European Commission

European Road Safety Observatory
www.erso.eu

Traffic Safety Basic Facts 2018

Main Figures

Transport

EU road safety targets

The European Commission set the ambitious target of halving the number of road fatalities by 2010 in its White Paper "European transport policy for 2010: time to decide" of 2001. A new target for 2020 to halve the number of road deaths compared to 2010 was set by the EU in its "Road Safety Programme 2011-2020".

Figure 1 shows that much progress has been made with reducing the number of fatalities. The average annual reduction between 2007 and 2016 was 5,5% with the highest annual decreases being recorded in 2009 and 2010. After a stagnation of road fatalities during 2014-2015, an annual decrease by about 2% was recorded again in 2016. It is estimated that the number of road accident fatalities in the EU fell by 41% between 2007 and 2016.

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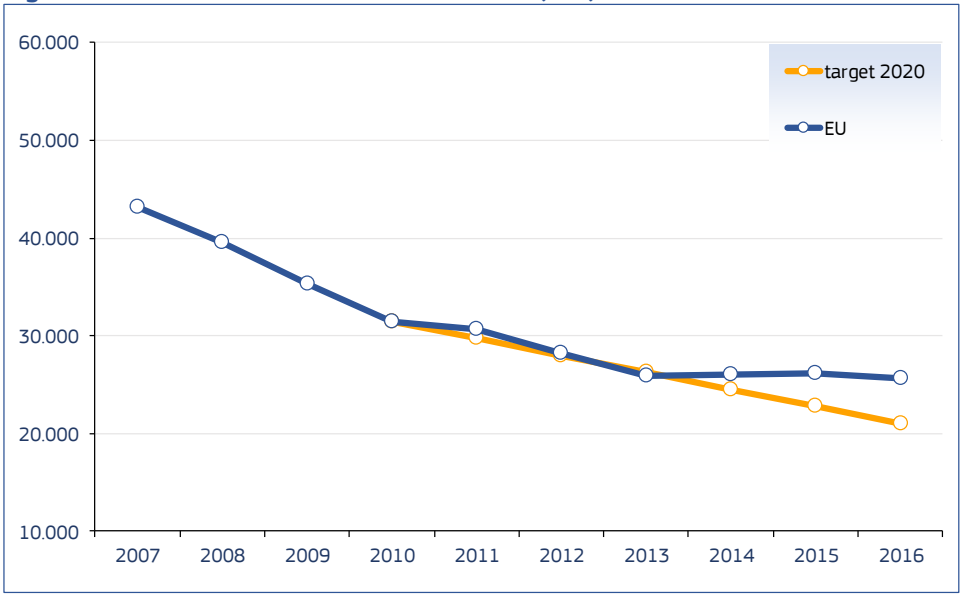
Figure 1: Number of road accident fatalities, EU, 2007-2016



Source: CARE database, data available in May 2018

Road Accident fatalities in Europe

Table 1 shows that more than 25.600 people were killed in road accidents in the EU countries in 2016. In almost all EU countries there were fewer fatalities in 2016 than in 2007.

More than 25.600 people were killed in road accidents in the EU in 2016.

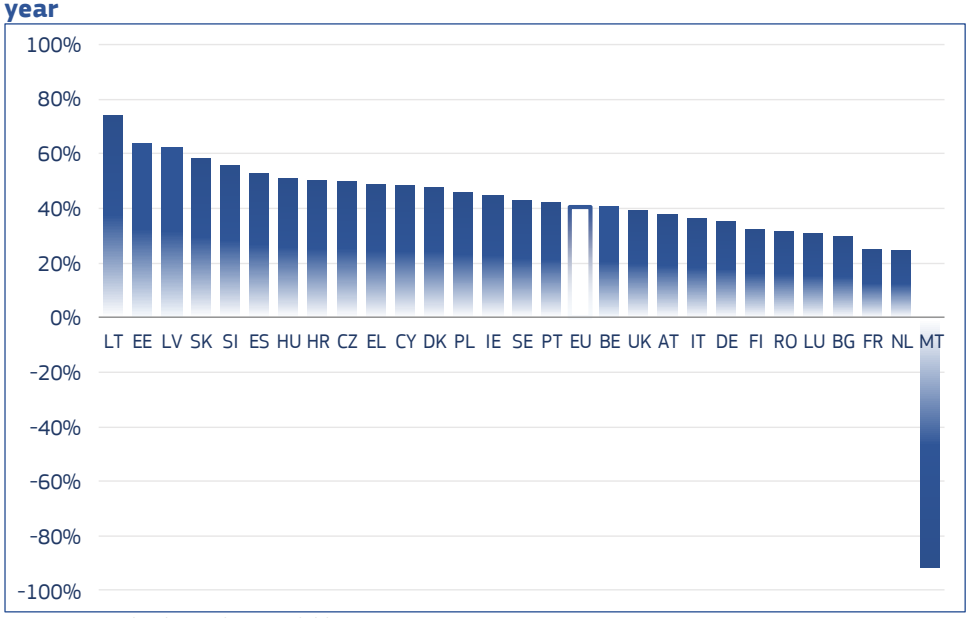
Table 1: Number of road fatalities by country, 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BE	1.071	944	944	840	862	770	723	727	732	637
BG	1.006	1.061	901	776	656	601	601	661	708	708
CZ	1.221	1.076	901	802	773	742	654	688	734	611
DK	406	406	303	255	220	167	191	182	178	211
DE	4.949	4.477	4.152	3.648	4.009	3.600	3.339	3.377	3.459	3.206
EE	196	132	98	79	101	87	81	78	67	71
IE	338	280	238	212	186	162	188	193	162	186
EL	1.612	1.553	1.456	1.258	1.141	988	879	795	793	824
ES	3.822	3.098	2.714	2.479	2.060	1.902	1.680	1.688	1.689	1.810
FR	4.620	4.275	4.273	3.992	3.963	3.653	3.268	3.384	3.459	3.471
HR	619	664	548	426	418	393	368	308	348	307
IT	5.131	4.725	4.237	4.114	3.860	3.753	3.401	3.381	3.428	3.283
CY	89	82	71	60	71	51	44	45	57	46
LV	419	316	254	218	179	177	179	212	188	158
LT	740	499	370	299	296	302	256	267	242	192
LU	46	35	48	32	33	34	45	35	36	32
HU	1.232	996	822	740	638	605	591	626	644	607
MT	12	9	15	13	16	9	17	10	11	23
NL	709	677	644	537	546	562	476	476	531	533
AT	691	679	633	552	523	531	455	430	479	432
PL	5.583	5.437	4.572	3.908	4.189	3.571	3.357	3.202	2.938	3.026
PT	974	885	840	937	891	718	637	638	593	563
RO	2.800	3.065	2.796	2.377	2.018	2.042	1.861	1.818	1.893	1.913
SI	293	214	171	138	141	130	125	108	120	130
SK	661	606	384	371	325	352	251	295	310	275
FI	380	344	279	272	292	255	258	229	266	258
SE	471	397	358	266	319	285	260	270	259	270
UK	3.059	2.645	2.337	1.905	1.960	1.802	1.770	1.854	1.804	1.860
EU	**43.150**	**39.577**	**35.359**	**31.506**	**30.686**	**28.244**	**25.955**	**25.977**	**26.128**	**25.643**
Yearly change		-8,3%	-10,7%	-10,9%	-2,6%	-8,0%	-8,1%	0,1%	0,6%	-1,9%
IS	15	12	17	8	12	9	15	4	16	18
LI	0	1	1	0	2	1	2	2	2	2
NO	233	255	212	208	168	145	187	147	117	135
CH	384	357	349	327	320	339	269	243	253	216

Source: CARE database, data available in May 2018
Totals for EU include latest available data

Figure 2 shows the relative change in road fatality numbers in the EU over the decade. The highest reductions occurred in Lithuania and Estonia, where there were 74% and 64% fewer fatalities in 2016 than in 2007 respectively.

Figure 2: Reduction of road fatalities by country, 2007-2016 or latest available year

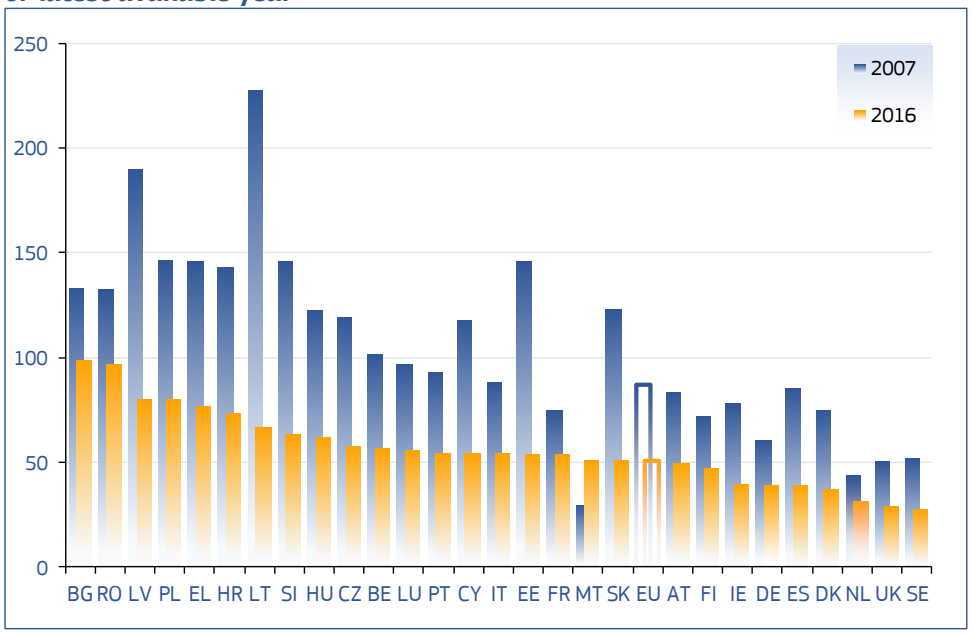


Source: CARE database, data available in May 2018

The number of fatalities fell by 74% in Lithuania and by 64% in Estonia between 2007 and 2016.

Figure 3 shows the rate of fatalities per million population in each of the EU countries in 2007 and 2016, as well as the EU average. The highest rate reduction over the decade occurred in Lithuania (71%), followed by Estonia (63%).

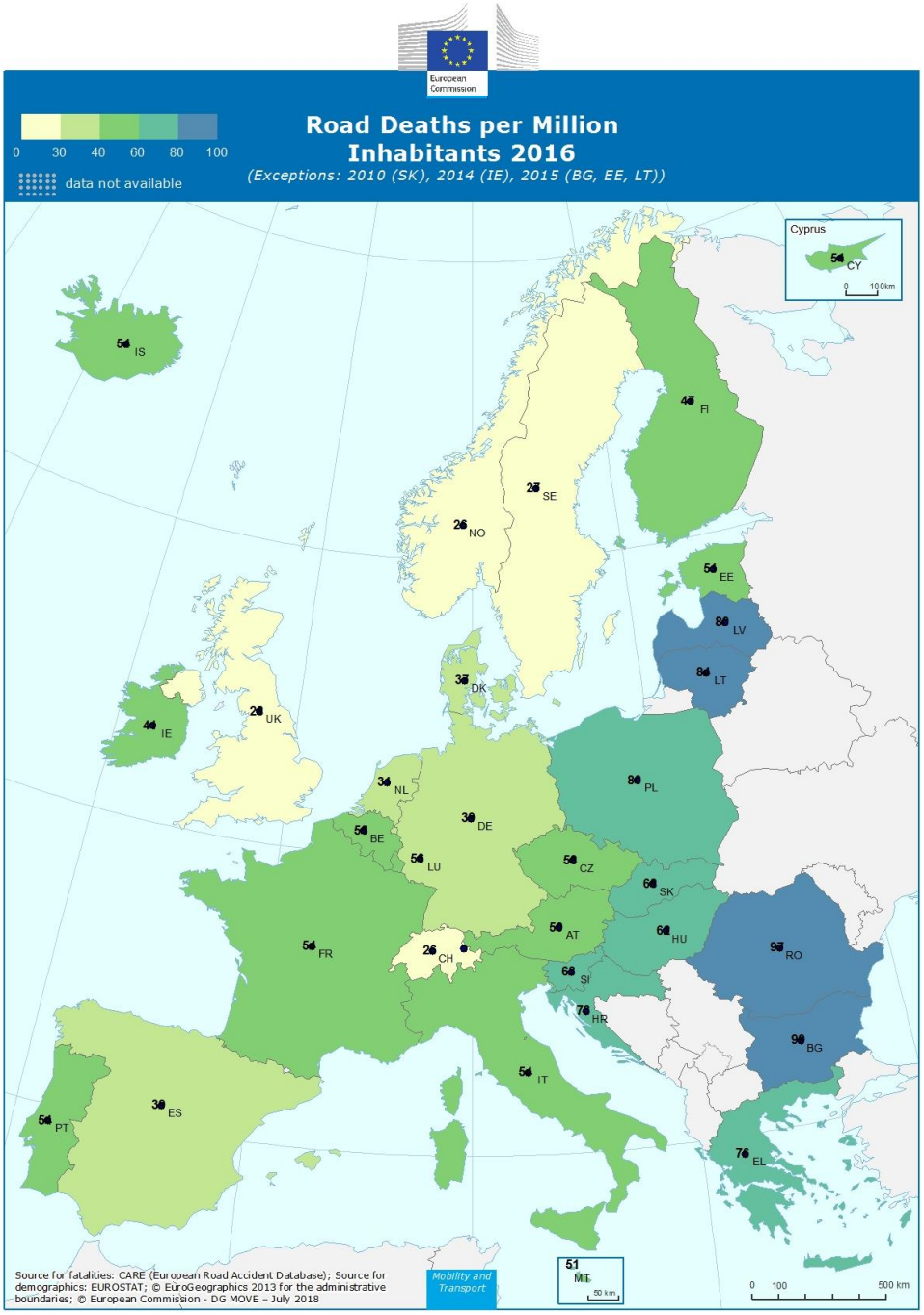
Figure 3: Road fatality rates per million population by country, 2007 and 2016 or latest available year



Sources: CARE database (EUROSTAT for population data), data available in May 2018

The geographical representation of fatality rates in Map 1 shows a tendency for rates to be lower in the north than in the south and lower in the west than in the east, which is probably the result of different historical backgrounds and policies for traffic safety.

Map 1: Road fatality rates per million population by country, 2016 or latest available year



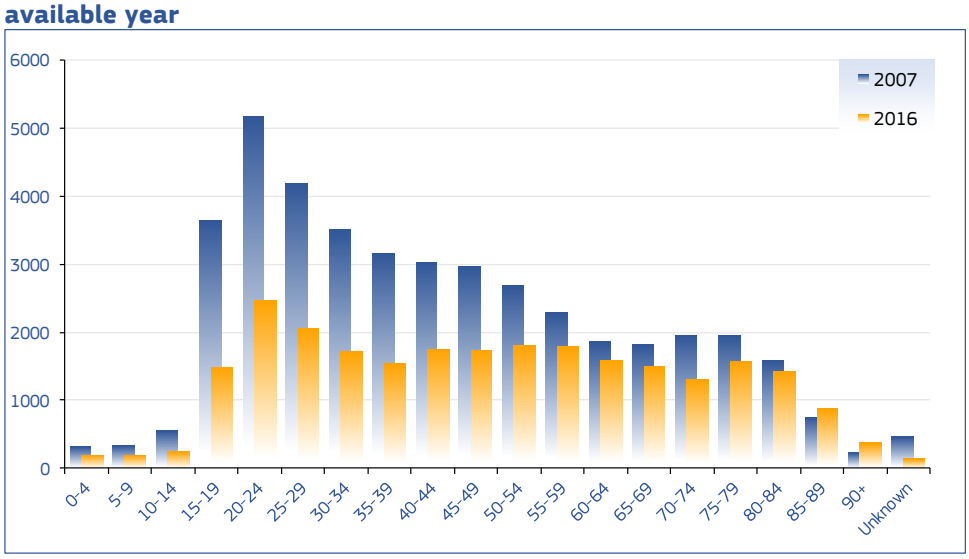
Fatality rates show both a north-south divide and an east-west divide across Europe.

In the following tables and figures, the CARE data for 2016 are analysed in greater detail. It should be noted that the latest available data are used, meaning 2010 data for SK, 2014 data for IE and 2015 data for BG, EE and LT.

Age and gender

Figure 4 compares the number of road fatalities per 5-year age group in 2007 and 2016. The distribution remained broadly the same, with the highest fatality numbers being recorded between the ages of 20 and 29 years.

Figure 4: Number of road fatalities by age group, EU, 2007 and 2016 or latest available year

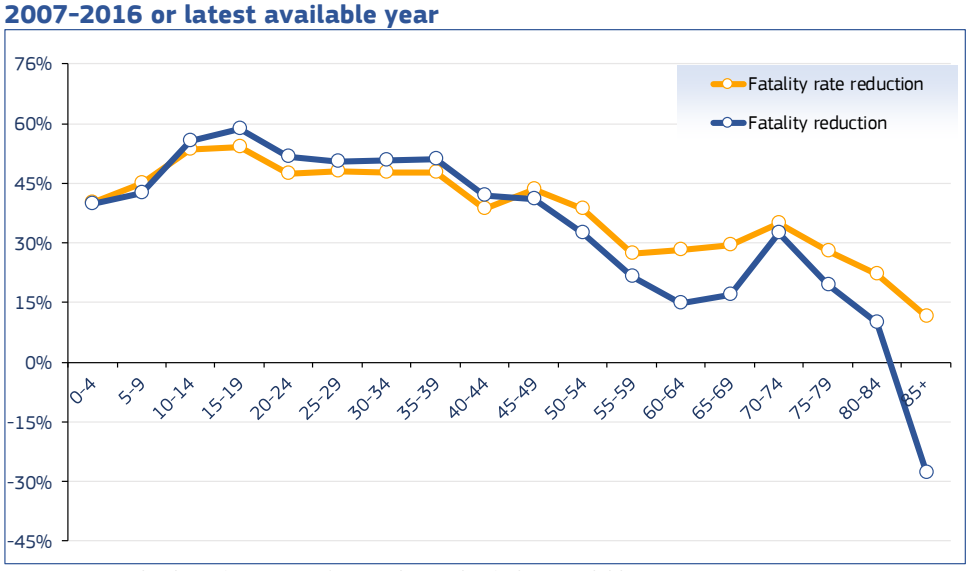


Source: CARE database, data available in May 2018

The number of road fatalities in the EU decreased by more than half among people aged between 10 and 34 years old during 2007-2016, but increased for the elderly aged over 85 years old.

Demographic change has contributed to the changes seen in Figure 4. The population of the EU countries grew by 2,4% over the decade, but the growth occurred mainly among the older age groups and indeed the population declined in the age groups between 10 and 44 years. Figure 5 presents the reduction in fatality numbers and fatality rates by age group. Fatalities in the over 85 year old age group increased by 28% in 2016 compared with 2007, while the respective fatality rate decreased by 12%.

Figure 5: Reduction of road fatalities and road fatality rates by age group, EU, 2007-2016 or latest available year



Sources: CARE database (EUROSTAT for population data), data available in May 2018

Table 2 shows the distribution of road fatalities by age group in the EU countries in 2016. There are clear differences between countries, with fatalities in countries such as Malta, Ireland and Estonia being on average younger than in others such as Portugal, Sweden and the Netherlands. The median age of fatalities across the EU was 47 years.

The distribution of road fatalities by age varies among the EU countries.

Table 2: Total number and distribution of road fatalities by country and age group, 2016 or latest available year

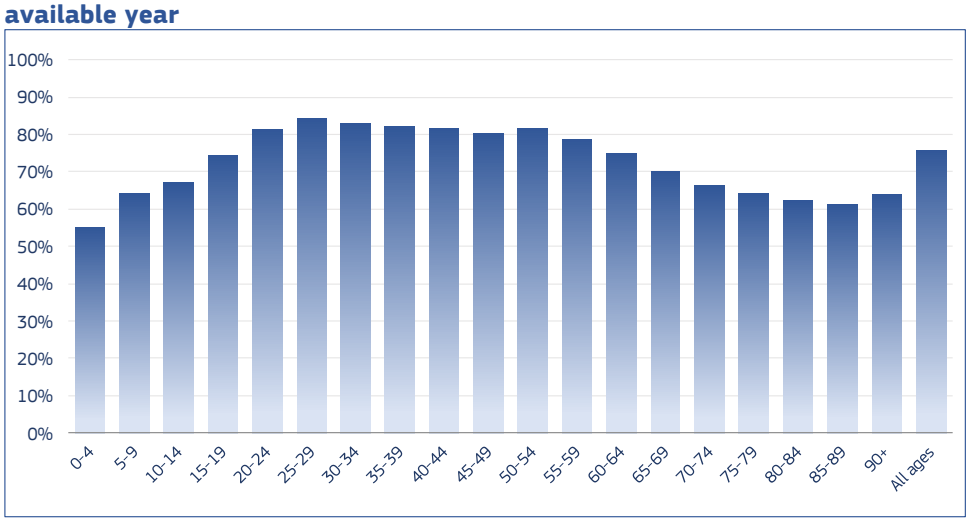
	0-14	15-24	25-59	60-99	Total	Median age
BE	2%	15%	54%	28%	637	44
BG	3%	16%	54%	28%	708	44
CZ	2%	12%	52%	34%	611	48
DK	3%	16%	42%	40%	211	49
DE	2%	16%	44%	38%	3.206	52
EE	6%	13%	57%	24%	67	41
IE	6%	18%	49%	26%	193	40
EL	2%	14%	49%	35%	824	47
ES	2%	11%	53%	34%	1.810	49
FR	3%	20%	47%	30%	3.471	43
HR	1%	15%	49%	35%	307	50
IT	2%	13%	48%	38%	3.283	50
CY	2%	24%	41%	33%	46	49
LV	1%	16%	52%	31%	158	47
LT	2%	15%	49%	34%	242	47
LU	6%	9%	47%	38%	32	46
HU	2%	9%	52%	37%	607	51
MT	0%	13%	65%	22%	23	39
NL	2%	16%	40%	42%	533	53
AT	2%	16%	47%	35%	432	51
PL	2%	17%	52%	29%	3.026	43
PT	1%	11%	43%	45%	563	55
RO	4%	13%	48%	36%	1.913	49
SI	2%	18%	50%	29%	130	47
SK	3%	21%	54%	22%	371	47
FI	4%	19%	43%	34%	258	45
SE	2%	14%	43%	41%	270	53
UK	3%	18%	49%	30%	1.860	44
EU	**2%**	**15%**	**48%**	**34%**	**25.792**	**47**
IS	6%	11%	39%	44%	18	54
NO	1%	17%	49%	32%	135	49
CH	6%	14%	44%	36%	216	52

Source: CARE database, data available in May 2018

Far more males than females are killed in road accidents: 76% of all fatalities were male and 24% were female. Figure 6 shows that this proportion varies by age and exceeds four fifths between the ages of 20 and 54 years.

76% of all road accident fatalities in 2016 were males.

Figure 6: Percentage of male road fatalities by age group, EU, 2016 or latest available year

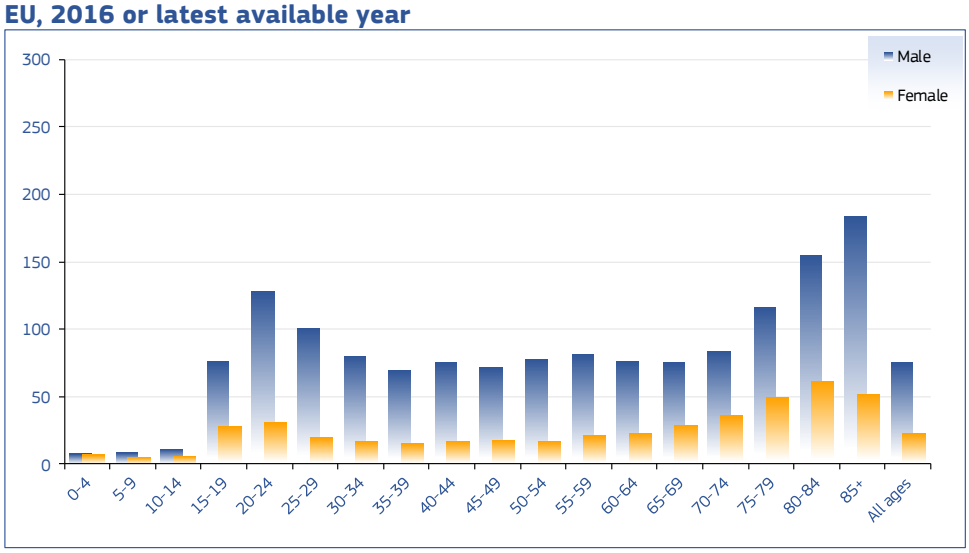


Source: CARE database, data available in May 2018

Figure 7 shows that the number of fatalities per million population also varies considerably with age. Rates are high among the young road users (20-24 years old), then fall with age. They begin to rise again with rates for eldest road users (at least 75 years old) being higher than those for the young. The male fatality rate is about 3,3 times the female rate; 75 deaths per million population compared with 23.

The fatality rate for males in the EU is about 3,3 times the rate for females.

Figure 7: Road fatality rates per million population by age group and gender, EU, 2016 or latest available year

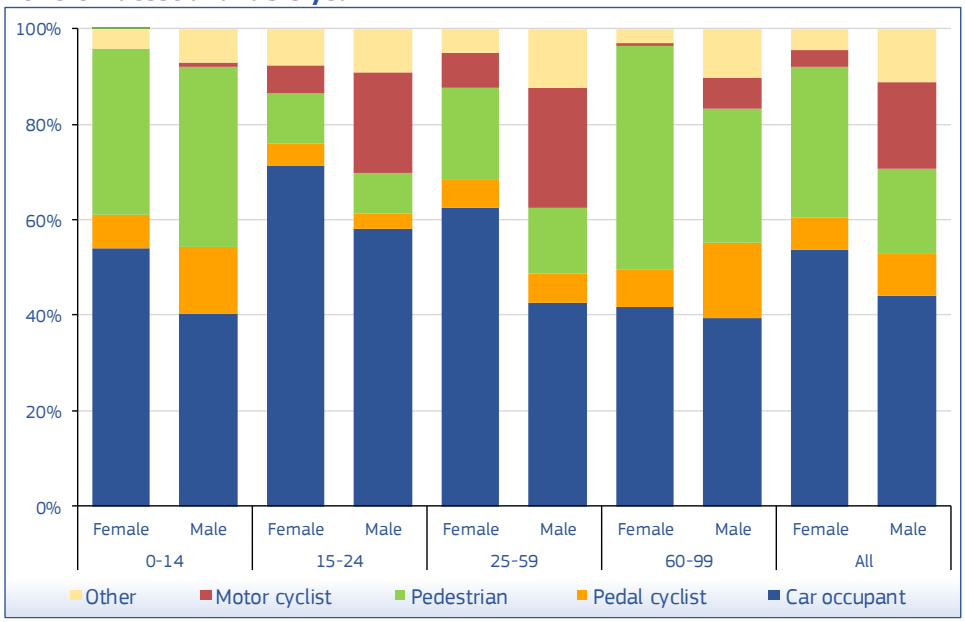


Sources: CARE database (EUROSTAT for population data), data available in May 2018

The distribution of road user type among fatalities in the EU varies considerably with age and gender.

Figure 8 compares the male and female fatality distributions by road user type for four age groups (Figure 11 compares the all-ages distributions in more detail).

Figure 8: Distribution of road fatalities by age, gender and road user type, EU, 2016 or latest available year



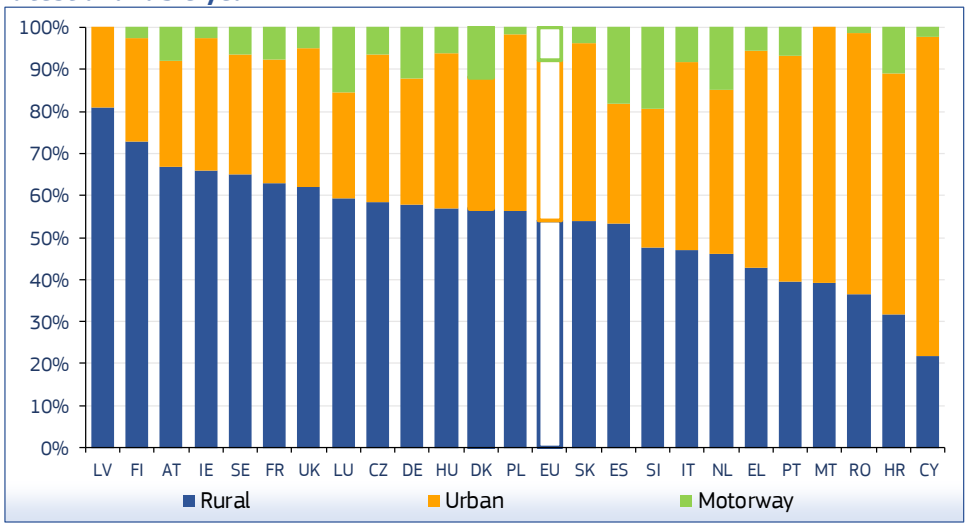
Source: CARE database, data available in May 2018

Type of road

Figure 9 shows the distribution of fatalities by type of road, with countries sorted by the percentage of fatalities occurred on rural roads. Overall, only 8% of road fatalities in 2016 occurred in accidents on motorways, and 54% of road users died in accidents on non-motorway rural roads.

In the EU, more than half of all fatalities occurred on rural non-motorway roads.

Figure 9: Distribution of road fatalities by country and type of road, 2016 or latest available year

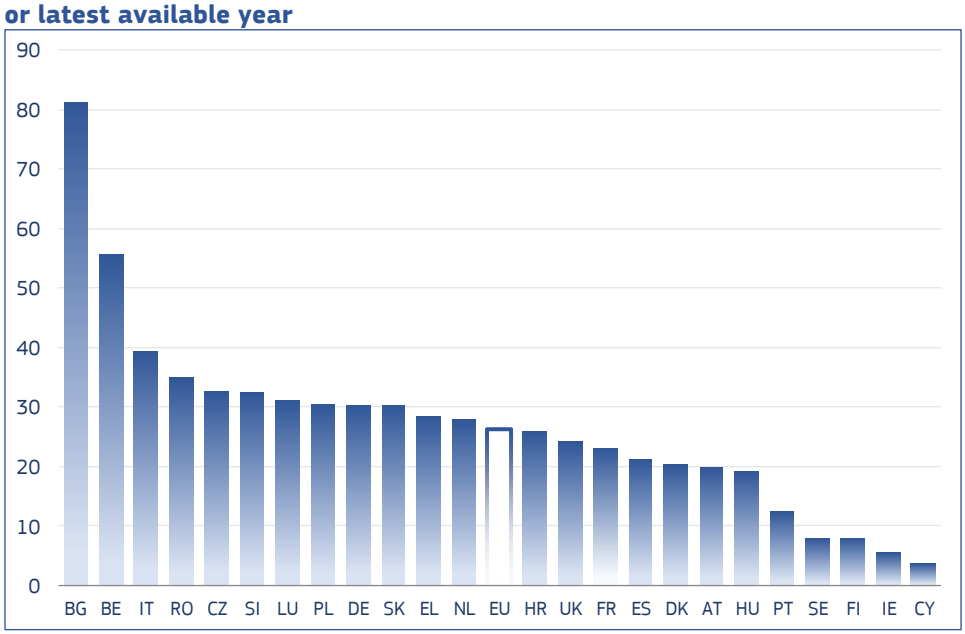


Source: CARE database, data available in May 2018

To allow for the differences between their motorway networks, Figure 10 compares the rate of fatalities per thousand km of motorways in each country. The fatality rate in 2016 ranged from 3,7 in Cyprus to 81,1 in Bulgaria with the EU average being 26,2.

The rate of fatalities per thousand km of motorways in 2016 ranged from 3,7 in Cyprus to 81,1 in Bulgaria.

Figure 10: Motorway fatality rates per 1.000 km of motorway by country, 2016 or latest available year



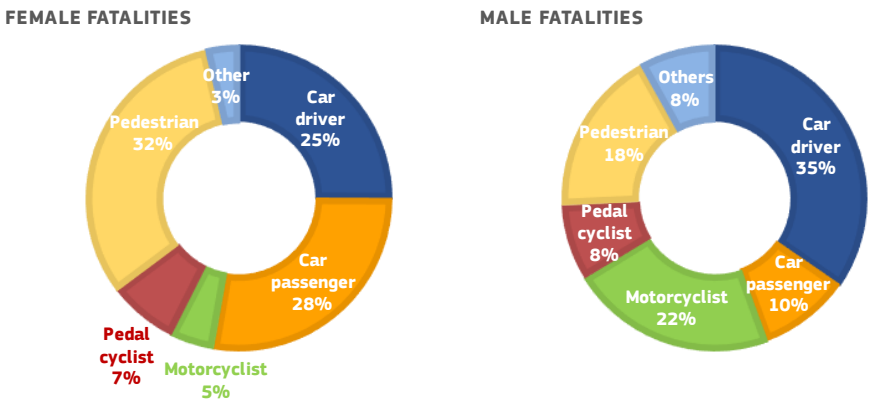
Sources: CARE database (EUROSTAT, EC, IRF for road length data), data available in May 2018

Mode of transport and road user type

Figure 11 shows the male and female distributions of fatalities in the EU by road user type, and these differ considerably. Nearly two thirds of female fatalities were car passengers (28%) or pedestrians (32%), while only 10% of male fatalities were car passengers and 18% pedestrians. On the contrary, 22% of male fatalities and only 5% of female fatalities were motorcyclists. Figure 12 shows the national distributions (both genders), sorted by the percentage of the car driver fatalities.

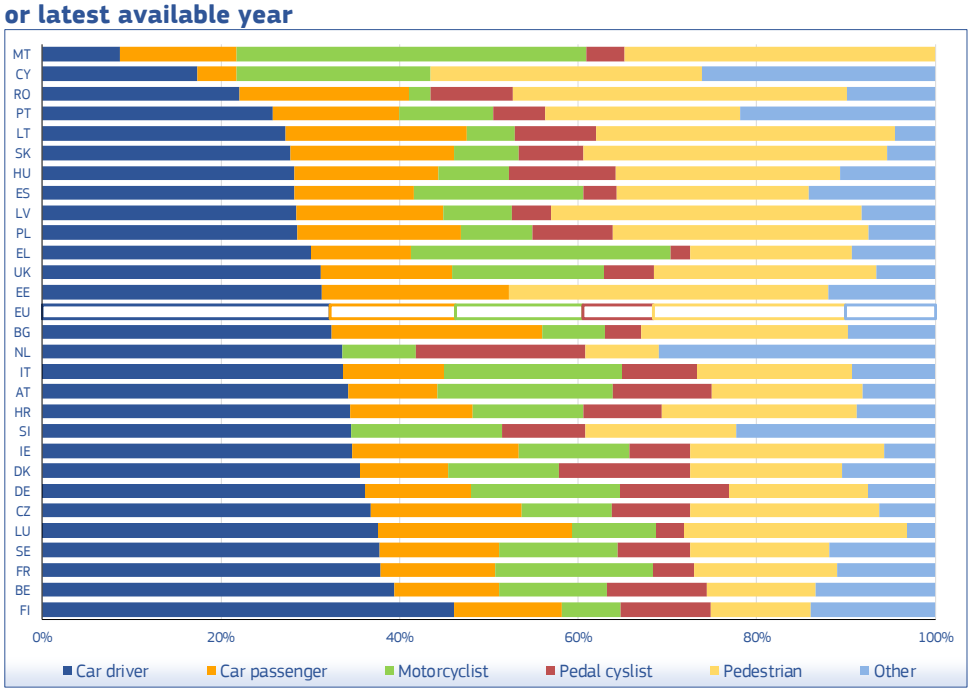
Compared to male fatalities, females were more likely to be killed travelling as car passengers and pedestrians and less likely as car drivers and motorcyclists.

Figure 11: Distribution of male and female fatalities by road user type, EU, 2016 or latest available year



Source: CARE database, data available in May 2018

Figure 12: Distribution of road fatalities by country and road user type, 2016 or latest available year

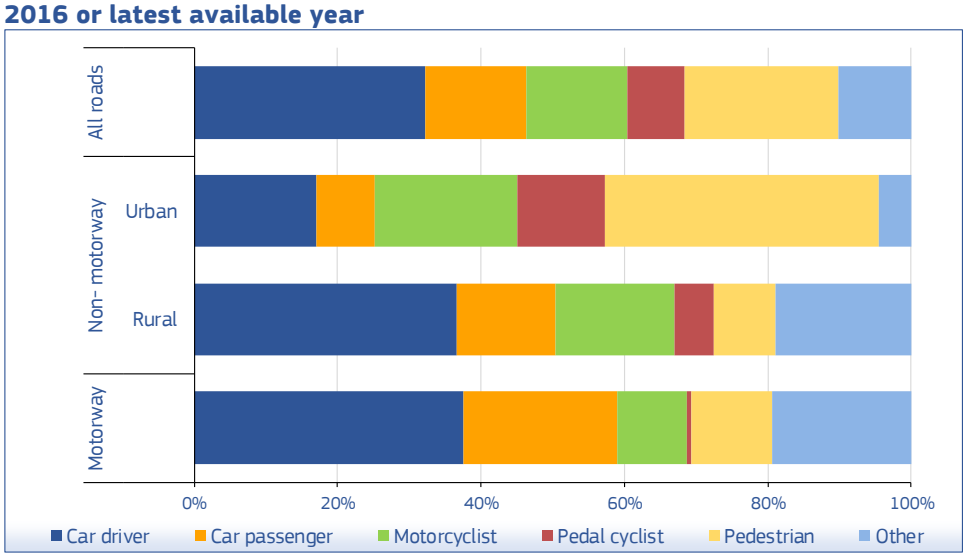


Source: CARE database, data available in May 2018

About 46% of all road fatalities were car occupants. On motorways this proportion increased to almost 60%.

Figure 13 shows the distribution of fatalities by road user type on three types of road. The distribution varies with type of road and is influenced by the modes of transport typically used on each type of road.

Figure 13: Distribution of road fatalities by road user type and road type, EU, 2016 or latest available year



Source: CARE database, data available in May 2018

On motorways, where cars are the prevalent mode of transport, almost 60% of all fatalities were car occupants. There is more non-motorised traffic on urban roads, however, half of fatalities on these roads were pedestrians or cyclists and one quarter were car occupants.

71% of car driver fatalities and 64% of car passenger fatalities occurred on rural roads in 2016, compared with 9% and 13% respectively on motorways. 56% of motorcycle fatalities occurred on rural roads and only 4% on motorways.

Table 3 shows the trends in fatalities by vehicle type during the period 2007-2016. The number of fatalities decreased by about 40% in the EU countries over this period. The respective reduction for car occupants was 41% and for the moped fatalities 56%.

For all vehicle types, the number of fatalities decreased appreciably over the decade.

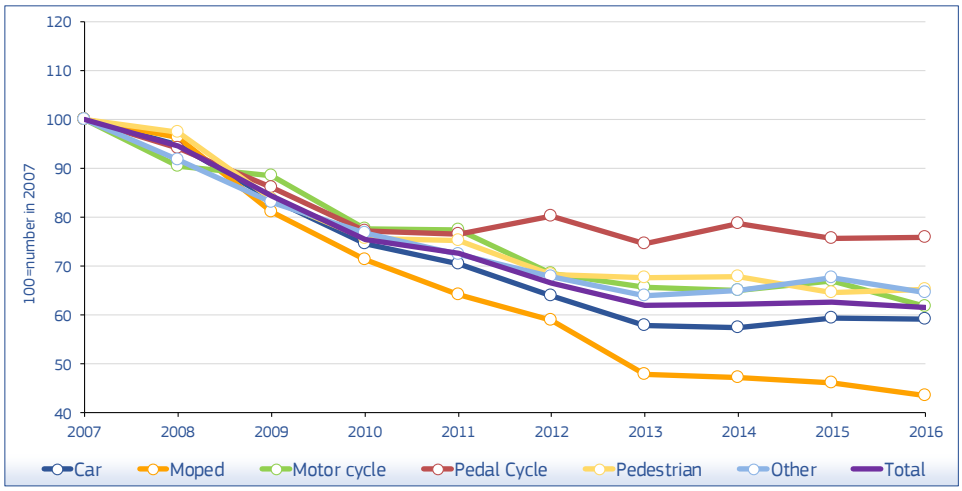
Table 3: Number and reduction of road fatalities by mode of transport, EU, 2007-2016

Year	Car	Moped	Motor cycle	Pedal Cycle	Pedestrian	Other	Total known
2007	20.013	1.552	5.875	2.686	8.281	2.646	41.053
2008	18.968	1.496	5.315	2.529	8.069	2.426	38.804
2009	16.757	1.260	5.195	2.311	6.937	2.198	34.658
2010	14.928	1.107	4.560	2.075	6.264	2.030	30.966
2011	14.095	994	4.553	2.054	6.230	1.914	29.841
2012	12.809	916	4.023	2.152	5.645	1.793	27.338
2013	11.581	743	3.857	2.000	5.595	1.692	25.469
2014	11.500	734	3.819	2.115	5.610	1.719	25.496
2015	11.873	717	3.937	2.030	5.346	1.789	25.692
2016	11.819	677	3.630	2.037	5.401	1.710	25.274
Overall reduction	**41%**	**56%**	**38%**	**24%**	**35%**	**35%**	**38%**

Source: CARE database, data available in May 2018

Figure 14 shows that the number of fatalities for all groups of road users decreased appreciably between 2007 and 2016. The evolution of cyclist fatalities presents more fluctuations after 2011.

Figure 14: Index (2007=100) of road fatalities by mode of transport, EU, 2007-2016



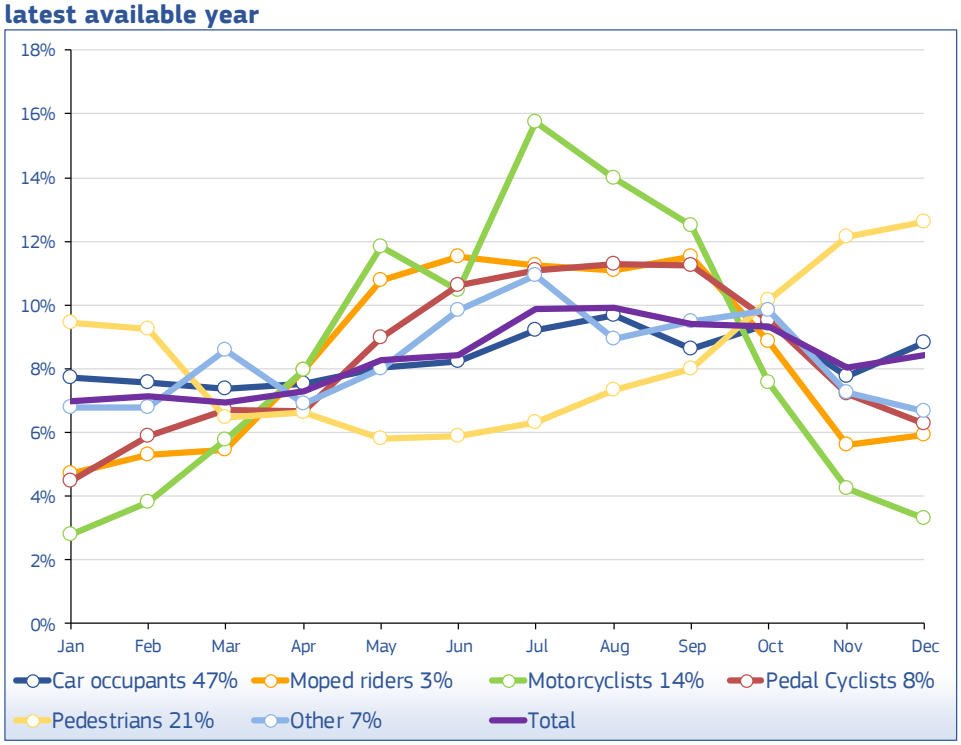
Source: CARE database, data available in May 2018

Seasonality

The distribution of fatalities by month is studied in the Seasonality Basic Fact Sheet, which shows that this distribution has not changed appreciably over the years. Figure 15 shows that the total fatality ranges between 7% and 10%, with the highest numbers of fatalities being recorded during the second half year. Certain modes have distributions that differ considerably from the overall distribution; the peak for pedestrians is in December, while the peak for motorcyclists in the summer is especially pronounced.

The monthly number of pedestrian fatalities is highest in the winter, while the respective number of motorcyclists is highest in July.

Figure 15: Distribution of fatalities by month and road user type, EU, 2016 or latest available year



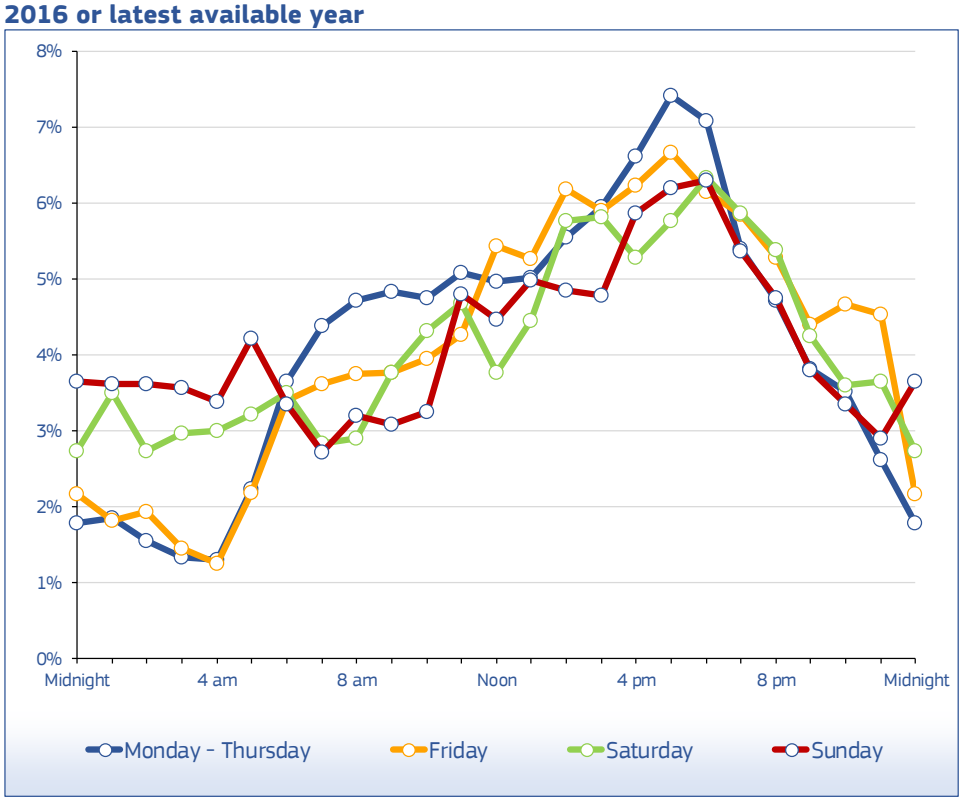
Source: CARE database, data available in May 2018

Day of the week and time of the day

The distribution of total fatalities by day of the week and time of the day is shown in Figure 16. There are 168 hours per week, so on average 0,6% of fatalities would occur per hour through the week, if equally distributed. The fatality distribution by time of the day is similar from Monday to Thursday, with a daily afternoon peak and relatively few fatalities during the night, so these days are combined in Figure 16. The high number of fatalities early on Saturday and Sunday mornings is also notable.

There are more fatalities between midnight and 6am on Saturdays and Sundays than on other days of the week.

Figure 16: Distribution of fatalities by day of the week and time of the day, EU, 2016 or latest available year



Source: CARE database, data available in May 2018

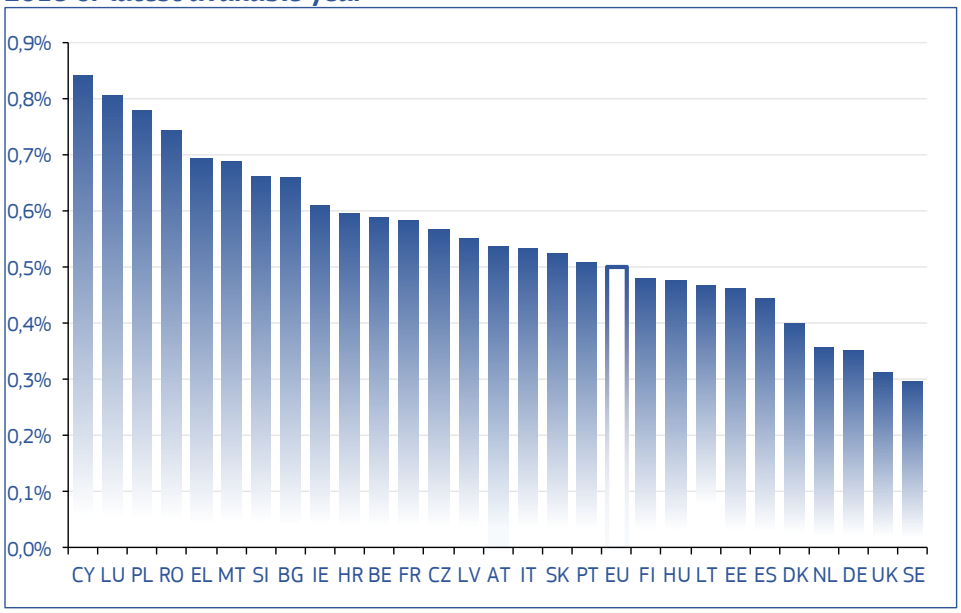
As well as the absolute numbers of fatalities, the weekend distribution by time of the day differs from weekday distribution. Between Monday and Friday, about 70% of fatalities occurred between 8am and 8pm, compared with 60% on Saturday and Sunday.

Road accidents' share in overall mortality

Road accidents accounted for 0,5% of all deaths in the EU countries in 2016. Figure 17 shows that the proportion ranged from 0,84% of all deaths in Cyprus to 0,30% in Sweden.

Road accidents accounted for 0,5% of all deaths in the EU countries in 2016.

Figure 17: Percentage of road accident fatalities of all fatalities by country, 2016 or latest available year

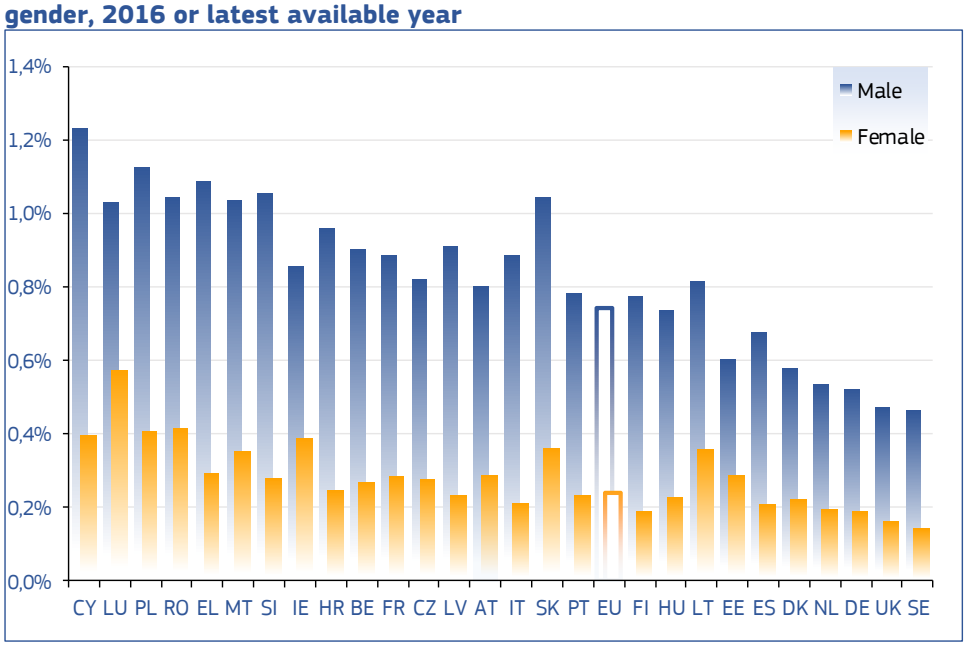


Source: CARE database (EUROSTAT for deaths), data available in May 2018

Figure 18 shows the respective percentages by gender. Road accidents accounted for 0,74% of all male deaths in the EU countries in 2016 and for 0,24% of all female deaths. Among males, the proportion ranged from 1,23% of all deaths in Cyprus to 0,46% in Sweden. Among females, the proportion ranged from 0,57% of all deaths in Luxembourg to 0,14% in Sweden.

Road accidents account for about 0,74% of all male deaths in the EU countries, but only about 0,24% of all female deaths.

Figure 18: Percentage of road accident fatalities of all fatalities by country and gender, 2016 or latest available year

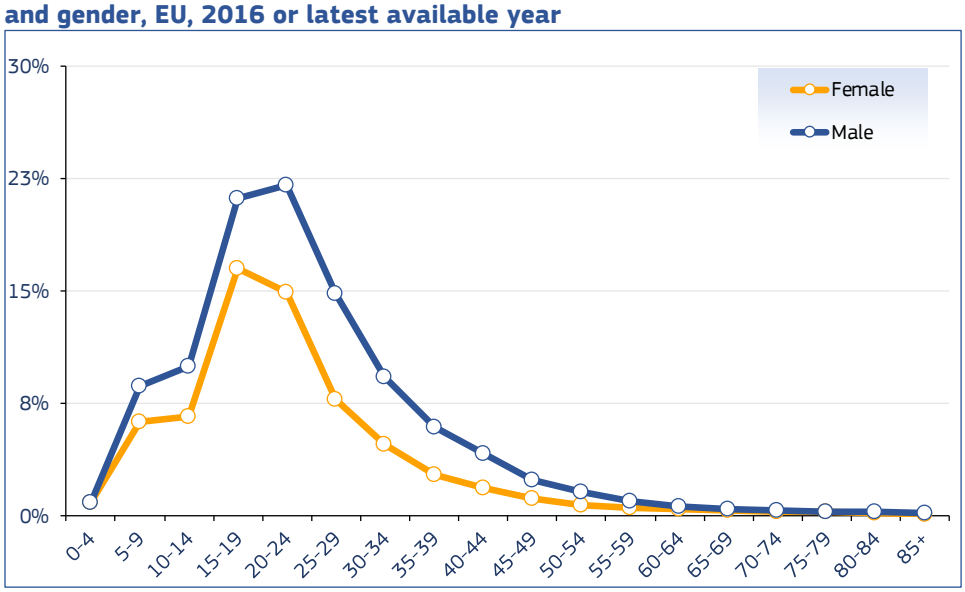


Source: CARE database (EUROSTAT for deaths), data available in May 2018

Figure 19 shows that the proportion of fatalities occurring in road accidents varies strongly with age. Road accidents account for about one fifth of fatalities in the 15-24 age group. The percentages for females and for males are nearly equal up to the age of 9, but the percentage of fatalities is clearly greater for males than for females thereafter and up to the age of 60.

Road accidents account for about one fifth of all deaths in the EU countries in the 15-24 age group.

Figure 19: Percentage of road accident fatalities of all fatalities by age group and gender, EU, 2016 or latest available year



Source: CARE database (EUROSTAT for deaths), data available in May 2018

Road Accident Health Indicators

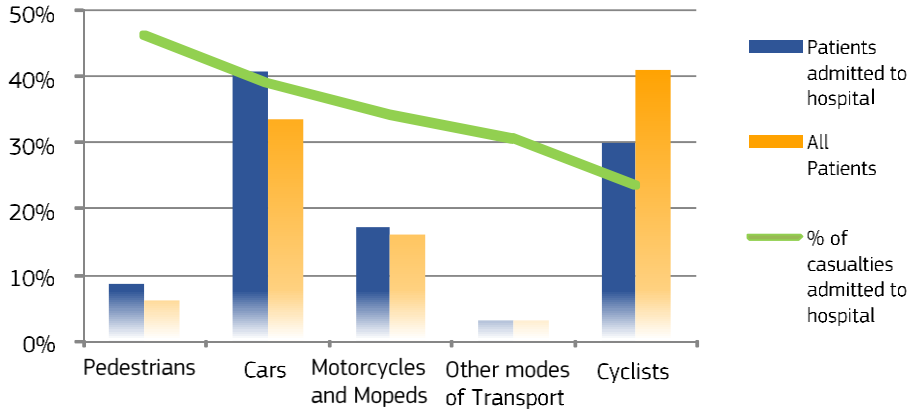
By 2012, thirteen Member States routinely collected injury data in a sample of hospitals and contributed them to the EU Injury Database.

Injury data can be obtained from a wide range of sources, such as police and ambulance reports, national insurance schemes, and hospital records. Each of these provides a specific yet incomplete picture of the injuries suffered in road accidents. In order to obtain a comprehensive view of these injuries, the EU Council issued a recommendation that urges Member States to use synergies between existing data sources and to develop national injury surveillance systems rooted in the health sector. At present, thirteen Member States are routinely collecting injury data in a sample of hospitals and delivering these data to the Commission. This system is called the EU Injury Database (EU IDB).

Within the EU IDB "transport module", injuries suffered in road accidents are recorded by "mode of transport", "role of injured person" and "counterpart". These variables can complement information from police records, in particular for injury patterns and the improved assessment of injury severity. The indicators used include the percentage of casualties attending hospital who are admitted to hospital, the mean length of stay of hospital admissions, the nature and type of body part injured, and potentially the long term consequences of injuries.

According to estimates based on the EU IDB, more than four million people are injured annually in road traffic accidents in Europe, one million of whom have to be admitted to hospital.

Figure 20: Distribution of non-fatal road accident casualties (admitted and all patients) and percentage of admitted patients by mode of transport

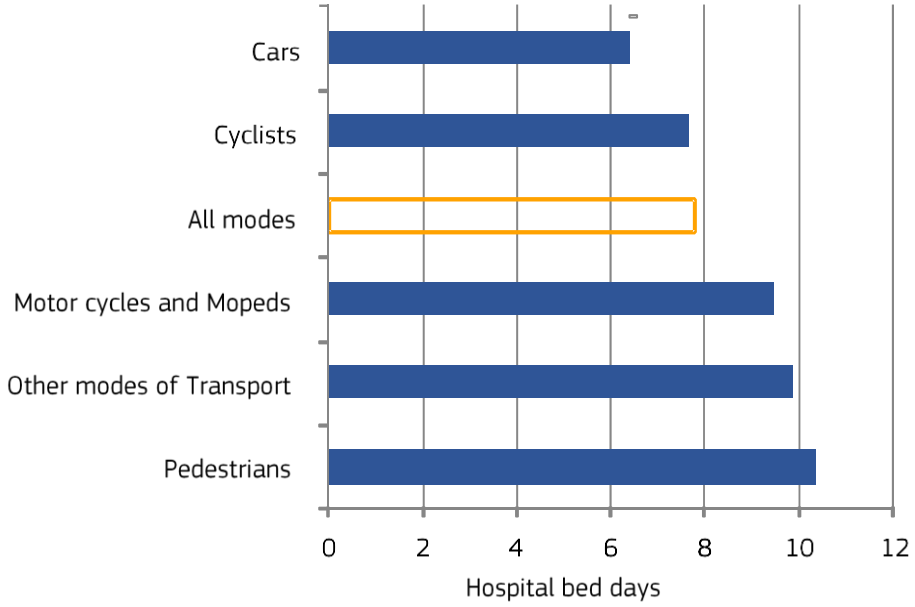


EU Injury Database (EU IDB AI) - hospital treated patients. IDB AI Transport module and place of occurrence (code 6.n [public road]); n-all = 73.600: n-admitted = 23.568 (DE, DK, LV, MT, AT, NL, SE, SI, CY, years 2005-2008).

Almost half of pedestrian casualties who attended a hospital were admitted to the hospital, compared with one quarter of pedal cyclists.

Figure 20 is based on IDB data from nine countries for accidents that occurred between 2005 and 2008. Vulnerable road users accounted for almost two thirds of road accident casualties attending hospital: 6% were pedestrians, 16% used motorcycles and mopeds, 41% were pedal cyclists. They accounted for over half of casualties admitted to hospital: 9% were pedestrians, 16% used motorcycles and mopeds, 30% were pedal cyclists. Almost half of pedestrian casualties who attended a hospital were admitted to the hospital, twice the proportion found for pedal cyclists. Overall, 32% of road accident casualties recorded in the IDB were admitted to the hospital.

Figure 21: Average length of stay (hospital bed days) of non-fatal road accident casualties by mode of transport



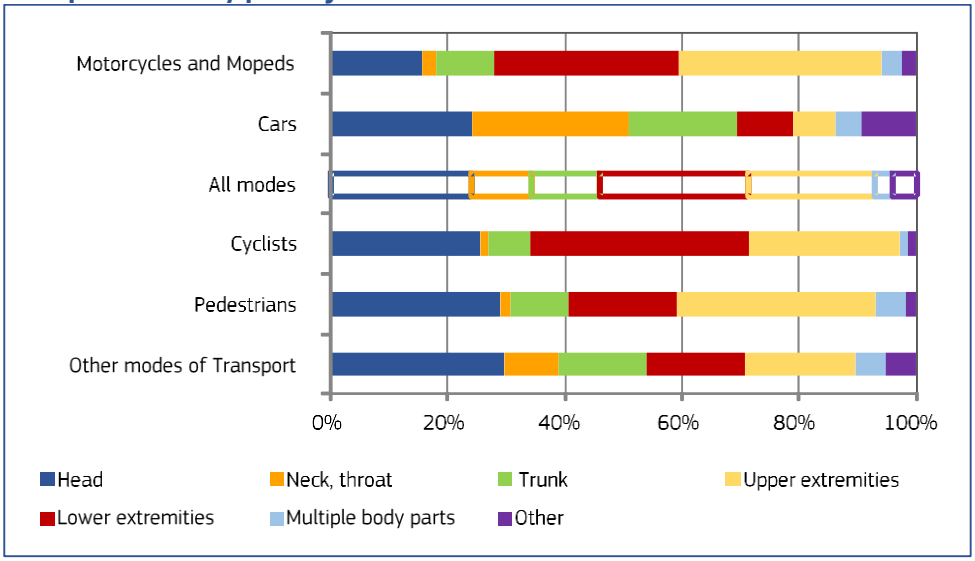
EU Injury Database (EU IDB) - hospital treated patients. IDB AI Transport module and place of occurrence (code 6.n [public road]); n = 23.568 (DE, DK, LV, MT, AT, NL, SE, SI, CY, years 2005-2008).

The average stay in hospitals is longest for pedestrians and shortest for car occupants.

Figure 21 compares the average length of stay of casualties who were admitted to hospital. This was longest for pedestrians and shortest for car occupants.

Naturally, hospital data can provide information on the injury patterns sustained by the accident victims. For example, Figure 22 illustrates the distribution of body parts injured of the various road user types. It shows that the proportion with head injuries is least among users of motorcycles and mopeds. On the other hand, the proportion with neck and throat injuries is greatest among car occupants, presumably linked to the incidence of whip-lash.

Figure 22: Distribution of non-fatal road accident casualties by mode of transport and body part injured



EU Injury Database (EU IDB) - hospital treated patients. IDB AI Transport module and place of occurrence (code 6.n [public road]); n=71.460 (DE, DK, LV, MT, AT, NL, SE, SI, CY, years 2005-2008).

Contusions, fractures, open wounds, distortions and concussions are the five most common injury types and account for about 90% of all injuries.

Table 4 shows the full range of injury types within the EU IDB. It compares the distribution of injuries among vulnerable road users (pedestrians, pedal cyclists, motorcycle and moped users) and motorized road users. Contusions, fractures, open wounds, distortions and concussions are the five most common types and account for about 90% of injuries.

Table 4: Distribution of non-fatal road accident casualties by type of injury and type of road user

	% of all injuries suffered by:		% of injuries of this type that were suffered by vulnerable road users
	vulnerable road users	motorized road users	
Contusion, bruise	31%	38%	43%
Fracture	34%	22%	59%
Open wound	13%	7%	62%
Distortion, sprain	6%	10%	33%
Concussion	7%	9%	41%
Other specified brain injury	2%	2%	56%
Luxation, dislocation	3%	1%	63%
Injury to muscle and tendon	1%	2%	23%
Abrasion	1%	2%	44%
Other specified type of injury	1%	1%	37%
Unspecified type of injury	1%	1%	32%
Injury to internal organs	0%	1%	27%
Injury to blood vessels	1%	0%	53%
Multiple injuries	0%	1%	26%
Injury to nerves and spinal cord	0%	0%	32%
Crushing injury	0%	0%	35%
Burns, scalds	0%	0%	4%
Traumatic amputation	0%	0%	44%
Total	**100%**	**100%**	**48%**

EU Injury Database (EU IDB) - hospital treated patients. IDB AI Transport module and place of occurrence (code 6.n [public road]); n=71.460 (DE, DK, LV, MT, AT, NL, SE, SI, CY, years 2005-2008).

Notes

1. Country abbreviations

Belgium	BE	Italy	IT	Romania	RO
Bulgaria	BG	Cyprus	CY	Slovenia	SI
Czech Republic	CZ	Latvia	LV	Slovakia	SK
Denmark	DK	Lithuania	LT	Finland	FI
Germany	DE	Luxembourg	LU	Sweden	SE
Estonia	EE	Hungary	HU	United Kingdom	UK
Ireland	IE	Malta	MT		
Greece	EL	Netherlands	NL	Iceland	IS
Spain	ES	Austria	AT	Liechtenstein	LI
France	FR	Poland	PL	Norway	NO
Croatia	HR	Portugal	PT	Switzerland	CH

2. Sources: CARE (Community database on road accidents)
The full glossary of definitions of variables used in this Report is available at:
http://ec.europa.eu/transport/road_safety/pdf/statistics/cadas_glossary.pdf

3. Data available in May 2018.

4. Data refer to 2016 and when not available the latest available data are used (2010 data for SK, 2014 data for IE and 2015 data for BG, EE and LT). Totals and related average percentages for EU also include latest available data.

5. At the commenting of the tables and figures, countries with small figures are omitted.

6. This 2018 edition of Traffic Safety Basic Facts updates the previous versions produced within the EU co-funded research projects SafetyNet and DaCoTA.

7. Disclaimer
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8. Please refer to this Report as follows:
European Commission, Traffic Safety Basic Facts on Main Figures, European Commission, Directorate General for Transport, June 2018.


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