Traffic Safety Basic Facts 2010

Single vehicle accidents

The number of fatalities in single vehicle accidents in 16 European Union countries decreased by 35% between 1999 and 2008

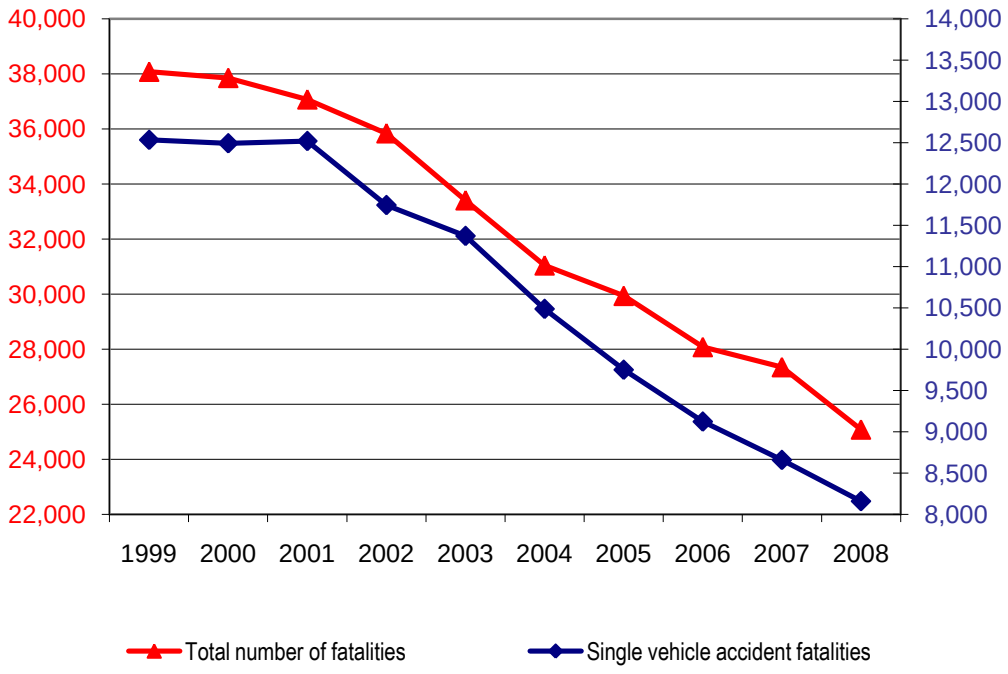
In this Basic Fact Sheet, 'single vehicle accident' or single vehicle collision is a type of road traffic accident in which only one vehicle and no other road user is involved. Run-off-road collisions, collisions with fallen rocks or debris in the road, rollover crashes within the roadway and collisions with animals are included in this category.

More than 106.000 persons were killed in single vehicle accidents, in 16 European Union countries within the decade 1999 - 2008[2]. This number represents one third of all traffic accident fatalities in those countries (33%).

The number of people killed in single vehicle accidents in 2008[1] was 35% less than in 1999. The total number of fatalities also fell by 34% in the 16 European Union countries over the same period.

More than 106.000 people in EU-16 were killed in single vehicle accidents, between 1999 and 2008, one third of all traffic accident fatalities.

Figure 1: Distribution of road traffic fatalities in the EU-16[1] 1999-2008[2]



[1] See Table "Country abbreviations used and definition of EU-level" on page 24.
[2] Using latest data available, i.e. 2008 for all countries except for CH (2004) and IE (2007).

In addition, in the EU-23 countries the number of single vehicle accident fatalities reduced by 4% within the years 2006 - 2007, whereas total fatalities reduced only by 1,3%. However, it should be noted that total fatalities in the EU-23 countries reduced by 8,4% within the years 2007-2008 whereas fatalities in single vehicle accidents reduced by only 6,6%.

Table 1 provides an overview of the evolution of single vehicle accident fatalities for the decade 1999-2008. The number of fatalities in 2008 was considerably less than in 2007 in Estonia (54%) and Slovenia (34%), but there was a considerable increase in the Netherlands (58%) and Denmark (26%). The greatest reduction in single vehicle fatalities between 1999 and 2008 occurred in France (47%) and Spain (45%).

The reduction of total fatalities in the EU-23 countries in 2008 was 8,4%, whereas the reduction in single vehicle accidents was 6,6%

Table 1: Single vehicle accident fatalities per country 1999-2008[2]

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BE	570	589	612	524	519	567	482	471	465	423
CZ	494	479	398	448	499	423	402	343	427	326
DK	136	115	114	141	111	86	75	72	89	112
DE	-	2.408	2.273	2.289	2.255	1.905	1.763	1.638	1.566	1.390
EE	-	-	-	-	-	-	47	62	79	36
IE*	139	127	122	116	104	135	*135*	*135*	37	*37*
EL	730	728	658	542	570	602	632	637	613	571
ES	2.054	2.038	2.000	1.892	1.907	1.713	1.558	1.451	1.327	1.129
FR	2.996	2.885	3.039	2.821	2.387	2.125	1.959	1.778	1.709	1.576
IT	1.964	1.977	2.050	1.851	1.990	1.690	1.681	1.650	1.445	1.295
LV	-	-	-	-	-	-	-	116	99	119
LU	35	38	30	30	17	18	24	19	19	14
HU	-	-	-	-	300	291	302	320	294	244
NL	352	352	313	345	341	187	177	158	154	244
AT	405	380	425	352	325	324	282	268	243	252
PL	-	-	1.235	1.363	1.317	1.225	1.299	1.263	1.484	1.451
PT	645	617	587	557	522	447	482	383	381	365
RO	962	1.003	1.006	955	886	1.001	701	599	712	885
SI	-	75	58	62	47	61	47	56	65	43
SK	-	-	-	-	-	-	342	348	175	165
FI	126	121	123	133	106	118	127	127	116	124
SE	216	205	205	189	194	188	186	158	169	153
UK	710	839	838	848	893	865	848	875	754	655
EU-16	12.534	12.492	12.520	11.745	11.371	10.488	9.751	9.124	8.660	8.160
EU-23	-	-	-	-	-	-	-	12.927	12.422	11.608
yearly change (EU-16)	-	-0,3%	0,2%	-6,2%	-3,2%	-7,8%	-7,0%	-6,4%	-5,1%	-5,8%
CH**	-	-	-	-	-	172	*172*	*172*	*172*	*172*

*Data from 2007

**Data from 2004

Source: CARE Database / EC

Date of query: November 2010

Table 2 provides the percentage of single vehicle accident fatalities per total fatalities in the EU-16/23 for the decade 1999-2008. For the last three years 2006-2008, the percentage of single vehicle accident fatalities per total fatalities remained about 31% for the EU-23 countries. In 2008, the percentage of single vehicle accident fatalities per total fatalities was 31% in the EU-23 countries, as shown in Table 2.

The proportion of fatalities occurring in single vehicle accidents remained about 31% for the EU-23 countries during 2006-2008

Table 2: Percentage of single vehicle accident fatalities per total fatalities in the EU -16/23, 1999-2008[2]

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BE	40,8%	40,1%	41,2%	40,1%	42,8%	48,8%	44,3%	44,1%	43,4%	44,8%
CZ	34,0%	32,2%	29,9%	31,3%	34,5%	30,6%	31,3%	32,3%	35,0%	30,3%
DK	26,5%	23,1%	26,5%	30,5%	25,7%	23,3%	22,7%	23,5%	21,9%	27,6%
DE	-	32,1%	32,6%	33,5%	34,1%	32,6%	32,8%	32,2%	31,6%	31,0%
EE	-	-	-	-	-	-	27,6%	30,4%	40,3%	27,3%
IE*	33,6%	30,4%	29,6%	30,7%	30,9%	35,8%	*33,8%*	*37,0%*	10,9%	*13,2%*
EL	34,5%	35,7%	35,0%	33,2%	35,5%	36,0%	38,1%	38,4%	38,0%	36,8%
ES	35,8%	35,3%	36,3%	35,4%	35,3%	36,1%	35,1%	35,4%	34,7%	36,4%
FR	35,3%	35,7%	37,2%	36,9%	39,4%	38,4%	36,8%	37,8%	37,0%	36,9%
IT	29,4%	28,0%	28,9%	26,5%	30,3%	27,6%	28,9%	29,1%	28,2%	27,4%
LV	-	-	-	-	-	-	-	28,5%	23,6%	37,7%
LU	60,3%	50,0%	42,9%	48,4%	32,1%	36,0%	51,1%	44,2%	41,3%	40,0%
HU	-	-	-	-	22,6%	22,5%	23,6%	24,6%	23,9%	24,5%
NL	32,3%	32,5%	31,5%	35,0%	33,2%	23,3%	23,6%	21,6%	21,7%	36,0%
AT	37,5%	38,9%	44,4%	36,8%	34,9%	36,9%	36,7%	36,7%	35,2%	37,1%
PL	-	-	22,3%	23,4%	23,3%	21,4%	23,9%	24,1%	26,6%	26,7%
PT	32,3%	33,2%	35,1%	33,3%	33,8%	34,5%	38,7%	39,5%	39,1%	41,2%
RO	39,0%	40,7%	41,1%	39,6%	39,7%	41,0%	26,7%	23,2%	25,4%	28,9%
SI	-	23,9%	20,9%	23,0%	19,4%	22,3%	18,2%	21,4%	22,2%	20,1%
SK	-	-	-	-	-	-	56,4%	56,7%	26,5%	27,2%
FI	29,2%	30,6%	28,4%	32,0%	28,0%	31,5%	33,5%	37,8%	30,5%	36,0%
SE	37,2%	34,7%	35,2%	33,8%	36,7%	39,2%	42,3%	35,5%	35,9%	38,5%
UK	19,9%	23,4%	23,3%	23,7%	24,4%	25,7%	25,4%	26,5%	24,6%	24,8%
EU-16	32,9%	33,0%	33,8%	32,8%	34,0%	33,8%	32,6%	32,5%	31,7%	32,5%
EU-23	-	-	-	-	-	-	-	31,4%	30,5%	31,2%
CH**	-	-	-	-	-	33,7%	*33,7%*	*33,7%*	*33,7%*	*33,7%*

*Data from 2007

**Data from 2004

Source: CARE Database / EC

Date of query: November 2010

Although on average one third of the overall fatalities in the EU-23 in 2008 occurred in single vehicle accidents, the proportion was only 20% in Slovenia and 45% in Belgium. Figure 2 shows that the number of fatalities in single vehicle accidents in the EU-16 reduced steadily from 2001 to 2008, whereas the proportion of all fatalities that occurred in single vehicle accidents has not followed the same trend, especially in 2008 the proportion increased.

Figure 2: Proportion of all fatalities that occurred in single vehicle accidents and single vehicle accident fatalities in the EU-16, 1999-2008[2]

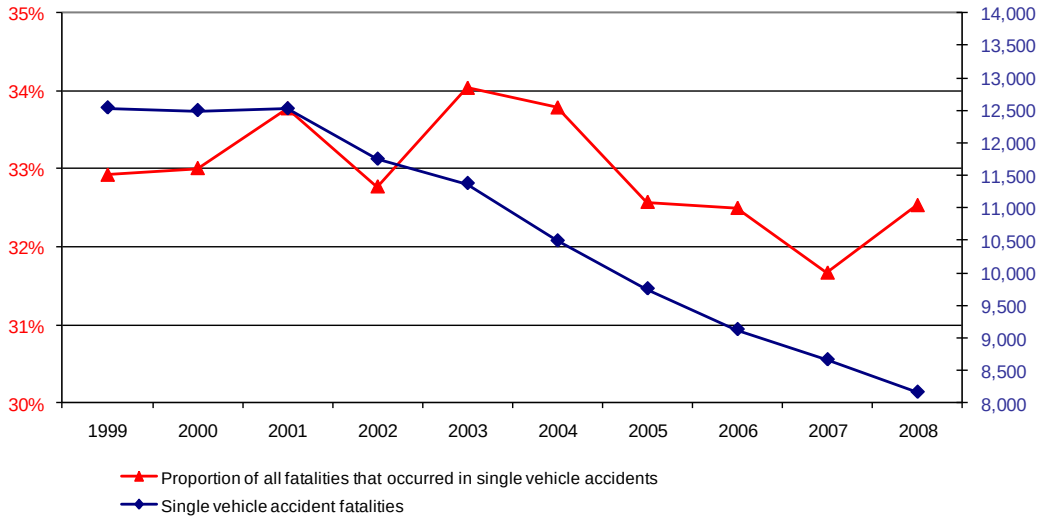


Table 3: Single vehicle accident fatalities per million inhabitants in the EU -16/23, 1999-2008[2]

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BE	55,8	57,5	59,6	50,8	50,1	54,5	46,1	44,8	43,9	39,7
CZ	48,0	46,6	38,8	43,9	48,9	41,4	39,3	33,5	41,5	31,4
DK	25,6	21,6	21,3	26,3	20,6	15,9	13,9	13,3	16,3	20,5
DE	-	29,3	27,6	27,8	27,3	23,1	21,3	19,9	19,0	16,9
EE	-	-	-	-	-	-	34,9	46,1	58,8	26,8
IE*	37,2	33,6	31,8	29,7	26,2	33,5	*32,9*	*32,1*	8,6	*8,4*
EL	67,2	66,8	60,2	49,4	51,8	54,5	57,0	57,3	54,9	50,9
ES	51,6	50,9	49,4	46,2	45,8	40,4	36,2	33,2	29,8	24,9
FR	49,8	47,6	49,8	45,9	38,6	34,1	31,2	28,2	26,9	24,6
IT	34,5	34,7	36,0	32,5	34,7	29,2	28,8	28,1	24,4	21,7
LV	-	-	-	-	-	-	-	50,6	43,4	52,4
LU	81,9	87,6	68,3	67,6	37,9	39,6	52,0	40,5	39,9	28,9
HU	-	-	-	-	29,6	28,8	29,9	31,8	29,2	24,3
NL	22,3	22,2	19,6	21,4	21,1	11,5	10,9	9,7	9,4	14,9
AT	50,7	47,5	53,0	43,7	40,1	39,8	34,4	32,5	29,3	30,3
PL	-	-	32,3	35,6	34,5	32,1	34,0	33,1	38,9	38,1
PT	63,6	60,5	57,2	54,0	50,2	42,7	45,8	36,2	35,9	34,4
RO	42,8	44,7	44,8	43,7	40,7	46,1	32,4	27,7	33,0	41,1
SI	-	37,7	29,1	31,1	23,6	30,6	23,5	28,0	32,3	21,4
SK	-	-	-	-	-	-	63,5	64,6	32,4	30,5
FI	24,4	23,4	23,7	25,6	20,4	22,6	24,3	24,2	22,0	23,4
SE	24,4	23,1	23,1	21,2	21,7	20,9	20,6	17,5	18,5	16,7
UK	12,1	14,3	14,2	14,3	15,0	14,5	14,1	14,5	12,4	10,7
EU-16	38,4	38,1	38,0	35,6	34,2	31,4	28,9	26,9	25,4	23,7
EU-23	-	-	-	-	-	-	-	26,9	25,7	23,9
CH**	-	-	-	-	-	23,4	*23,2*	*23,1*	*22,9*	22,7

*Data from 2007

**Data from 2004

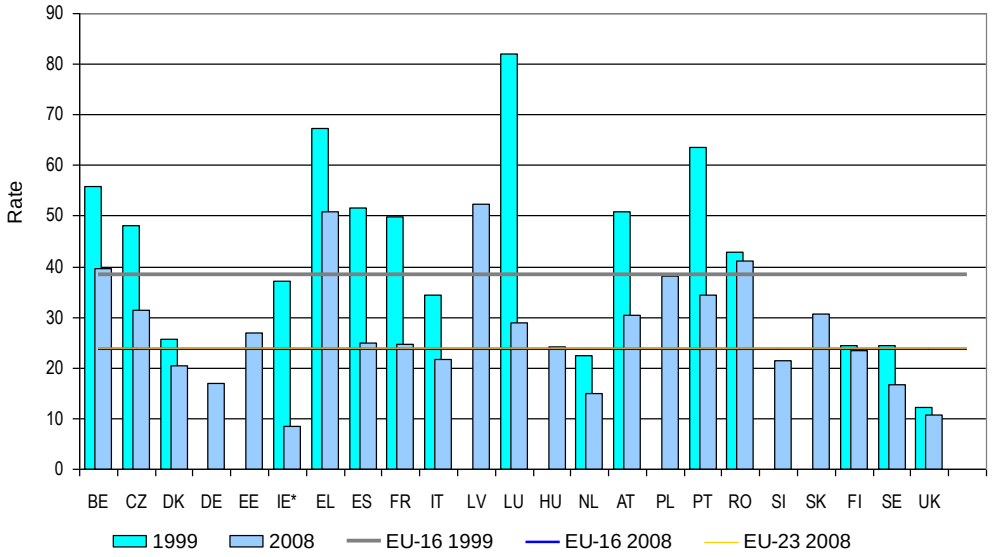
Source: CARE Database / EC

Date of query: November 2010

The greatest reduction of the single vehicle accident fatality rate over the decade1999-2008 occurred in Spain (52%)

Greece and Latvia had the highest single vehicle fatality rate in 2008

Figure 3: Single vehicle accident fatalities per million inhabitants, 1999 and 2008[2]



*Data from 2007

**Data from 2004

Source: CARE Database / EC

Date of query: November 2010

Source of population data: Eurostat

Figure 3 compares the rates of fatalities in single vehicle accidents per million inhabitants in 1999 and 2008. The average rate decreased by 38% between 1999 and 2008 in the EU-16 countries from 38,4 per million inhabitants in 1999 to 23,7 in 2008. The fatality rate for the EU-23 countries for 2008 is almost the same as the rate for the EU-16 countries, as shown in Table 3 and Figure 3. Greece and Latvia had the highest single vehicle fatality rates (over 50) in 2008 whereas the United Kingdom had the lowest rate (10,7). The most significant reduction of the single vehicle accident fatality rate over the decade 1999-2008 occurred in Spain (52%). IE and LU were not taken into account in the comparison.

Age and Person Class

Table 4: Distribution of driver fatalities in single and non-single vehicle accidents by age, EU-23, 2008[2]

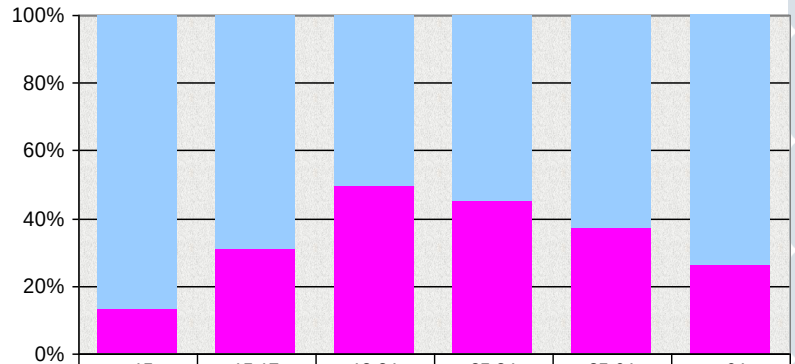
	"Single vehicle accident" driver fatalities						"Non-single vehicle accident" driver fatalities					
	<15	15-17	18-24	25-34	35-64	>64	<15	15-17	18-24	25-34	35-64	>64
BE	1%	1%	22%	24%	40%	12%	2%	2%	15%	19%	42%	19%
CZ	0%	0%	25%	32%	36%	7%	1%	1%	16%	24%	42%	17%
DK	1%	2%	23%	21%	42%	11%	1%	4%	13%	15%	40%	27%
DE	0%	2%	29%	18%	37%	14%	1%	3%	17%	15%	41%	23%
EE	0%	0%	38%	8%	42%	13%	0%	3%	18%	18%	41%	21%
IE*	0%	0%	26%	37%	33%	4%	2%	2%	21%	23%	39%	13%
EL	0%	2%	19%	30%	37%	11%	1%	3%	18%	27%	35%	16%
ES	0%	1%	20%	27%	42%	9%	1%	3%	14%	25%	42%	15%
FR	0%	2%	28%	22%	37%	12%	1%	3%	20%	20%	38%	17%
IT	0%	2%	19%	27%	36%	16%	1%	3%	12%	21%	41%	22%
LV	0%	6%	21%	23%	47%	3%	3%	3%	10%	20%	42%	20%
LU	0%	0%	36%	27%	36%	0%	0%	0%	25%	19%	38%	19%
HU	0%	3%	17%	27%	49%	4%	0%	2%	9%	23%	47%	19%
NL	0%	2%	20%	31%	34%	13%	4%	6%	13%	7%	37%	32%
AT	0%	2%	25%	15%	40%	17%	0%	4%	20%	8%	45%	24%
PL	0%	2%	30%	29%	35%	4%	1%	1%	16%	21%	42%	18%
PT	0%	0%	14%	24%	47%	15%	0%	0%	13%	27%	40%	19%
RO	1%	1%	21%	28%	43%	6%	1%	2%	13%	23%	48%	14%
SI	3%	3%	13%	33%	48%	3%	0%	3%	22%	17%	44%	13%
SK	0%	2%	35%	31%	30%	1%	2%	1%	14%	17%	35%	32%
FI	0%	8%	19%	17%	34%	22%	0%	5%	16%	13%	38%	29%
SE	1%	0%	23%	18%	42%	16%	1%	3%	11%	11%	41%	33%
UK	0%	4%	26%	26%	34%	10%	1%	5%	20%	15%	43%	16%
EU-23	0%	2%	24%	25%	38%	11%	1%	3%	16%	19%	41%	20%
CH**	1%	1%	31%	20%	36%	10%	2%	6%	18%	16%	41%	19%

*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Figure 4 shows that almost half of driver fatalities aged 18-24 years old are killed in single vehicle accidents. In addition, 38% of drivers who were killed in single vehicle accidents were aged 35-64, whereas the proportion is 41% for non-single vehicle accidents.

Figure 4: Proportion of driver fatalities per age group in single and non single vehicle accidents in the EU-23, 2008[2]



	<15	15-17	18-24	25-34	35-64	>64
Non-single vehicle accidents fatalities	138	388	2.116	2.609	5.509	2.645
Single vehicle accidents fatalities	21	173	2.062	2.138	3.283	933

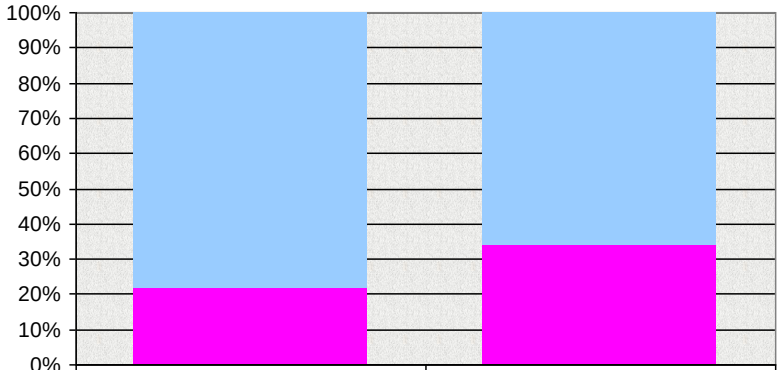
Source: CARE Database / EC
Date of query: November 2010

Half of driver fatalities aged 18-24 are killed in single vehicle accidents

Gender

83% of fatalities in single vehicle accidents in 2008 in the EU-23 countries were male. Figure 5 indicates that one fifth of the overall female fatalities occurred in single vehicle accidents, compared to one third of male fatalities.

Figure 5: Proportion of fatalities per gender in single and non-single vehicle accidents in the EU-23, 2008[2]



	female	male
Non-single vehicle accident fatalities	6.926	18.749
Single vehicle accident fatalities	1.949	9.650

Source: CARE Database / EC
Date of query: November 2010

Males account for 83% of the overall single vehicle accidents fatalities in the EU-23 countries in 2008

Mode of transport

In the EU-23, the great majority of fatalities were travelling in car and taxis (70%) with two wheelers' fatalities accounting for 21% in 2008

Table 5 presents the distribution of single vehicle accident fatalities by mode of transport in 2008. In the EU-23 countries, the great majority (70,2%) of fatalities were travelling in car and taxis, with the two wheeler fatalities (mopeds, motorcycles and pedal cycles) accounting for 20,9%.

Table 5: Single vehicle accident fatalities by mode of transport, 2008[2]

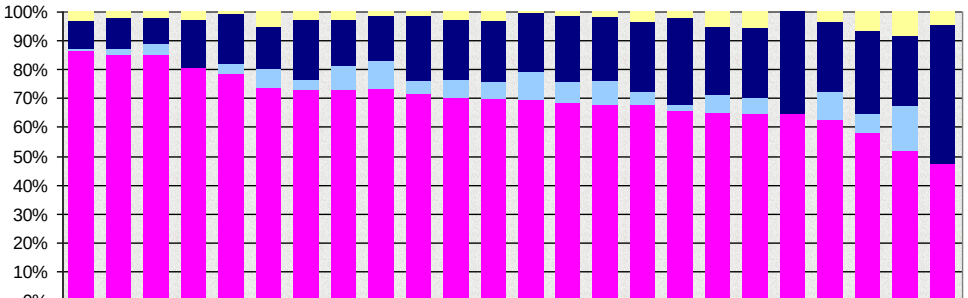
	Car / taxi	Lorries	Two-wheelers	Other	Total
BE	264	37	56	5	362
CZ	255	12	56	3	326
DK	76	9	25	2	112
DE	996	59	316	18	1.389
EE	29	0	6	1	36
IE*	27	3	6	1	37
EL	330	38	163	39	570
ES	701	106	274	41	1.122
FR	1.067	116	358	25	1.566
IT	826	27	380	30	1.263
LV	102	1	11	4	118
LU	9	0	5	0	14
HU	170	15	51	8	244
NL	167	25	49	1	242
AT	171	11	61	9	252
PL	1.228	57	129	37	1.451
PT	189	56	89	31	365
RO	649	61	129	45	884
SI	20	0	20	2	42
SK	139	4	17	4	164
FI	80	7	30	7	124
SE	99	10	36	8	153
UK	478	22	135	20	655
EU-23	8.072	676	2.402	341	11.491
%	70,2%	5,9%	20,9%	3%	100%
CH**	117	3	50	2	172

*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Figure 6 shows that the highest proportion of car and taxi fatalities in single vehicle accidents among the 23 European countries occurred in Latvia (86,4%), with Slovakia having the second highest proportion (84,8%). On the other hand, the lowest proportion was in Slovenia (47,6%).

Figure 6: Percentage of single vehicle accident fatalities by mode of transport, 2008[2]



	LV	SK	PL	EE	CZ	RO	UK	IE*	BE	DE	EU-23	HU	NL	FR	DK	AT	IT	SE	FI	LU	ES	EL	PT	SI
Other	3%	2%	3%	3%	1%	5%	3%	3%	1%	1%	3%	3%	0%	2%	2%	4%	2%	5%	6%	0%	4%	7%	8%	5%
Two-wheelers	9%	10%	9%	17%	17%	15%	21%	16%	15%	23%	21%	21%	20%	23%	22%	24%	30%	24%	24%	36%	24%	29%	24%	48%
Lorries	1%	2%	4%	0%	4%	7%	3%	8%	10%	4%	6%	6%	10%	7%	8%	4%	2%	7%	6%	0%	9%	7%	15%	0%
Car / taxi	86%	85%	85%	81%	78%	73%	73%	73%	73%	72%	70%	70%	69%	68%	68%	68%	65%	65%	65%	64%	62%	58%	52%	48%

*Data from 2007

Source: CARE Database / EC
Date of query: November 2010

In EU-23 the proportion of car and taxi fatalities in single vehicle accidents was highest in Latvia (86%) in 2008

As far as two wheeler fatalities (users of motorcycles, mopeds or pedal cycles) are concerned, the lowest proportion was in Poland (9%) and Latvia (9%), as shown in Figure 6. Slovenia has the highest proportion of two wheeler fatalities (48%) among the EU-23 countries. The percentage of fatalities travelling in lorries was highest in Portugal (15%).

Area and Road type

Table 6 and Figure 7 present the distribution of fatalities in single vehicle accidents by area and road type in the European countries. In the EU-23, almost 65% of the single vehicle accident fatalities occur outside urban areas, and 30% inside urban areas. Relatively few of those killed in single vehicle accidents outside urban areas were killed on motorways.

In EU-23 about two thirds of single vehicle accident fatalities occurred outside urban areas

Table 6: Percentage of single vehicle accident fatalities by area and road type, 2008[2]

	inside urban area	outside urban area		
		motorway	non-motorway	not defined
BE	24%	17%	60%	–
CZ	30%	2%	68%	–
DK	29%	4%	67%	–
DE	20%	9%	71%	–
EE	28%	0%	72%	–
IE*	8%	3%	0%	89%
EL	38%	8%	11%	43%
ES	12%	5%	83%	–
FR	25%	5%	69%	–
IT	36%	11%	53%	–
LV	29%	0%	71%	–
LU	15%	0%	85%	–
HU	35%	6%	59%	–
NL	27%	0%	0%	73%
AT	20%	13%	66%	–
PL	34%	0%	59%	6%
PT	44%	13%	43%	–
RO	56%	1%	44%	–
SI	37%	2%	60%	–
SK	32%	4%	65%	–
FI	35%	2%	64%	–
SE	23%	6%	71%	–
UK	38%	8%	55%	–
EU-23	30%	6%	59%	5%
CH**	29%	9%	62%	–

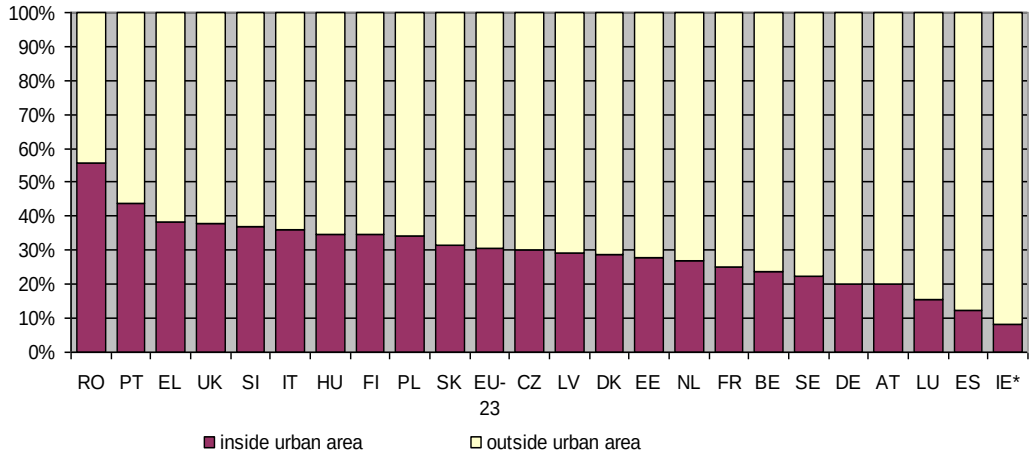
*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Figure 7 shows that Romania has the highest percentage of single vehicle accident fatalities inside urban areas (56%), whereas Spain has the lowest percentage among the EU-23 countries in 2008.

Romania has the highest percentage of single vehicle accident fatalities inside urban areas (56%)

Figure 7: Percentage of single vehicle fatalities by area type, 2008[2]



*Data from 2007

Source: CARE Database / EC
Date of query: November 2010

Table 7 shows the proportion of fatalities that occurred in single vehicle accidents in 2008 by area and road type. More than one third of fatalities outside urban areas on non-motorways died in single vehicle accidents, compared with one quarter inside urban areas.

Table 7: Percentage of single vehicle accident fatalities per total fatalities by area and road type, 2008[2]

	inside urban area	outside urban area		
		motorway	non-motorway	not defined
BE	32%	44%	46%	-
CZ	22%	20%	37%	-
DK	25%	16%	30%	-
DE	22%	25%	36%	-
EE	24%	-	29%	-
IE*	4%	10%	-	13%
EL	29%	38%	32%	50%
ES	22%	47%	40%	-
FR	32%	36%	39%	-
IT	23%	31%	31%	-
LV	35%	-	39%	-
LU	22%	-	55%	-
HU	20%	28%	28%	-
NL	27%	-	-	41%
AT	27%	48%	40%	-
PL	20%	20%	32%	45%
PT	38%	50%	42%	-
RO	26%	24%	35%	-
SI	22%	8%	20%	-
SK	19%	43%	34%	-
FI	40%	22%	35%	-
SE	33%	60%	38%	-
UK	21%	29%	25%	0%
EU-23	24%	33%	35%	37%
CH**	21%	-	32%	-

*Data from 2007

**Data from 2004

Source: CARE Database / EC

Date of query: November 2010

Manoeuvre type

Table 8 shows the number of fatalities that occurred in single vehicle accidents by manoeuvre type inside and outside urban areas in 2008. The vehicle manoeuvre most frequently associated with single vehicle accident fatalities is driving 'straight ahead' for both inside and outside urban areas. Note that the manoeuvre type is not defined for over 40% of fatalities in single vehicle accidents.

The vehicle manoeuvre most frequently associated with single vehicle accident fatalities is driving 'straight ahead'

Table 8: Single vehicle accident fatalities by manoeuvre type inside/outside urban areas, 2008[2]

	inside urban area							outside urban area						
	changing lane	over-taking	stopped / stopping	straight ahead	turning/ u turn	other	not defined	changing lane	over-taking	Stopped\ stopping	straight ahead	turning/ u turn	other	not defined
BE	0	1	0	8	3	71	4	0	22	0	23	3	225	6
CZ	0	0	0	0	0	0	98	0	0	0	0	0	0	228
DK	0	0	0	31	1	0	0	0	0	0	78	2	0	0
DE	0	0	0	0	0	0	282	0	0	0	0	0	0	1.108
EE	0	0	0	0	0	0	10	0	0	0	0	0	0	26
IE*	0	0	0	0	0	1	2	0	5	0	0	0	23	6
EL	1	0	0	119	13	85	0	5	3	1	156	31	157	0
ES	0	1	15	82	8	12	22	0	27	31	830	9	27	65
FR	0	17	1	228	84	12	54	6	36	1	756	291	14	76
IT	0	0	0	0	0	0	469	0	0	0	0	0	0	826
LV	0	0	0	0	0	0	34	0	0	0	0	0	0	82
LU	0	0	0	0	0	0	2	0	0	0	0	0	0	11
HU	1	2	1	70	0	11	0	6	8	1	132	0	12	0
NL	1	0	0	60	2	1	1	3	0	0	168	2	0	3
AT	0	0	0	0	0	1	50	0	3	0	0	0	0	198
PL	0	12	1	0	6	480	0	0	34	2	0	1	915	0
PT	14	5	0	129	0	11	1	13	3	0	182	0	3	3
RO	0	0	0	0	0	0	492	0	0	0	0	0	0	393
SI	1	0	0	0	0	14	1	5	0	0	0	0	22	0
SK	0	0	0	0	0	0	52	0	0	0	0	0	0	113
FI	0	0	0	0	0	0	43	0	0	0	0	0	0	81
SE	0	0	0	0	0	0	33	0	0	0	0	0	0	113
UK	3	0	4	213	3	4	0	7	9	4	404	2	1	1
EU-23	21	38	22	940	120	703	1.650	45	150	40	2.730	341	1.400	3.340
%	1	1	1	27	3	20	47	1	2	0	34	4	17	42
CH**	0	0	0	0	0	0	52	0	0	0	0	0	0	96

*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Vehicle age

Table 9 shows the proportion of fatalities occurring in single vehicle accidents by vehicle age for the European countries in 2008. In the EU-23 countries, the highest percentage of fatalities that occurred in single vehicle accidents (44,2%) was for vehicles from 11 to 15 years old.

In EU-23 the greatest proportion of fatalities occurring in single vehicle accidents (44,2%) occurred when the vehicle age was between 11 and 15 years old

Table 9: Percentage of fatalities in single vehicle accidents, by vehicle age, 2008

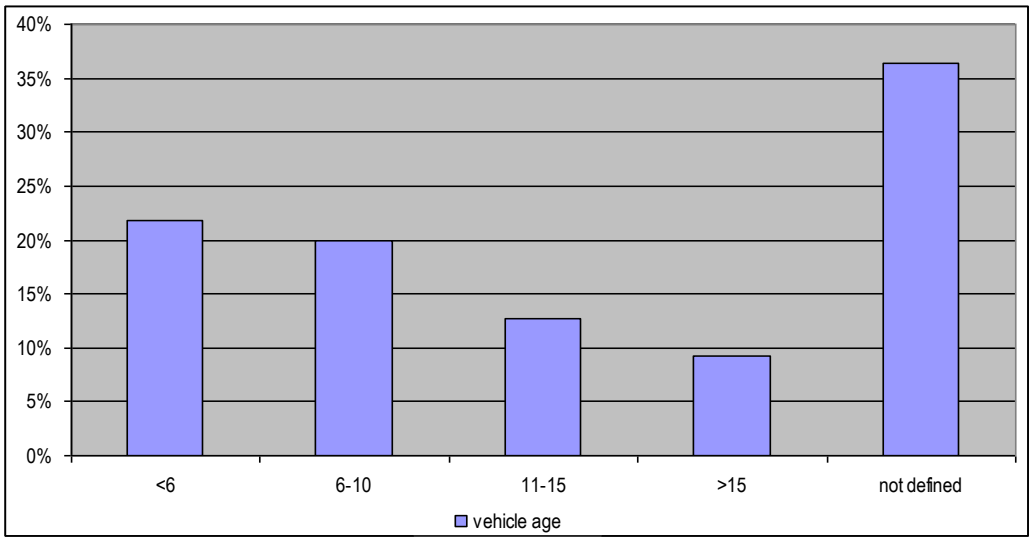
	vehicle age				
	<6	6-10	11-15	>15	not defined
BE	0%	0%	0%	0%	45%
CZ	32%	31%	51%	43%	10%
DK	0%	0%	0%	0%	28%
DE	37%	41%	43%	39%	12%
EE	0%	0%	0%	0%	27%
IE*	0%	0%	0%	0%	11%
EL	47%	46%	37%	37%	18%
ES	46%	43%	44%	44%	11%
FR	40%	41%	46%	45%	0%
IT	32%	35%	35%	29%	20%
LV	0%	0%	0%	0%	38%
LU	0%	0%	0%	0%	40%
HU	48%	41%	43%	48%	7%
NL	49%	45%	59%	50%	15%
AT	47%	45%	50%	41%	13%
PL	0%	0%	0%	0%	27%
PT	47%	57%	50%	54%	3%
RO	48%	50%	46%	36%	16%
SI	20%	13%	40%	36%	9%
SK	43%	45%	44%	37%	2%
FI	44%	34%	0%	43%	29%
SE	0%	0%	0%	0%	39%
UK	0%	0%	0%	0%	25%
EU-23	41,0%	41,4%	44,2%	41,1%	21,5%
CH**	0%	0%	0%	0%	34%

*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

In Figure 8 it can be seen that the vehicle age is not recorded for almost 40% of the single vehicle accident fatalities. Of the fatalities where the vehicle age is known, however, relatively many newer vehicles (registered for less than 6 years) were involved in fatal single vehicle accidents.

Figure 8: Single vehicle accident fatalities by vehicle age in the EU-23, 2008



Source: CARE Database / EC
Date of query: November 2010

Lighting Conditions

Table 10 and Figure 9 show the percentage of fatalities that occurred in single vehicle accidents in 2008 by lighting condition. More than one third of fatalities that occurred in darkness died in single vehicle accidents.

In 2008, more than one third of the single vehicle accident fatalities occurred in darkness in the EU-23

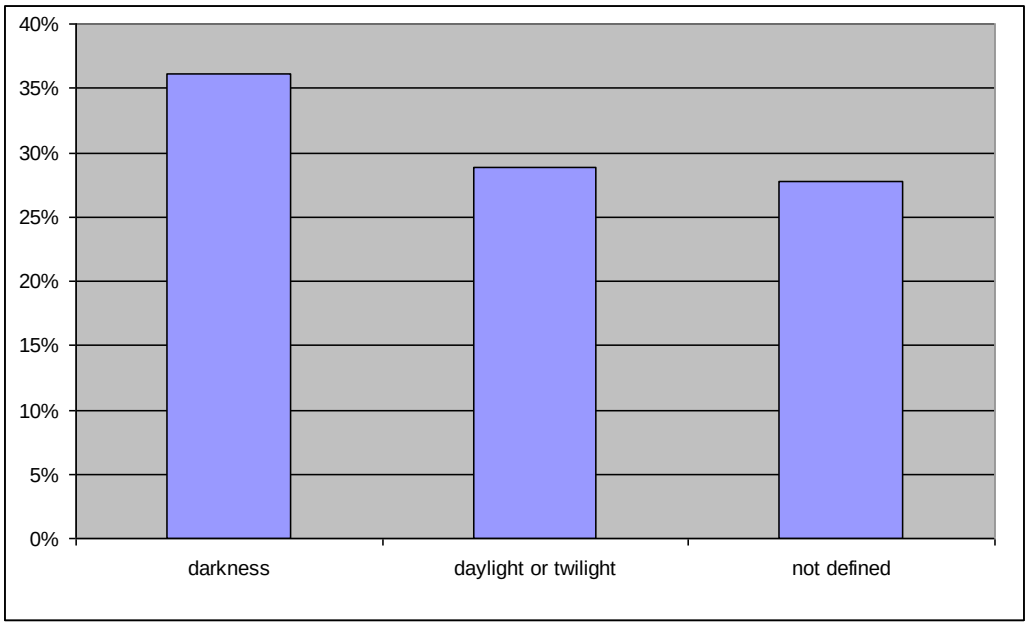
Table 10: Percentage of fatalities that occurred in single vehicle accidents, by lighting condition, 2008[2]

	darkness	daylight or twilight	not defined
BE	52%	36%	100%
CZ	37%	-	27%
DK	31%	26%	-
DE	35%	29%	-
EE	28%	26%	100%
IE*	10%	11%	27%
EL	43%	33%	-
ES	43%	33%	-
FR	47%	31%	-
IT	-	-	27%
LV	32%	42%	0%
LU	29%	50%	50%
HU	27%	23%	-
NL	48%	29%	100%
AT	47%	31%	-
PL	25%	28%	-
PT	48%	37%	-
RO	34%	25%	29%
SI	-	-	20%
SK	28%	26%	63%
FI	41%	34%	-
SE	41%	35%	74%
UK	32%	18%	-
EU-23	36%	29%	28%
CH**	42%	29%	-

*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Figure 9: Percentage of fatalities that occurred in single vehicle accidents, by lighting condition, EU-23, 2008[2]



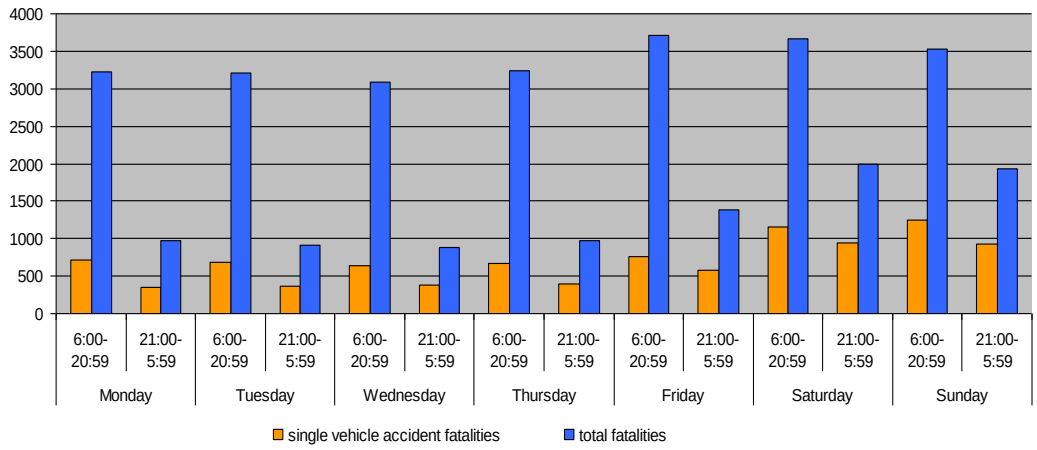
Source: CARE Database / EC
Date of query: November 2010

Day of week and Time of day

In the EU-22, the number of single vehicle accident fatalities was relatively high on Saturdays and Sundays

Figure 10 shows the number of fatalities in single vehicle accidents and in all accidents in the EU-22 countries in 2008. The number of single vehicle accident fatalities was relatively high on Saturdays and Sundays between 06:00 and 20:59.

Figure 10: Single vehicle accident and total fatalities by day of week and time of day in the EU-22, 2008[2]



Source: CARE Database / EC
Date of query: November 2010

Seasonality

Table 11 shows the percentage of single vehicle accident fatalities through the year, using pair of months for 2008.

The peak period of single vehicle accident fatalities for most of the countries is July/August

Table 11: Percentage of single vehicle accident fatalities by months, 2008[2]

	January/ February	March/ April	May/ June	July/ August	September/ October	November/ December
BE	16%	13%	18%	21%	15%	16%
CZ	11%	13%	22%	22%	17%	15%
DK	13%	16%	24%	17%	18%	12%
DE	12%	16%	20%	21%	17%	14%
EE	6%	14%	28%	14%	28%	11%
IE*	3%	0%	5%	46%	19%	27%
EL	12%	17%	14%	25%	19%	13%
ES	16%	16%	15%	22%	16%	16%
FR	13%	15%	18%	19%	18%	16%
IT	13%	17%	20%	21%	14%	14%
LV	15%	11%	18%	30%	12%	14%
LU	0%	14%	29%	21%	21%	14%
HU	13%	11%	17%	22%	19%	18%
NL	13%	15%	22%	18%	12%	19%
AT	15%	19%	17%	21%	17%	10%
PL	13%	16%	18%	22%	16%	15%
PT	13%	17%	17%	24%	13%	16%
RO	10%	15%	17%	24%	17%	17%
SI	14%	14%	21%	26%	14%	12%
SK	10%	12%	18%	20%	23%	17%
FI	8%	12%	19%	28%	24%	8%
SE	9%	15%	27%	22%	16%	10%
UK	15%	16%	17%	17%	19%	17%
EU-23	13%	16%	18%	22%	17%	15%
CH**	7%	17%	24%	17%	25%	9%

*Data from 2007
**Data from 2004

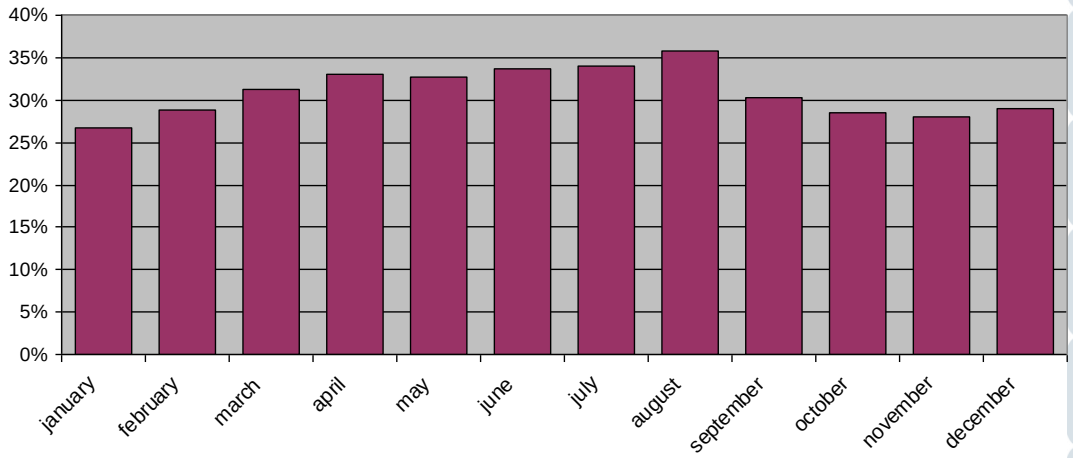
Source: CARE Database / EC
Date of query: November 2010

In most of the EU-23 countries, the majority of the single vehicle accident fatalities occurred in July/August, although the peak in Denmark, Luxembourg, Netherlands and Sweden was in May/June, while it was in September/October in Slovenia and the United Kingdom. Relatively few single vehicle accident fatalities occurred in January/February in the EU-23 (13%).

Figure 11 displays the percentage of fatalities that occurred in single vehicle accidents on a monthly basis in the EU-23 countries. Around a third of fatalities in August occurred in single vehicle accidents, while the lowest proportion was in January (27%).

Just over a third of fatalities in August occurred in single vehicle accidents

Figure 11: Percentage of fatalities that occurred in single vehicle accidents by month, EU-23, 2008[2]



Source: CARE Database / EC
Date of query: November 2010

Weather conditions

Table 12 and Figure 12 display the fatalities in single vehicle accidents by weather condition.

Table 12: Single vehicle accident fatalities by weather condition, 2008[2]

	dry	rain	other	snow	not defined
BE	291	43	10	1	78
CZ	288	10	3	0	25
DK	99	10	1	0	2
DE	929	53	13	42	353
EE	35	0	0	1	0
IE*	27	3	3	1	3
EL	508	43	20	0	0
ES	942	108	76	2	0
FR	1.308	186	68	14	0
IT	955	143	190	7	0
LV	115	1	1	2	0
LU	8	0	2	0	4
HU	227	13	4	0	0
NL	209	20	6	3	6
AT	228	13	3	8	0
PL	1.247	140	29	35	0
PT	295	60	6	0	5
RO	763	79	23	20	0
SI	41	0	1	0	1
SK	123	27	9	1	5
FI	105	10	0	0	9
SE	122	14	3	2	12
UK	519	84	30	5	17
EU-23	9.384	1.060	501	144	520
CH**	150	16	2	4	0

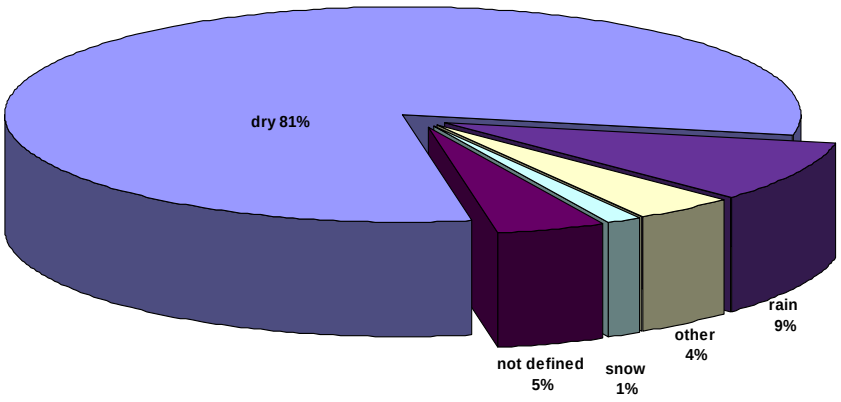
*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Figure 12 shows that the great majority of single vehicle accident fatalities in the EU-23 countries occurred when the weather was dry (81%) while only 1% occurred in snowy weather.

The great majority of single vehicle accident fatalities in the EU-23 occurred in dry weather (81%)

Figure 12: Percentage of single vehicle accidents by weather condition, EU-23, 2008[2]



Source: CARE Database / EC
Date of query: November 2010

Table 13 indicates that in the EU-23 countries, more than one third of the total fatalities recorded when it snows concern single vehicle accidents, whereas the respective percentage for rainy weather is less than 30%.

More than one third of all fatalities in snowy weather in the EU-23 occurred in single vehicle accidents

Table 13: Percentage of fatalities that occurred in single vehicle accidents by weather condition, EU-23, 2008[2]

	dry	rain	other	snow	not defined
BE	40%	44%	53%	33%	80%
CZ	32%	14%	20%	-	31%
DK	30%	18%	9%	0%	29%
DE	30%	36%	38%	38%	32%
EE	32%	0%	0%	100%	-
IE*	32%	16%	50%	50%	1%
EL	37%	33%	53%	0%	-
ES	37%	34%	34%	28%	-
FR	37%	35%	41%	61%	-
IT	27%	28%	30%	54%	-
LV	41%	5%	50%	15%	0%
LU	57%	0%	67%	-	50%
HU	26%	16%	15%	0%	-
NL	36%	36%	50%	27%	40%
AT	39%	17%	27%	67%	-
PL	28%	20%	18%	35%	-
PT	41%	41%	42%	-	100%
RO	29%	29%	32%	36%	-
SI	21%	0%	33%	0%	50%
SK	26%	29%	36%	20%	63%
FI	38%	34%	0%	0%	53%
SE	39%	33%	25%	15%	67%
UK	24%	25%	39%	63%	50%
EU-23	31%	28%	32%	35%	32%
CH**	33%	40%	50%	36%	0%

*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Junction

Table 14 displays the number of fatalities in single vehicle accidents at junctions and away from junctions. 92%[3] of single vehicle accident fatalities in the EU-23 countries occurred away from junctions.

The great majority of single vehicle accident fatalities in the EU-23 countries occurred away from junctions

Table 14: Single vehicle accident fatalities by junction, 2008[2]

	junction	no junction	not defined
BE	28	395	0
CZ	23	302	1
DK	9	102	1
DE	81	771	538
EE	9	25	2
IE*	3	0	34
GR	38	533	0
ES	96	1.032	0
FR	51	1.525	0
IT	103	1.192	0
LV	5	111	3
LU	2	12	0
HU	21	223	0
NL	32	212	0
AT	7	185	60
PL	67	1.384	0
PT	22	332	11
RO	53	832	0
SI	0	28	15
SK	3	157	5
FI	8	116	0
SE	10	4	139
UK	144	511	0
EU-23	815	9.984	809
CH**	5	167	0

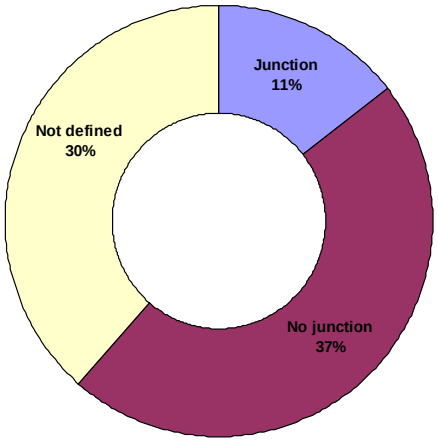
*Data from 2007
**Data from 2004

Source: CARE Database / EC
Date of query: November 2010

Figure 13 presents the percentages of fatalities in the EU-23 that occurred in single vehicle accidents at junctions and away from junctions. More than one third of fatalities away from junctions occurred in single vehicle accidents.

[3] Calculated excluding unknowns.

Figure 13: Percentage of single vehicle accident fatalities per total fatalities by junction in the EU-23, 2008[2]



Source: CARE Database / EC
Date of query: November 2010

Accident Causation

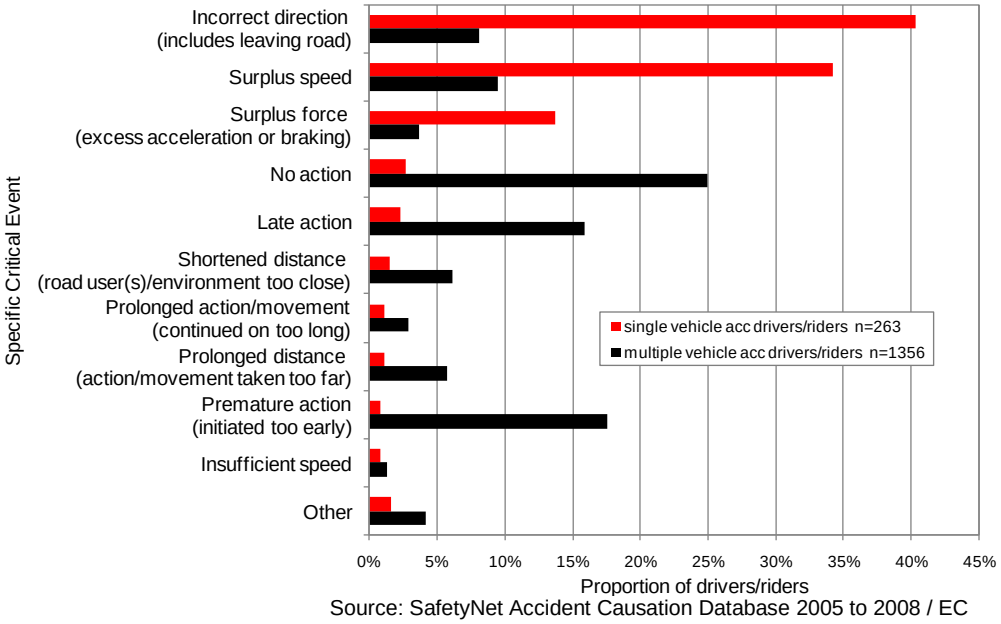
During the EC SafetyNet project, in-depth data were collected using a common methodology for samples of accidents that occurred in Germany, Italy, The Netherlands, Finland, Sweden and the UK[4] [5]. The SafetyNet Accident Causation Database was formed between 2005 and 2008, and contains details of 1.006 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, 26% (263) of the accidents involve just one vehicle (no pedestrian). Male drivers/riders account for 77% of this group and 73% are drivers of passenger cars, 11% are PTW riders and 10% are HGV drivers.

Figure 14 compares the distribution of specific critical events for drivers/riders in single vehicle accidents against the distribution in multiple vehicle accidents (no pedestrian accidents).

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

Figure 14: Distribution of specific critical events for drivers or riders in single vehicle and multiple vehicle accidents



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

N=1619

The distributions are very different for all the most often recorded specific critical events. In single vehicle accidents, incorrect direction and surplus speed are dominant, followed by surplus force (excess acceleration or braking). Surplus speed describes speed that is too high for the conditions or manoeuvre being carried out, or travelling above the speed limit. Incorrect direction refers to a manoeuvre being carried out in the wrong direction (for example, turning left instead of right) or leaving the road (not following the intended path of the road). 'Loss of control' type accidents can fall into any of these critical events depending on the specific situation. The 'timing' events (no action, premature action and late action), feature in high numbers for drivers/riders in multiple vehicle accidents as they often refer to interactions between road users (for example, initiating movement at a junction too early) or taking no action in a required time frame in relation to another road user.

Table 15 gives the most frequent links between causes for drivers or riders in single vehicle accidents. There are 361 such links in total.

10% of the links between causes are observed to be between 'inadequate plan' and 'under the influence of substances'.

Table 15: Ten most frequent links between causes - drivers/riders in single vehicle accidents

Links between causes	Frequency
Inadequate plan - Under the influence of substances	35
Inadequate plan - Insufficient knowledge	32
Inadequate plan - Psychological stress	24
Information failure (driver/environment or driver/vehicle) - State of road	24
Faulty diagnosis - Information failure (driver/environment or driver/vehicle)	21
Observation missed - Fatigue	20
Inadequate plan - Fatigue	16
Observation missed - Distraction	13
Inadequate plan - Distraction	12
Observation missed - Under the influence of substances	11
Others	153
Total	361

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

Inadequate plan is by far the most frequently recorded cause and describes a lack of all the required details or that the driver's/rider's ideas do not correspond to reality. It is linked to impairment (substances, psychological stress and fatigue), insufficient knowledge and distraction. Except for stress, the same links can also be seen for observation missed.

State of the road refers to its current road-holding characteristics, and low friction due to ice or oil or dirt is sometimes not obvious, leading to information failure.

Faulty diagnosis is an incorrect or incomplete understanding of road conditions or another road user's actions and is linked with information failure (for example, a driver/rider thinking the road was straight, when in fact a bend was approaching).

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 Mobility 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 - 16		EU-22 = EU-16 +		EU-23 = EU-22 +	
BE	Belgium	EE	Estonia	DE	Germany
CZ	Czech Republic	LV	Latvia		
DK	Denmark	PL	Poland		
IE	Ireland	SI	Slovenia		
EL	Greece	SK	Slovakia		
ES	Spain	HU	Hungary		
FR	France				
IT	Italy				
LU	Luxembourg				
NL	Netherlands				
AT	Austria				
PT	Portugal				
RO	Romania				
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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