Traffic Safety Basic Facts 2012

Car Occupants

Introduction

This fact sheet explores some of the characteristics of car occupant fatalities. Cars comprise a considerable share of the vehicle fleet in the EU. Therefore, better understanding the characteristics specific to this user group provides an opportunity to address a large proportion of fatalities.

'Cars' refer to both private vehicles as well as vehicles used for commercial purposes (like taxis). 'Car occupant' in this context refers to both the driver and any passengers. The most recent year or period for which data are available has been analysed. A note is made of anomalies to the main year.

How Big is the Problem?

In 2010, 14.079 car occupants were killed in road traffic accidents in the EU-20[1]. This represents 48% of all road traffic fatalities in the EU-20 in 2009. Of these 14.079 killed car occupants, 9.555 were drivers and 4.515 were passengers (and 9 unknown). Table 1 presents the absolute number of fatalities of car occupants since 2001 by country that are available from CARE. From the table it can be derived that for the EU-20 countries in 2010, 9,3% less car occupant fatalities are reported than in 2009. From 2001 to 2010, there was a reduction of 49% in car occupant fatalities for the EU-20 countries. There is a large difference in number of fatalities between countries, and also over the years. For example, the highest numbers of car occupant fatalities in 2010 were in France (2.117), Poland (1.853) and Germany (1.840), while the lowest number was in Luxembourg (27). These numbers are mainly related to exposure, and population factors.

In 2010, 14.079 car occupants were killed in road traffic accidents in the EU-20.

[1] A list of the countries which are within the EU-total can be found at the end of this fact sheet.

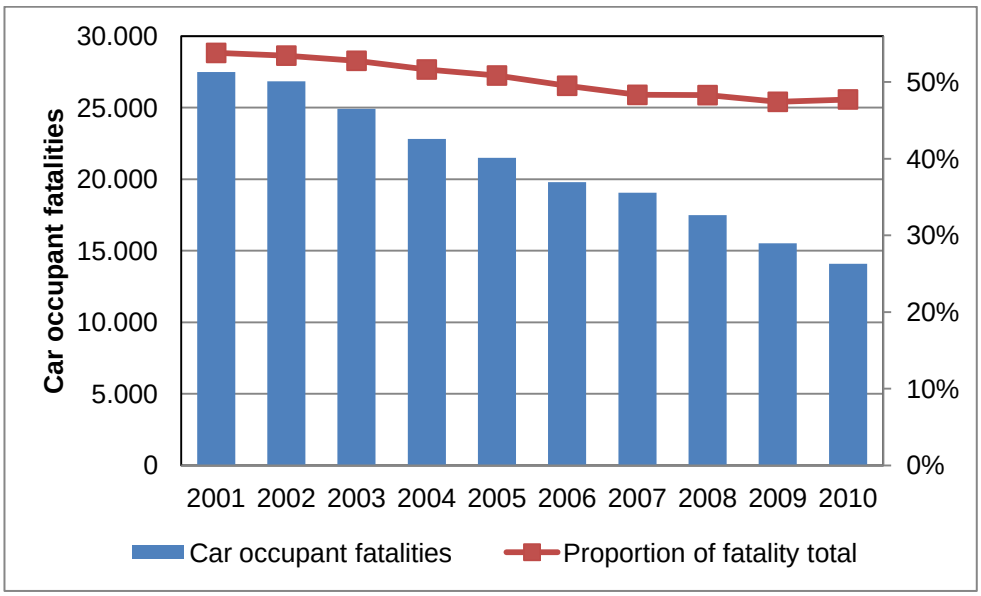
The highest number of car occupant fatalities in 2010 were in France (2.117), Poland (1.853) and Germany (1.840)

Table 1: Car occupant fatalities by country, 2001-2010[2]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BE	899	779	688	623	624	589	550	479	464	443
CZ	715	759	798	779	679	567	661	573	497	403
DK	242	246	236	186	169	138	168	196	164	135
DE	4.023	4.005	3.774	3.238	2.833	2.683	2.625	2.368	2.110	1.840
IE	231	202	174	205	222	226	171	160	146	129
EL	803	793	761	775	816	722	771	708	680	545
ES	3.144	3.104	3.211	2.691	2.389	2.096	1.824	1.494	1.260	1.194
FR	5.283	4.864	3.689	3.369	3.065	2.627	2.466	2.205	2.162	2.117
IT	3.847	3.653	3.377	3.032	2.830	2.781	2.320	2.115	1.793	1.827
LU	51	52	33	27	38	23	27	20	27	27
HU	-	-	640	606	620	630	555	448	386	330
NL	477	479	483	398	337	323	299	299	288	-
AT	570	524	524	480	432	384	378	367	325	291
PL	2.438	2.548	2.541	2.459	2.526	2.392	2.582	2.540	2.179	1.853
PT	636	710	630	537	495	375	417	358	301	367
RO	933	874	856	1.012	1.069	992	1.096	1.323	1.168	973
SI	107	124	102	124	107	96	126	82	59	44
FI	262	267	217	221	231	203	241	202	165	159
SE	373	379	349	288	273	261	279	234	219	-
UK	1.816	1.832	1.841	1.757	1.744	1.687	1.489	1.312	1.123	895
EU-20	27.490	26.834	24.924	22.807	21.499	19.795	19.045	17.483	15.516	14.079
Yearly reduction		2,4%	7,1%	8,5%	5,7%	7,9%	3,8%	8,2%	11%	9,3%
BG	-	-	-	-	-	-	-	-	-	-
EE	-	-	-	-	88	106	122	69	54	-
CY	-	-	-	37	-	-	-	-	-	-
LV	-	-	-	228	201	182	203	167	116	91
LT	-	-	-	-	-	-	-	-	-	-
MT	-	-	-	-	3	5	4	4	12	9
SK	-	-	-	-	294	282	293	292	182	171

Source: CARE Database / EC
Date of query: October 2012

Figure 1: Number and proportion of car occupant fatalities in EU-20 countries between 2001 and 2010[2]



Source: CARE Database / EC
Date of query: October 2012

[2] There is no data available in 2001 and 2002 for Hungary and in 2010 for The Netherlands, Sweden and Northern Ireland; therefore data of the next/previous year of that country has been used in the EU-total and the yearly reduction.

Figure 1 presents the number and proportion of car occupant fatalities for the EU-20 countries for the period 2001-2010. In general, the proportion of car occupant fatalities has decreased over this ten year period by 6%.

Table 2 shows the reduction (in percent) in fatalities of car drivers, car passengers and car occupants for the year 2010 compared to the year 2001 for the EU-20 countries. Over the 10 year period, Spain (62%), France (60%) and Slovenia (59%) had the largest reduction of car occupant fatalities, while Romania showed an increase in car occupant fatalities of 4%.

From 2001 to 2010, there was a reduction of 49% in car occupant fatalities for the EU-19 countries.

Table 2: Reduction (in percent) in fatalities of car drivers, car passengers and car occupants for the year 2010 compared to the year 2001 for the EU-20

	Driver	Passenger	Car occupants
BE	51%	49%	51%
CZ	33%	59%	44%
DK	45%	42%	44%
DE	54%	55%	54%
IE	43%	46%	44%
EL	28%	39%	32%
ES	60%	65%	62%
FR	58%	64%	60%
IT	49%	59%	53%
LU	42%	60%	47%
HU*	48%	49%	48%
NL*	40%	37%	40%
AT	45%	59%	49%
PL	16%	33%	24%
PT	41%	44%	42%
RO	-5%	-3%	-4%
SI	52%	100%	59%
FI	35%	48%	39%
SE*	37%	57%	43%
UK*	50%	52%	51%
EU-20	48%	51%	49%

* Data from 2003 (HU) and 2009 (NL, SE and NI)

Source: CARE Database / EC
Date of query: October 2012

Because these numbers are related to exposure and population factors, absolute fatality numbers do not provide a good basis for cross country comparison. Table 3 compares fatality rates across the EU-24 countries in 2010, based on relative populations. The United Kingdom has the lowest driver fatality rate (10) per million population but also had one of the lowest occupant rates (14). Considering passengers of cars, The Netherlands, Sweden and the United Kingdom have the lowest fatality rates per million population (5).

Greece had the highest rate of fatalities for drivers (32) and all occupants (48) (except Luxembourg).

The United Kingdom has the lowest car occupant fatality rate per million population in 2010

Table 3: Fatality rate of car drivers, passengers and occupants per million population for the EU-24, 2010

	Driver	Passenger	Car occupant
BE	30	11	41
CZ	27	11	38
DK	17	8	24
DE	16	6	22
EE*	25	15	40
IE	18	11	29
EL	32	16	48
ES	17	9	26
FR	24	9	33
IT	22	9	30
LV	23	18	40
LU	42	12	54
HU	19	14	33
MT	10	10	19
NL*	13	5	17
AT	27	8	35
PL	29	19	49
PT	21	14	34
RO	23	23	45
SI	21	-	21
SK	19	13	32
FI	22	8	30
SE*	18	5	23
UK*	10	5	14
EU-24	20	9	29

* Data from 2009

Source: CARE Database / EC
Date of query: October 2012
Source of population data: Eurostat
Date of query: October 2012

Although an important comparison basis, fatality rates per million population do not always provide the best indication of safety. The vehicle kilometres travelled indicate the risk to which a road user is exposed while he travels on the road, and so this better indicates relative levels of safety.

However, these data are currently not available in adequate quantities to enable analysis.

Who is involved?

Table 4 and Figure 2 indicates for 2010 that the majority of driver fatalities in the EU-24 countries were male (82%), and generally aged between 25-49 years. Denmark has the highest proportion of female driver fatalities (33%), while Romania and Latvia have the least proportions (8% and 10%, respectively). When considering the age groups, the largest percentage of driver fatalities in the EU-24 countries were found in the age of 25 to 49 years. Much of these findings are likely to be related to percentage of drivers within each gender group and age group, as well as kilometres travelled.

Across the EU countries the majority of driver fatalities were male (82%)

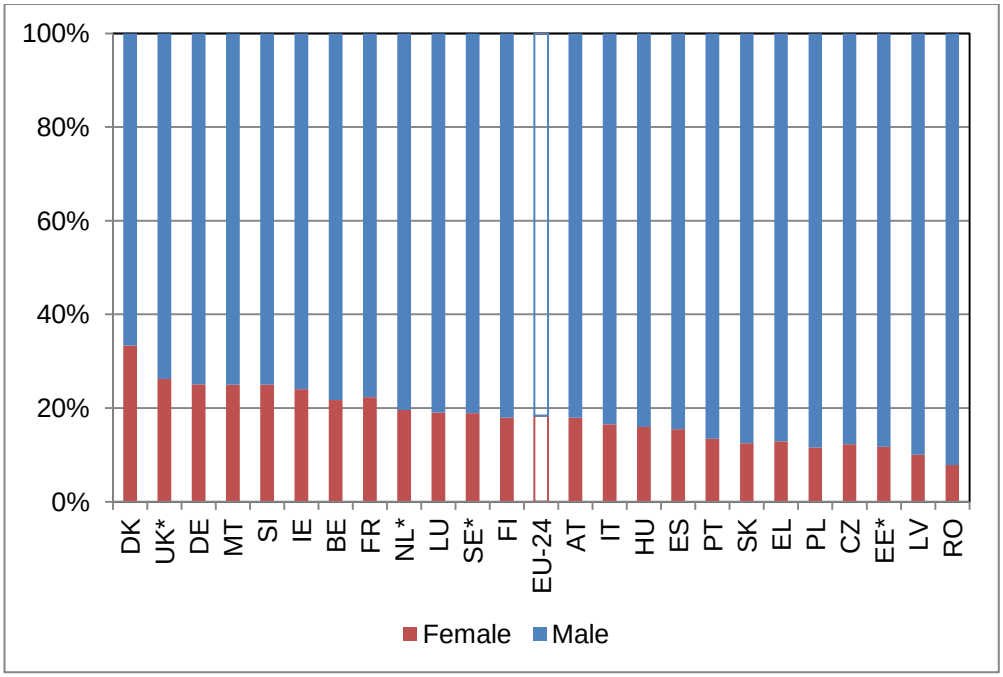
Table 4: Characteristics of age and gender of car driver fatalities by country for EU-24, 2010

	<18		18-24		25-49		50-64		65+		Number known	Total
	F	M	F	M	F	M	F	M	F	M		
BE	0%	0%	4%	21%	11%	34%	3%	11%	3%	12%	322	322
CZ	0%	0%	3%	18%	7%	40%	2%	16%	0%	13%	285	286
DK	0%	1%	4%	17%	17%	26%	2%	17%	10%	5%	93	93
DE	0%	0%	8%	19%	8%	26%	5%	13%	4%	17%	1.342	1.342
EE*	0%	0%	0%	24%	12%	44%	0%	9%	0%	12%	34	34
IE	0%	3%	5%	20%	11%	33%	4%	5%	4%	15%	79	79
EL	0%	2%	1%	13%	7%	41%	4%	15%	1%	15%	364	366
ES	0%	0%	3%	15%	9%	39%	2%	14%	2%	18%	783	784
FR	0%	1%	5%	20%	8%	32%	5%	11%	5%	14%	1.558	1.558
IT	0%	0%	3%	13%	8%	33%	3%	14%	3%	23%	1.287	1.304
LV	0%	0%	0%	23%	5%	33%	5%	23%	0%	13%	40	51
LU	0%	0%	0%	29%	10%	29%	5%	19%	5%	5%	21	21
HU	0%	0%	2%	13%	9%	40%	4%	20%	1%	11%	194	194
MT	0%	0%	0%	25%	25%	50%	0%	0%	0%	0%	4	4
NL*	0%	0%	3%	21%	8%	33%	4%	11%	5%	15%	209	209
AT	0%	1%	4%	26%	9%	24%	4%	11%	2%	20%	228	228
PL	0%	1%	3%	22%	7%	40%	2%	18%	1%	7%	1.122	1.125
PT	0%	0%	3%	7%	8%	39%	3%	20%	0%	21%	223	223
RO	0%	0%	1%	20%	6%	48%	1%	19%	0%	6%	486	486
SI	0%	0%	5%	14%	14%	36%	2%	11%	5%	14%	44	44
SK	0%	0%	3%	21%	9%	49%	1%	14%	0%	4%	80	103
FI	0%	2%	3%	20%	8%	32%	3%	10%	4%	18%	117	117
SE*	1%	3%	4%	16%	5%	26%	4%	16%	5%	20%	164	164
UK*	0%	3%	6%	20%	9%	27%	5%	8%	5%	16%	610	610
EU-24	0,1%	0,6%	3,9%	18,2%	8,1%	34,1%	3,4%	13,8%	2,9%	14,9%	9.689	9.747

* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

Figure 2: Distribution of car driver fatalities by gender, EU-24, 2010



* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

Among larger countries, Greece has the highest proportion of female car passenger fatalities (55%, see Table 5). The smallest proportion of female car passenger fatalities was in Ireland (26%). As with driver proportions, passenger fatalities were highest in the 25-49 age category (29%).

Table 5: Characteristics of age and gender of car passenger fatalities by country, EU-24, 2010

	<18		18-24		25-49		50-64		65+		Number known	Total
	F	M	F	M	F	M	F	M	F	M		
BE	6%	4%	13%	27%	9%	23%	3%	5%	7%	3%	116	121
CZ	2%	3%	13%	20%	9%	21%	7%	5%	15%	5%	107	117
DK	10%	2%	5%	19%	5%	14%	2%	5%	26%	12%	42	42
DE	10%	7%	11%	17%	8%	17%	4%	3%	18%	5%	498	498
EE*	10%	5%	10%	20%	15%	20%	5%	5%	10%	0%	20	20
IE	7%	9%	9%	37%	9%	24%	0%	2%	2%	2%	46	50
EL	7%	10%	10%	10%	17%	16%	9%	4%	12%	5%	176	179
ES	7%	8%	6%	16%	10%	19%	8%	6%	14%	5%	403	410
FR	7%	14%	8%	19%	9%	12%	7%	4%	15%	5%	559	559
IT	5%	8%	8%	16%	12%	17%	10%	4%	16%	4%	485	523
LV	0%	0%	14%	14%	14%	29%	10%	19%	0%	0%	21	40
LU	0%	0%	33%	17%	33%	17%	0%	0%	0%	0%	6	6
HU	5%	7%	5%	8%	18%	27%	12%	7%	7%	4%	136	136
MT	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	4	4
NL*	4%	4%	11%	24%	9%	14%	4%	1%	19%	10%	79	79
AT	10%	11%	10%	19%	11%	17%	3%	8%	10%	2%	63	63
PL	7%	8%	7%	18%	11%	23%	11%	7%	7%	2%	727	728
PT	2%	7%	6%	15%	14%	24%	8%	3%	15%	6%	144	144
RO	4%	7%	7%	15%	13%	25%	8%	9%	8%	4%	485	485
SI*	10%	0%	40%	20%	0%	10%	0%	0%	20%	0%	10	10
SK	5%	10%	11%	24%	11%	15%	8%	6%	8%	2%	62	68
FI	10%	5%	5%	21%	12%	17%	10%	5%	12%	5%	42	42
SE*	13%	17%	8%	10%	2%	10%	4%	2%	25%	8%	48	48
UK*	7%	11%	10%	20%	10%	9%	7%	2%	17%	6%	285	285
EU-24	6%	8%	8%	17%	11%	18%	8%	5%	13%	4%	4.564	4.657

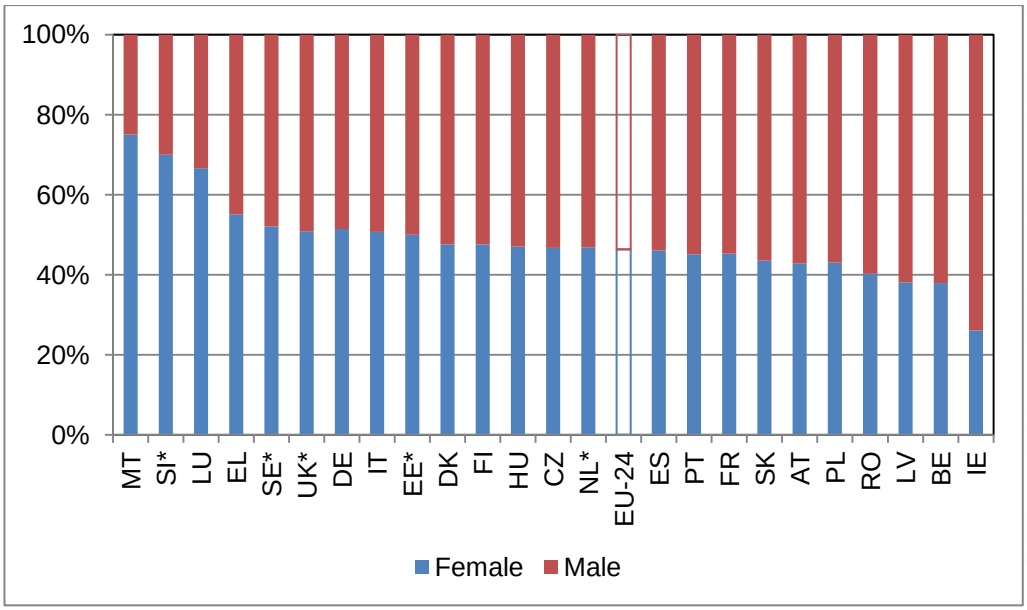
* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

The smallest proportion of female car passenger fatalities was in Ireland (26%).

Figure 3 shows that 46% of the car passenger fatalities in the EU-countries were female. For car drivers this was 18%.

Figure 3: Distribution of car passenger fatalities by gender, EU-24, 2010



* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

When do these Crashes Occur?

Table 6 presents the proportion of car occupant fatalities per month for the EU-24 countries in 2010. The proportions varied between 6,8% for February and 9,5% for July and October.

Table 6: Proportion of car occupant fatalities per month, EU-24, 2010

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
BE	10%	9%	6%	9%	9%	8%	7%	9%	10%	10%	8%	5%	443
CZ	6%	5%	8%	6%	8%	8%	11%	9%	10%	12%	10%	5%	403
DK	13%	4%	7%	7%	10%	7%	13%	7%	8%	6%	10%	7%	135
DE	7%	6%	8%	8%	9%	9%	10%	8%	9%	9%	11%	6%	1.840
EE*	13%	7%	6%	7%	7%	4%	4%	22%	15%	2%	4%	9%	54
IE	6%	6%	5%	9%	13%	4%	12%	12%	5%	17%	5%	5%	129
EL	8%	5%	9%	8%	7%	7%	7%	10%	11%	9%	6%	11%	545
ES	8%	6%	7%	8%	9%	7%	10%	10%	9%	10%	8%	9%	1.194
FR	8%	7%	8%	7%	9%	7%	10%	9%	8%	10%	9%	9%	2.117
IT	9%	9%	9%	9%	7%	8%	9%	7%	7%	8%	8%	9%	1.827
LV	7%	5%	1%	4%	13%	14%	14%	15%	4%	4%	5%	11%	91
LU	7%	4%	7%	0%	11%	11%	11%	7%	19%	4%	7%	11%	27
HU	12%	9%	5%	5%	6%	12%	8%	8%	10%	11%	8%	7%	330
MT	22%	11%	11%	0%	0%	22%	22%	0%	0%	0%	11%	0%	9
NL*	7%	10%	8%	6%	8%	8%	5%	7%	9%	11%	11%	10%	288
AT	12%	5%	8%	7%	10%	9%	10%	10%	7%	8%	8%	7%	291
PL	5%	4%	6%	7%	8%	9%	11%	12%	11%	12%	10%	4%	1.853
PT	8%	8%	9%	6%	8%	8%	10%	11%	5%	9%	8%	10%	367
RO	8%	8%	8%	6%	8%	8%	8%	9%	11%	10%	6%	12%	973
SI	7%	2%	7%	9%	9%	5%	7%	5%	14%	9%	16%	11%	44
SK	8%	6%	7%	6%	6%	6%	14%	9%	5%	13%	13%	6%	171
FI	4%	7%	9%	10%	6%	6%	15%	11%	9%	6%	6%	11%	159
SE*	8%	5%	4%	10%	6%	7%	11%	11%	8%	8%	8%	14%	219
UK*	9%	9%	9%	7%	9%	6%	7%	10%	9%	8%	9%	9%	895
EU-24	7,8%	6,8%	7,7%	7,4%	8,2%	8,1%	9,5%	9,2%	9,0%	9,5%	8,8%	7,9%	14.404

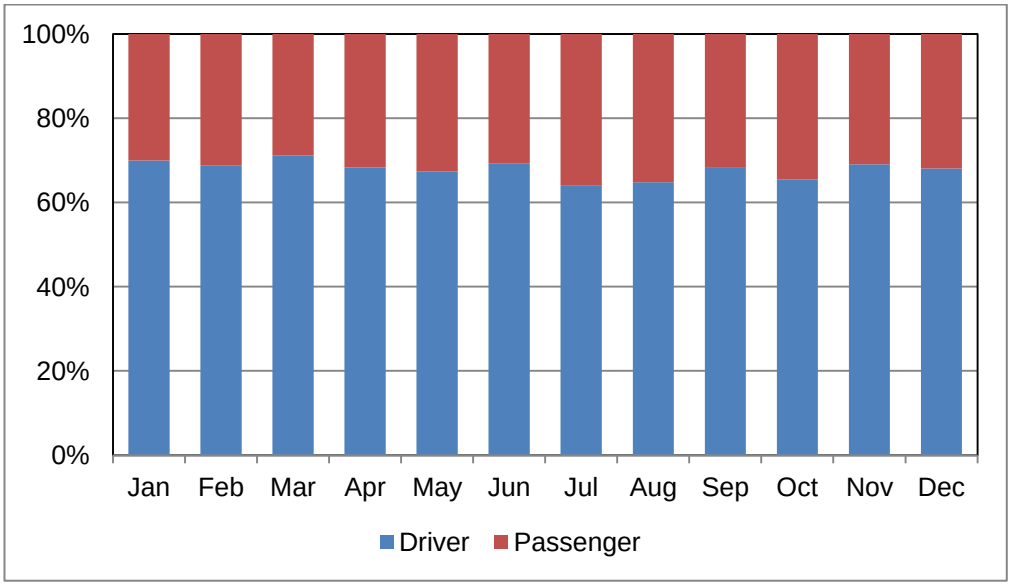
* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

In July and October the proportion of car passenger fatalities is relatively high

Figure 4 presents the proportion of car driver and passenger fatalities for the EU-24 per month for the year 2010. In general, the distribution is relatively equal over the year and around one-third of the car occupant fatalities are passengers. In July and August however, the proportion of car passenger fatalities is relatively high (36% and 35% respectively).

Figure 4: Proportion of fatalities of car driver and car passenger per month for the EU-24*, 2010



* Data from 2009 for EE, NL, NI and SE

Source: CARE Database / EC
Date of query: October 2012

Table 7: Proportion of car occupant fatalities per day of the week, EU-24, 2010

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
BE	11%	9%	13%	13%	14%	19%	20%	443
CZ	14%	13%	16%	13%	16%	15%	13%	403
DK	11%	15%	12%	13%	16%	24%	10%	135
DE	15%	13%	12%	13%	16%	15%	16%	1.840
EE*	9%	9%	13%	19%	11%	17%	22%	54
IE	13%	12%	12%	9%	10%	19%	25%	129
EL	16%	13%	12%	12%	12%	16%	20%	545
ES	12%	12%	13%	12%	15%	17%	19%	1.194
FR	12%	12%	12%	12%	17%	17%	18%	2.117
IT	14%	11%	12%	11%	14%	18%	20%	1.827
LV	18%	13%	16%	12%	12%	13%	15%	91
LU	11%	4%	19%	11%	22%	19%	15%	27
HU	17%	9%	11%	15%	20%	17%	12%	330
MT	11%	11%	0%	0%	11%	11%	56%	9
NL*	13%	10%	15%	12%	15%	16%	18%	288
AT	15%	12%	14%	13%	16%	14%	16%	291
PL	15%	14%	12%	12%	13%	17%	16%	1.853
PT	15%	13%	11%	10%	10%	19%	22%	367
RO	11%	12%	11%	13%	16%	16%	20%	973
SI	7%	7%	9%	16%	25%	23%	14%	44
SK	12%	14%	11%	15%	12%	19%	17%	171
FI	14%	14%	14%	17%	9%	23%	10%	159
SE*	15%	14%	11%	11%	16%	16%	17%	219
UK*	13%	14%	12%	11%	15%	17%	19%	895
EU-24	13,5%	12,3%	12,3%	12,3%	15,0%	16,8%	17,9%	14.404

* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

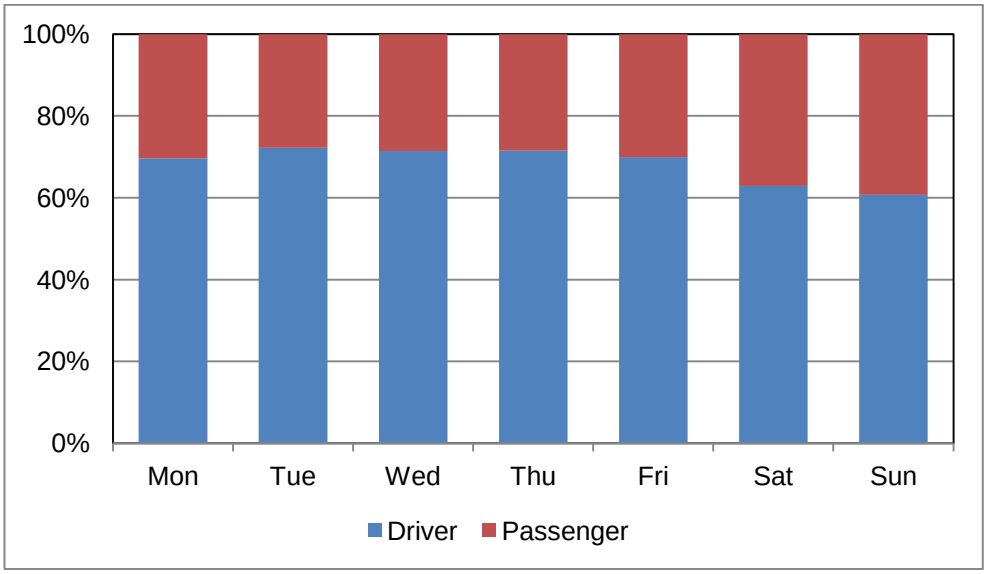
34,7% of car occupant fatalities occur either on a Saturday or a Sunday, while the Tuesdays, Wednesday and Thursdays have the lowest percentage of fatalities.

Table 7 presents the percentages of car occupant fatalities across the days of the week. These data indicate that for the EU-24, 34,7% of car occupant fatalities occur either on a Saturday or a Sunday, while the lowest percentage occurs on Tuesdays, Wednesdays and Thursdays (12,3%).

Figure 5 presents the proportion of fatalities of car drivers and passengers for the EU-24 by day of the week for the year 2010.The proportion of passenger fatalities is higher in weekend days compared to the proportion of passenger fatalities for the rest of the week.

During the weekend, the proportion of car passenger fatalities is higher than during the week.

Figure 5: Proportion of car driver and passenger fatalities per day of week, EU-24*, 2010



* Data from 2009 for EE, NL, NI and SE

Source: CARE Database / EC
Date of query: October 2012

Table 8 presents the percentage of car occupant fatalities over a 24 hour period. A notable difference for the EU-23a is evident between the smallest percentage of fatalities (from midnight to 4 AM: 12,6%) and the largest percentage of fatalities (16:00-20:00: 21,3%). In fifteen countries - except Belgium, Denmark, Ireland, Estonia, Luxembourg, Malta, Austria and Slovakia - the largest percentage of fatalities occurred between 16:00 and 20:00 hours, suggesting the afternoon peak hour traffic is a significant contributing factor to the total fatality numbers.

The largest percentage of fatalities occurred between 16:00 and 20.00

Table 8: Proportions of car occupant fatalities during the day for EU-23a, 2010

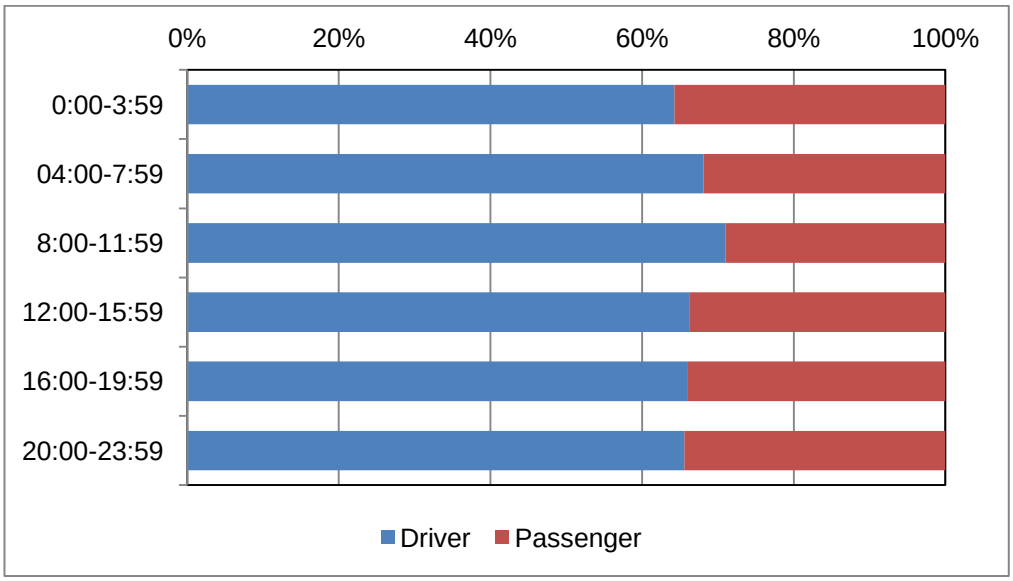
	0:00-3:59	04:00-7:59	8:00-11:59	12:00-15:59	16:00-19:59	20:00-23:59	Number known	Total
BE	19%	21%	12%	12%	15%	20%	443	443
CZ	8%	21%	18%	21%	21%	12%	400	403
DK	14%	10%	13%	25%	21%	18%	135	135
EE*	20%	9%	33%	13%	11%	13%	54	54
IE	23%	19%	12%	9%	14%	24%	129	129
EL	14%	17%	13%	17%	23%	15%	545	545
ES	9%	16%	19%	19%	20%	17%	1.194	1.194
FR	13%	15%	15%	17%	24%	17%	2.117	2.117
IT	15%	14%	17%	17%	22%	14%	1.817	1.827
LV	4%	12%	16%	25%	30%	12%	91	91
LU	15%	15%	12%	8%	15%	35%	26	27
HU	10%	19%	19%	20%	20%	12%	330	330
MT	22%	33%	11%	0%	11%	22%	9	9
NL*	11%	14%	15%	16%	24%	20%	288	288
AT	9%	16%	15%	24%	22%	13%	291	291
PL	10%	17%	16%	20%	21%	16%	1.853	1.853
PT	12%	14%	15%	21%	21%	16%	367	367
RO	13%	16%	15%	19%	20%	16%	973	973
SI	16%	16%	11%	20%	25%	11%	44	44
SK	9%	21%	21%	22%	19%	9%	170	171
FI	13%	8%	23%	21%	24%	11%	159	159
SE*	15%	15%	19%	20%	20%	11%	216	219
UK*	14%	11%	16%	19%	20%	19%	895	895
EU-23a	12,6%	15,7%	16,2%	18,3%	21,3%	15,9%	12.546	12.564

* Data from 2009
No data for DE available

Source: CARE Database / EC
Date of query: October 2012

Figure 6 presents the proportion of fatalities of car drivers and passengers for the EU-23a countries by time of day in 2010. The proportion of car passenger fatalities (in the EU-23a) is highest (36%) between midnight and 04:00 AM, but there is little variation during the day.

Figure 6: Proportion of car driver and passenger fatalities by time of the day for the EU-23a*, 2010



No data for DE available
* Data from 2009 for EE, NL, NI and SE

Source: CARE Database / EC
Date of query: October 2012

Where Do these Fatalities Occur?

In 2010 only 15% of the car occupant fatalities in the EU-23b countries occurred at junctions

The majority of car occupant fatalities occur away from a junction, with only around 15% of the fatalities occurring at junctions in the EU-23b countries (Table 9). The data indicate that among the larger countries, The United Kingdom have the greatest share of fatalities at junctions (27%). Slovakia has only 7% of fatalities at junctions.

Table 9: Proportions of car occupant fatalities at junctions for EU-23b, 2010

	Junction	Not at junction	Number known	Total
BE	15%	85%	443	443
CZ	22%	78%	403	403
DK	21%	79%	135	135
DE	26%	74%	991	1.840
EE*	19%	81%	52	54
IE	100%	0%	9	129
EL	0%	100%	499	545
ES	13%	87%	1.194	1.194
FR	8%	92%	2.117	2.117
IT	24%	76%	1.827	1.827
LV	15%	85%	91	91
LU	0%	100%	27	27
HU	15%	85%	330	330
NL*	17%	83%	288	288
AT	14%	86%	291	291
PL	13%	87%	1.853	1.853
PT	14%	86%	359	367
RO	8%	92%	973	973
SI	5%	95%	44	44
SK	7%	93%	171	171
FI	18%	82%	159	159
SE*	12%	88%	219	219
UK*	27%	73%	895	895
EU-23b	15%	85%	13.370	14.395

No data for MT available
* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

Table 10 shows the number of car occupant fatalities by road and area type. Most of the car occupant fatalities in the EU-24 countries occur outside urban areas, on non-motorways (68%). In Spain even 93% of the car occupant fatalities occurred outside urban areas, in Romania only 55%. Around one-fifth of the car occupant fatalities in the EU-24 countries occurred inside urban areas. In Spain only 7% occurred inside urban areas, in Ireland even 87%.

In 2010, 68% of the car occupant fatalities in the EU-24 countries occurred outside urban areas on non-motorways

Table 10: Car occupant fatalities by road type and area type for EU-24, 2010

	Outside urban area		Inside urban area	Total
	Motorway	Non motorway		
BE	16%	62%	22%	443
CZ	3%	75%	23%	403
DK	11%	75%	14%	135
DE	14%	73%	13%	1.840
EE*	-	-	100%	54
IE	13%	-	87%	129
EL	15%	33%	52%	545
ES	20%	72%	7%	1.194
FR	8%	79%	14%	2.117
IT	13%	60%	27%	1.827
LV	-	80%	20%	91
LU	22%	73%	7%	27
HU	7%	76%	17%	330
MT	-	-	100%	9
NL*	23%	62%	15%	288
AT	11%	77%	12%	291
PL	1%	66%	32%	1.853
PT	19%	48%	33%	367
RO	1%	54%	45%	973
SI	25%	50%	25%	44
SK	6%	75%	19%	171
FI	3%	86%	11%	159
SE*	6%	79%	15%	219
UK*	7%	68%	25%	895
EU-24	10%	68%	22%	14.404

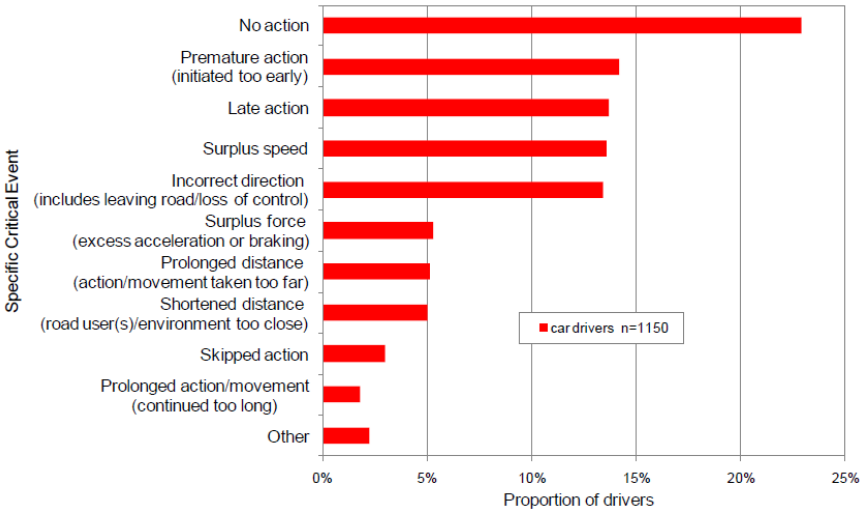
* Data from 2009

Source: CARE Database / EC
Date of query: October 2012

Accident Causation

Between 2005 and 2008 in Germany, Italy, The Netherlands, Finland, Sweden and the UK data of 1.006 accidents (covering all injury severities) was collected. Most accidents (82%; 826) in the accident causation database involve a car. Of the car drivers, 65% were male and the mean age of drivers involved was 41 years. Figure 7 gives the distribution of specific critical events for car drivers.

Figure 7: Distribution of specific critical events – car drivers



N=1150

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

Specific critical events under the general category of 'timing', 'no action', 'premature action' and 'late action', are recorded most often for car drivers. 'No action' describes those drivers who have not reacted at all (or at least in an effective time frame) to avoid a collision, for example, to avoid an oncoming vehicle. A 'premature action' is one undertaken before a signal has been given or the required conditions are established, for example entering a junction before it is clear of other traffic.

Following these 'timing' events, surplus speed and incorrect direction are recorded in equal measure. Surplus speed describes speed that is too high for the conditions or manoeuvre being carried out, travelling above the speed limit and also if the driver is travelling at speed unexpected by other road users. 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 direction of the road). 'Loss of control' type accidents can fall into either critical event depending on the specific situation.

Table 11 gives the most frequent links between causes for injury crashes with car drivers involved, as recorded in the SafetyNet dataset. For this group there are 1.303 links in total.

Table 11. Ten most frequent links between causes – car drivers

Links between causes	Frequency
Faulty diagnosis - Information failure (driver/environment or driver/vehicle)	209
Observation missed - Distraction	86
Observation missed - Temporary obstruction to view	83
Observation missed - Faulty diagnosis	77
Faulty diagnosis - Communication failure	66
Inadequate plan - Insufficient knowledge	62
Observation missed - Permanent obstruction to view	60
Observation missed - Inadequate plan	52
Observation missed - Inattention	47
Inadequate plan – Under the influence of substances	45
Others	516
Total	1.303

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 11 gives an indication of the most frequently recorded causes and the most frequently recorded links between these causes. 'Faulty diagnosis' and 'observation missed' are two dominant causes for car drivers. 'Faulty diagnosis' is an incorrect or incomplete understanding of road conditions or another road user's actions. It is linked to both 'information failure' (for example, a driver thinking another vehicle was moving when it was in fact stopped and colliding with it) and 'communication failure' (for example, pulling out in the continuing path of a driver who has indicated for a turn too early).

The causes leading to 'observation missed' can be seen to fall into two groups: 'physical obstruction to view' type causes (for example, parked cars at a junction) and 'human factors' (for example, not observing a red light due to distraction or inattention).

'Inadequate plan' can also be seen to be frequently recorded and describes a lack of all the required details or that the driver's ideas do not correspond to reality. It is most often linked to 'insufficient knowledge' (for example, not understanding a complex junction layout) but it is also linked with 'under the influence of substances' (alcohol, drugs or medication).

ROAD ACCIDENT HEALTH INDICATORS

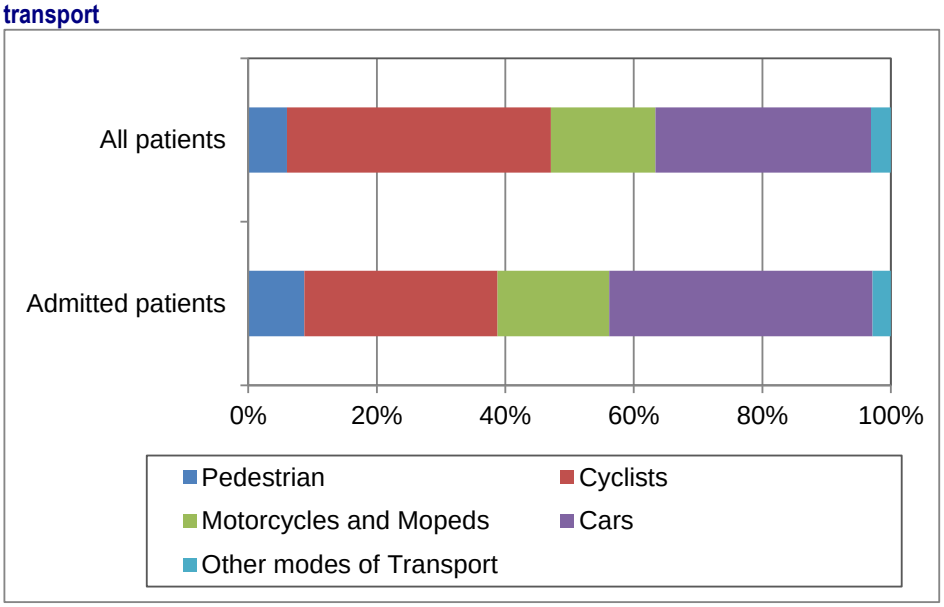
By 2012, thirteen member states routinely collected data in a sample of hospitals and contributed them to the EU injury Database.

Injury data can be obtained from a wide range of sources, such as police and ambulance reports, national insurance schemes, and hospital records, each of which provides a specific but yet incomplete picture of the injuries suffered in road accidents. In order to obtain a comprehensive view of these injuries, the EU Council issued a Recommendation that urges member states to use synergies between existing data sources and to develop national injury surveillance systems rooted in the health sector.[3] At present, thirteen member states are routinely collecting injury data in a sample of hospitals and delivering these data to the Commission. This system is called the EU Injury Database (EU IDB).[4]

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

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

Figure 8: Distribution of non-fatal road accident casualties attending hospital, by mode of transport



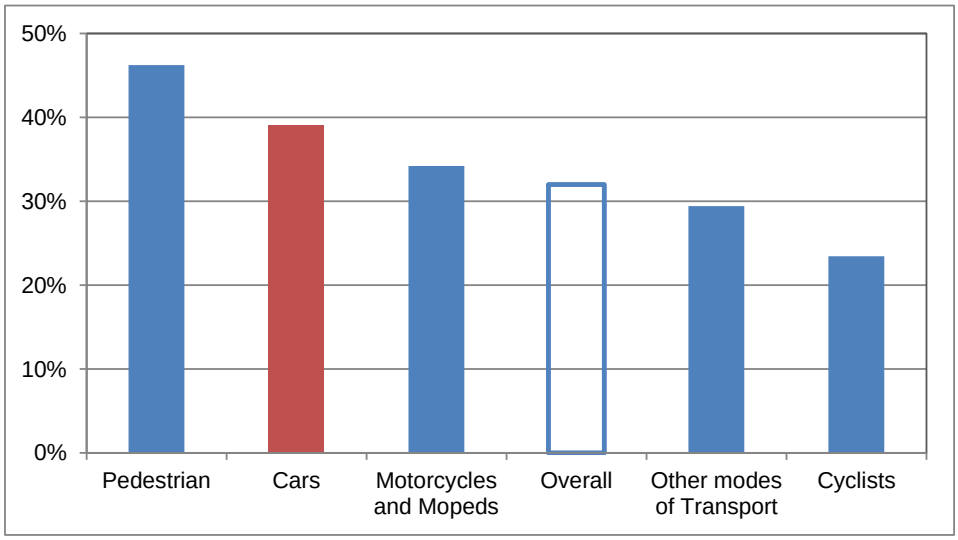
EU Injury Database (EU IDB AI) - hospital treated patients. IDB AI Transport module and place of occurrence (code 6.n [public road]); n-all = 73 600: n-admitted = 23.568 (DE, DK, LV, MT, AT, NL, SE, SI, CY, years 2005-2008).

[3] OJ C 164/1, 18.7.2007
[4] https://webgate.ec.europa.eu/sanco/heidi/index.php/IDB

Figure 8 is based on IDB data from nine countries for accidents that occurred between 2005 and 2008. Vulnerable road users (pedestrians, cyclists, motorcycles and mopeds) accounted for almost two thirds (63%) of road accident casualties attending hospital, and for over half of casualties admitted to the hospital (56%).Figure 9 shows that overall 32% of road accident casualties recorded in the IDB were admitted to hospital, compared with 39% of car occupants. Figure 10 shows that the overall average length of stay was eight days, but six days for car occupants.

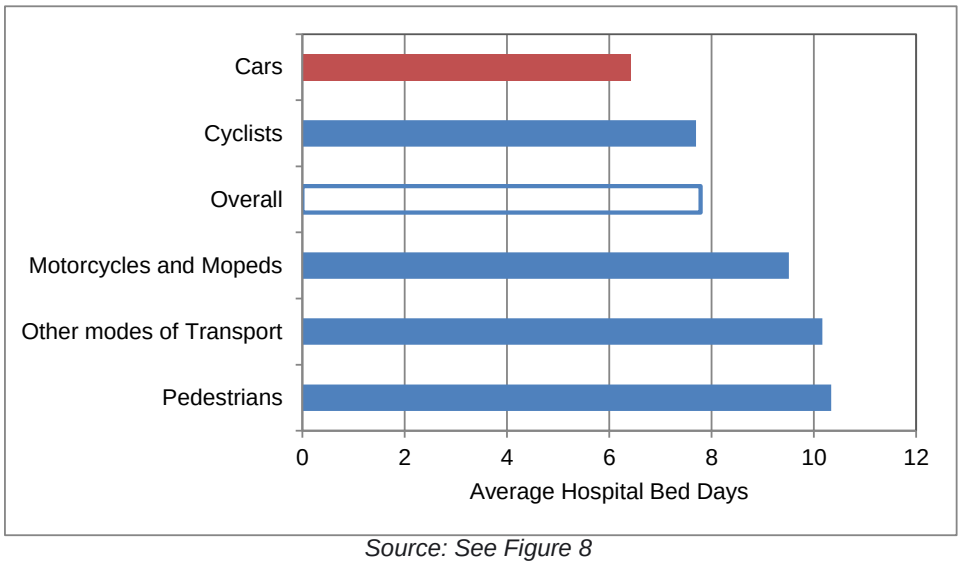
About 40% of the car occupant casualties who attended a hospital were admitted to the hospital; their average stay in hospital was six days.

Figure 9: Proportion of casualties who attended a hospital that were admitted, by mode of transport



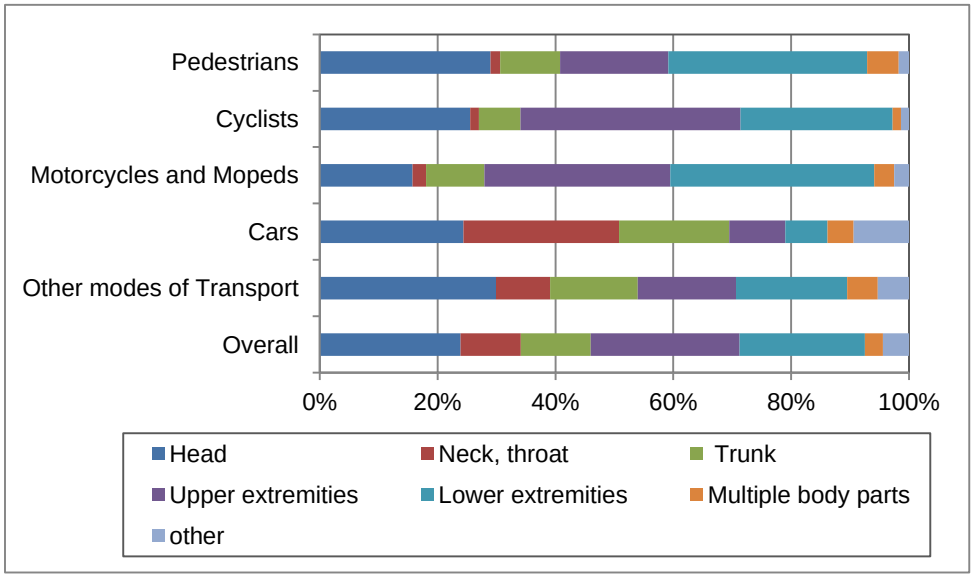
Source: See Figure 8.

Figure 10: Average length of stay (hospital bed days), by mode of transport



Source: See Figure 8

Figure 11: Body part injured, by mode of transport



Source: See Figure 8

Naturally, hospital data can provide information on the injury patterns sustained by the accident victims. Figure 11 illustrates the distribution of body parts injured of the various road user types. Car occupants, for example, show the greatest proportion of neck and throat injuries among all types of road, presumably linked to the incidence of whip-lash.

Contusions and bruises account for almost 40% of all injuries suffered by car occupant casualties who attended a hospital for treatment.

Table 11 shows the types of injuries most frequently recorded in the EU IDB. It compares the distribution of injuries among car occupants and all types of road users.

Table 11: Ten most frequent types of injury in car occupants and all road users

	Car occupants	All road users
Contusion, bruise	38%	34%
Fracture	15%	27%
Open wound	6%	10%
Distortion, sprain	12%	8%
Concussion	9%	7%
Other specified brain injury	2%	2%
Luxation, dislocation	1%	2%
Injury to muscle and tendon	3%	2%
Abrasion	1%	1%
Injury to internal organs	1%	1%
Other specified types of injury	12%	6%
Total	100%	100%

Source: See Figure 8

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
- Bicycles
- Motorcycles and Mopeds
- Car occupants
- Heavy Goods Vehicles
- Motorways
- Junctions
- Roads in urban areas
- Roads outside urban areas
- Seasonality
- Single vehicle accidents
- Gender
- Accident causation

Country abbreviations used and definition of EU-level

EU – 19	
BE	Belgium
CZ	Czech Republic
DK	Denmark
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
LU	Luxembourg
HU	Hungary
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 +	
DE	Germany
EE	Estonia
LV	Latvia
MT	Malta
SK	Slovakia

EU-23a = EU-19 +	
EE	Estonia
LV	Latvia
MT	Malta
SK	Slovakia

EU-23b = EU-19 +	
DE	Germany
EE	Estonia
LV	Latvia
SK	Slovakia

EU-20 = EU-19+	
DE	Germany

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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Authors

Nimmi Candappa, Michiel Christoph, Kirsten van Duijvenvoorde, Martijn Vis	SWOV, The Netherlands
George Yannis, Petros Evgenikos, Panagiotis Papantoniou	NTUA, Greece
Jeremy Broughton	TRL, UK
Pete Thomas, Alan Kirk, Laurie Brown	Loughborough University, UK
Christian Brandstaetter	KfV, Austria
Jean François Pace, María Teresa Tormo, Jaime Sanmartín	INTRAS-UVEG, Spain
Mouloud Haddak, Léa Pascal, Marie Lefèvre, Emmanuelle Amoros	IFSTTAR, France