



Traffic Safety Basic Facts 2006

Motorcycles and Mopeds

Motorcycle and moped fatalities made up 20,4% of the total number of road accident fatalities in 2004¹. In 2004¹ 5.484 users (riders and passengers) of motorcycles and mopeds were killed in traffic accidents in 14 European Union countries, which is 0,3% fewer than the 5.501 motorcycle and moped user fatalities reported in 2003² in the same countries. There was a reduction of 6,0% during the decade for the same countries.

Table 1: The number of motorcycle and moped user fatalities by country, 1995-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BE	187	174	193	199	198	184	210	226	169	153
DK	63	49	46	60	67	71	55	62	68	69
EL	628	541	506	569	561	496	503	396	363	434
ES	865	844	899	928	902	866	831	784	758	760
FR	1.164	1.170	1.250	1.279	1.281	1.227	1.356	1.298	1.126	1.205
IE	57	58	68	37	43	40	50	44	55	-
IT	1.187	1.192	1.221	1.191	1.180	1.279	1.315	1.289	1.441	1.458
LU	4	6	3	7	5	8	6	0	-	-
NL	208	198	180	165	182	196	154	191	189	-
AT	152	131	169	120	151	156	144	135	156	142
PT	793	733	680	556	506	437	413	369	370	302
FI	33	33	24	25	21	19	23	29	35	36
SE	41	54	49	52	48	49	47	49	56	74
UK	454	447	525	509	556	612	594	628	715	607
EU-14	5.835	5.630	5.814	5.697	5.701	5.640	5.701	5.500	5.501 ²	5.484 ¹
Yearly change	-	-3,5%	3,3%	-2,0%	0,1%	-1,1%	1,1%	-3,5%	0,0%	-0,3%

Source: CARE Database / EC
Date of query: October 2006

In Ireland mopeds and motorcycles are counted together. Therefore the data cannot always be analysed separately.

Table 2 shows that the fatality rate of motorcycle and moped users, which is defined as the number of motorcycle and moped user fatalities per million inhabitants, is much higher in Portugal and Greece than in the other 12 European countries.

In 2004, motorcycle and moped user fatalities made up 20,4% of the total number of road accident fatalities.



¹ Using data of 2004 for all countries except LU (2002), IE and NL (2003).

² Using data of 2003 for all countries except LU(2002).

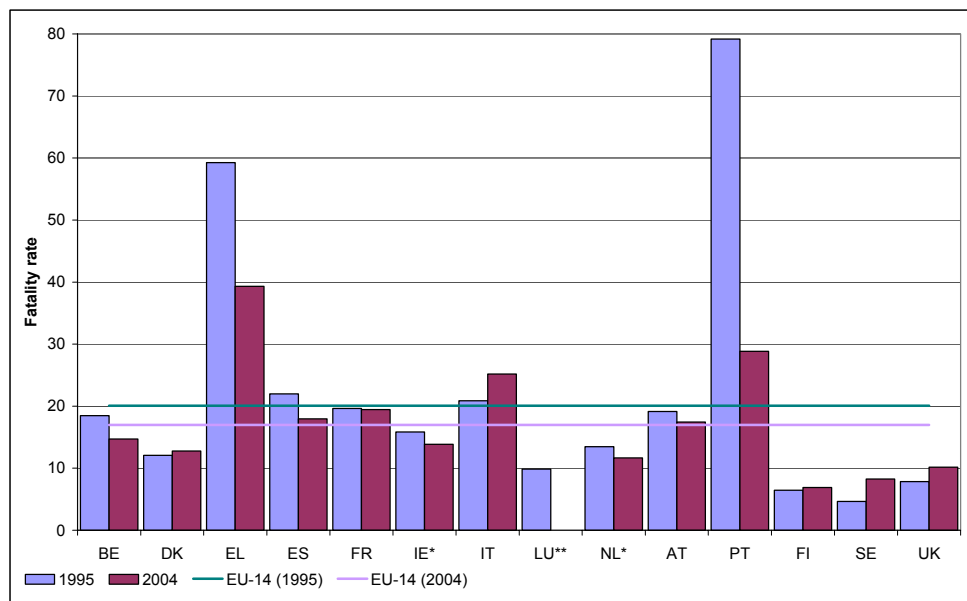


Table 2: Fatality rate (fatalities per million inhabitants) of motorcycle and moped users, 1995-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BE	18,5	17,2	19,0	19,5	19,4	18,0	20,5	21,9	16,3	14,7
DK	12,1	9,3	8,7	11,3	12,6	13,3	10,3	11,5	12,6	12,8
EL	59,3	50,7	47,1	52,6	51,7	45,5	46,0	36,1	33,0	39,3
ES	22,0	21,4	22,7	23,4	22,7	21,6	20,5	19,1	18,2	17,9
FR	19,6	19,7	20,9	21,3	21,3	20,3	22,3	21,2	18,3	19,4
IE	15,8	16,0	18,6	10,0	11,5	10,6	13,0	11,3	13,9	-
IT	20,9	21,0	21,5	20,9	20,7	22,5	23,1	22,6	25,1	25,2
LU	9,9	14,6	7,2	16,6	11,7	18,5	13,7	0,0	-	-
NL	13,5	12,8	11,6	10,5	11,5	12,4	9,6	11,9	11,7	-
AT	19,1	16,5	21,2	15,1	18,9	19,5	18,0	16,7	19,3	17,4
PT	79,2	73,0	67,5	55,0	49,9	42,8	40,2	35,8	35,6	28,8
FI	6,5	6,4	4,7	4,9	4,1	3,7	4,4	5,6	6,7	6,9
SE	4,7	6,1	5,5	5,9	5,4	5,5	5,3	5,5	6,3	8,2
UK	7,8	7,7	9,0	8,7	9,5	10,4	10,1	10,6	12,0	10,2
EU-14	20,1	19,3	19,9	19,4	19,4	19,1	19,2	18,5	18,3 ²	17,0 ¹

Source: CARE Database / EC, EUROSTAT
Date of query: October 2006

Figure 1: Motorcycle and moped user fatalities per million inhabitants, 1995 versus 2004



* Data from 2003
** Data from 2002

Source: CARE Database / EC, EUROSTAT
Date of query: October 2006

Figure 1 indicates that between 1995 and 2004 the fatality rate of motorcycle and moped users declined by 15% (from 20,1 in 1995 to 17,0 in 2004), compared with a 35% decrease (from 69,1 to 47,8 fatalities per million inhabitants) for car occupants. Portugal is the country, which shows the most remarkable improvement during this decade (64% decrease), whereas in Denmark, Finland, Sweden and the United Kingdom the fatality rates have increased but are still lower than the average rate of all EU-14 countries, except for Italy.

Portugal is the country where the most significant reduction in motorcycle and moped fatalities is observed since 1995.





Table 3: Motorcycle and moped user fatalities as percentages of the total number of road accident fatalities by country, 1995-2004

%	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BE	12,9	12,8	14,1	13,3	14,2	12,5	14,1	17,3	13,9	13,2
DK	10,8	9,5	9,4	12,0	13,0	14,3	12,8	13,4	15,7	18,7
EL	26,0	25,1	24,0	26,1	26,5	24,3	26,8	24,2	22,6	26,0
ES	15,0	15,4	16,0	15,6	15,7	15,0	15,1	14,7	14,0	16,0
FR	13,1	13,7	14,8	14,3	15,1	15,2	16,6	17,0	18,6	21,8
IE	13,0	12,8	14,4	8,1	10,4	9,6	12,1	11,6	16,3	-
IT	16,9	17,9	18,2	18,9	17,6	19,2	19,7	19,1	23,8	25,9
LU	5,7	8,5	5,0	12,3	8,6	10,5	8,6	0,0	-	-
NL	15,6	16,8	15,5	15,5	16,7	18,1	15,5	19,4	18,4	-
AT	12,6	12,8	15,3	12,5	14,0	16,0	15,0	14,1	16,8	16,2
PT	29,3	26,9	27,0	26,2	25,4	23,5	24,7	22,1	24,0	23,3
FI	7,5	8,2	5,5	6,3	4,9	4,8	5,3	7,0	9,2	9,6
SE	7,2	10,1	9,1	9,8	8,3	8,3	8,1	8,8	10,6	15,4
UK	12,1	12,0	14,0	14,2	15,6	17,1	16,5	17,5	19,5	18,0
EU-14	15,9	16,1	16,7	16,5	16,7	16,8	17,3	17,3	18,8 ²	20,4 ¹

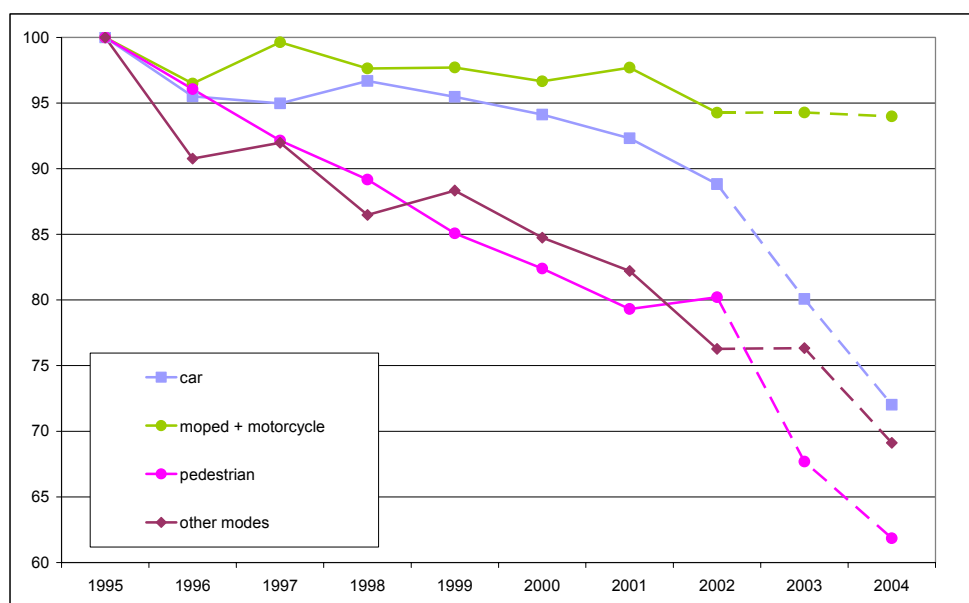
Source: CARE Database / EC
Date of query: October 2006

The share of moped and motorcycle fatalities as a proportion of total road fatalities is slightly increasing.

In Greece, France, Italy and Portugal, more than 20% of the total number of road accident fatalities in 2004 concerns motorcycle and moped users, as is indicated in Table 3. In contrast, in Finland motorcycle and moped user fatalities constitute only a small part (<10%) of the road accident fatalities.

A decreasing number of moped and motorcycle fatalities combined with their increasing share in the total number of fatalities, implies that the decrease of fatalities in other modes is stronger, as can be seen in Figure 2. From 2002 onwards the lines are dashed because for some countries do not have data for 2003 and 2004.

Figure 2: Index (1995=100) of motorcycle and moped fatalities compared with other modes EU-14, 1995-2004¹



Source: CARE Database / EC
Date of query: October 2006

This means that the decrease of fatalities is more rapid for other modes of transport.





Age and gender

Table 4 and Table 5 show the percentages of motorcycle and moped user fatalities and car occupant (driver and passenger) fatalities by age group and gender. During 2004¹, almost 30% of the total motorcycle and moped user fatalities (1.624 people) were people younger than 25 years old, which is almost equal to the percentage of car occupants. It is a common belief in all 14 European Union countries that young people are prone to fatal motorcycle and moped accidents. As can be calculated from Table 4, more than 90% of the moped and motorcycle user fatalities in all countries are male.

Table 4: Percentage of motorcycle and moped user fatalities by age and gender, 2004

Age group	0-14		15-24		25-44		45-64		>64		Unknown
	female	male	female	male	female	male	female	male	female	male	
BE	0,0	0,0	2,0	16,3	5,9	49,7	2,0	20,9	0,0	2,0	1,3
DK	1,4	1,4	1,4	17,4	1,4	36,2	4,3	21,7	1,4	13,0	0,0
EL	0,2	0,7	2,1	30,0	3,2	44,5	0,5	10,8	0,7	6,5	0,9
ES	0,2	0,8	4,0	27,7	3,4	44,0	1,1	11,5	0,2	5,9	1,3
FR	0,2	1,0	2,6	32,5	2,4	43,8	1,4	13,9	0,1	2,0	0,2
IE*	0,0	0,0	0,0	25,5	0,0	65,5	0,0	5,5	0,0	0,0	3,6
IT	0,3	1,1	2,7	23,3	3,8	45,4	0,8	13,0	0,5	6,1	3,1
LU**	-	-	-	-	-	-	-	-	-	-	-
NL*	0,0	1,1	5,8	20,6	2,1	37,6	1,6	16,9	1,6	12,7	0,0
AT	0,0	0,0	4,2	21,1	3,5	36,6	0,7	23,9	0,7	9,2	0,0
PT	0,0	0,8	0,8	25,8	0,8	45,5	0,4	17,0	1,1	8,0	0,0
FI	2,7	5,4	0,0	32,4	0,0	21,6	2,7	13,5	0,0	18,9	2,7
SE	0,0	0,0	1,4	25,7	5,4	36,5	2,7	21,6	0,0	6,8	0,0
UK	0,2	0,5	0,5	21,3	3,1	58,5	0,7	13,2	0,0	1,3	0,8
EU-14	0,2	0,9	2,5	26,0	3,1	45,7	1,0	13,9	0,4	5,1	1,3

* Data from 2003

** Data from 2002

Source: CARE Database / EC
Date of query: October 2006

The majority of car occupant fatalities are also male (almost 72%), however the proportion is much lower than for motorcyclists and moped users.

During 2004, more than 28% of the total motorcycle and moped fatalities were aged between 15 and 24 years old.



Table 5: Percentage of car occupant fatalities by age and gender, 2004

age	0-14		15-24		25-44		45-64		>64		Unknown
	female	male	female	male	female	male	female	male	female	male	
BE	1,3	0,3	5,0	25,0	9,1	29,7	4,2	12,5	3,9	8,7	0,3
DK	2,2	1,6	6,5	21,0	6,5	24,7	7,5	12,4	7,5	10,2	0,0
EL	1,2	1,0	5,0	18,3	8,6	31,7	6,1	15,9	3,0	9,0	0,1
ES	1,3	1,4	5,5	17,3	9,1	29,9	6,7	14,3	5,0	7,6	1,9
FR	1,4	1,5	6,6	22,1	7,4	25,0	6,8	12,0	6,8	10,0	0,2
IE*	2,3	1,1	9,2	24,7	6,3	25,3	4,0	9,8	6,9	5,2	5,2
IT	1,1	1,0	4,5	18,0	7,9	26,2	4,9	13,9	5,1	12,8	4,7
LU**	0,0	3,8	5,8	19,2	9,6	46,2	1,9	9,6	1,9	1,9	0,0
NL*	1,4	2,3	8,1	22,6	5,4	29,0	4,1	12,0	5,4	8,7	1,0
AT	1,0	0,6	7,7	23,1	8,3	24,8	4,2	16,0	4,4	9,6	0,2
PT	1,9	1,1	5,7	17,2	6,8	31,8	5,7	14,9	5,9	7,4	1,5
FI	0,9	2,7	7,2	24,4	6,3	17,6	6,8	12,2	8,6	13,1	0,0
SE	0,0	3,1	4,2	17,7	6,3	23,3	5,6	12,8	9,4	17,7	0,0
UK	1,0	1,5	8,7	27,9	7,5	22,3	5,3	8,3	7,6	9,7	0,3
EU-14	1,2	1,4	6,1	20,8	7,9	26,7	5,8	12,8	5,8	9,9	1,5

* Data from 2003

** Data from 2002

Source: CARE Database / EC

Date of query: October 2006

Riders and passengers

Almost all fatalities among motorcycle and moped users ride the vehicle themselves. A higher proportion of motorcycle and moped passengers were killed in Greece, Spain and Sweden. This may be due to not using helmets or that more motorcyclists were carrying passengers.

Table 6: Rider and passenger fatalities on motorcycle and mopeds, 2004

	Rider	Passenger	Sum	% rider	% passenger
BE	146	7	153	95%	5%
DK	67	2	69	97%	3%
EL	380	54	434	88%	12%
ES	682	78	760	90%	10%
FR	1.121	84	1.205	93%	7%
IE*	52	3	55	95%	5%
IT	1.324	134	1.458	91%	9%
LU**	0	0	0	-	-
NL*	180	9	189	95%	5%
AT	135	7	142	95%	5%
PT	33	3	36	92%	8%
FI	279	23	302	92%	8%
SE	66	8	74	89%	11%
UK	579	28	607	95%	5%
EU-14	5.044	440	5.484	92%	8%

* Data from 2003

** Data from 2002

Source: CARE Database / EC

Date of query: October 2006

The highest percentage of killed motorcycle and moped passengers are found in Greece, Spain and Sweden

Main Figures
Children
Young People
The Elderly
Pedestrians
Bicycles
Motorcycles & Mopeds
Car Occupants
Heavy Goods Vehicles & Buses
Motorways
Junctions





Road network: Motorways and area type

Table 7 shows that the majority of motorcycle and moped user fatalities in all countries do not occur on motorways but on the non-motorway network. This may be explained by the fact that mopeds are not allowed on motorways in most European countries. Furthermore, motorways have controlled access and their connection to the other road network is via grade-separated junctions. The existence of medians, separating opposite traffic flows on motorways, also results in a reduction in the number of fatal motorcycle and moped accidents. Fatal accidents with mopeds occur more often in urban areas, whereas the number of motorcycle user fatalities is higher in rural areas.

Table 7: The number of motorcycle and moped user fatalities by area type and road type, 2004

	Fatalities Moped			Fatalities Motorcycle			% MC+Moped of all fatalities by road type		
	Inside urban area	Outside urban area		Inside urban area	Outside urban area		Inside urban area	Outside urban area	
		motor-way	non motorway		motor-way	non motorway		motor-way	non motorway
BE	16	0	16	38	4	78	18,3%	3,2%	14,7%
DK	28	0	18	7	1	15	29,2%	3,7%	14,9%
EL	36	1	4	261	14	29	38,8%	12,9%	13,6%
ES	175	1	184	95	16	288	30,0%	6,0%	13,3%
FR	168	0	171	327	39	500	32,3%	12,5%	18,2%
IE*	-	-	-	17	1	37	19,1%	12,5%	15,4%
IT	241	0	147	500	62	508	32,1%	9,6%	24,6%
LU**	0	0	0	0	0	0	-	-	-
NL*	55	1	38	22	21	52	22,3%	14,6%	16,9%
AT	19	0	25	17	5	76	15,5%	4,2%	19,1%
PT	73	0	48	96	17	68	30,3%	14,7%	18,7%
FI	6	0	0	7	2	0	15,9%	11,8%	0,0%
SE	7	0	11	19	1	35	20,8%	3,1%	14,9%
UK	17	0	8	223	14	312	17,8%	8,5%	18,6%
EU-14	841	3	670	1.629	197	1.999	28,3%	9,5%	17,8%
%	55,5%	0,2%	44,3%	42,6%	5,1%	52,3%			

* Data from 2003

** Data from 2002

Source: CARE Database / EC
Date of query: October 2006

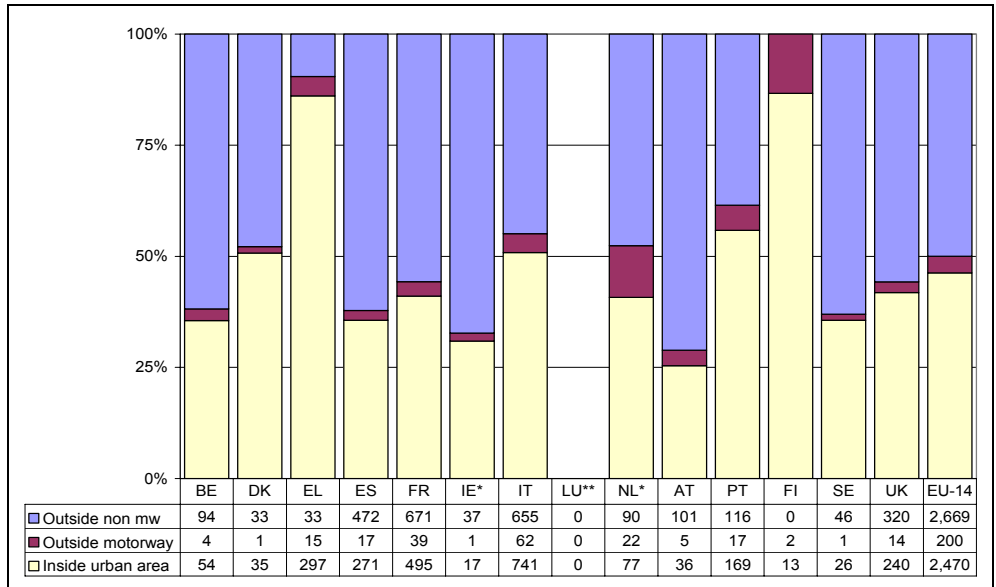
Fatal accidents with mopeds occur more often in urban areas, whereas the number of motorcycle user fatalities is higher in rural areas



Rural and urban areas

The data in Figure 3 show that in 2004, 2,470 motorcycle and moped users were killed inside urban areas. This is 45% of the total motorcycle/moped user fatalities, a large proportion compared to car occupants (19%).

Figure 3: The share of motorcycle and moped user fatalities by area type and road type, 2004



* Data from 2003
** Data from 2002

Source: CARE Database / EC
Date of query: October 2006

9,628 car occupants were killed on non motorways outside urban areas (67%), compared to 2,669 motorcycle/moped users (49%). On motorways a relatively small proportion of motorcycle/moped user fatalities are found (4%).

In Greece and Finland far more fatalities are recorded inside urban areas than outside.



Junction type

Table 8 indicates that almost 30% of all motorcycle and moped user fatalities (1.631 persons) occur at a junction. For comparison, for car occupants only 17,1% occur at junctions, see Table 9.

Table 8 shows that nearly 39% of the total number of motorcycle/moped user fatalities recorded at a junction occurred at crossroads.

Table 8: The number of motorcycle and moped occupant fatalities by junction type, 2004

	Not at junction	At junction					Not defined	Total
		cross-road	t or y junction	level crossing	round-about	other junction type / unknown		
BE	105	0	0	0	0	48	0	153
DK	42	9	0	2	0	16	0	69
EL	380	0	0	0	0	54	0	434
ES	542	93	80	0	26	20	0	760
FR	964	126	68	1	11	36	0	1.205
IE*	0	6	6	0	0	1	42	55
IT	905	258	0	1	29	265	0	1.458
LU**	0	0	0	0	0	0	0	0
NL*	112	41	34	0	1	1	0	189
AT	83	23	10	1	0	0	25	142
PT	172	24	38	3	2	3	59	302
FI	0	0	0	0	0	11	25	36
SE	2	20	0	0	0	4	48	74
UK	347	34	144	0	20	62	0	607
EU-14	3.654	1.631					199	5.848
%	66,6%	29,7%					3,6%	100%
		633	379	8		521		
% junction type		38,8%	23,2%	0,5%	5,5%	31,9%		

* Data from 2003

** Data from 2002

Source: CARE Database / EC
Date of query: October 2006

Table 9 indicates that for all transport modes most fatalities occur not at junctions. The highest shares of junction fatalities are found among non-motorised and motorised two-wheelers.

Table 9: Fatalities by junction type and mode of transport – EU-14, 2004¹

	Not at junction	At junction	Not defined
Pedestrian	70,5%	24,0%	5,5%
Pedal cycle	51,8%	44,6%	3,6%
Moped	62,4%	34,3%	3,3%
Motorcycle	68,3%	27,9%	3,8%
Car	77,2%	17,1%	5,7%
Lorry	79,0%	14,5%	6,4%
Other/unknown	79,2%	14,2%	6,6%

Source: CARE Database / EC
Date of query: October 2006

Fatalities among non-motorised and motorised two-wheelers occur more often at junctions than fatalities among other transport modes.





Month of the year

Motorcycle and moped fatalities vary with the season. In winter, when less kilometres are driven by motorcyclists and moped riders, there are less fatalities.

Table 10: The number of motorcycle and moped user fatalities by month, 2004

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
BE	13	5	12	13	17	10	22	13	17	16	10	5	153
DK	5	2	3	5	11	6	11	6	7	7	6	0	69
EL	12	18	31	37	41	43	54	53	50	39	37	19	434
ES	48	38	53	61	72	92	80	83	73	72	49	38	760
FR	54	55	76	86	142	125	154	129	143	116	73	53	1.205
IE*	3	4	6	4	5	9	9	4	2	8	1	0	55
IT	54	53	99	125	163	195	204	175	151	105	84	50	1.458
LU**	0	0	0	0	0	0	0	0	0	0	0	0	0
NL*	6	8	29	13	17	31	17	21	22	14	6	5	189
AT	1	2	5	18	6	25	20	33	18	7	2	5	142
PT	21	22	22	30	26	30	36	35	24	21	26	10	302
FI	0	0	2	4	6	3	5	8	2	3	2	1	36
SE	0	0	2	11	9	18	7	15	7	4	1	0	74
UK	20	19	35	60	85	75	69	77	70	30	35	32	607
Moped	107	81	97	123	145	169	169	170	136	143	111	88	1.539
Motorcycle	130	144	278	343	455	492	519	483	450	299	222	131	3.945
EU-14	237	225	374	466	600	661	688	653	586	442	333	219	5.484
%	4,3%	4,1%	6,8%	8,5%	10,9%	12,1%	12,6%	11,9%	10,7%	8,1%	6,1%	4,0%	100%

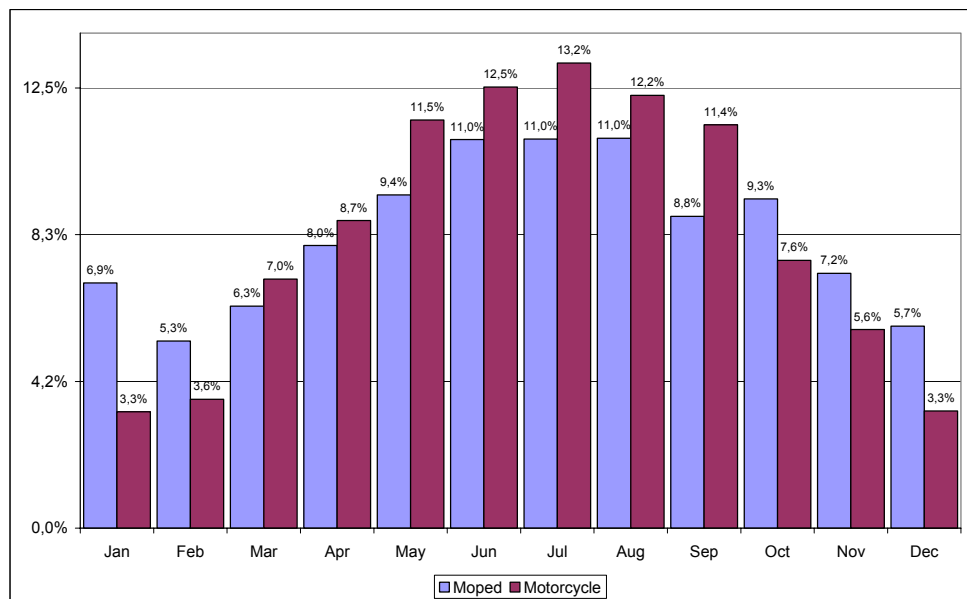
* Data from 2003
** Data from 2002

Source: CARE Database / EC
Date of query: October 2006

In winter there are less motorcycle and moped fatalities than in other seasons

From May to September a relatively large number of fatalities is observed.

Figure 4: Motorcycle and moped user fatalities by month – EU-14, 2004¹



Source: CARE Database / EC
Date of query: October 2006



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, readers use 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 (see

ec.europa.eu/transport/roadsafety/road_safety_observatory/care_reports_en.htm).

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

- Main Figures
- Children (Aged <16)
- Young People (Aged 16-24)
- The Elderly (Aged >64)
- Pedestrians
- Bicycles
- Motorcycles and Mopeds
- Car Occupants
- Heavy Goods Vehicles & Buses
- Motorways
- Junctions

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

All these reports and more information on the Integrated Project SafetyNet, co-financed by the European Commission, Directorate-General Energy and Transport are also available at the SafetyNet website: www.erso.eu.

Authors

Niels Bos and Martine Reurings	SWOV, The Netherlands
Stefan Hoeglinger, Andrea Angermann and Veronika Weiss	KfV, Austria
George Yannis and Petros Evgenikos	NTUA, Greece
Jeremy Broughton, Brian Lawton and Louise Walter	TRL, United Kingdom