

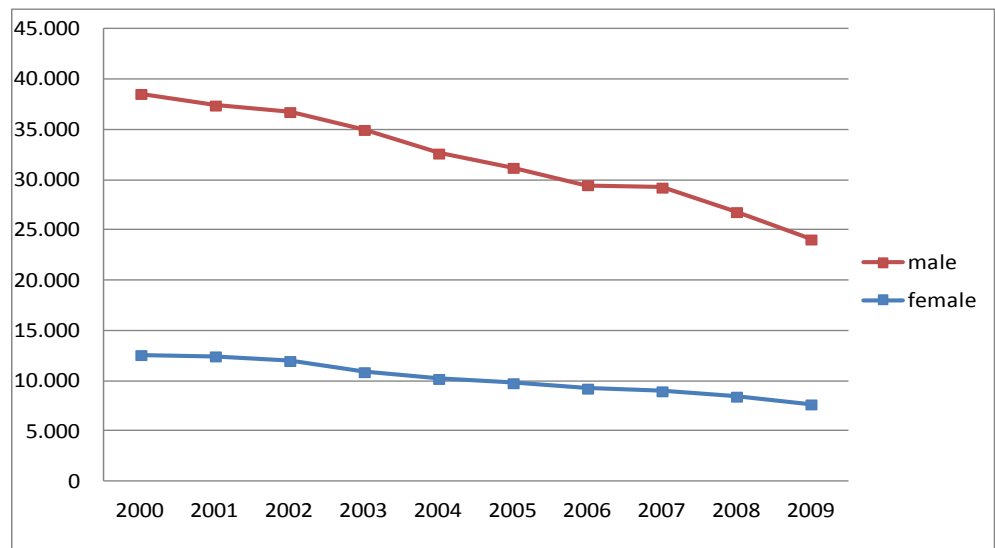
# Traffic Safety Basic Facts 2011

## Gender

### Trends in the last decade

In 2009<sup>1</sup>, 31.978 people were killed in road traffic accidents throughout the EU-19, a reduction of more than 37% since 2000 (51.202). There is little difference in this positive development by gender overall in the EU-19: the reduction is 39% for females and 37% for males. There are, however, many gender-related differences in individual countries.

Figure 1: Trend of fatalities in EU-19<sup>2</sup> by gender, 2000-2009<sup>1</sup>,



Source: CARE Database  
Date of Query: December 2011

As shown in Table 1, most countries show a greater reduction for females than for males. The highest reductions above 50% for female fatalities are found in Estonia and Portugal. On the other hand, the number increased only in Romania (13% for both female and male fatalities). The biggest differences between the female and male reductions were in Finland with a female reduction over two times the male reduction (47% compared with 18%) and Greece (female reduction of 43%, male reduction of 25%). But there are also countries where male fatalities decreased more than female fatalities like Luxembourg, where the male reduction was nearly double the female reduction (41% compared with 24%).

It should be noted that data for “unknown” gender are not included in Table 1.

<sup>1</sup> Where a number is missing for an EU19/24 country in a particular year, its contribution to the EU-19/24 total is estimated as the closer known value.

<sup>2</sup> The country abbreviations used and definition of EU-level are shown on Page 14

The number of people killed in road accidents in the EU-19 decreased between 2000 and 2009 by 37% for males and 39% for females

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Table 2: Fatalities in Europe by country, 2000-2009, by gender

	gender	2000	2009	% difference
BE	female	367	234	-36%
	male	1.102	705	-36%
CZ	female	368	225	-39%
	male	1.118	659	-41%
DK	female	151	91	-40%
	male	347	212	-39%
DE	female	2.065	1.102	-47%
	male	5.434	3.050	-44%
IE	female	104	-	-
	male	302	-	-
EL	female	440	250	-43%
	male	1.590	1.201	-24%
ES	female	1.338	621	-54%
	male	4.323	2.087	-52%
FR	female	1.951	1.041	-47%
	male	6.127	3.232	-47%
IT	female	1.631	926	-43%
	male	5.430	3.311	-39%
LU	female	17	13	-24%
	male	59	35	-41%
NL	female	294	175	-40%
	male	784	469	-40%
AT	female	246	155	-37%
	male	730	478	-35%
PL	female	-	1.109	-
	male	-	3.456	-
PT	female	347	173	-50%
	male	1.504	666	-56%
RO	female	613	694	13%
	male	1.853	2.102	13%
SI	female	73	39	-47%
	male	241	132	-45%
FI	female	133	71	-47%
	male	263	208	-21%
SE	female	153	-	-
	male	438	-	-
UK	female	914	597	-35%
	male	2.666	1.740	-35%
EU-19	female	12.527	7.702	-
	male	38.513	24.228	-
EE	female	-	26	-
	male	-	71	-
LV	female	-	42	-
	male	-	166	-
HU	female	-	207	-
	male	-	612	-
MT	female	-	5	-
	male	-	10	-
SK	female	-	88	-
	male	-	296	-
EU-24	female	-	368	-
	male	-	1.155	-
CH	female	-	80	-
	male	-	269	-
IS	female	-	3	-
	male	-	14	-

The reductions in most countries were greater for female fatalities than for male.

The number of male and female fatalities increased only in Romania.

Source: CARE Database  
Date of Query: December 2011

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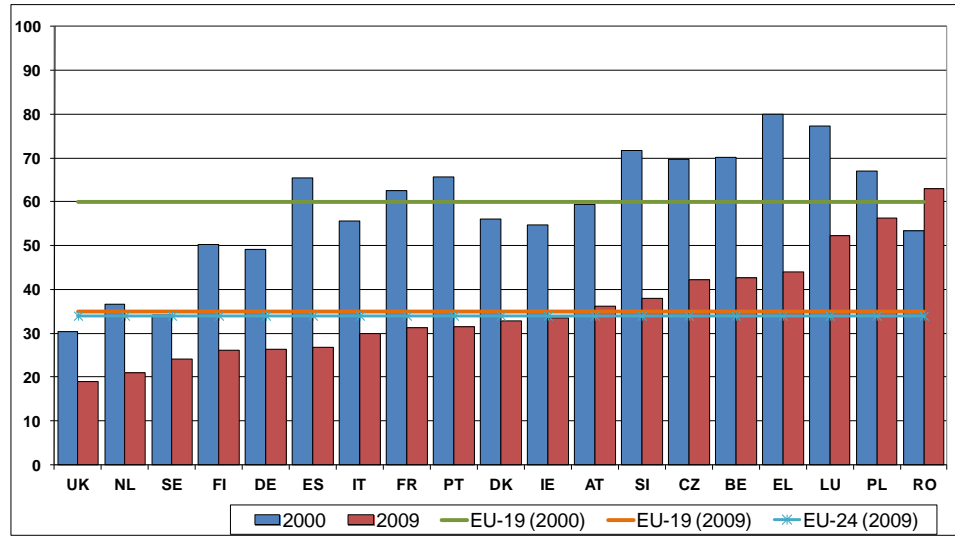
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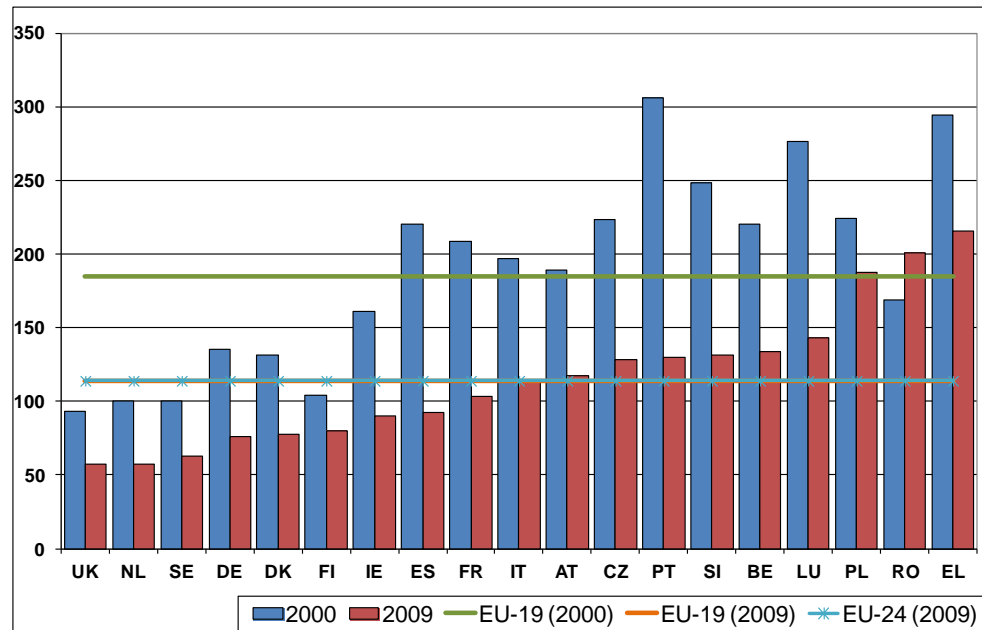
Figure 1 shows the change in the rate of fatalities per million inhabitants in each EU-19 country between 2000 and 2009<sup>1</sup>. Only in Romania an increase was recorded over the decade.

Figure 1: Female fatalities per million inhabitants by country, 2000 and 2009<sup>1</sup>



Source: CARE Database  
Eurostat for population data  
Date of Query: December 2011

Figure 3: Male fatalities per million inhabitants by country, 2000 and 2009<sup>1</sup>



Source: CARE Database  
Eurostat for population data  
Date of Query: December 2011

It should be noted that for Ireland and Sweden data refers to 2008 rather than 2009 and for Poland 2001 data is used rather for 2000.

Table 2 shows the annual fatality rates per country for 2000 and 2009.

Fatality rates decreased between 2000 and 2009<sup>1</sup> for males and females in all EU-19 countries except Romania.

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Table 3: Fatalities per million inhabitants by country, 2000-2009

	gender	2000	2009	% difference
BE	female	70	43	-39%
	male	220	134	-39%
CZ	female	70	42	-39%
	male	224	128	-43%
DK	female	56	33	-42%
	male	132	78	-41%
DE	female	49	26	-46%
	male	136	76	-44%
IE	female	55	-	-
	male	161	-	-
EL	female	80	44	-45%
	male	294	215	-27%
ES	female	65	27	-59%
	male	220	92	-58%
FR	female	63	31	-50%
	male	209	104	-50%
IT	female	56	30	-46%
	male	197	114	-42%
LU	female	77	52	-32%
	male	276	143	-48%
NL	female	37	21	-43%
	male	100	58	-42%
AT	female	60	36	-39%
	male	189	118	-38%
PL	female	-	56	-
	male	-	188	-
PT	female	66	32	-52%
	male	306	130	-58%
RO	female	53	63	18%
	male	169	201	19%
SI	female	72	38	-47%
	male	248	131	-47%
FI	female	50	26	-48%
	male	104	80	-24%
SE	female	34	-	-
	male	100	-	-
UK	female	30	19	-37%
	male	93	57	-38%
EU-19	female	60	35	-42%
	male	185	114	-38%
EE	female	-	36	-
	male	-	115	-
LV	female	-	34	-
	male	-	156	-
HU	female	-	39	-
	male	-	128	-
MT	female	-	24	-
	male	-	49	-
SK	female	-	32	-
	male	-	113	-
EU-24	female	-	34	-
	male	-	114	-
IS	female	-	19	-
	male	-	86	-
CH	female	-	20	-
	male	-	71	-

Source: CARE Database  
Date of Query: December 2011

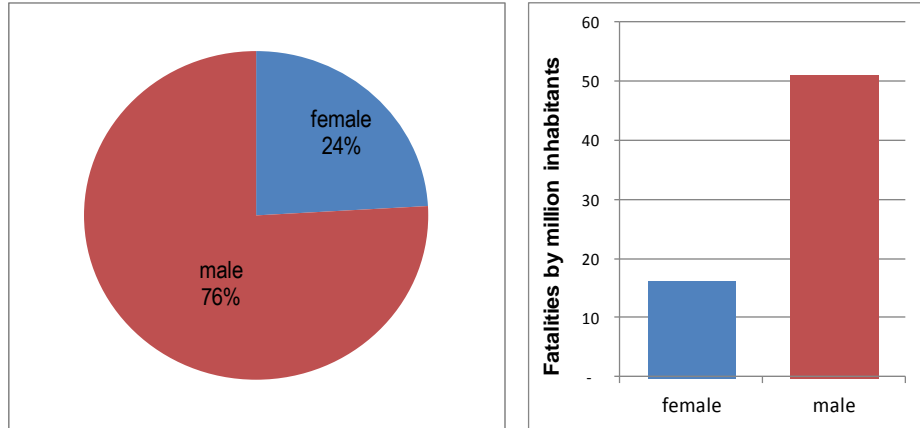
Spain has the greatest reduction of fatalities per million inhabitants (59% for females and 58% for males)

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### The relationship between male and female fatalities

Beside the trends presented above over the last ten years, one fact is obvious from the tables: far more males than females are killed in road accidents. Figure 4 shows the clear difference between the male and female fatality rates: less than one quarter of all fatalities is female fatalities.

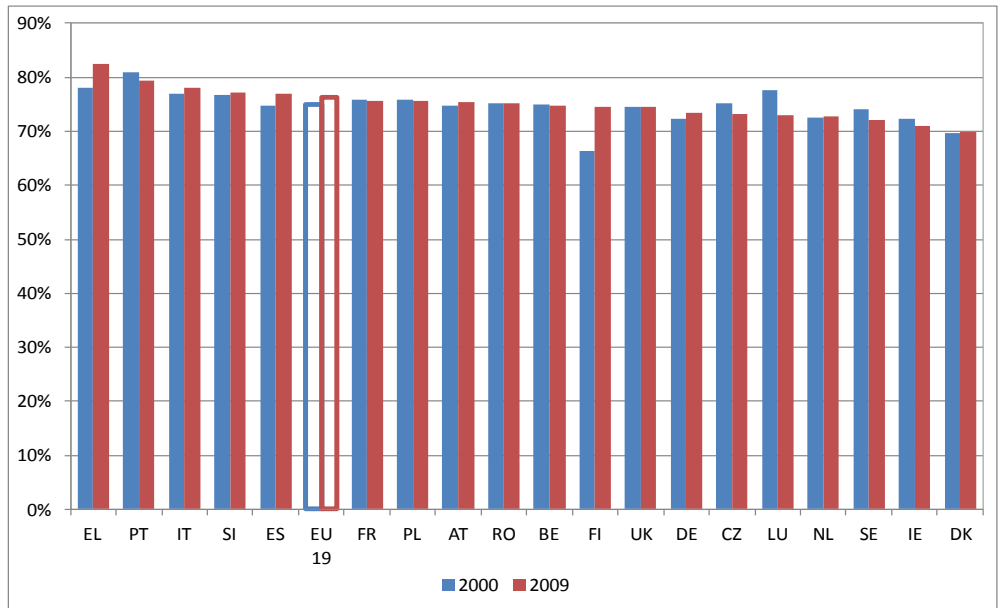
Figure 4: Fatalities and fatality rates by gender, EU-24, 2009<sup>1</sup>



Source: CARE Database  
Date of Query: December 2011

Figure 5 shows that the high proportion of fatalities who were male slightly increased in EU-19 within the last decade, from 75% to 76%. The highest increases were noted in Finland (from 66% in 2000 to 75% in 2009) and Greece (from 78% to 82%). Greece also had the highest male percentage in Europe in 2009. On the other hand, the highest decrease was observed in Sweden, Portugal and Czech Republic.

Figure 5: Percentage of fatalities who were male, EU-19, 2000 and 2009<sup>1</sup>



Source: CARE Database  
Eurostat for population data  
Date of Query: December 2011

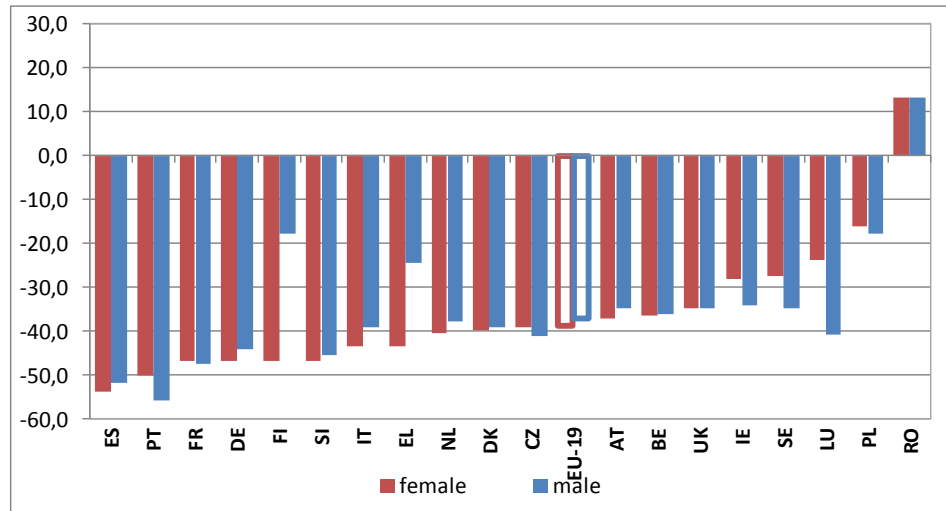
The male fatality rate is more than three times the respective female rate

76% of all road accident fatalities in the EU-24 were male in 2009<sup>1</sup>

The high male fatality rate increased in EU-19 from 75% in 2000 to 76% in 2009<sup>1</sup>

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Figure 6: Change in number of fatalities between 2000 and 2009<sup>1</sup>, by gender, EU-19

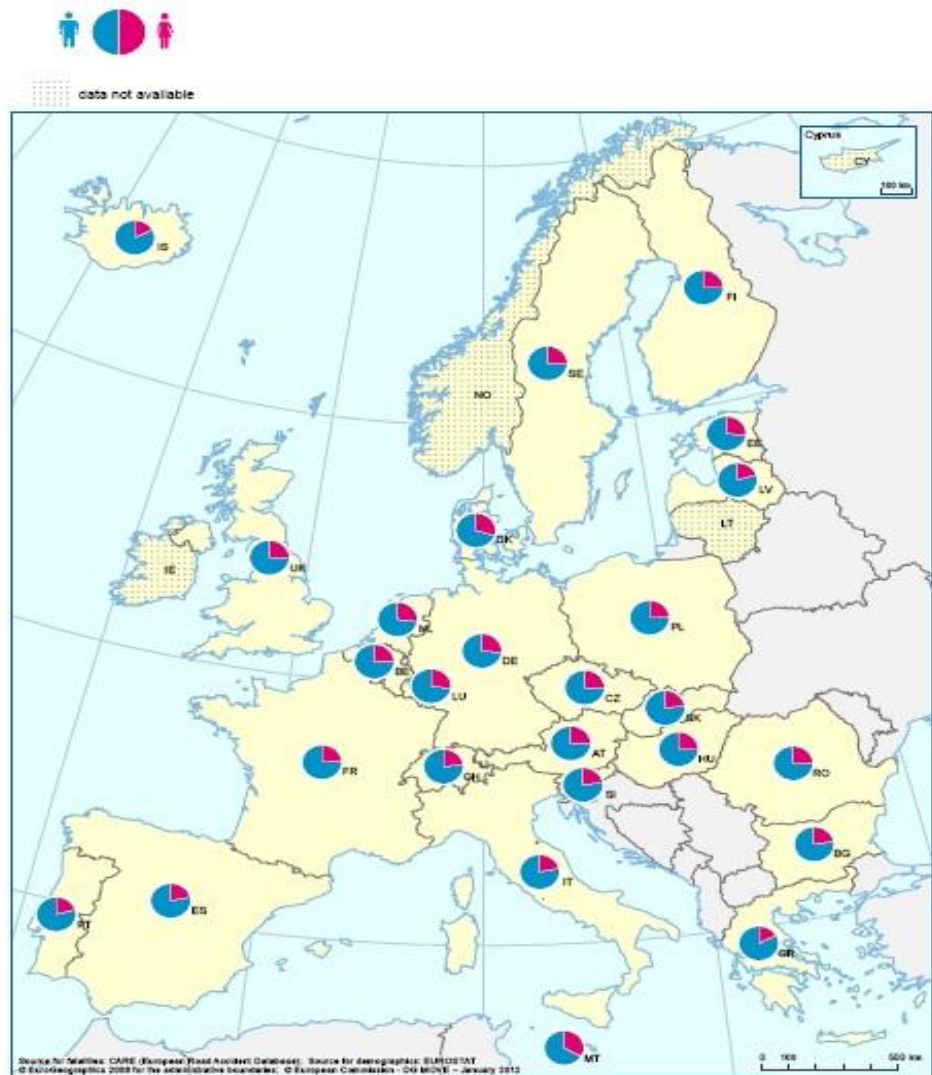


Source: CARE Database  
Date of Query: December 2011

The highest male fatality proportions in 2009<sup>1</sup> were recorded in Portugal, Slovenia, Slovakia and the Mediterranean countries (Greece, Italy and Spain)

Map 1 shows a geographical representation of the ratios between the male and female fatality counts. There is a slight tendency for rates to be higher in the south, and the highest male ratios were recorded in Greece, Portugal and Italy.

Map 1: Fatality rates: Fatalities in Europe per million inhabitants, 2009<sup>1</sup>



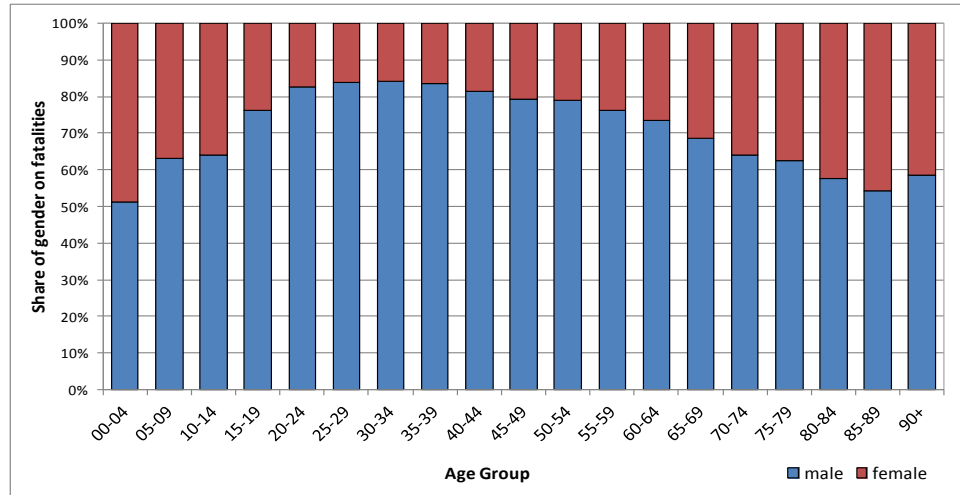
Source: CARE Database/EC

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### Age and Gender

The ratio between male and female fatalities increases from the younger age groups and reaches the peak of 84% male fatalities at ages 25 to 34. Figure 7 shows that about four fifths of 15-54 year olds fatalities were men: over all ages, 76% of fatalities were male. This reflects a very gender-specific development in the travel behaviour of men and women in Europe, beginning from the age of 15 years.

Figure 7: Distribution of fatalities by gender, by age group, EU-24, 2009<sup>1</sup>



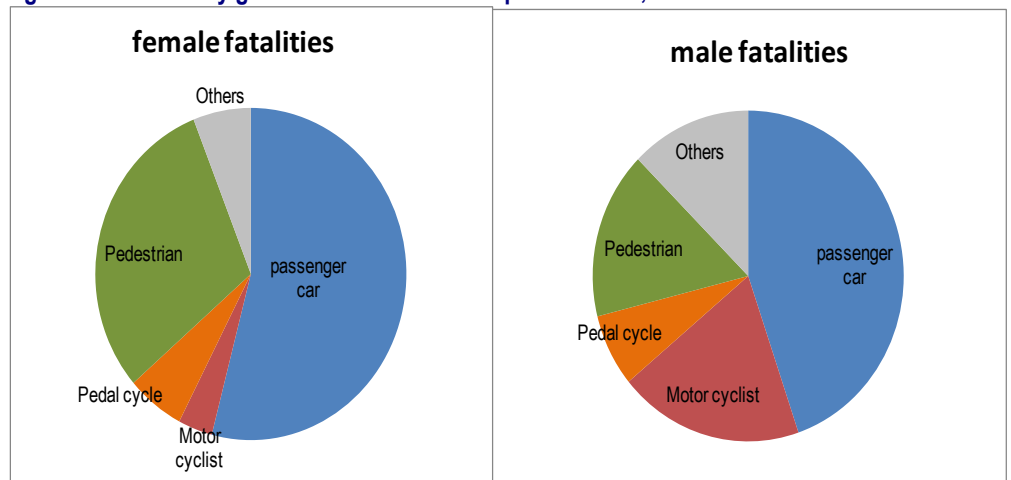
Source: CARE Database  
Date of Query: December 2011

The peak in the male fatalities is in the 25 – 34 age group (84%)

### Mode of transport and Gender

The male and female distributions of fatalities by road user type also differ (see Figure 8). In 2009<sup>1</sup> more women were killed in passenger cars, contrary to men where one fifth of fatalities were motorcycle riders. Additionally, almost twice than men female fatalities were recorded as pedestrians.

Figure 8: Fatalities by gender and mode of transport in EU-24, 2009<sup>1</sup>

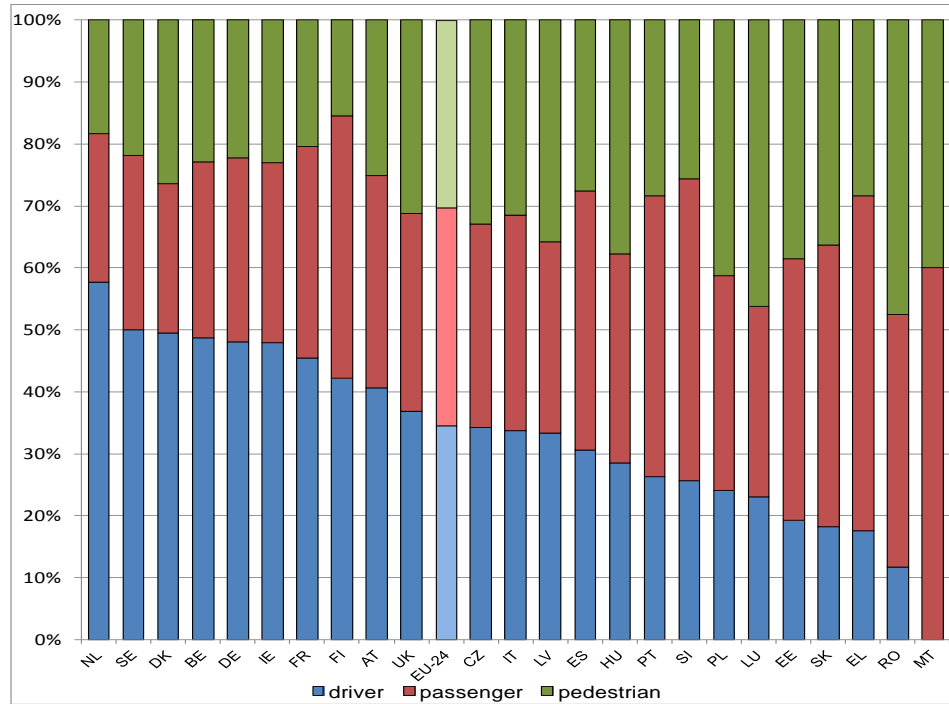


Source: CARE Database  
Date of Query: October 2011

Detailed results for person class for males and females are presented in Figures 9, 10 and Table 4.

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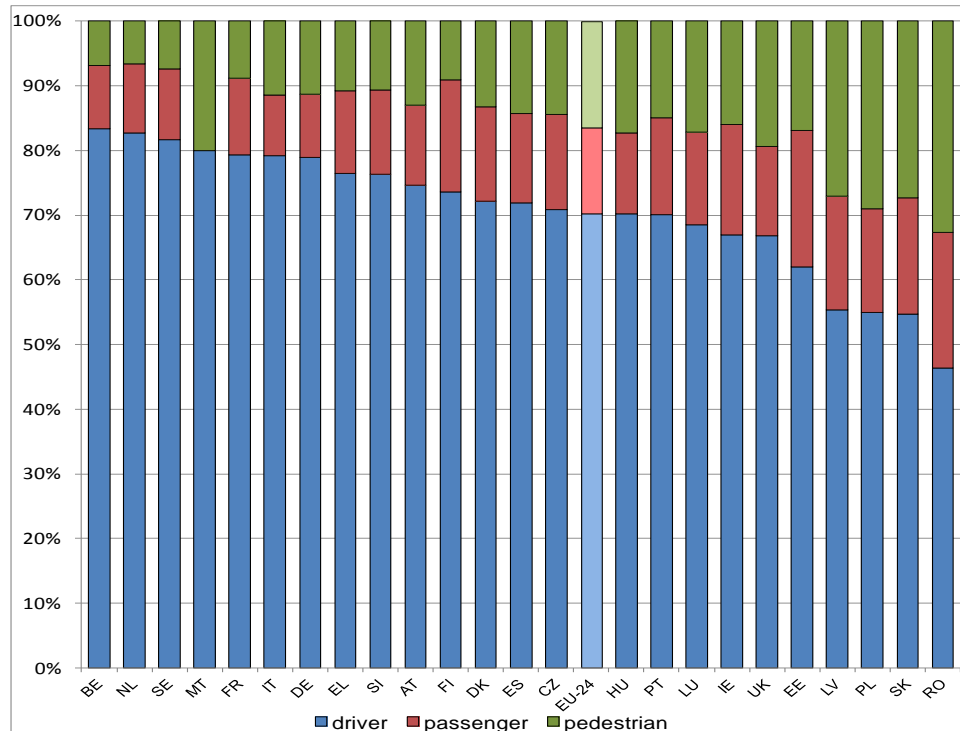
Figure 9: Percentage of female fatalities for person class, EU-24, 2009<sup>1</sup>



Source: CARE Database  
Date of query: December 2011

The proportion of fatalities in passenger cars or pedestrians is higher for females than for males

Figure 10: Percentage of male fatalities for person class, EU-24, 2009<sup>1</sup>



Source: CARE Database  
Date of query: December 2011

In EU-24 only 35% of female fatalities were drivers, compared with 70% of males

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Table 4: Number of male and female fatalities by person class, EU-24, 2009<sup>1</sup>

Country	Gender	Driver	Passenger	Pedestrian	Total
BE	female	49%	28%	23%	232
	male	83%	10%	7%	705
CZ	female	34%	33%	33%	225
	male	71%	15%	14%	658
DK	female	49%	24%	26%	91
	male	72%	15%	13%	212
DE	female	48%	30%	22%	1.102
	male	79%	10%	11%	3.050
EE	female	19%	42%	38%	26
	male	62%	21%	17%	71
IE	female	48%	29%	23%	75
	male	67%	17%	16%	199
EL	female	18%	54%	28%	250
	male	77%	13%	11%	1.201
ES	female	31%	42%	28%	621
	male	72%	14%	14%	2.087
FR	female	45%	34%	20%	1.041
	male	79%	12%	9%	3.232
IT	female	34%	35%	31%	926
	male	79%	9%	11%	3.311
LV	female	33%	31%	36%	42
	male	55%	17%	27%	166
LU	female	23%	31%	46%	13
	male	69%	14%	17%	35
HU	female	29%	34%	38%	207
	male	70%	12%	17%	612
MT	female	0%	60%	40%	5
	male	80%	0%	20%	10
NL	female	58%	24%	18%	175
	male	83%	11%	7%	468
AT	female	41%	34%	25%	155
	male	75%	12%	13%	478
PL	female	24%	35%	41%	1.109
	male	55%	16%	29%	3.456
PT	female	26%	45%	28%	173
	male	70%	15%	15%	666
RO	female	12%	41%	48%	694
	male	46%	21%	33%	2.102
SI	female	26%	49%	26%	39
	male	76%	13%	11%	131
SK	female	18%	45%	36%	88
	male	55%	18%	27%	296
FI	female	42%	42%	15%	71
	male	74%	17%	9%	208
SE	female	50%	28%	22%	110
	male	82%	11%	7%	283
UK	female	37%	32%	31%	597
	male	67%	14%	19%	1.740
EU-24	female	35%	35%	30%	8.070
	male	70%	13%	16%	25.390
IS	female	0%	67%	33%	3
	male	64%	29%	7%	14
CH	female	53%	16%	31%	80
	male	76%	11%	13%	269

The proportion of male fatalities who were drivers exceeded 80% in Belgium, Netherlands and Sweden in 2009<sup>1</sup>

Source: CARE Database  
Date of query: December 2011

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‘Surplus speed’ and ‘incorrect direction’ are recorded more frequently for male drivers/riders than females.

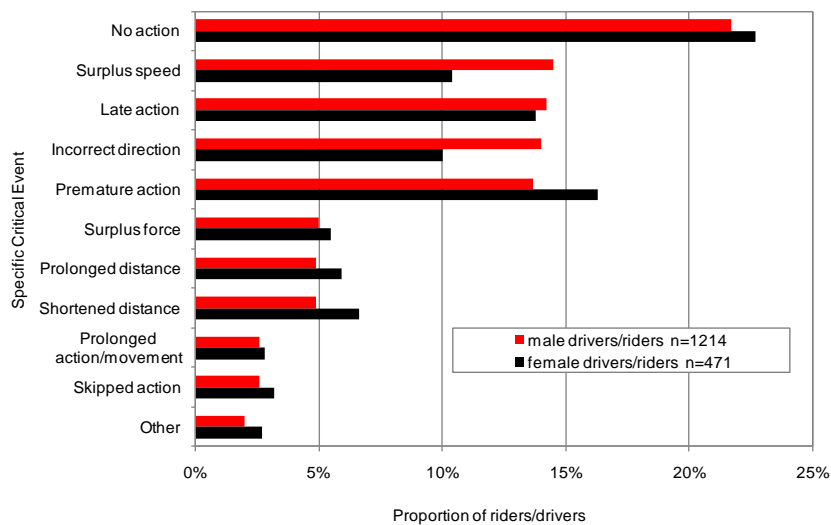
The proportion of fatalities who were drivers is much higher for males than for females. The male proportion exceeds 80% in some countries, whereas the highest female proportion is near 50% of all accidents with the exception of the Netherlands (58%). Female proportions as passengers or pedestrians are higher than male proportions in all countries. For the EU-24, 35% of all female fatalities were passengers compared with 13% of males; 31% of all female fatalities were pedestrians compared with 16% of males.

### Accident Causation

During the EC SafetyNet project, in-depth data were collected using a common methodology for samples of accidents that occurred in Germany, Italy, The Netherlands, Finland, Sweden and the UK<sup>3 4</sup>. The SafetyNet Accident Causation Database was formed between 2005 and 2008, and contains details of 1.006 accidents covering all injury severities. A detailed process for recording causation (SafetyNet Accident Causation System – SNACS) attributes one specific critical event to each driver, rider or pedestrian. Links then form chains between the critical event and the causes that led to it. For example, the critical event of late action could be linked to the cause observation missed, which was a consequence of fatigue, itself a consequence of an extensive driving spell.

In the database, 71% of the drivers or riders are male and 28% are female (1% are unknown). The male mean age is 41 years old; 62% are car drivers, 12% powered two wheeler riders and 11% HGV drivers. The female mean age is 40 years old; 82% are car drivers and 10% bicycle riders. Figure 11 compares the distribution of specific critical events for male drivers/riders to the distribution for females.

Figure 11: Distribution of specific critical events for drivers or riders by gender



N=1685

Source: SafetyNet Accident Causation Database 2005 to 2008 / EC  
Date of query: 2010

<sup>3</sup> SafetyNet D5.5, Glossary of Data Variables for Fatal and Accident Causation Databases  
<sup>4</sup> SafetyNet D5.8, In-Depth Accident Causation Database and Analysis Report

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The main differences for the most frequently recorded specific critical events are that surplus speed and incorrect direction (includes going off the road instead of following the lane) are recorded more frequently for male drivers/riders and premature action is recorded more frequently for female drivers/riders.

Table 5 gives the most frequent links between causes for male drivers/riders. For this group there are 1.378 such links in total.

**Table 5: Ten most frequent links between causes – male drivers/riders**

Links between causes	Frequency
Faulty diagnosis - Information failure (between driver and traffic environment or driver and vehicle)	232
Observation missed - Temporary obstruction to view	83
Observation missed - Distraction	78
Inadequate plan - Insufficient knowledge	75
Observation missed - Faulty diagnosis	72
Faulty diagnosis - Communication failure	66
Observation missed - Permanent obstruction to view	62
Observation missed - Inadequate plan	56
Observation missed - Inattention	56
Inadequate plan - Under the influence of substances	43
Others	555
<b>Total</b>	<b>1,378</b>

Source: SafetyNet Accident Causation Database 2005 to 2008 / EC  
Date of query: 2010

Table 5 gives both an indication of the most frequently recorded causes and the most frequently recorded links between them. Faulty diagnosis and observation missed are the two dominant causes for this group. Faulty diagnosis is linked to both information and communication failure and the causes leading to observation missed can be seen to fall into two groups, physical 'obstruction to view' type causes and driver/rider functional failures.

Inadequate plan can also be seen to be frequently recorded, most often with a link to insufficient knowledge but also linked with under the influence of substances.

As expected, with male drivers being such a high proportion of the database, the links between causes are similar to the results for car drivers overall.

17% of the links for male drivers and riders between causes are observed to be between 'faulty diagnosis' and 'information failure'.

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Table 6 gives the most frequent links between causes for female drivers/riders. For this group there are 522 such links in total.

**Table 6: Ten most frequent links between causes – female drivers/riders**

Links between causes	Frequency
Faulty diagnosis - Information failure (between driver and traffic environment or driver and vehicle)	91
Observation missed - Distraction	40
Observation missed - Temporary obstruction to view	33
Observation missed - Faulty diagnosis	31
Observation missed - Permanent obstruction to view	30
Inadequate plan - Insufficient knowledge	28
Faulty diagnosis - Communication failure	26
Observation missed - Inadequate plan	24
Observation missed - Inattention	18
Information failure (between driver and traffic environment or driver and vehicle) - State of road	13
Others	188
Total	522

Source: SafetyNet Accident Causation Database 2005 to 2008 / EC  
Date of query: 2010

The causal links for female drivers/riders are very similar to those for male drivers/riders, although, as Figure 11 shows, they do not always lead to the same critical events.

Looking at the ten most frequent links between causes for females, under the influence of substances does not feature (as with the male group), but state of the road can be seen (current road-holding characteristics) leading to information failure.

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## Disclaimer

The information in this document is provided as it is and no guarantee or warranty is given that the information is fit for any particular purpose. Therefore, the reader uses the information at their own risk and liability.

## For more information

Further statistical information about fatalities is available from the CARE database at the Directorate General for Energy and Transport of the European Commission, 28 Rue de Mot, B -1040 Brussels.

Traffic Safety Basic Fact Sheets available from the European Commission concern:

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Vehicles and  
Buses

Motorways

Junctions

Urban  
areas

Roads outside  
urban areas

Seasonality

Single vehicle  
accidents

Gender

**Country abbreviations used and definition of EU-level**

EU - 19		EU-24= EU-19 +	
BE	Belgium	EE	Estonia
CZ	Czech Republic	LV	Latvia
DK	Denmark	HU	Hungary
DE	Germany	MT	Malta
IE	Ireland	SK	Slovakia
EL	Greece		
ES	Spain		
FR	France		
IT	Italy		
LU	Luxembourg		
NL	Netherlands		
AT	Austria		
PL	Poland		
PT	Portugal		
RO	Romania		
SI	Slovenia		
FI	Finland		
SE	Sweden		
UK	United Kingdom		

Detailed data on traffic accidents are published annually by the European Commission in the Annual Statistical Report. This includes a glossary of definitions on all variables used.

More information on the DaCoTA Project, co-financed by the European Commission, Directorate-General for Mobility and Transport is available at the DaCoTA Website: <http://www.dacota-project.eu/index.html>.

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