**

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

The number of fatalities for cyclists per million inhabitants is highest in the Belgium Province Limburg and multiple regions in the Netherlands (Overijssel, Gelderland, Limburg, Groningen and Noord-Brabant), with 17 cyclist fatalities per million inhabitants or more. Again, the distance travelled cycling per country is not considered in these results.

**Figure 8.** Cyclist fatalities per million inhabitants, per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



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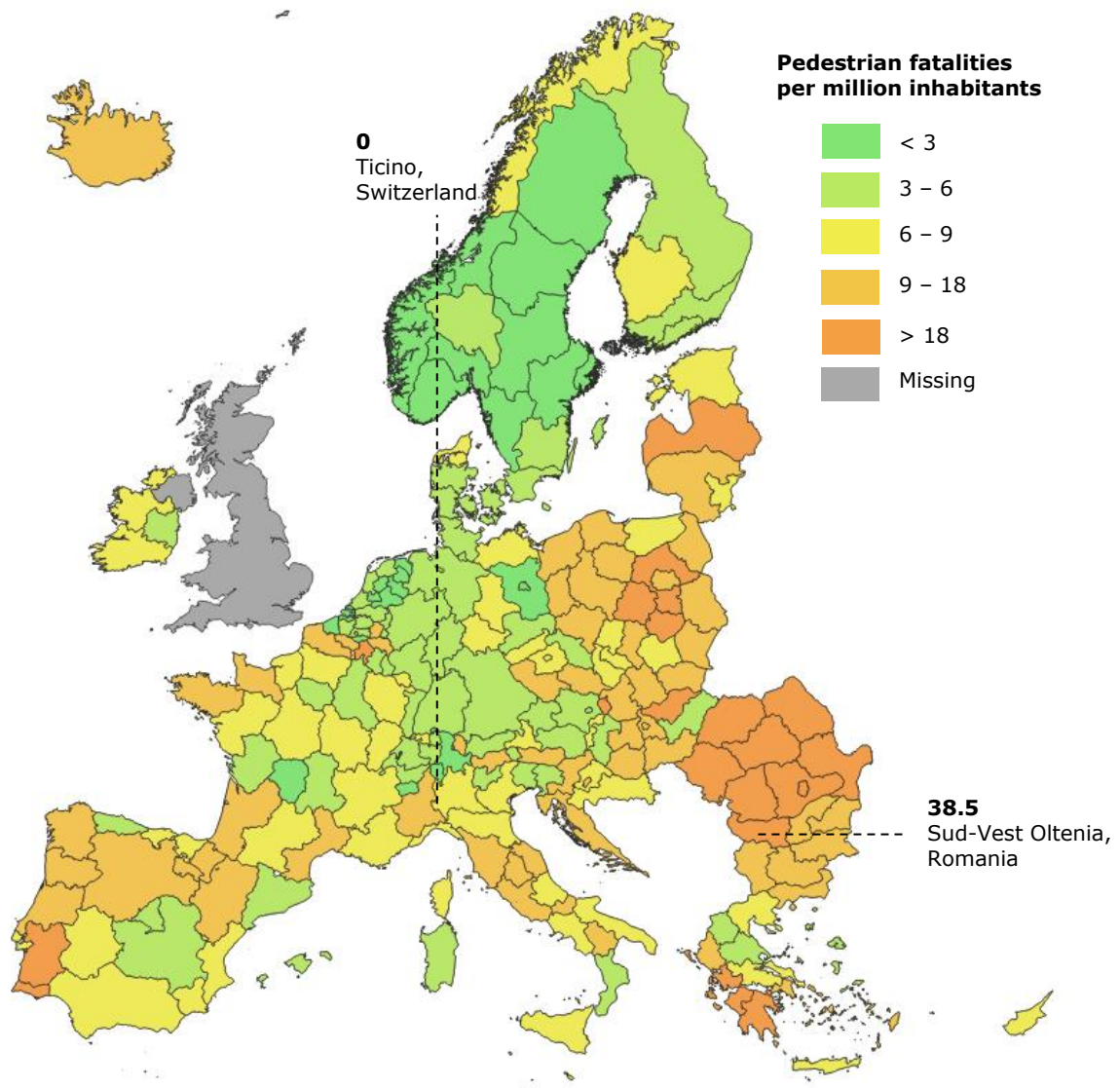
Notes:

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.



The mortality rate for pedestrians is highest in regions in Eastern Europe, with many affected regions throughout Romania, but also in Poland. Among the 10 regions with the highest mortality rate in pedestrian fatalities 7 are in Romania. The high rates in some countries are related, in part, to the amount and nature of pedestrian mobility in these countries.

**Figure 9.** Pedestrian fatalities per million inhabitants, per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



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Notes:

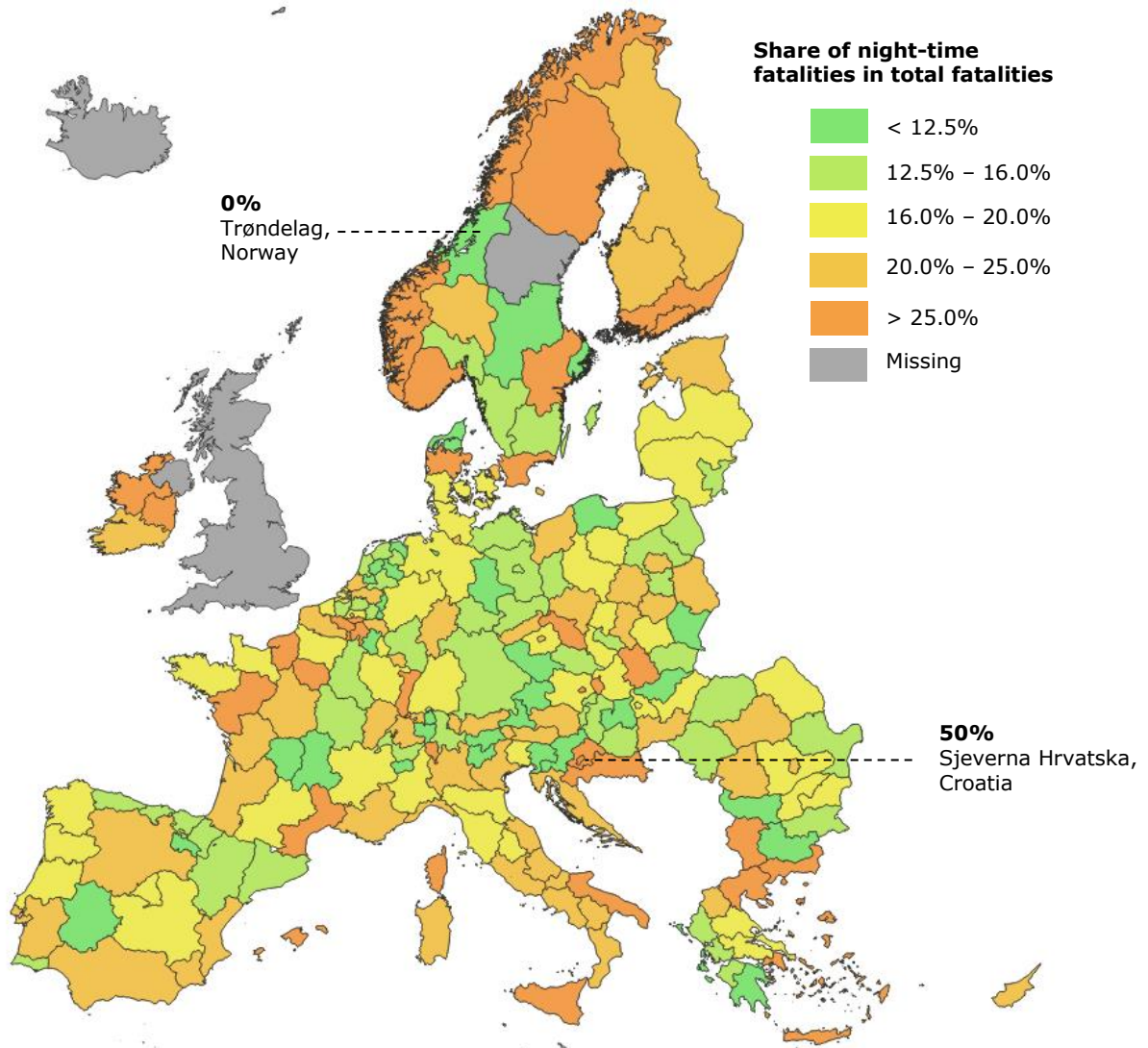
- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

## 4. Time & Location

### 4.1 Night-time fatalities

Looking at the **regional distribution of the share of night-time fatalities in the total number of fatalities, there is no clear pattern** to be recognised. The regions with the highest rates are Zagreb, the Balearic Islands, Prov. Hainaut (Belgium) and Corse. All four regions of Finland show a relatively high share of night-time fatalities.

**Figure 10.** Share of night-time fatalities within the total number of fatalities per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



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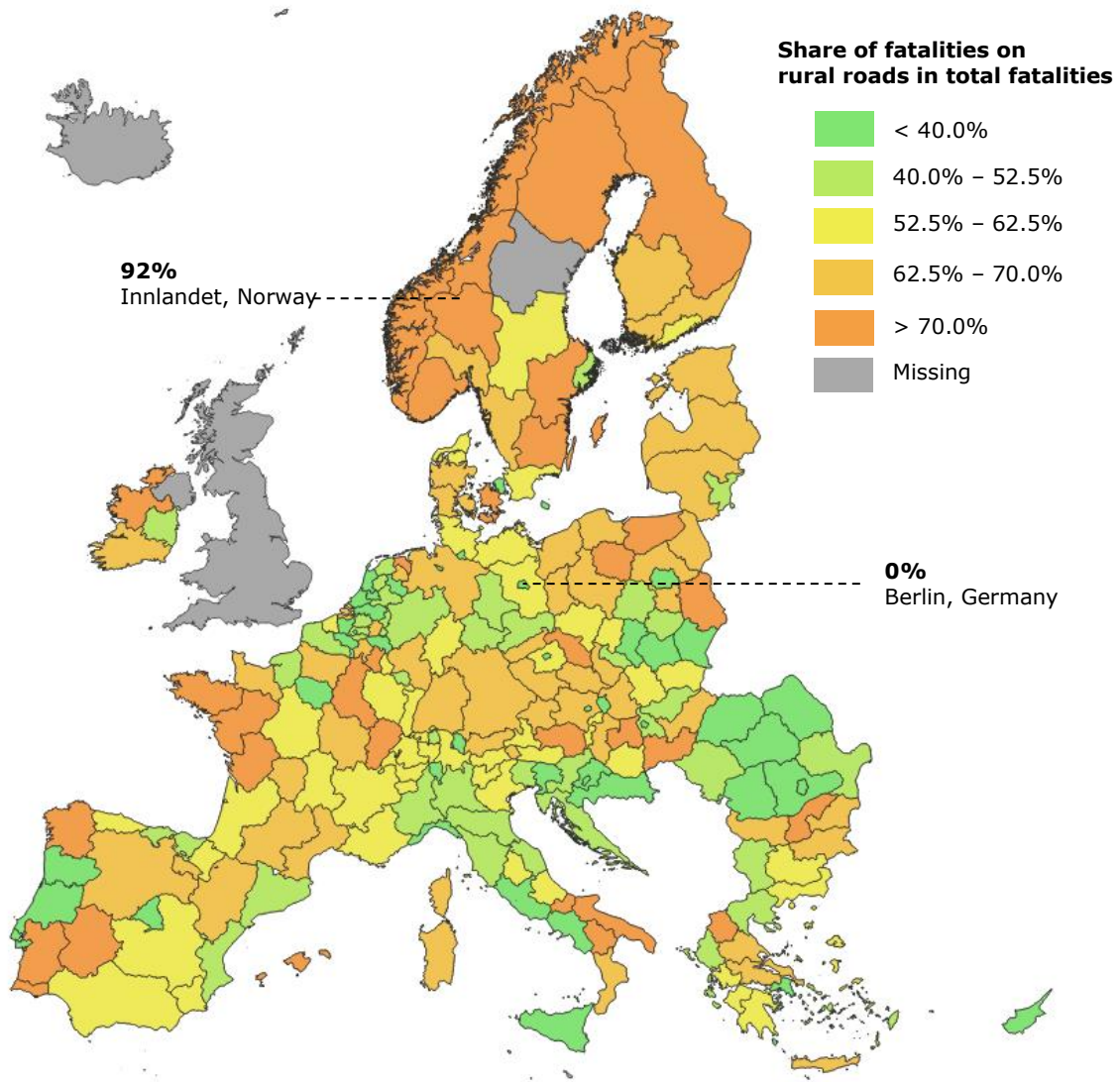
Notes:

- For Germany NUTS1-regions have been used as CARE data was only available on this level.
- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Regions with less than 10 fatalities have been excluded.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

## 4.2 Road type

**The regional distribution of the share of fatalities occurring on rural roads within the total number of fatalities of a region is high in Central, North and West Europe.** The regions which are particularly affected are Innlandet and Trøndelag in Norway, Övre Norrland in Sweden, the Province Luxembourg in Belgium, Warminsko-Mazurskie in Poland, Sjælland in Denmark, Poitou-Charentes in France and Vestlandet in Norway – all with shares of 80% of fatalities occurring on rural roads (among all road fatalities) or higher.

**Figure 11.** Share of fatalities on rural roads within the total number of fatalities per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



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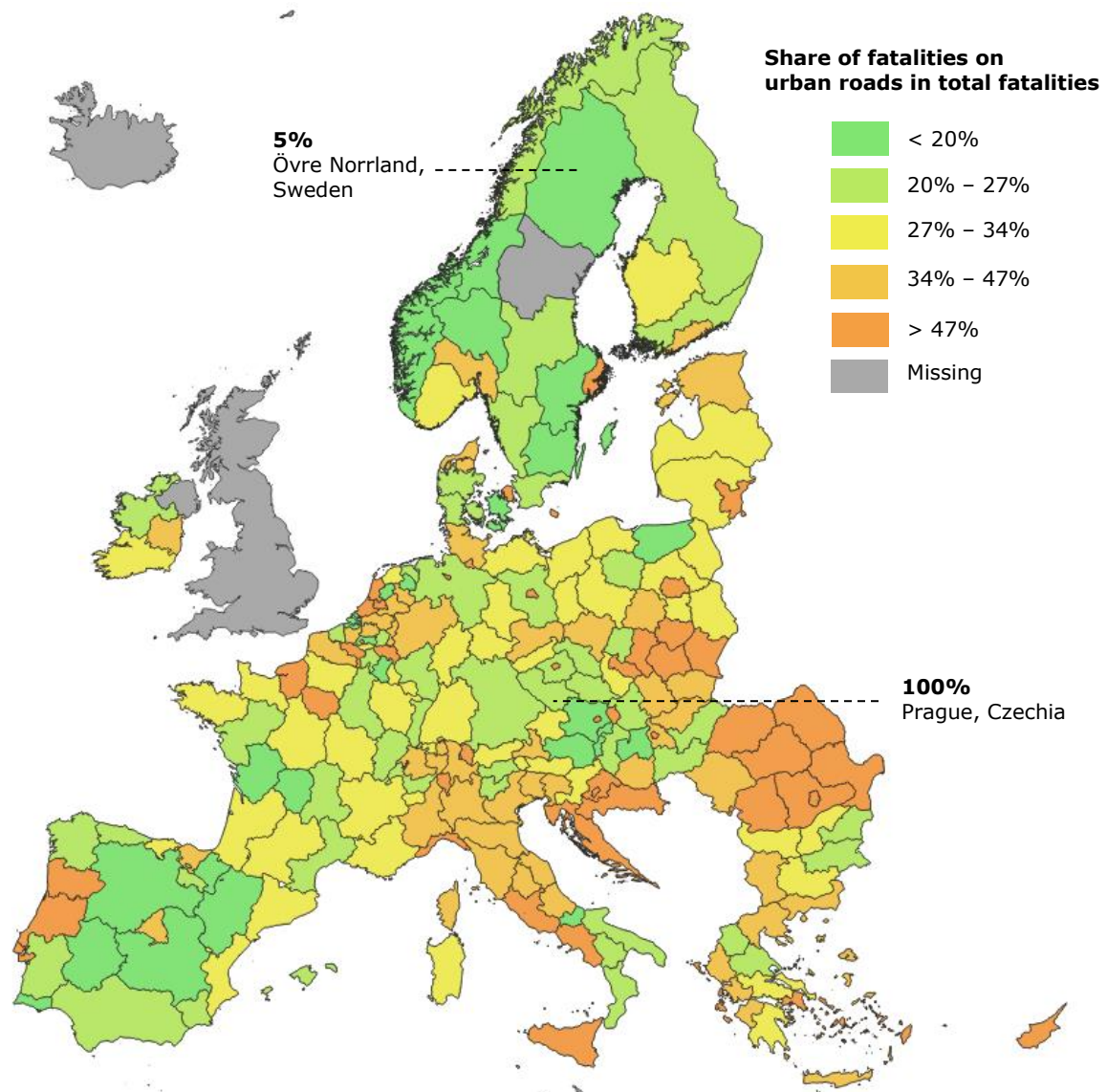
**Notes:**

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- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Regions with less than 10 fatalities have been excluded.
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**The share of fatalities on urban roads within all road fatalities is high in East and South Europe. However, the regions with the highest shares are spread all over Europe, with Budapest, Madeira, Região Autónoma dos Açores (Portugal), Brussels, Zagreb and the Athens metropolitan area each having shares of 80% or more.**

**Figure 12.** Share of fatalities on urban roads within the total number of fatalities per NUTS-2 region in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



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**Notes:**

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- For Ireland the missing value for 2022 was imputed with the last known value in the series.
- Regions with less than 10 fatalities have been excluded.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

## 5. Notes

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### 5.1 Definitions

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

CADAS Glossary: [https://road-safety.transport.ec.europa.eu/system/files/2023-09/CADaS%20Glossary\\_v%203\\_8\\_1.pdf](https://road-safety.transport.ec.europa.eu/system/files/2023-09/CADaS%20Glossary_v%203_8_1.pdf)

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

#### **Accident / crash**

An 'injury' road crash 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 and is open to interpretation by the police thus affecting the reliability of cross-country comparisons.

#### **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.

#### **Motorway**

Public road with dual carriageways, and at least two lanes each way. Entrance and exit signposted. Road with grade separated interchanges. Road with a central barrier or central reservation. No crossing permitted. No stopping permitted unless in an emergency. Entry prohibited for pedestrians, animals, bicycles, mopeds, agricultural vehicles.

#### **Rural roads (roads outside urban areas)**

Public roads outside urban boundary signs, excluding motorways.

#### **Urban roads (roads inside urban areas)**

Public roads inside urban boundary signs.

**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.

**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.

## 5.2 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 the four EFTA countries Switzerland, Norway, Iceland, and Liechtenstein. The data in the report were extracted in May 2024.

## 5.3 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.

## 5.4 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. The report always mentions in footnotes when imputation was used. If this is not mentioned in the footnotes, no imputation was used.

## 5.5 Data cleaning

### Area / Road type

- Malta 2020 area: 'rural' recoded to 'unknown'

### Junctions

- Several data issues due to different coding, inconsistent use of categories and different breaks in time series
- General grouping:
  - 'not at junction'
  - 'unknown'
  - all other codes combined to 'junction'
- Data cleaning and recoding was done in the following countries: Bulgaria, Estonia, Finland, Germany, Greece, Ireland, Lithuania, Malta, Slovenia, Switzerland

## 5.6 COVID-19 pandemic

The impact of the global COVID-19 pandemic on the CARE data for 2020 and 2021 is evident. Overall traffic volumes dropped sharply during the pandemic, which was associated with a significant drop in road traffic crashes and fatalities. However, the pattern was not homogeneous throughout the EU-27. For example, the number of fatalities actually increased in three Member States in 2020 during COVID-19. Therefore, the impact varied from country to country and there were also behavioural changes - for example there is some evidence of increased speeding. Further research is needed to understand the impact of the pandemic on road safety.

## 5.7 More detailed data

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

