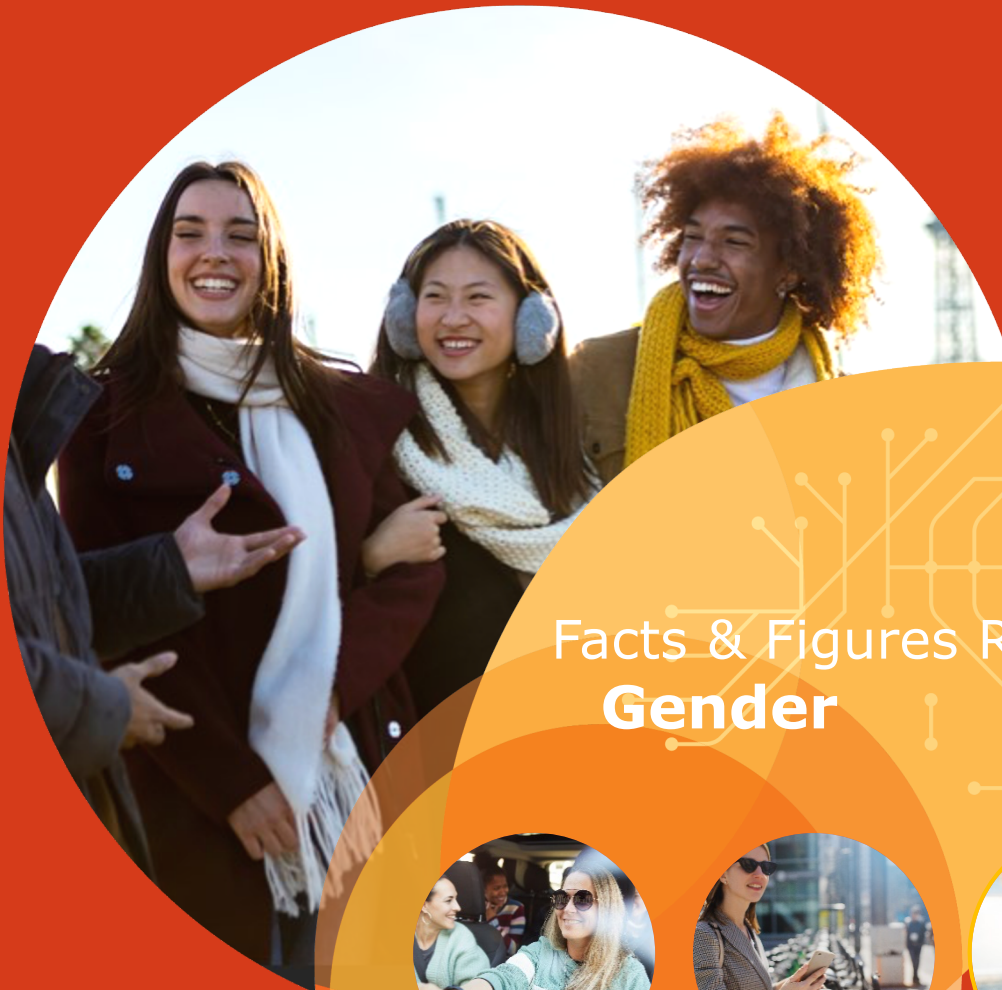




European
Commission



Facts & Figures Report
Gender



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).

Contract:	This document has been prepared in the framework of the EC Service Contract MOVE/C2/SER/2022-55/SI2.888215 with National Technical University of Athens (NTUA), SWOV Institute for Road Safety Research and Kuratorium für Verkehrssicherheit (KFV).
Version:	June 2024
Authors:	Susanne Kaiser, Martin Donabauer, Aggelos Soteropoulos (KFV)
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Referencing:	Reproduction of this document is allowed with due acknowledgement. Please refer to the document as follows: <i>European Commission (2024) Facts and Figures Gender. European Road Safety Observatory. Brussels, European Commission, Directorate General for Transport.</i>
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: May 2024

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This report presents gender differences in road fatalities based on available data at national databases, more precisely on the groups of male and female crash victims. However, it is recognised that diversity of gender identity is not representable in a binary system.

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1. Key facts

This Facts and Figures report looks at fatalities on European roads distributed by gender. All observations reported were derived from the available data, the statistical significance of differences or relations between values has not been tested.

Road fatalities in the EU27 by gender in 2022

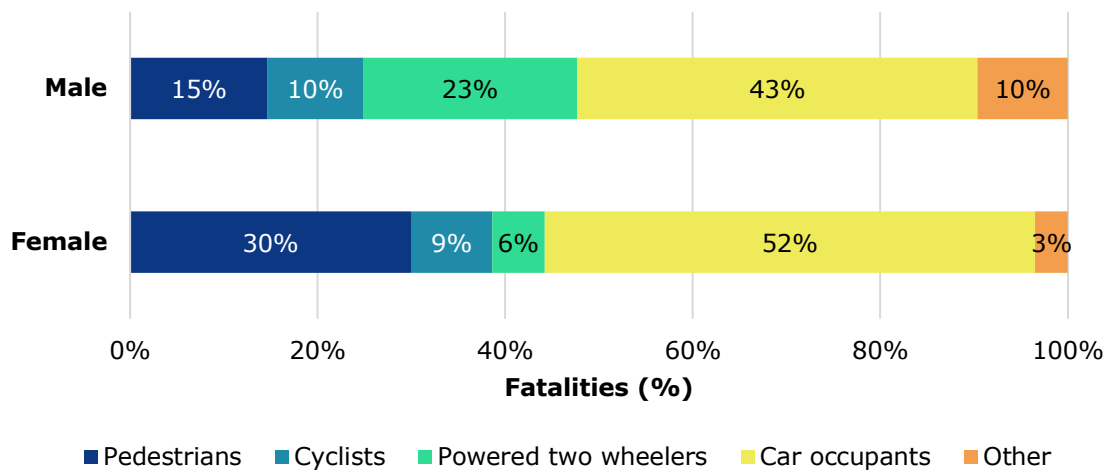


15,916 fatalities
(77% of all fatalities)

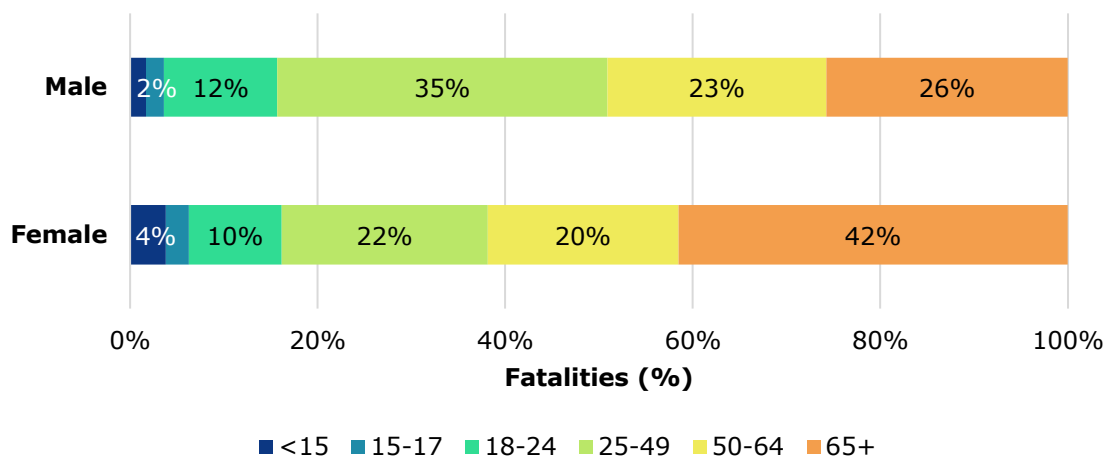


4,692 fatalities
(23% of all fatalities)

Transport modes



Age



2. Summary

In 2022, **the share of males among fatally injured road users was 77% versus 23% of female fatalities** within the EU27 countries. The ratio of male to female fatalities has been stable between 2012 and 2022. Cyprus, Greece, Italy, Slovakia and Portugal have a share of male fatalities of 80% or higher. **The absolute number of male fatalities has decreased by 21% in the period 2012-2022 and the number of female fatalities by 25%** in the same time period. Lithuania and Poland show the highest decrease in male as well as in female road fatalities.

More than half of fatally injured females were car occupants at the time of the crash (52%). The predominant transport mode among male fatalities is the car as well (42%). **The share of pedestrians among female fatalities is twice as high as the share of pedestrians among male fatalities (30% versus 15%).** Almost a quarter of fatally injured males are powered two-wheelers.

Up to the age of 24 years and between 50 and 64 years, the distribution by age groups is similar for male and female fatalities. **The predominant age group among male fatalities is 25 to 49, while for female fatalities it is 65 years and older.**

Looking at road types, **about half of male (54%) as well as female fatalities (47%) occur on rural roads.** There is no apparent difference in the distribution of fatalities occurring on junctions versus not on junctions between the genders.

The **share of fatally injured females is proportionally higher in the daytime during the working week and lower during nighttime.** The proportion of male fatalities is lower during the morning hours on weekdays, but higher during the weekend nights.

This report presents facts and figures on fatality rates without putting them into context of e.g. exposure rates. It should be noted that the high share for male road users in the fatalities partly occur due to higher exposure rates to certain modes.

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.

More 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.

3. Main Trends

3.1 Absolute number of road fatalities

Table 1. Male fatalities per country in the EU27 and EFTA (2022).

Source: CARE

Country	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	LT*	ST*
Belgium	619	576	560	568	504	453	442	500	383	379	421	-32%	-16%
Bulgaria	-	-	-	-	542	496	451	466	358	417	392	-	-16%
Czechia	560	492	508	561	451	422	482	467	389	409	397	-29%	-15%
Denmark	122	126	139	133	153	132	122	156	121	93	118	-3%	-24%
Germany	2,650	2,433	2,509	2,549	2,342	2,350	2,480	2,290	2,063	1,984	2,101	-21%	-8%
Estonia	64	54	51	44	49	31	47	35	40	39	32	-50%	-9%
Ireland	108	142	132	122	133	114	105	105	107	-	-	-	-
Greece	806	692	649	651	656	615	563	580	506	524	539	-33%	-7%
Spain	1,447	1,279	1,289	1,292	1,395	1,403	1,399	1,381	1,103	1,214	1,350	-7%	-2%
France	2,730	2,505	2,538	2,604	2,635	2,667	2,491	2,504	1,989	2,288	2,541	-7%	2%
Croatia	324	284	244	274	243	268	251	238	186	231	211	-35%	-11%
Italy	3,015	2,703	2,662	2,759	2,619	2,709	2,673	2,566	1,947	2,396	2,579	-15%	1%
Cyprus	37	35	32	36	36	45	39	40	39	37	31	-16%	-23%
Latvia	128	137	166	142	123	99	111	107	94	-	-	-	-
Lithuania	-	194	192	165	138	135	121	138	117	112	87	-	-37%
Luxembourg	26	34	29	29	21	21	31	18	19	14	22	-15%	22%
Hungary	438	429	457	468	461	455	467	431	342	409	388	-11%	-10%
Malta	-	-	-	8	17	10	13	11	10	6	-	-	-
Netherlands	416	345	342	400	385	398	419	412	380	379	459	10%	11%
Austria	378	342	315	347	313	310	311	302	260	269	267	-29%	-12%
Poland	2,725	2,563	2,431	2,231	2,269	2,084	2,102	2,220	1,954	1,712	1,437	-47%	-35%
Portugal	564	501	503	473	435	475	557	505	437	442	500	-11%	-1%
Romania	1,542	1,374	1,361	1,430	1,405	1,449	1,385	1,416	1,239	1,354	1,245	-19%	-12%
Slovenia	97	94	78	90	102	78	70	83	62	93	66	-32%	-21%
Slovakia	-	-	-	-	213	205	197	204	202	185	217	-	6%
Finland	191	192	167	196	208	182	176	164	172	169	142	-26%	-13%
Sweden	218	195	191	201	205	196	249	169	158	156	167	-23%	-1%
EU	20,162	18,484	18,308	18,528	18,053	17,802	17,754	17,508	14,677	15,512	15,916	-21%	-9%
Iceland	7	7	2	12	13	9	12	5	7	7	8	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	107	135	108	87	111	74	82	78	75	64	86	-20%	10%
Switzerland	249	191	187	188	151	163	172	139	179	154	181	-27%	30%

*LT = Long term change of last available year over 2012.

*ST = Short term change of last available year over 2019.

Table 2. Female fatalities per country in the EU27 and EFTA (2022).

Source: CARE

Country	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	LT*	ST*
Belgium	190	181	163	186	156	148	153	135	109	126	109	-43%	-19%
Bulgaria	-	-	-	-	161	186	158	162	105	144	138	-	-15%
Czechia	167	150	164	154	146	143	151	131	118	110	117	-30%	-11%
Denmark	45	65	43	45	58	43	49	43	42	37	36	-20%	-16%
Germany	950	905	867	910	864	830	795	755	655	575	683	-28%	-10%
Estonia	23	27	27	23	21	17	20	17	19	14	16	-30%	-6%
Ireland	54	46	58	40	48	40	30	35	37	-	-	-	-
Greece	182	187	146	142	168	116	137	108	78	100	115	-37%	7%
Spain	449	392	398	395	410	424	407	370	265	318	395	-12%	7%
France	923	763	842	855	836	777	755	733	549	643	719	-22%	-2%
Croatia	69	84	64	74	64	63	66	59	51	61	64	-7%	9%
Italy	738	698	719	669	664	669	661	607	448	479	580	-21%	-4%
Cyprus	14	9	13	21	10	8	10	12	9	8	6	-57%	-50%
Latvia	47	39	46	46	35	37	37	25	44	-	-	-	-
Lithuania	-	61	75	74	49	53	51	48	57	36	31	-	-35%
Luxembourg	8	11	6	7	11	4	5	4	7	10	14	-	-
Hungary	163	159	167	173	145	168	163	169	117	135	145	-11%	-14%
Malta	-	-	-	3	6	9	5	5	2	3	-	-	-
Netherlands	146	131	134	131	148	137	176	170	134	129	196	34%	15%
Austria	153	113	115	132	119	104	98	114	84	93	103	-33%	-10%
Poland	845	792	771	707	757	747	757	684	535	530	458	-46%	-33%
Portugal	152	135	134	119	128	127	143	182	99	119	118	-22%	-35%
Romania	500	487	457	463	508	502	482	448	405	425	388	-22%	-13%
Slovenia	33	31	30	30	28	26	21	19	18	21	19	-42%	0%
Slovakia	-	-	-	-	60	71	63	65	40	62	49	-	-25%
Finland	64	66	62	74	50	56	63	47	51	56	54	-16%	15%
Sweden	67	65	79	58	65	57	75	52	46	54	55	-18%	6%
EU	6,267	5,821	5,804	5,752	5,715	5,562	5,531	5,199	4,124	4,369	4,692	-25%	-10%
Iceland	2	8	2	4	5	7	6	1	1	2	1	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	38	52	39	30	24	32	26	30	18	16	30	-21%	0%
Switzerland	90	78	56	65	65	67	61	48	48	46	60	-33%	25%

*LT = Long term change of last available year over 2012.

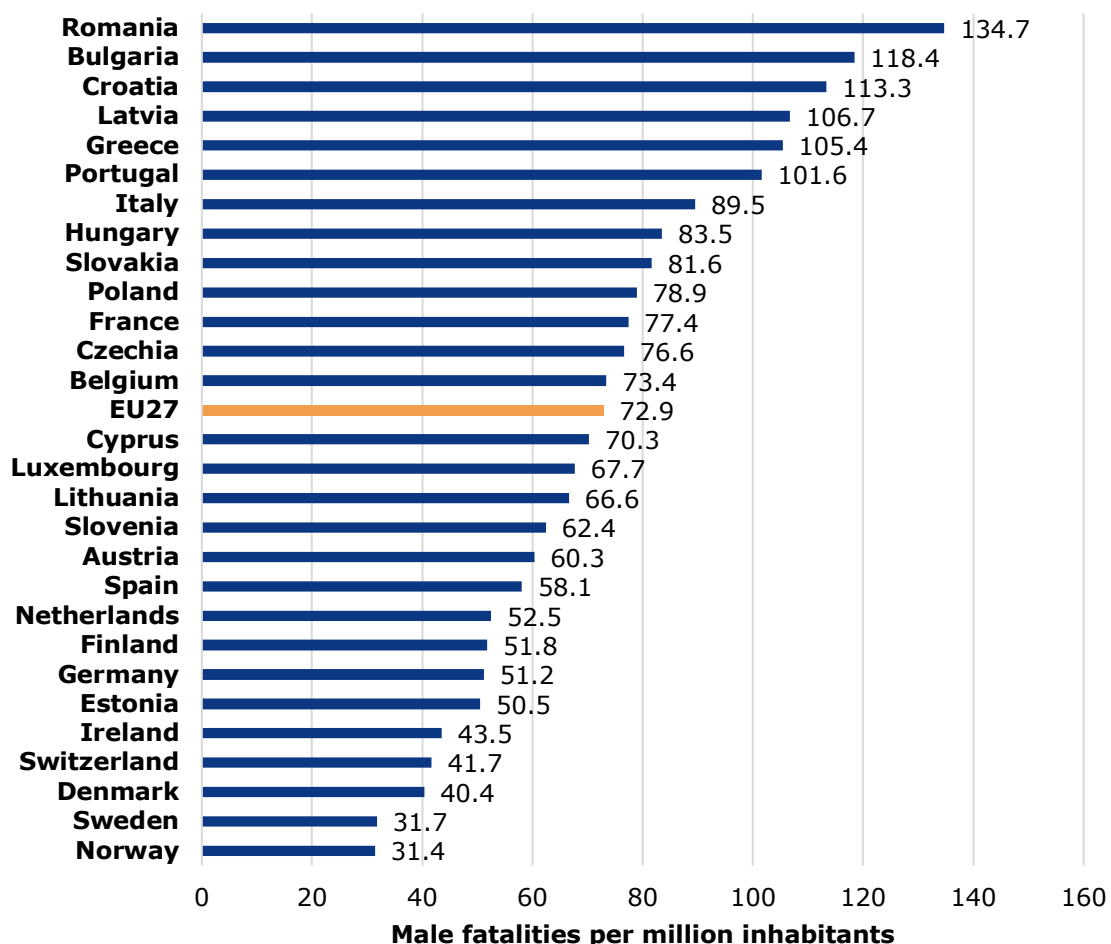
*ST = Short term change of last available year over 2019.

3.2 Mortality rate: number of road fatalities per million inhabitants

On average about **73 male road users per million inhabitants die in road crashes within the EU27**. This is **more than three times as high as the equivalent number for female road users** (about 21 within the EU27).

Romania has the highest rate of fatally injured male road users per million inhabitants. The lowest rate can be recorded for Norway (males) and Sweden (females). The mortality rate for males is somewhat higher in South-East Europe and higher in Eastern Europe for females compared to other parts of the EU.

Figure 1. Male fatalities per million inhabitants per country in the EU27 and EFTA (2022). Source: CARE, EUROSTAT

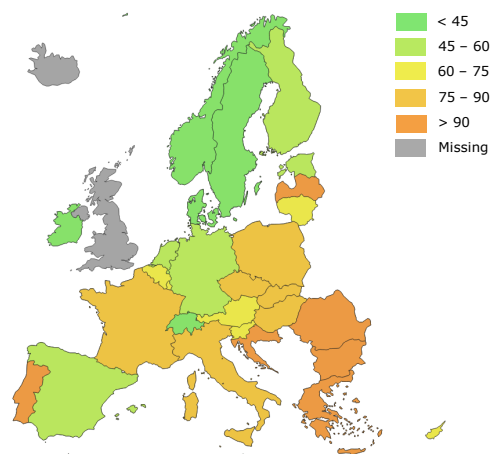


Notes:

- Iceland and Malta are not included in the figure because there are fewer than 10 fatalities in the last available year.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.
- For Ireland and Latvia the missing value for 2022 was imputed with the last known value (2020)

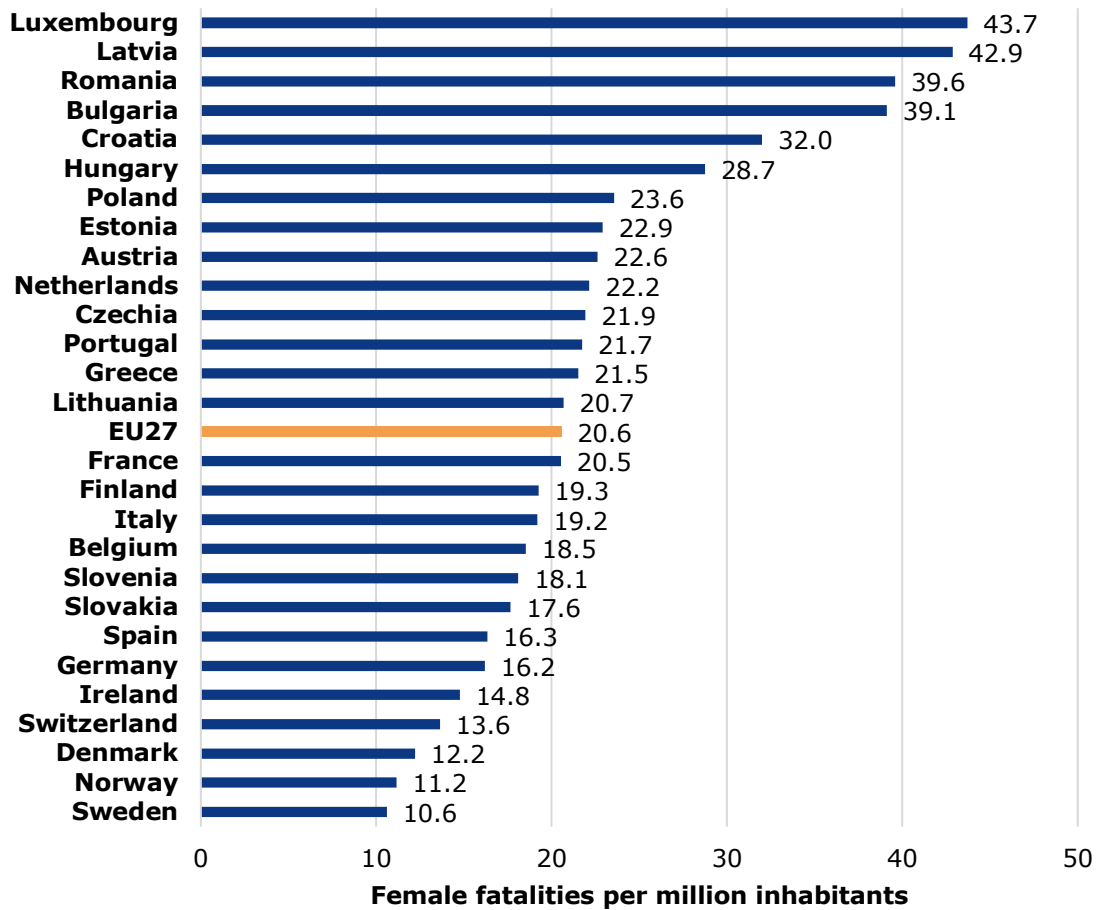
The geographical representation of male fatality rates in the map below

shows a **tendency of fatality rates to be lower in the north in comparison to the south and east.**



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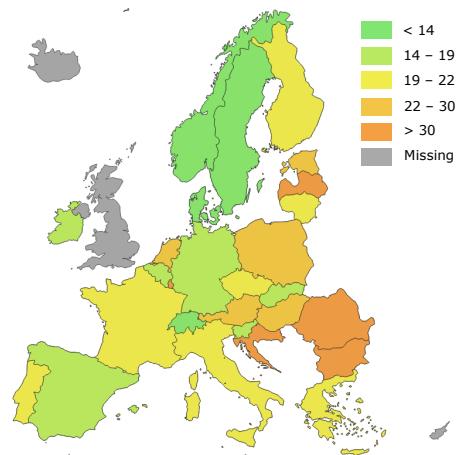
Figure 2. Female fatalities per million inhabitants per country in the EU27 and EFTA (2022). Source: CARE, EUROSTAT



Notes:

- Iceland, Cyprus and Malta are not included in the figure because there are fewer than 10 fatalities in the last available year.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.
- For Ireland and Latvia the missing value for 2022 was imputed with the last known value (2020)

The geographical representation of female fatality rates in the map below shows a **tendency of fatality rates to be highest in the east.**

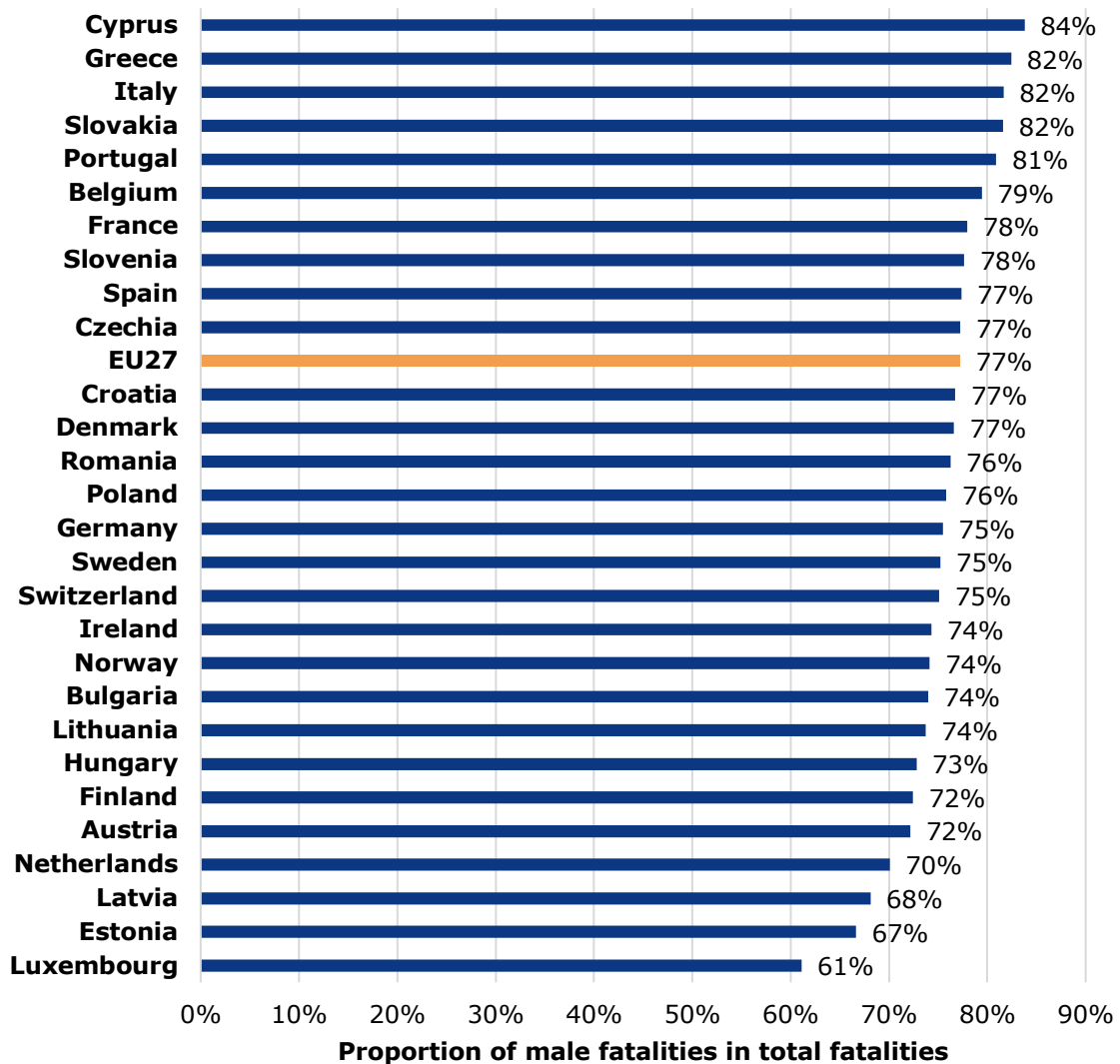


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3.3 Share of male and female fatalities in the total number of road fatalities

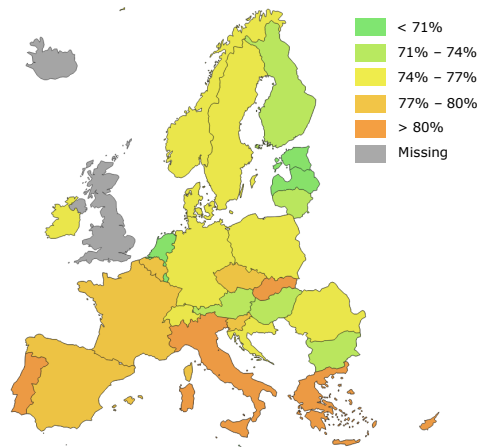
In 2022, **the share of males among fatally injured road users was 77% versus 23% of female fatalities** within the EU27 countries. **The share of male road fatalities is highest in Southern Europe.** Cyprus, Greece, Italy, Slovakia and Portugal have a share of male fatalities of 80% or more.

Figure 3. Proportion of male fatalities in the total number of fatalities, per country in the EU27 and EFTA (2022). Source: CARE



Notes:

- Iceland and Malta are not included in the figure because there are fewer than 10 fatalities in the last available year.
- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.
- For Ireland and Latvia the missing value for 2022 was imputed with the last known value (2020)



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3.4 Trend in the number of fatalities

The **absolute number of male fatalities has decreased by 21% in the period 2012-2022 and the number of female fatalities by 25%** in the same time period. The ratio of male to female fatalities remained relatively stable between 2012 and 2022.

Figure 4. Annual number of male fatalities, and their share in the total number of fatalities in the EU27 (2012-2022). Source: CARE

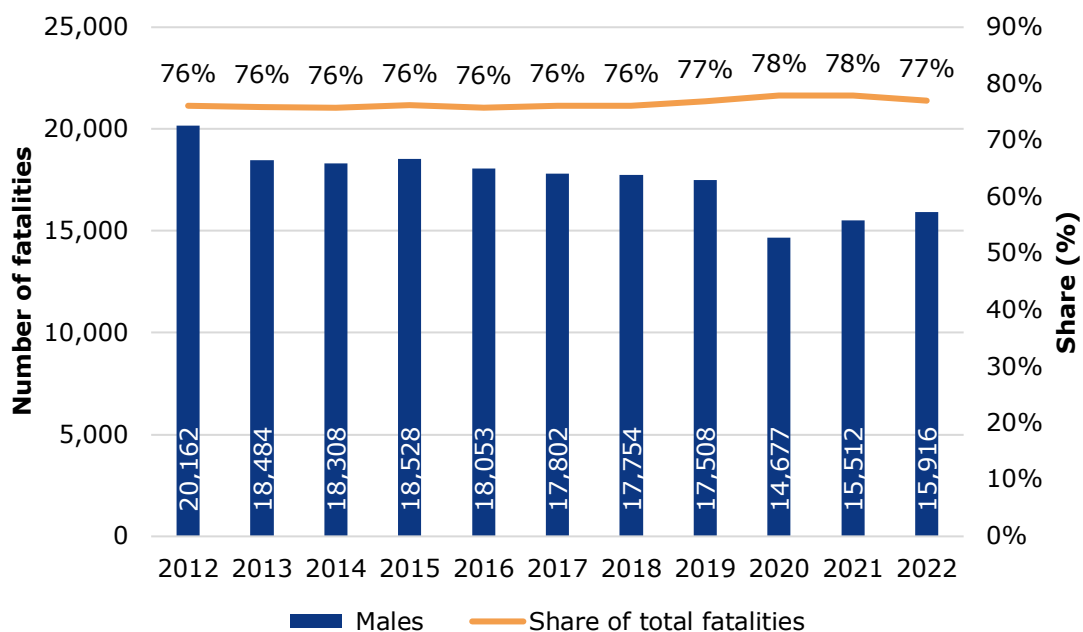
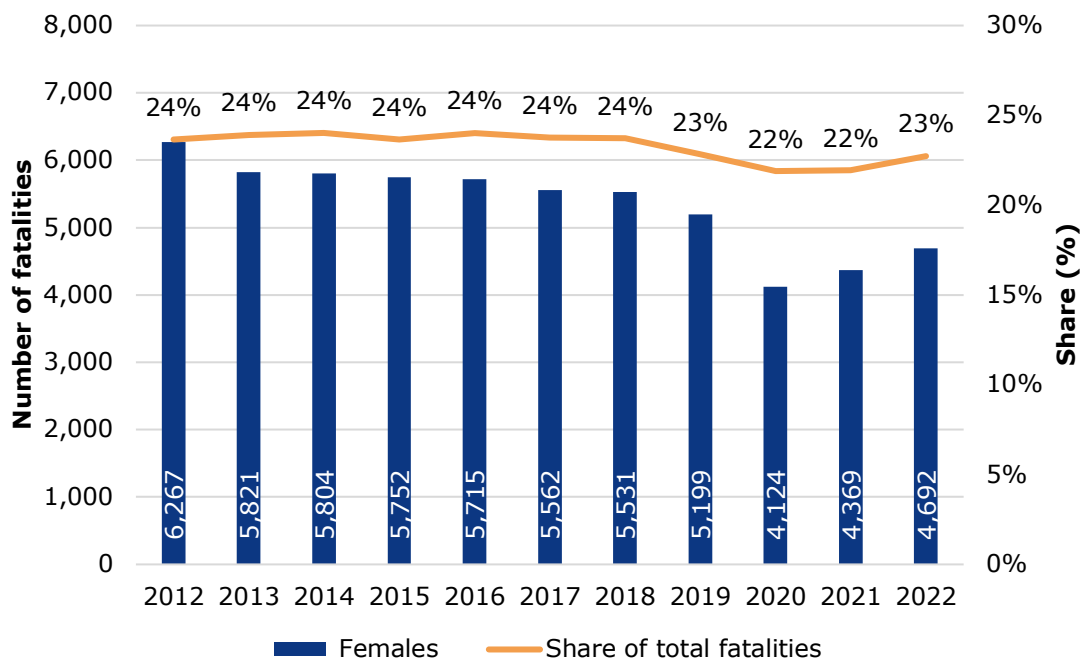
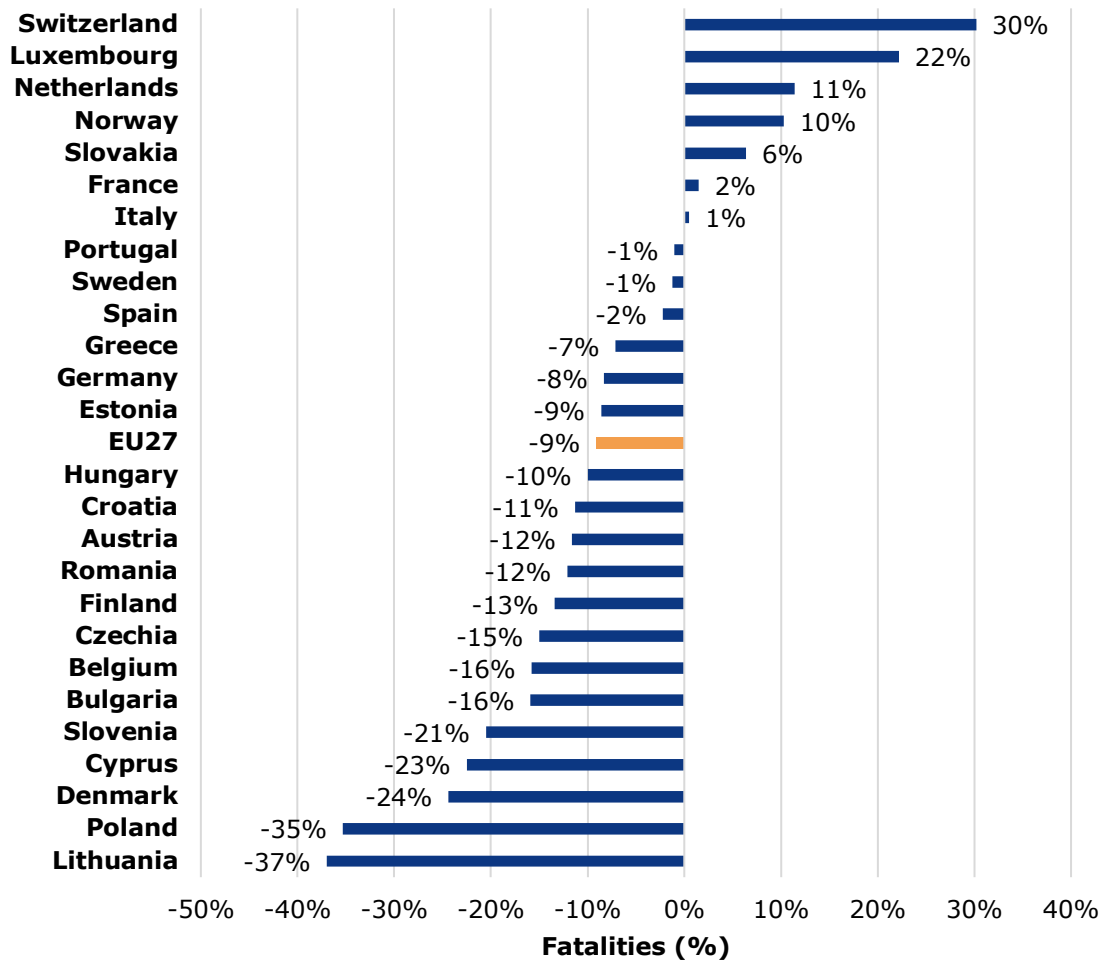


Figure 5. Annual number of female fatalities, and their share in the total number of fatalities in the EU27 (2012-2022). Source: CARE



Looking at the **short-term change (2019 – 2022)**, **Lithuania and Poland show the highest decrease in male as well as in female road fatalities**. Portugal has a comparable high decrease in female fatalities (minus 35%) while the number of male fatalities hardly changed (minus 1%). The EU27 averages reduced evenly for male and female road users (minus 9% for males and minus 10% for females).

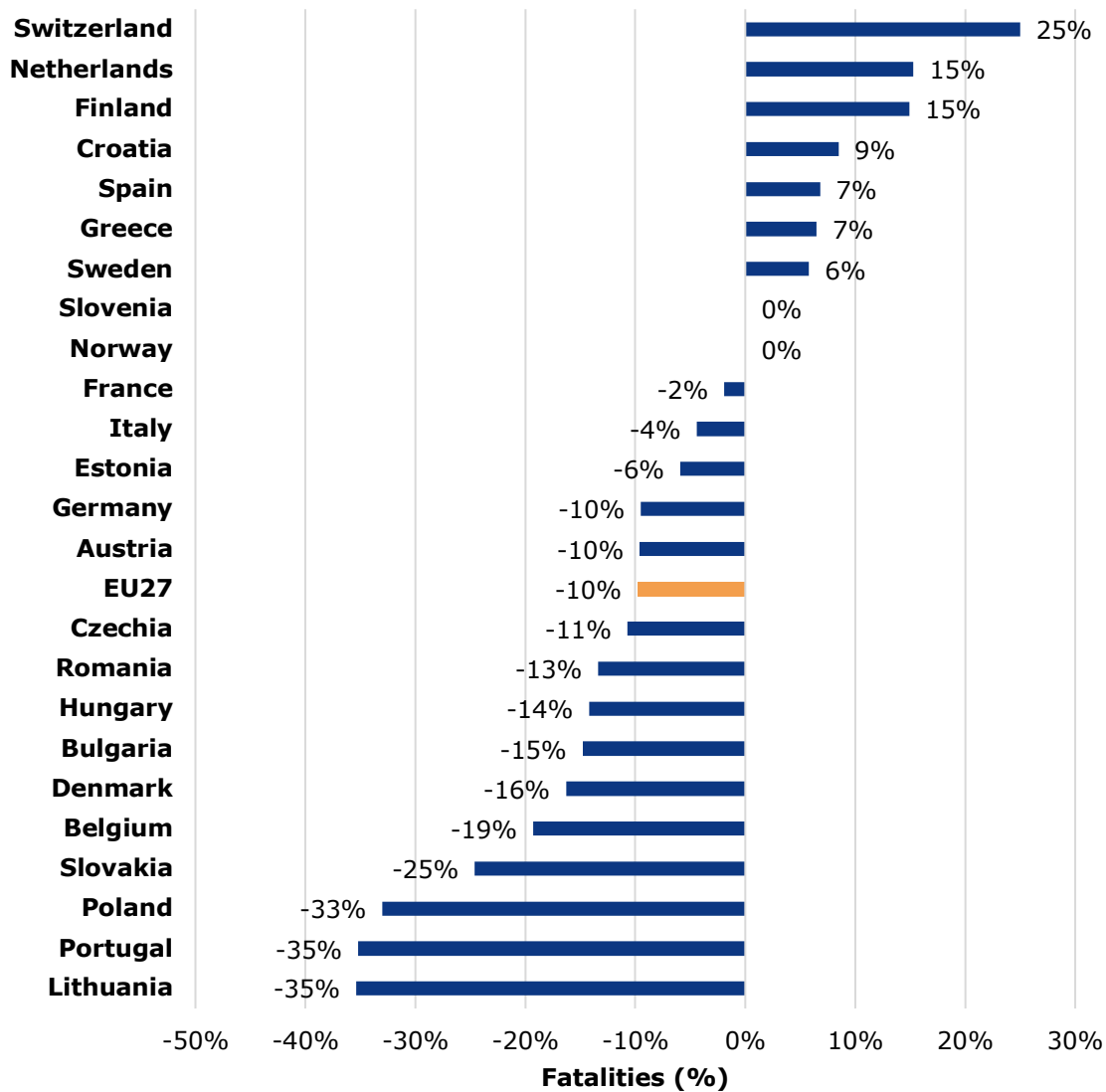
Figure 6. Percentage short-term change in the number of male fatalities per country in the EU27 and EFTA (2022 over 2019). Source: CARE



Notes:

- Iceland and Malta are not included in the figure because there are fewer than 10 fatalities in the last available year.
- Ireland, Latvia and Liechtenstein are not included in the figure because there is no data on fatalities in the years 2021 and 2022.
- For some countries with comparatively low numbers of fatalities, caution is required when interpreting the data due to considerable annual fluctuations.

Figure 7. Percentage short-term change in the number of female fatalities per country in the EU27 and EFTA (2022 over 2019). Source: CARE



Notes:

- Cyprus, Iceland, Luxembourg and Malta are not included in the figure because there are fewer than 10 fatalities in the last available year or the reference year.
- Ireland, Latvia and Liechtenstein are not included in the figure because there is no data on fatalities in the years 2021 and/or 2022.
- For some countries with comparatively low numbers of fatalities, caution is required when interpreting the data due to considerable annual fluctuations.

Table 3. Number and trend in male fatalities per country in the EU27 and EFTA (2012-2022). Source: CARE

	2012	2019	2020	2021	2022	ST*	Miniplot: trend since 2012
Belgium	619	500	383	379	421	-16%	
Bulgaria	-	466	358	417	392	-16%	
Czechia	560	467	389	409	397	-15%	
Denmark	122	156	121	93	118	-24%	
Germany	2,650	2,290	2,063	1,984	2,101	-8%	
Estonia	64	35	40	39	32	-9%	
Ireland	108	105	107	-	-	-	
Greece	806	580	506	524	539	-7%	
Spain	1,447	1,381	1,103	1,214	1,350	-2%	
France	2,730	2,504	1,989	2,288	2,541	2%	
Croatia	324	238	186	231	211	-11%	
Italy	3,015	2,566	1,947	2,396	2,579	1%	
Cyprus	37	40	39	37	31	-23%	
Latvia	128	107	94	-	-	-	
Lithuania	-	138	117	112	87	-37%	
Luxembourg	26	18	19	14	22	22%	
Hungary	438	431	342	409	388	-10%	
Netherlands	416	412	380	379	459	11%	
Austria	378	302	260	269	267	-12%	
Poland	2,725	2,220	1,954	1,712	1,437	-35%	
Portugal	564	505	437	442	500	-1%	
Romania	1,542	1,416	1,239	1,354	1,245	-12%	
Slovenia	97	83	62	93	66	-21%	
Slovakia	-	204	202	185	217	6%	
Finland	191	164	172	169	142	-13%	
Sweden	218	169	158	156	167	-1%	
EU27	20,162	17,508	14,677	15,512	15,916	-9%	
Norway	107	78	75	64	86	10%	
Switzerland	249	139	179	154	181	30%	

*ST = Short term change of last available year over 2019.

Notes:

- Iceland and Malta are not included in the table because there are fewer than 10 fatalities in the last available year.

- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

Table 4. Number and trend in female fatalities per country in the EU27 and EFTA (2012-2022). Source: CARE

	2012	2019	2020	2021	2022	ST*	Miniplot: trend since 2012
Belgium	190	135	109	126	109	-19%	
Bulgaria	-	162	105	144	138	-15%	
Czechia	167	131	118	110	117	-11%	
Denmark	45	43	42	37	36	-16%	
Germany	950	755	655	575	683	-10%	
Estonia	23	17	19	14	16	-6%	
Ireland	54	35	37	-	-	-	
Greece	182	108	78	100	115	7%	
Spain	449	370	265	318	395	7%	
France	923	733	549	643	719	-2%	
Croatia	69	59	51	61	64	9%	
Italy	738	607	448	479	580	-4%	
Latvia	47	25	44	-	-	-	
Lithuania	-	48	57	36	31	-35%	
Luxembourg	8	4	7	10	14	-	
Hungary	163	169	117	135	145	-14%	
Netherlands	146	170	134	129	196	15%	
Austria	153	114	84	93	103	-10%	
Poland	845	684	535	530	458	-33%	
Portugal	152	182	99	119	118	-35%	
Romania	500	448	405	425	388	-13%	
Slovenia	33	19	18	21	19	0%	
Slovakia	-	65	40	62	49	-25%	
Finland	64	47	51	56	54	15%	
Sweden	67	52	46	54	55	6%	
EU27	6,267	5,199	4,124	4,369	4,692	-10%	
Norway	38	30	18	16	30	0%	
Switzerland	90	48	48	46	60	25%	

*ST = Short term change of last available year over 2019.

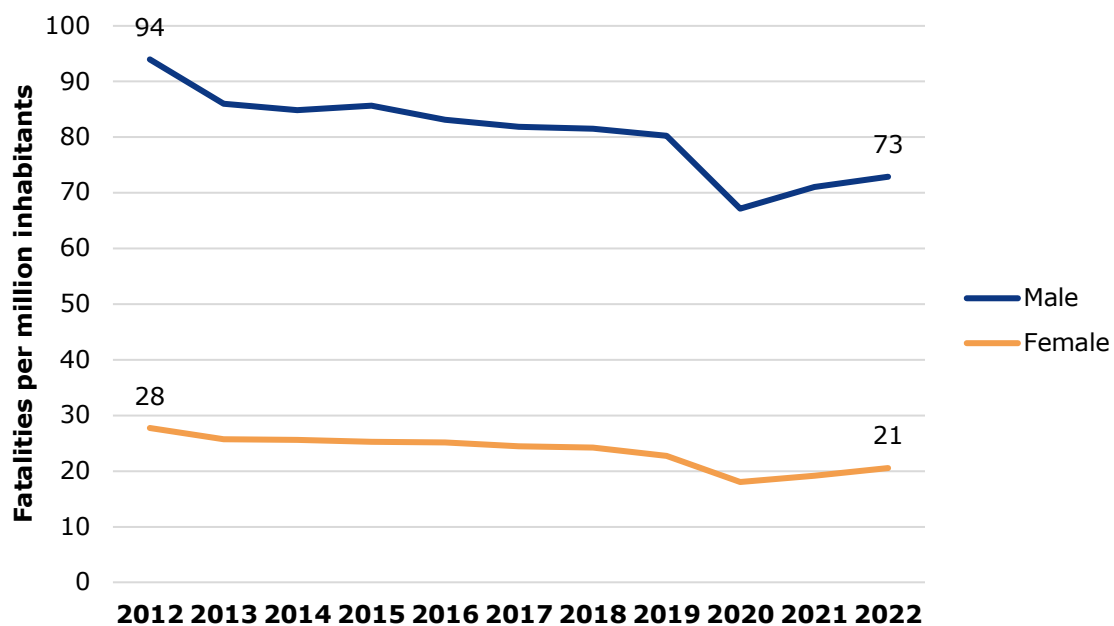
Notes:

- Iceland, Cyprus and Malta are not included in the table because there are fewer than 10 fatalities in the last available year.

- Liechtenstein is not included in the figure because there is no data on fatalities in the year 2022 or prior.

Measured by the number of inhabitants, **male road fatalities have decreased from 94 to 73 per million inhabitants (-22%), while female road fatalities have decreased from 28 to 21 per million inhabitants (-25%)** within the EU27 between 2012 and 2022.

Figure 8. Annual number of fatalities per million inhabitants (=mortality) by gender in the EU27 (2012-2022). Source: CARE & EUROSTAT

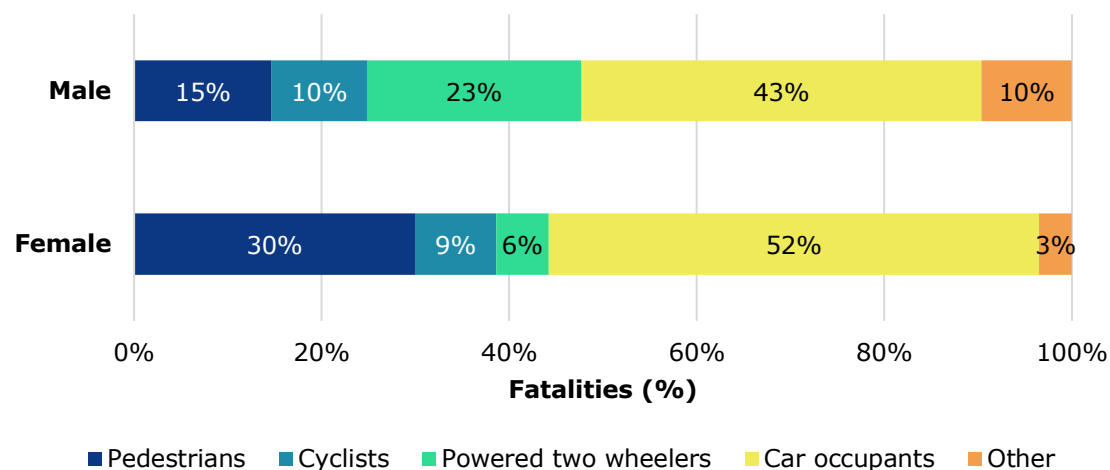


4. Road user

4.1 Transport modes

The distribution of transport modes among male and female road deaths differs. **The share of pedestrians within female fatalities is twice as high as the share of pedestrians within male fatalities.** The share of powered two-wheelers and other transport modes is proportionally lower for female fatalities. **About half the fatally injured female road users were car occupants (52%).** This share is slightly lower among male road fatalities (43%).

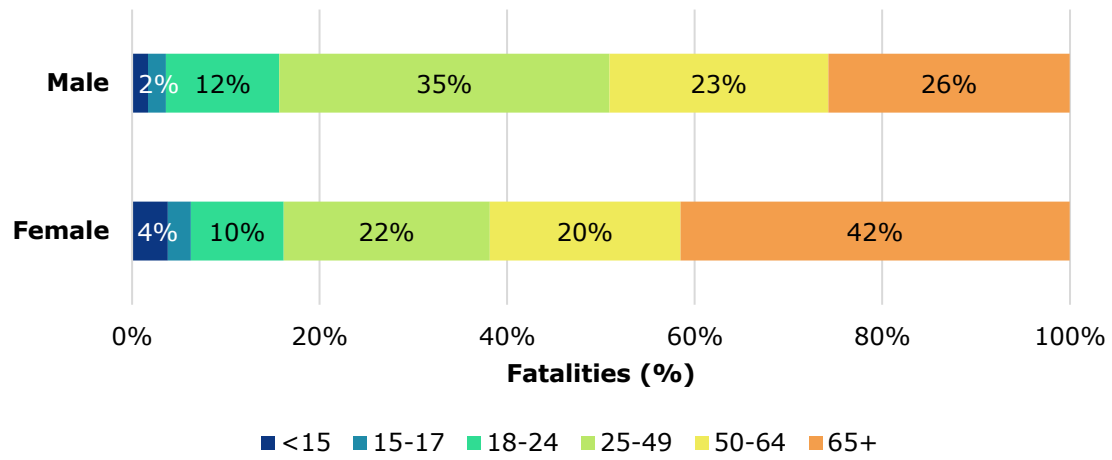
Figure 9. Distribution of male and female fatalities by transport mode in the EU27 (2022). Source: CARE



4.2 Age

The share of young people (aged 0-24) is equal for male and female fatalities. In contrast, the share of elderly road users (65+) is higher within female fatalities. **Fatally injured males are predominantly between 25 and 49 years old (35%), while fatally injured females are predominantly 65 years or older (42%).**

Figure 10. Distribution of male and female fatalities by age group in the EU27 (2022). Source: CARE

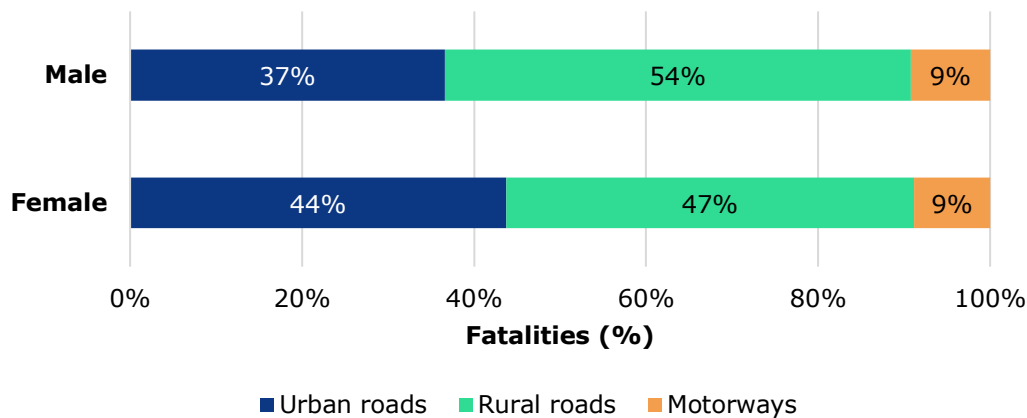


5. Location

5.1 Road type

Looking at the share of fatalities by road type, no large difference between female and male fatalities can be found. **Male fatalities occur somewhat more often on rural roads than female fatalities (54% versus 47%).** For both genders 9% of fatalities occur on motorways.

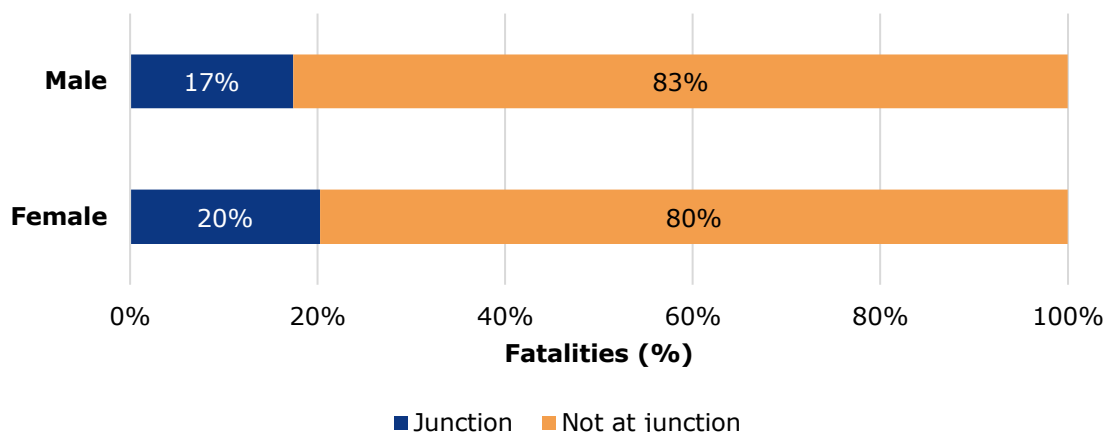
Figure 11. Distribution of male and female fatalities by road type in the EU27 (2022). Source: CARE



5.2 Junction

There is no apparent difference in the distribution of fatalities occurring on junctions versus not on junctions between male and female fatalities.

Figure 12. Distribution of male and female fatalities at junction and not at junction in the EU27 (2022). Source: CARE

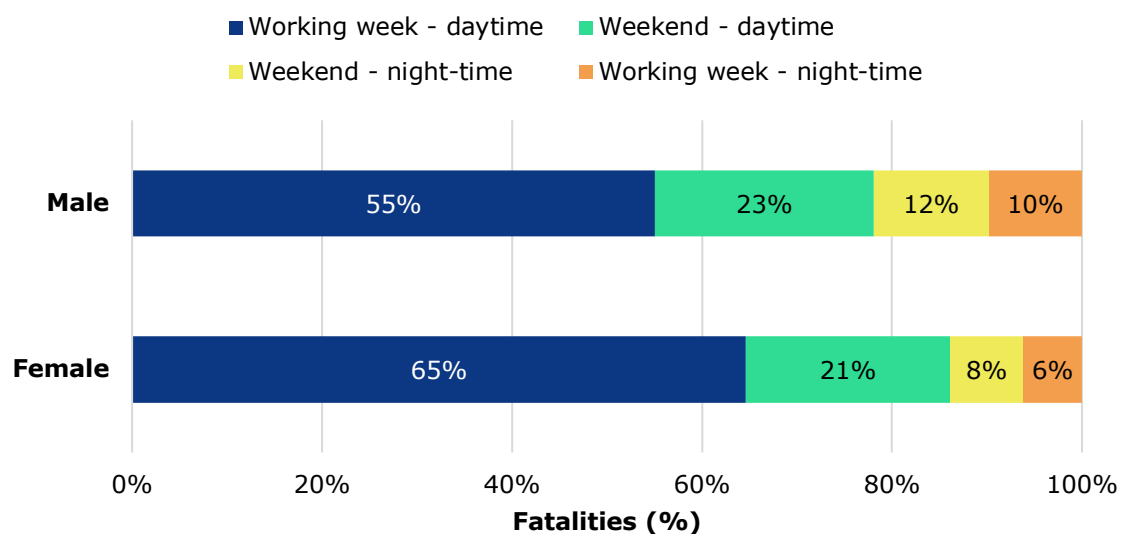


6. Time

6.1 Period of the week

Male fatalities are differently distributed over the course of a week in comparison to female fatalities. **The share of fatally injured females is proportionally higher in the daytime during the working week and lower during night-time** (working week and weekend).

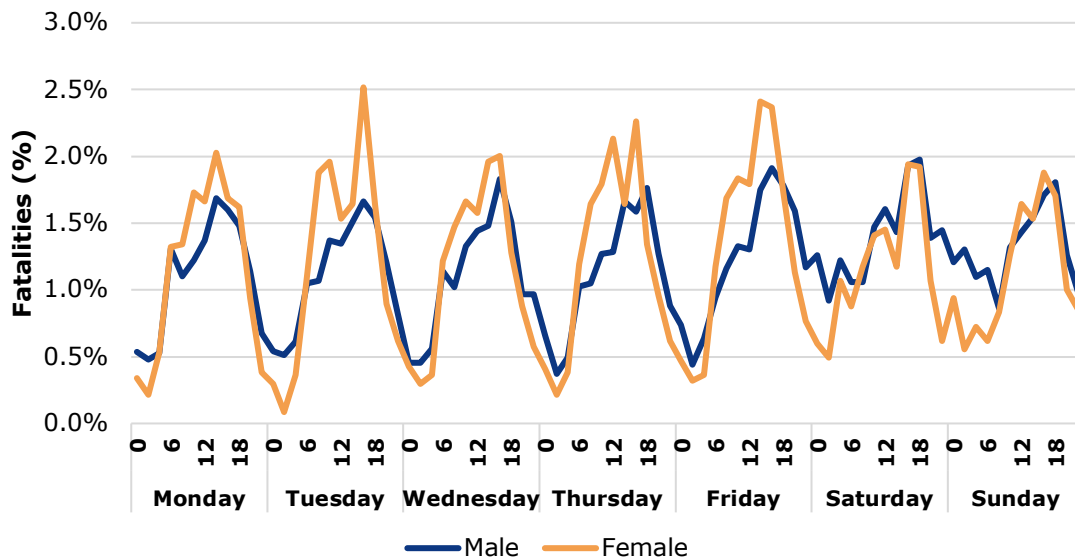
Figure 13. Distribution of male and female fatalities according to period of the week in the EU27 (2022). Source: CARE



6.2 Day of the week, time of the day and hour

The share of male fatalities is lower during the morning hours on weekdays, but higher during the weekend nights compared to female fatalities.

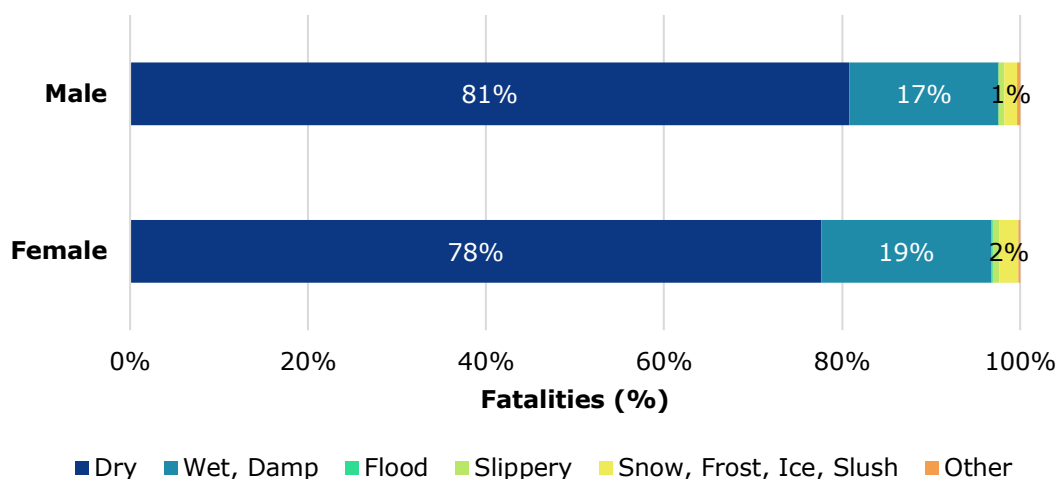
Figure 14. Distribution of male and female fatalities by day of the week and hour in the EU27 (2022). Source: CARE



6.3 Road surface

Looking at **the road surface conditions at the time of road crashes, the difference between males and females is marginal.** Female fatalities occur slightly more often on roads which are not completely dry compared to male fatalities.

Figure 15. Distribution of male and female fatalities by surface conditions in the EU27 (2022). Source: CARE



7. Notes

7.1 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

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.

7.2 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.

7.3 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.

7.4 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.

7.5 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

7.6 COVID-19 pandemic

It is clear that the global COVID-19 pandemic had an impact on the CARE data for 2020 and 2021 and, to a lesser extent, also 2022 for some countries. 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.

7.7 More detailed data

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

