Traffic Safety Basic Facts 2011

Pedestrians

In 2009, 6.641 pedestrians were killed in road traffic accidents in the EU-24, which is 20 % of all fatalities. In the last decade in the EU-19[1], pedestrian fatalities have reduced by 34%, while the total number of fatalities has reduced by more than 35%.

The annual data by country from 2000 to 2009 is presented in Table 1. Figure 1 shows the total number of fatalities for the same time period.

The number of pedestrians who were killed in road traffic accidents decreased by 34% from 2000 to 2009.

Table 1: Pedestrian fatalities by country by year, 2000-2009 [1][2]

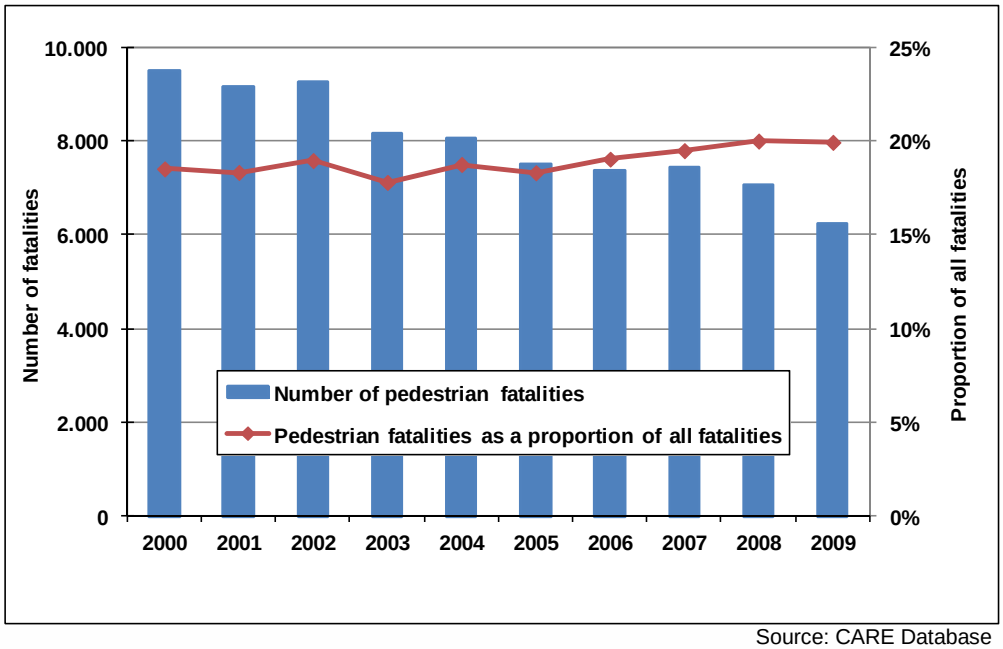
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
BE	142	158	127	113	101	108	122	104	99	101
CZ	362	322	308	290	281	298	202	232	238	176
DK	99	49	63	49	43	44	60	68	58	52
DE	993	900	873	812	838	686	711	695	653	591
IE	85	89	86	64	66	72	72	81	49	-
EL	375	338	279	257	293	234	267	255	248	202
ES	899	846	776	786	683	680	614	591	502	470
FR	838	822	866	626	581	635	535	561	548	496
IT	982	1.032	1.226	871	810	786	758	627	646	667
LU	11	11	6	7	12	2	10	7	6	12
NL	106	106	97	97	68	83	66	86	56	63
AT	140	117	160	132	132	97	110	108	102	101
PL	-	1.866	1.987	1.879	1.987	1.756	1.802	1.951	1.882	1.467
PT	384	337	339	280	233	214	156	156	155	148
RO	1.110	1.088	1.101	944	1.059	978	1.034	1.113	1.065	1.015
SI	60	42	41	38	35	37	36	32	39	24
FI	62	62	40	59	49	45	49	48	53	30
SE	73	87	58	55	67	50	55	58	45	-
UK	889	858	808	802	694	699	697	663	591	524
EU-19[2]	9.476	9.130	9.241	8.161	8.032	7.504	7.356	7.436	7.035	6.233
Yearly reduction		3,7%	-1,2%	11,7%	1,6%	6,6%	2,0%	-1,1%	5,4%	11,4%
EE	-	-	-	-	-	50	64	38	41	23
LV	-	-	-	-	197	174	153	158	105	82
HU	-	-	-	299	326	289	296	288	251	186
MT	-	-	-	-	-	6	4	3	1	4
SK	-	-	-	-	-	174	214	217	204	113
CH	-	-	-	-	95	-	-	-	59	60
IS	-	-	1	3	3	1	4	1	0	2

Source: CARE Database / EC
Date of query: December 2011

[1] See table "Definition of EU-level and used Country abbreviations" on page 19.
[2] Where a number is missing for an EU-19/24 country in a particular year, its contribution to the EU-19/24 total is estimated as the next known value.

In 2009, 6.233 pedestrians died in road traffic accidents in 19 European countries, 20% of road traffic fatalities in these countries.

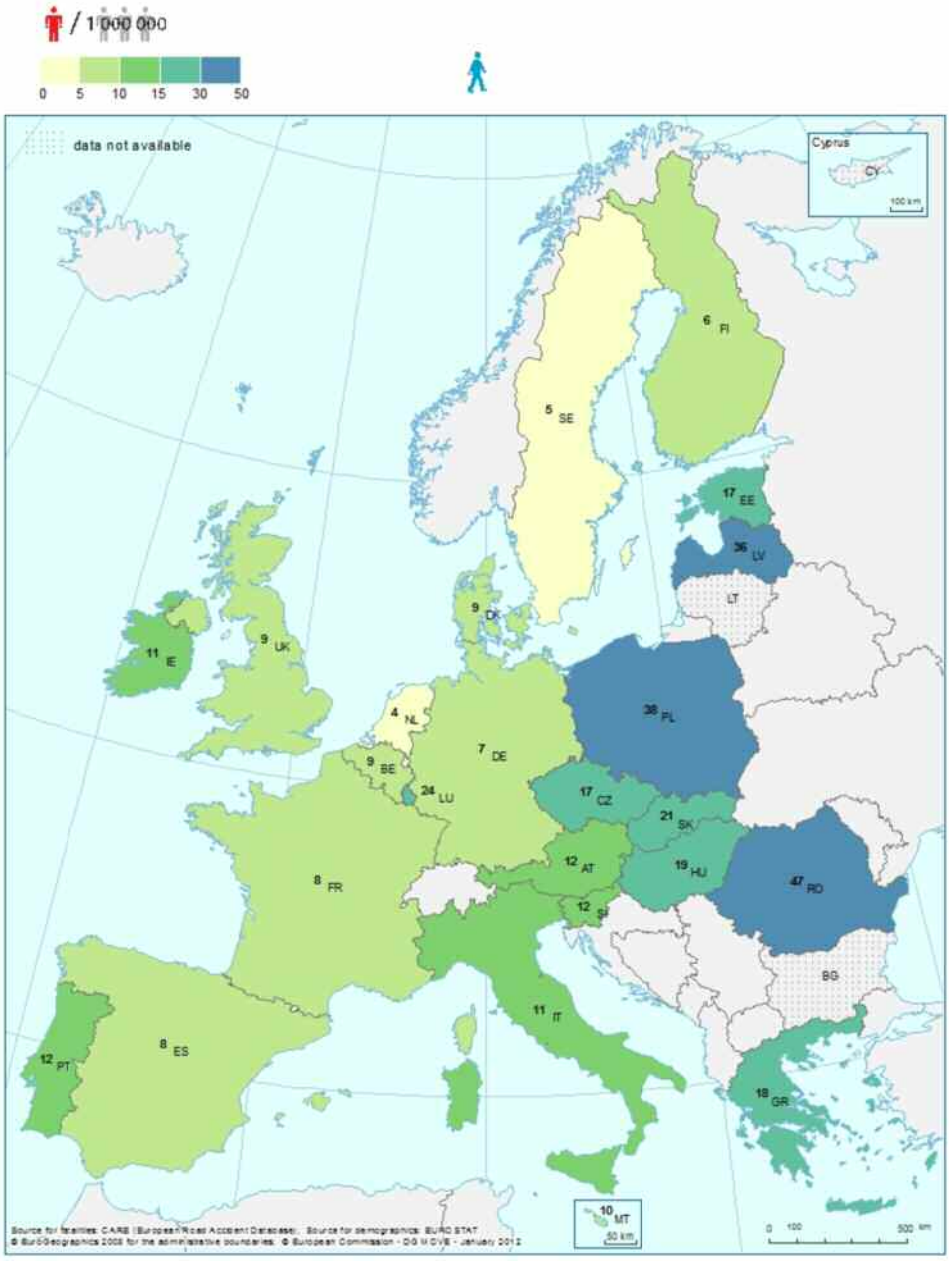
Figure 1: Number of pedestrian fatalities and proportion of total fatalities in EU-19[2], 2000-2009



Source: CARE Database
Date of Query: December 2011

To compare the pedestrian fatality numbers of different countries, Map 1 and Table 2 take account of the respective population size. The rate varies from 3,4 pedestrian fatalities per million inhabitants in the Netherlands to more than 49 pedestrian fatalities per million inhabitants in Romania and Poland, a rate which is about 15 times higher.

Map 1: Pedestrian fatalities per million inhabitants by country, 2009



The rate of pedestrian fatalities per million population is highest in Eastern European countries.

The lowest pedestrian fatality rate in 2009 was in the Netherlands (3,8) and the highest rate was in Romania (47,2).

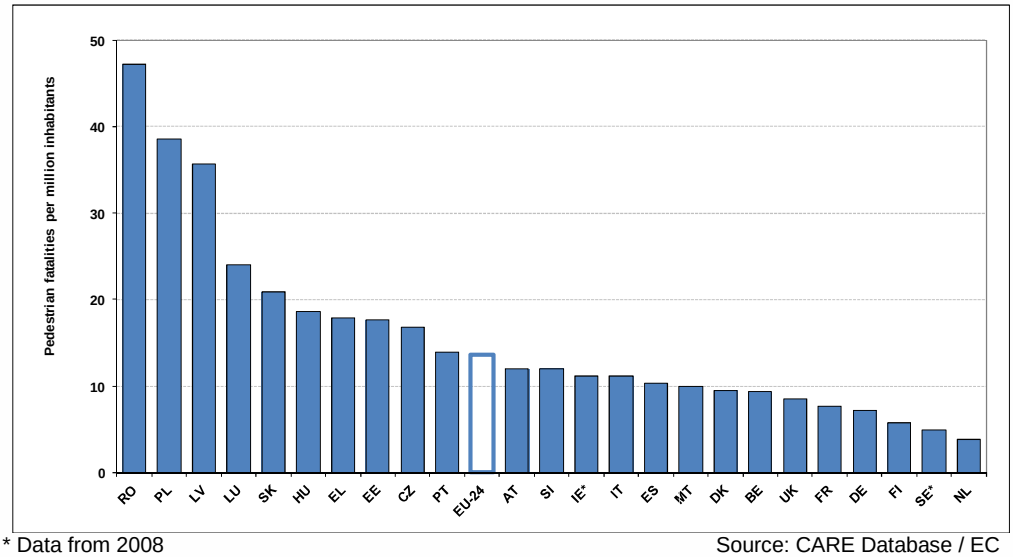
Table 2: Pedestrian fatalities per million inhabitants by country, 2009

	Pedestrian fatalities	Population [million]	Pedestrian fatalities per million inhabitants
BE	101	10,8	9,4
CZ	176	10,5	16,8
DK	52	5,5	9,5
DE	591	82,0	7,2
EE	23	1,3	17,7
IE*	49	4,4	11,1
EL	202	11,3	17,9
ES	470	45,8	10,3
FR	496	64,4	7,7
IT	667	60,0	11,1
LV	82	2,3	35,7
LU	12	0,5	24,0
HU	186	10,0	18,6
MT	4	0,4	10,0
NL	63	16,5	3,8
AT	101	8,4	12,0
PL	1.467	38,1	38,5
PT	148	10,6	14,0
RO	1.015	21,5	47,2
SI	24	2,0	12,0
SK	113	5,4	20,9
FI	30	5,3	5,7
SE*	45	9,2	4,9
UK	524	61,6	8,5
EU-24	6.641	487,8	13,6
CH	60	7,7	7,8
IS	2	0,3	6,7

* Data from 2008
Source of population data: EUROSTAT

Source: CARE Database / EC
Date of query: December 2011

Figure 2: Pedestrian fatalities per million inhabitants by country, 2009



* Data from 2008
Source of population data: EUROSTAT

Source: CARE Database / EC
Date of Query: December 2011

The proportion of road traffic fatalities in each country who were pedestrians is shown in Table 3. The proportion is lowest in The Netherlands (10%) compared to Romania, Latvia and Poland with more than 30% (see Figure 4). The EU-24 average is 20%.

The proportion of fatalities who were pedestrians differs widely across Europe.

Table 3: Pedestrian fatalities as a percentage of total fatalities, 2009

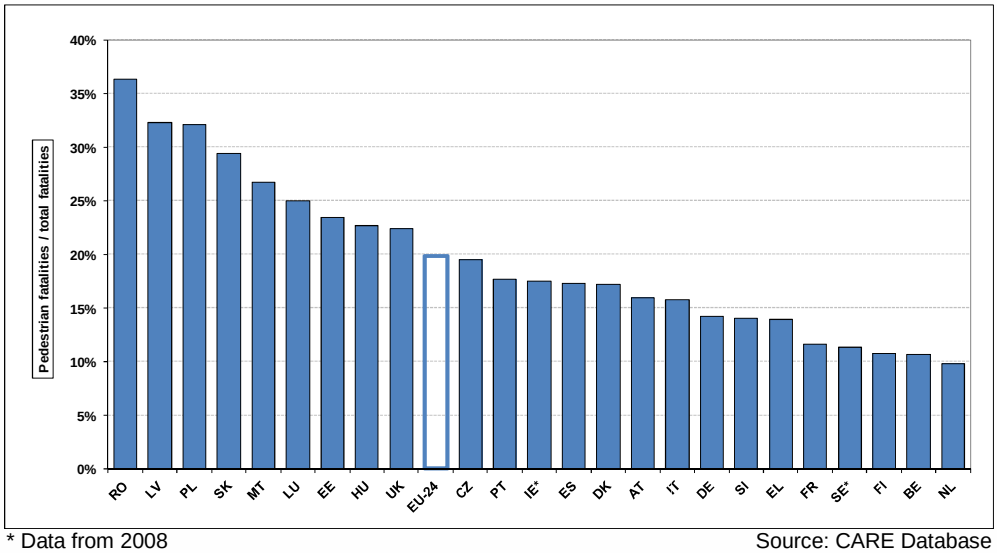
	Pedestrian fatalities	Total fatalities	Proportion
BE	101	944	11%
CZ	176	901	20%
DK	52	303	17%
DE	591	4.152	14%
EE	23	98	23%
IE*	49	280	18%
EL	202	1.456	14%
ES	470	2.714	17%
FR	496	4.273	12%
IT	667	4.237	16%
LV	82	254	32%
LU	12	48	25%
HU	186	822	23%
MT	4	15	27%
NL	63	644	10%
AT	101	633	16%
PL	1.467	4.572	32%
PT	148	840	18%
RO	1.015	2.796	36%
SI	24	171	14%
SK	113	384	29%
FI	30	279	11%
SE*	45	397	11%
UK	524	2.337	22%
EU-24	6.641	33.550	20%
CH	60	349	17%
IS	2	17	12%

* Data from 2008

Source: CARE Database / EC
Date of query: December 2011

In three Eastern European countries - Romania, Latvia and Poland - about one third of all fatalities were pedestrians.

Figure 3: Pedestrian fatalities as a percentage of total fatalities, 2009



* Data from 2008

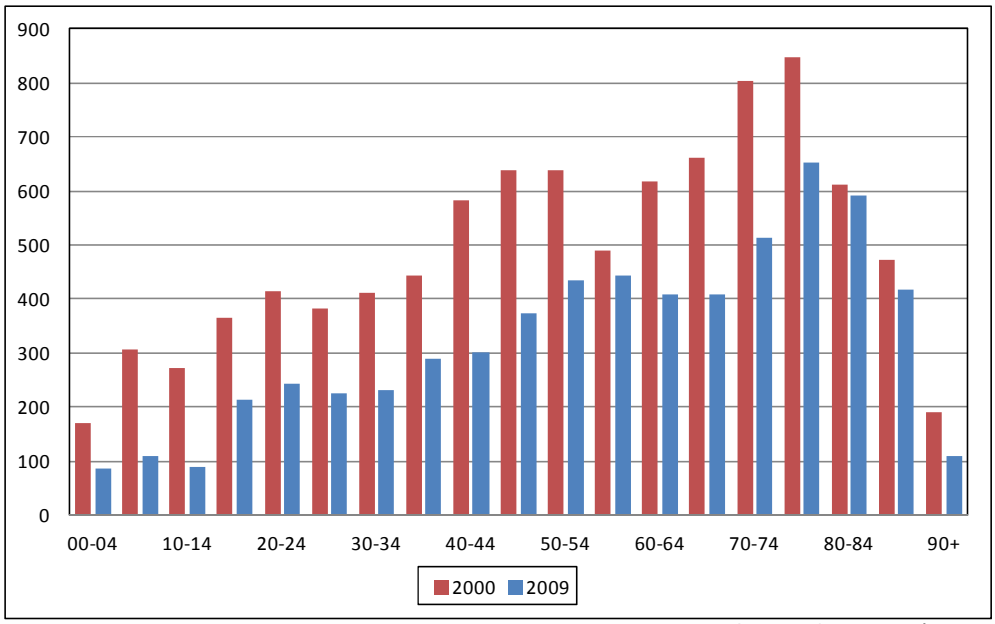
Source: CARE Database
Date of Query: December 2011

Age and gender

The elderly form the largest group in pedestrian fatalities. The number of the elderly (aged >64) pedestrian fatalities decreased by 25% in the EU-19 between 2000 and 2009, from 3.587 to 2.690 people, while the total pedestrian fatality decreased by 34%. The change in the number of pedestrian fatalities from 2000 to 2009 by age group is presented in Figure 4.

The number of pedestrian fatalities peaks at the age of 75-79.

Figure 4: The number of pedestrian fatalities by age group, EU-19[2], 2000 and 2009

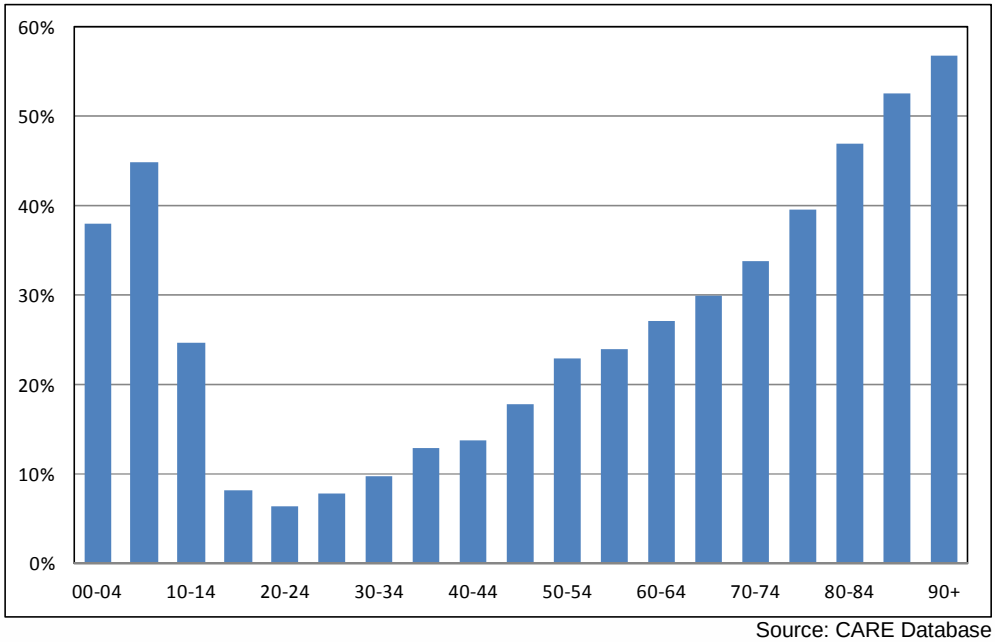


Source: CARE Database
Date of Query: December 2011

The proportion of pedestrian fatalities is higher for children and the elderly than for other age groups.

The proportion of fatalities who were pedestrians is high for children as well as the elderly (see Figure 4). A reason for this could be the lower level of motorization in these age groups. Table 4, Figure 5, and Figure 6 show that the elderly are a very important group when dealing with pedestrian road safety.

Figure 5: Pedestrian fatalities as a percentage of all fatalities by age group, EU-24[2], 2009



Source: CARE Database
Date of Query: December 2011

Although a relatively high proportion of pedestrian fatalities were children, Figure 6 shows that the fatality rate for children is below the average rate (13,6 pedestrian fatalities by million inhabitants). The pedestrian fatality rate of the elderly is well above average, and rises quickly from the age of 70 until 90. Table 4 shows the numbers of child and elderly pedestrian fatalities.

In Italy, Germany, Slovenia and France more than half of all pedestrian fatalities were elderly

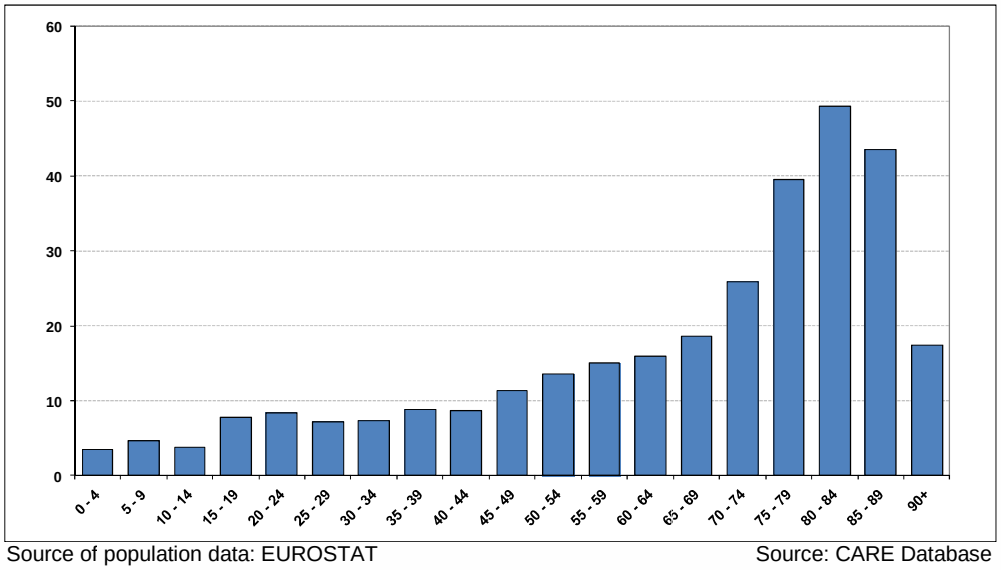
Table 4: Child (age 0-14) and elderly (age >64) pedestrian fatalities, 2009

	Child pedestrian fatalities (age 0-14)	Elderly pedestrian fatalities (age >64)	Other pedestrian fatalities of known age	Total
BE	5%	47%	49%	101
CZ	4%	37%	59%	176
DK	6%	37%	58%	52
DE	4%	57%	39%	591
EE	13%	35%	48%	23
IE*	16%	33%	51%	49
EL	5%	49%	39%	202
ES	5%	44%	48%	470
FR	5%	53%	42%	496
IT	2%	57%	37%	667
LV	5%	26%	63%	82
LU	25%	42%	33%	12
HU	2%	37%	61%	186
MT	0%	50%	50%	4
NL	11%	43%	46%	63
AT	4%	49%	48%	101
PL	3%	32%	63%	1.467
PT	6%	50%	44%	148
RO	6%	40%	53%	1.015
SI	0%	54%	46%	24
SK	6%	22%	56%	113
FI	3%	50%	47%	30
SE*	2%	42%	56%	45
UK	6%	36%	58%	524
EU-24	5%	42%	51%	6.641
CH	13%	52%	35%	60
IS	0%	0%	100%	2

* Data from 2008

Source: CARE Database / EC
Date of query: December 2011

Figure 6: Pedestrian fatalities per million inhabitants by age group, 2009, EU-24[2]



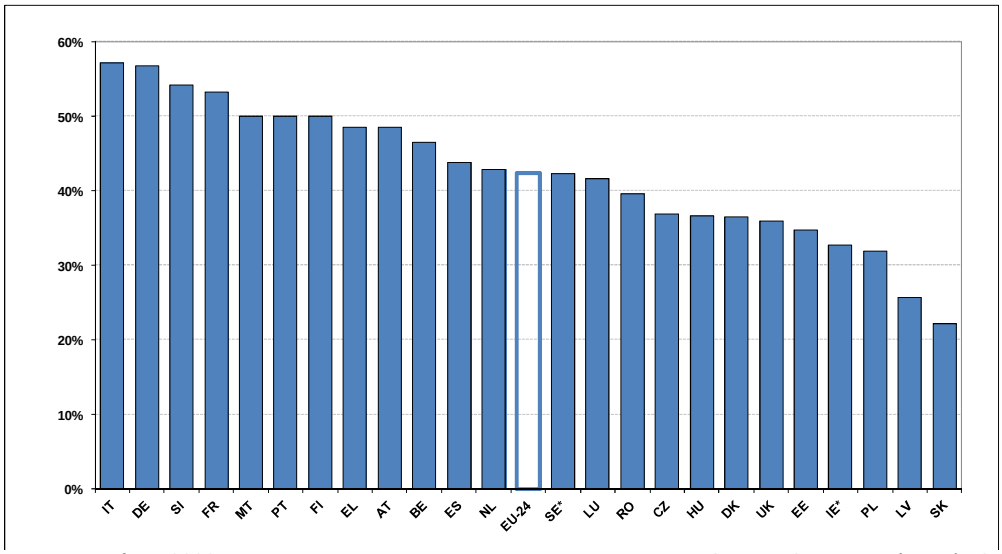
Source of population data: EUROSTAT

Source: CARE Database
Date of Query: December 2011

The fatality rate of pedestrians aged at least 80 years old is more than ten times the rate for children

Figure 7 shows the variation of the percentage of pedestrian fatalities who were elderly between countries. More than half of all pedestrian fatalities in Italy, Germany, Slovenia and France were elderly, compared with about one third in Estonia, Ireland and Poland. Latvia and Slovakia have the lowest rate with only 26% and 22% of pedestrian fatalities who were elderly. The European average is 42%.

Figure 7: Elderly pedestrian fatalities (age >64) as a percentage of all pedestrian fatalities, 2009



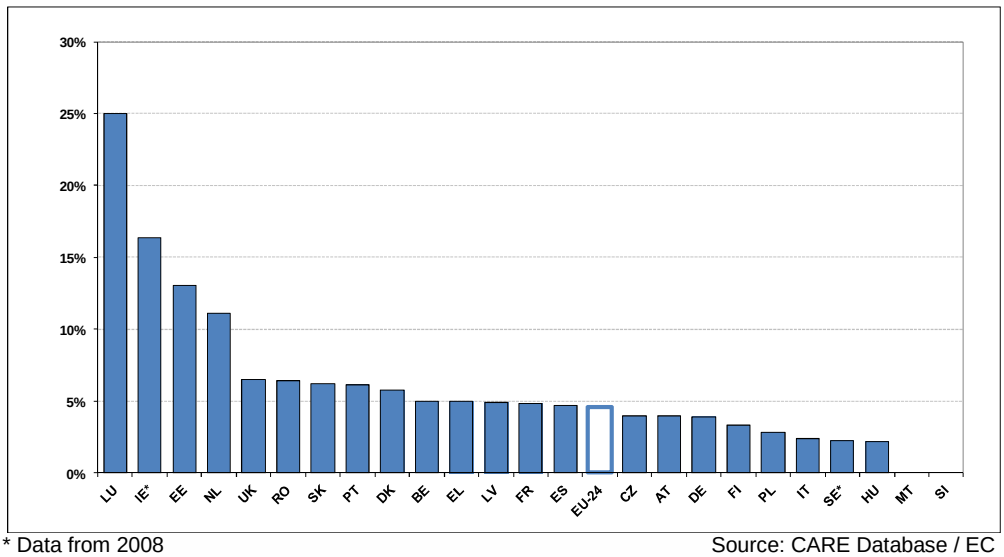
* Data from 2008

Source: CARE Database / EC
Date of Query: December 2011

Figure 8 shows that the proportion of pedestrian fatalities who were children varies widely among the EU-23 countries. 16% of pedestrian fatalities in Ireland were children, compared with 2% in Sweden and Hungary and 0% in Slovenia. Luxembourg and Malta have not been taken into account in the analysis for their low national totals.

The proportion of pedestrian fatalities in 2009 who were children varies widely among the EU-23 countries.

Figure 8: Child pedestrian fatalities (age 0-14) as a percentage of all pedestrian fatalities, 2009



* Data from 2008

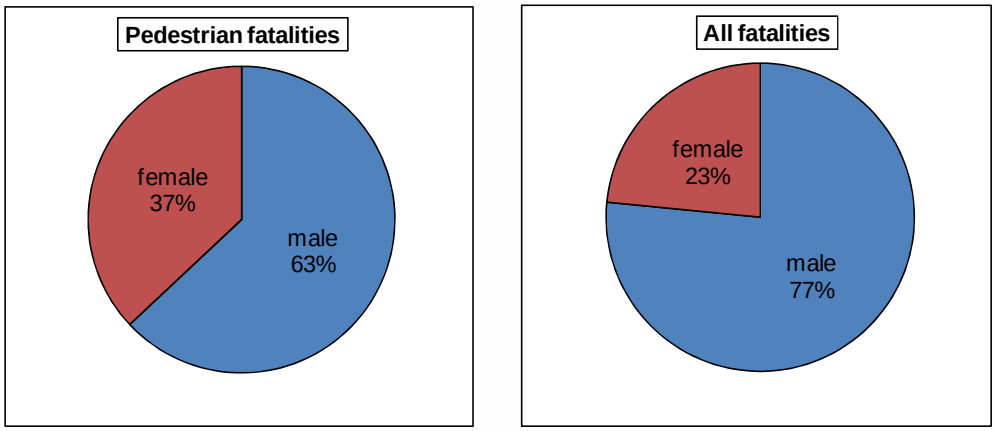
Source: CARE Database / EC
Date of Query: December 2011

Gender

Figure 9 shows the distribution of fatalities by gender, comparing pedestrian fatalities and all fatalities. More than one third of pedestrian fatalities were female, compared with less than one quarter of all fatalities. Figure 10 shows the distribution of pedestrian fatalities by gender in the different Member States.

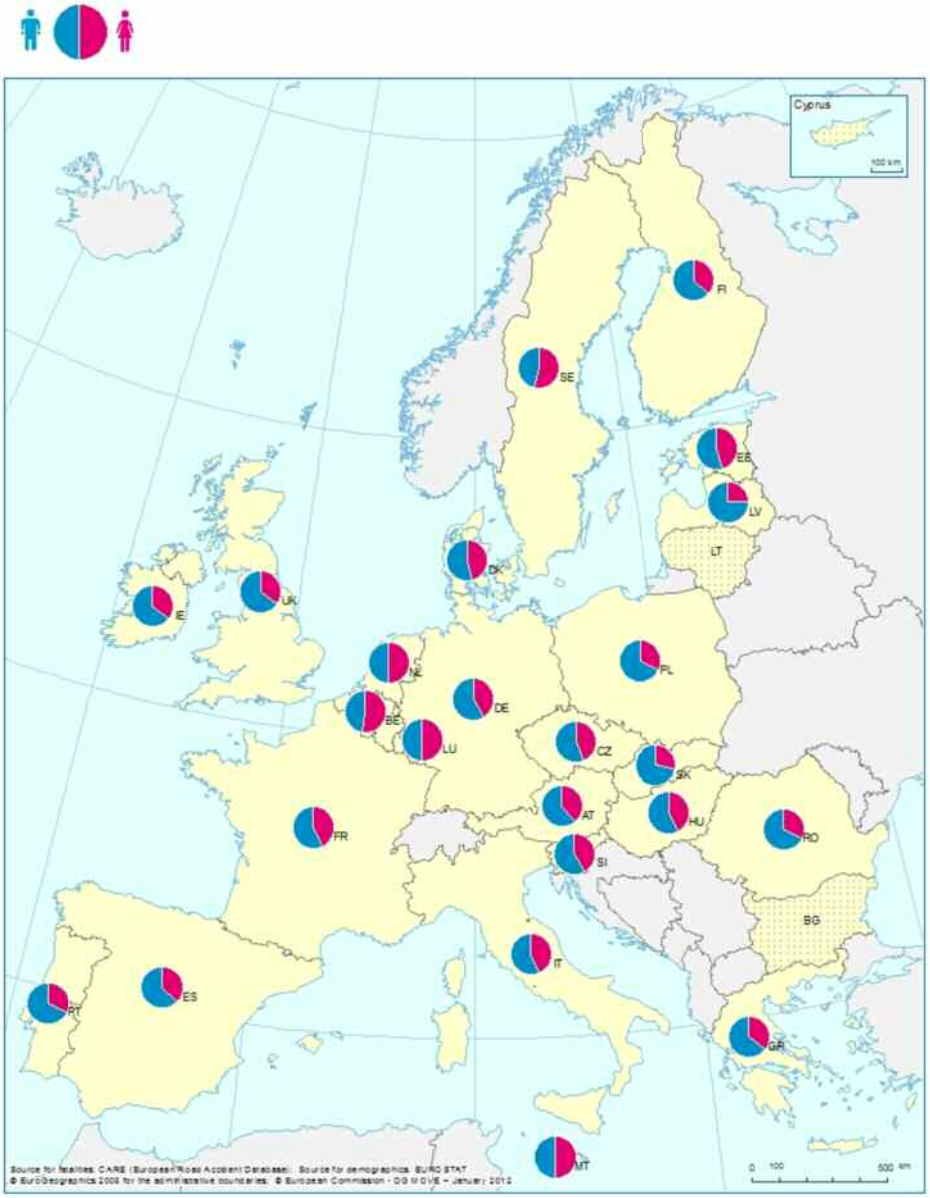
More than one third of pedestrian fatalities were female, compared with less than one quarter of all fatalities.

Figure 9: Share of pedestrian and all fatalities by gender, EU-24[2], 2009



Source: CARE Database
Date of Query: December 2011

Map 2: Pedestrian fatalities by gender by country, 2009



There were more male than female pedestrian fatalities in every EU-24 country except in the Netherlands, Belgium and Sweden.

Light conditions

Table 5 shows the distribution of fatalities by light conditions. Darkness is the condition associated with the most pedestrian fatalities: 46% of pedestrian fatalities in the EU-24 occurred in darkness. Figure 11 shows that this proportion varies between countries, from 94% in Ireland to 35% in France. Italy and Slovenia are excluded because of the high proportion of fatalities with unknown light conditions.

Nearly half of all pedestrian fatalities (46%) in EU-24 occurred in darkness.

Table 5: Pedestrian fatalities by light conditions by country, 2009

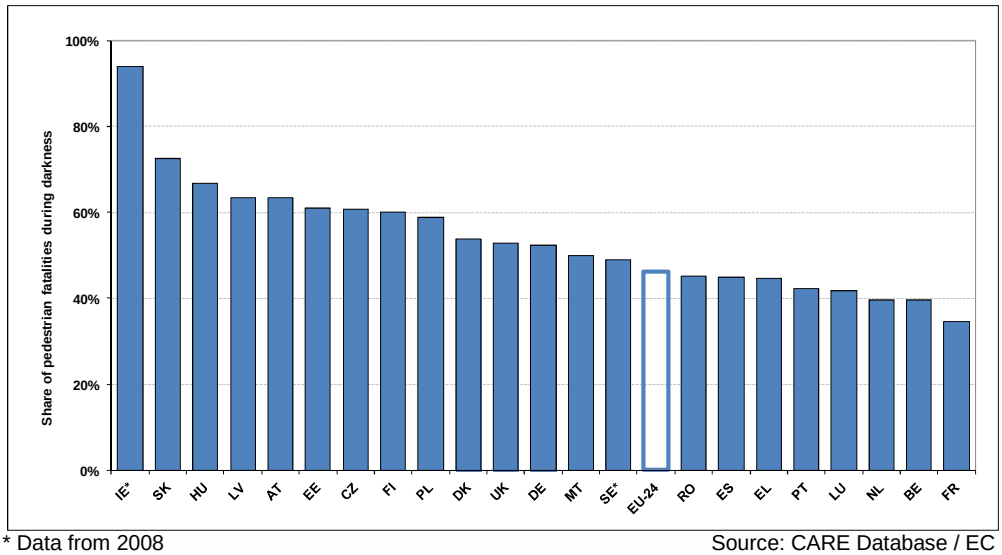
	Darkness no street lights	Darkness street lights lit	Darkness street lights unknown	Darkness street lights unlit	Daylight	Twilight	Unknown	Total
BE	-	30%	-	10%	51%	9%	0%	101
CZ	-	32%	-	29%	36%	3%	-	176
DK	25%	29%	0%	0%	42%	4%	-	52
DE	-	-	52%	-	43%	4%	-	591
EE	43%	17%	-	-	39%	-	-	23
IE*	22%	18%	53%	0%	-	-	6%	49
EL	10%	34%	-	0%	52%	3%	-	202
ES	-	29%	16%	-	51%	4%	-	470
FR	18%	16%	-	1%	59%	7%	-	496
IT	-	-	-	-	-	-	100%	667
LV	62%	1%	-	0%	29%	5%	2%	82
LU	0%	42%	-	-	42%	17%	0%	12
HU	30%	34%	-	3%	33%	-	-	186
MT	0%	50%	-	-	25%	-	25%	4
NL	11%	29%	0%	-	57%	3%	-	63
AT	-	28%	-	36%	32%	5%	-	101
PL	32%	27%	-	-	30%	12%	-	1.467
PT	14%	28%	-	-	53%	4%	1%	149
RO	17%	22%	-	6%	42%	13%	-	1.015
SI	-	-	-	-	-	-	100%	24
SK	-	33%	40%	-	22%	4%	1%	113
FI	-	40%	20%	-	37%	3%	-	30
SE*	20%	27%	2%	0%	42%	4%	4%	45
UK	14%	36%	2%	1%	47%	-	-	524
EU-24	15%	21%	7%	3%	37%	6%	11%	6.642
CH	22%	10%	-	0%	52%	8%	8%	60
IS	50%	0%	0%	-	0%	50%	0%	2

* Data from 2008

Source: CARE Database / EC
Date of Query: December 2011

The proportion of pedestrian fatalities in the darkness varies from 35% in France to 94% in Ireland.

Figure 10: Pedestrian fatalities during darkness as a proportion of all pedestrian fatalities in EU-24 (excluding Italy and Slovenia), 2009



* Data from 2008

Source: CARE Database / EC
Date of Query: December 2011

Seasonality

Table 6 shows the proportion of pedestrian fatalities in each quarter of 2009. Generally pedestrian fatalities occur most frequently from October to December and least frequently from April to June. The proportion between October and December is especially high in Estonia, Finland and the Czech Republic. The proportion of pedestrian fatalities occurring between October and December is below one quarter only in Denmark.

April to June is the period of the year with the lowest number of pedestrian fatalities. The fourth quarter is the peak quarter for pedestrian fatalities.

Table 6: Pedestrian fatalities by quarter of year by country, 2009

	January - March	April - June	July - September	October - December	Total
BE	27%	15%	27%	32%	101
CZ	25%	16%	19%	39%	176
DK	29%	25%	23%	23%	52
DE	24%	21%	19%	36%	591
EE	26%	9%	22%	43%	23
IE*	24%	18%	29%	29%	49
EL	25%	21%	24%	30%	202
ES	27%	24%	23%	26%	469
FR	24%	22%	21%	33%	496
IT	22%	22%	23%	33%	667
LV	23%	15%	29%	33%	82
LU	25%	25%	8%	42%	12
HU	23%	20%	20%	37%	186
MT	25%	0%	0%	75%	4
NL	32%	21%	19%	29%	63
AT	33%	10%	23%	35%	101
PL	24%	16%	21%	39%	1.467
PT	26%	17%	26%	30%	151
RO	19%	19%	27%	34%	1.015
SI	29%	25%	13%	33%	24
SK	32%	17%	15%	36%	113
FI	30%	17%	13%	40%	30
SE*	22%	18%	31%	29%	45
UK	30%	19%	23%	27%	524
EU-24	24%	19%	23%	34%	6.643
CH	23%	17%	23%	37%	60
IS	100%	0%	0%	0%	2

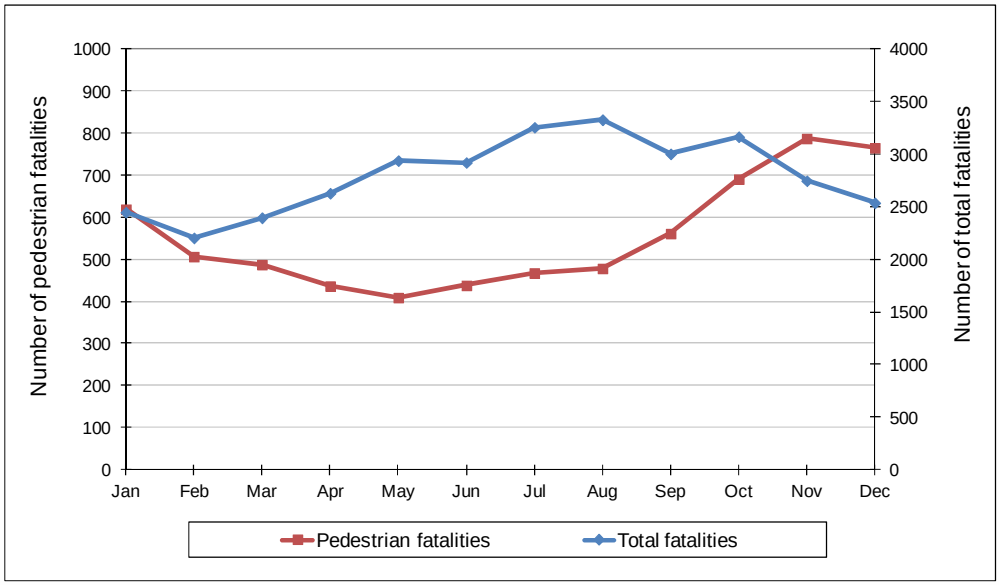
* Data from 2008

Source: CARE Database / EC
Date of Query: December 2011

Figure 11 shows that pedestrian fatalities are more seasonal than all fatalities, i.e. the number per month is more variable. The number increases during the autumn and decreases in the spring, with highest fatality numbers between October and December; whereas the peak for the total fatalities is in the summer. The increase in pedestrian fatalities during the winter is probably caused by the higher danger for pedestrians in darkness. The time of darkness/twilight is longer than in other seasons and pedestrians are much less visible than vehicles - which can use lights. The lowest pedestrian fatality numbers occur in April, May and June.

The number of pedestrian fatalities per month peaks in the winter, whereas the overall number of fatalities peaks in the summer

Figure 11: Pedestrian fatalities and total fatalities by month in EU-24[2], 2009



Source: CARE Database
Date of Query: December 2011

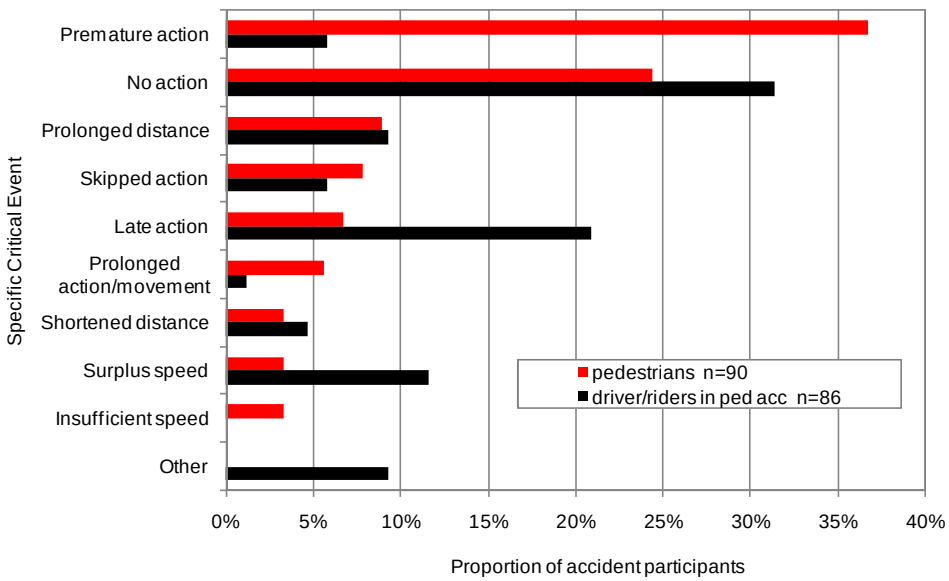
Accident Causation

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[3] [4]. 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.

The specific critical event of 'premature action' is recorded for just over one third of pedestrians in the sample.

In the database, 8% (85) of the accidents involve a pedestrian. Males account for 50% of pedestrians and the mean age is 45 years old. Figure 14 compares the distribution of specific critical events for pedestrians against the distribution for drivers/riders when they are in an accident with a pedestrian involved.

Figure 12: Distribution of specific critical events - pedestrians and driver/riders in pedestrian accidents



Source: SafetyNet Accident Causation Database 2005 to 2008 / EC
N=176
Date of query: 2010

Premature action is recorded far more frequently for pedestrians than the drivers/riders in the accident, whilst no action and, in particular, late action are recorded less frequently. Premature action describes a critical event with an action started too early, before a signal was given or required conditions established. This contrast between the participant groups indicates scenarios where a pedestrian starts an action too early or without right of way and the drivers/riders react too late or no action is undertaken, or possible.

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

Table 7 gives the most frequent links between causes for pedestrians in the dataset. For this group there are 101 such links in total.

Table 7: Ten most frequent links between causes - pedestrians

Links between causes	Frequency
Faulty diagnosis - Information failure (between driver and traffic environment or driver and vehicle)	16
Observation missed - Inadequate plan	10
Observation missed - Distraction	10
Observation missed - Temporary obstruction to view	10
Inadequate plan - Psychological stress	5
Inadequate plan - Insufficient knowledge	5
Decision error - Distraction	4
Inadequate plan - Distraction	4
Inadequate plan - Under the influence of substances	4
Observation missed - Faulty diagnosis	3
Others	30
Total	101

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

16% of the links between causes are observed to be between 'faulty diagnosis' and 'information failure'.

Table 7 gives both an indication of the most frequently recorded causes and the most frequently recorded links between them. The numbers here are low but the links are similar to those seen for driver and rider groups in other basic fact sheets, with faulty diagnosis, observation missed and inadequate plan being the common causes. Distraction is a factor in pedestrian accidents, leading to missed observations, decision errors and inadequate plans.

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:

- Main Figures
- Children (Aged <15)
- Youngsters (Aged 15-17)
- Young People (Aged 18-24)
- The Elderly (Aged >64)
- Pedestrians
- Cyclists
- Motorcycles and Mopeds
- Car occupants
- Heavy Goods 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	
BE	Belgium
CZ	Czech Republic
DK	Denmark
DE	Germany
IE	Ireland
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 (GB+NI)

EU-24 = EU-19 +	
EE	Estonia
LV	Latvia
HU	Hungary
MT	Malta
SK	Slovakia

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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