Road Safety Vademecum

Road safety trends, statistics and challenges in the EU 2011-2012

European Commission
DG for Mobility and Transport
Unit C.4 – Road Safety

Contents

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Summary of findings

- In 2012, almost 28 000 road fatalities were reported in the EU.
- This is a decrease of around 9% compared to 2011, improving the average reduction rate per year to 5% and setting the EU almost back on track to achieve the target of halving road deaths by 2020 as compared to 2010.
- On average in 2012 there were 55 road deaths per million inhabitants in the EU Member States.
- The top road safety performers (lowest number of road deaths per year and million inhabitants) in 2012 are the UK, Sweden, the Netherlands and Denmark.
- The highest number of road fatalities in 2012 is found in Lithuania, Romania, Poland and Greece; Lithuania and Romania even suffered increased numbers of road deaths.
- The age group of 18-24-year olds is heavily over-represented among road deaths: 16% of all road fatalities, 24% of all car driver fatalities.
- 15% of all road fatalities are motorcycle riders and 21% are pedestrians.
- A heavy goods vehicle (lorry) is involved in 6% of all accidents but in 16% of all fatal accidents – not necessarily meaning that the goods vehicle occupant is the victim of those accidents.
- Some 11 000 fatal accidents occur within urban areas each year; 37% of the victims are pedestrians and the elderly (65+ years) are especially over-represented.
- Around 33% of all road accidents and 57% of all fatal accidents take place on rural roads. 61% of all accidents and 36% of all fatal accidents take place within urban areas. 6% of all accidents and 7% of all fatal accidents take place on the motorways.

1. Introduction

The point of departure in the transport White Paper is the *vision zero*: the European Commission's commitment to a long-term visionary objective of abolishing road deaths and serious road traffic injuries.

Road safety concerns all EU citizens. Using the roads and streets is part of the every-day life for as good as every European. But each year almost 30 000 lives are lost on these roads. Around 250 000 people are reported to be seriously injured. This is an unacceptably high price to pay. In addition, the road accidents cause real socio-economic costs of around 2% of EU GDP every year. The responsibility is shared, primarily between the road users, the vehicle manufacturers, the infrastructure managers, the local and national authorities and the EU.

This text is prepared by the Road Safety Unit of DG MOVE in order to provide an overview of the latest road safety data and the main road safety developments in the EU. It is based on data from the EU road accident database (CARE), presenting the first provisional figures reported for 2012, where available, complemented with the final detailed data for 2011.

2. The road safety situation in the EU

The European Commission's road safety policy orientations for the period 2011-2020[1] present seven priority objectives: education and training, enforcement, safer infrastructure, safer vehicles, use of modern technology, emergency and post-injury services and the safety of vulnerable road users. The instruments used include a comprehensive set of EU legislation, support to research projects and activities for awareness-raising. The strategic target for the period is to halve the number of road deaths between 2010 and 2020.

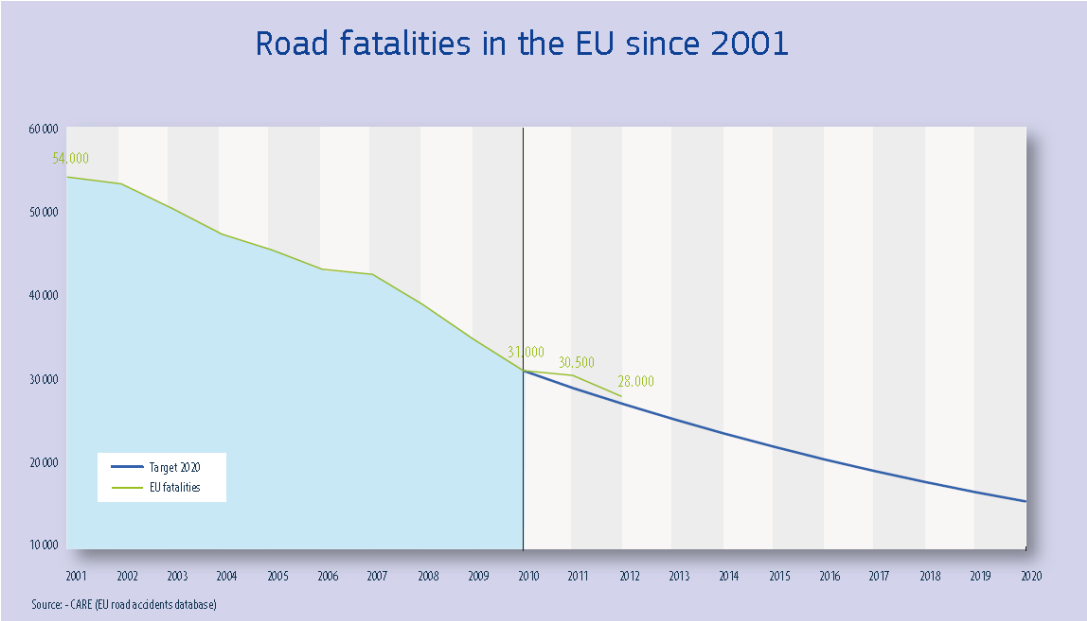
The EU target is mirrored in many of the Member States' national road safety strategies. Almost every Member State which adopted a national road safety strategy has also set a strategic outcome target for reduction of road fatalities. Austria, Belgium, Hungary, Slovakia and Spain are among the Member States who have committed themselves to the 2020 goal of -50% road deaths. Others have chosen other timelines for the strategic objective, or set the target at a less ambitious level. The presence of national road safety strategies in almost all Member States shows a high level of political commitment to road safety matters. This commitment also contributed to the good figures in the first preliminary road safety data for 2012.

Development over time

In 2012, a provisional total of 27 784 road fatalities were reported from the 27 Member States. This is a decrease of around 9% compared to 2011.

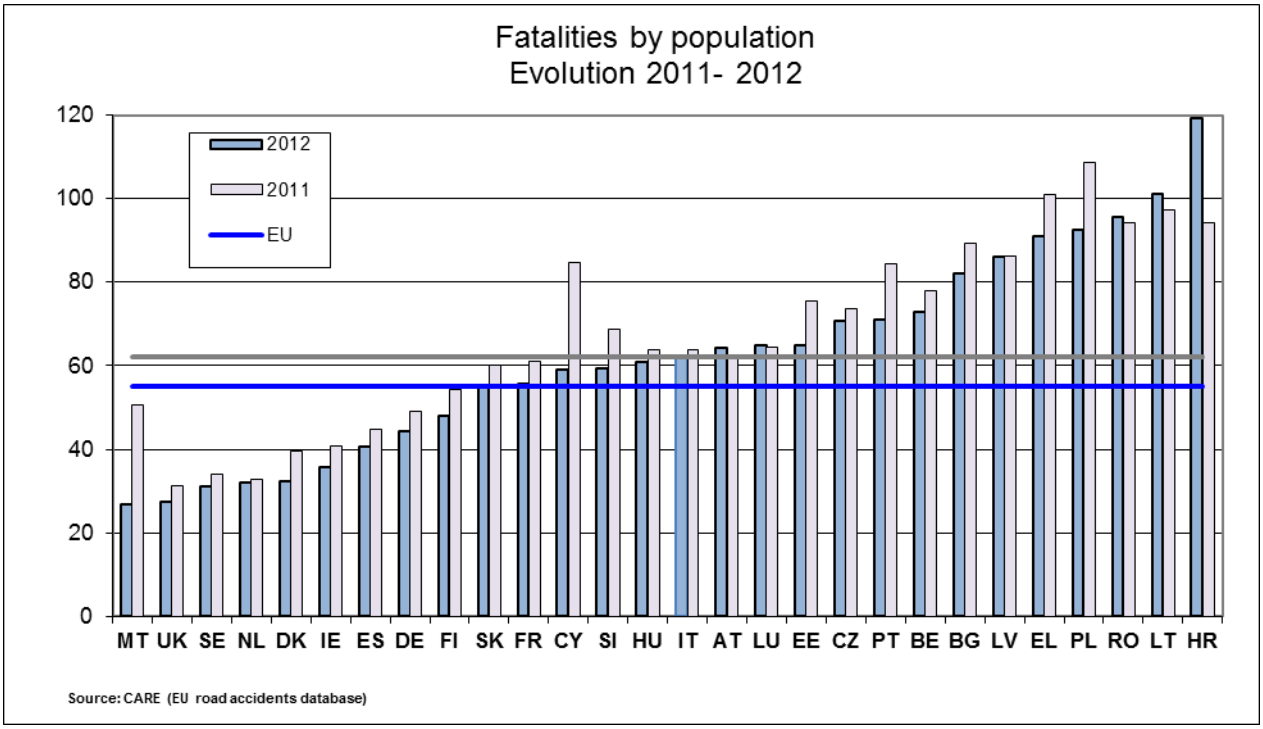
In order to reach the goal of halving the road deaths in ten years' time, an average reduction of around 7% per year would be needed. The good results of 2012 mean that the road safety figures are now catching up towards the 2020 objective, following a year of rather discouraging results in 2011. The average reduction rate is now 5% per year.

[1] http://ec.europa.eu/transport/road_safety/pdf/com_20072010_en.pdf



Development over time: reduction of number of fatalities in the EU

The biggest percentage change from 2011 to 2012 is found in Denmark and Portugal, apart from the small countries with very high fluctuations between the years. Portugal and Denmark both decreased their number of road deaths by more than 15% in that one year. However, even with this impressive progress, Portugal still has well above the EU average number of road deaths.



Fatalities per million inhabitants in the EU Member States and Croatia 2011-2012

Road safety rates 2012

Europe remains – by far – the leading road safety region world-wide. Globally, around 1.3 million people die in road traffic accidents every year. Around 2% of these fatal accidents occur in the EU. Some individual countries, notably Israel and Japan, have road death figures almost at the same

level as the best performing EU countries. Australia and Canada have figures comparable to the EU average whereas other developed countries have much higher numbers of road deaths per million inhabitants and year (e.g. New Zealand 86 dead/million people, USA 106 dead/million people and Russia 200 dead/million people). The lion share of all road deaths occur in the developing countries.

The EU average road death rates in 2012 were down to 55 road deaths per million inhabitants in one year, a clear improvement compared to the baseline year 2010 with 62 dead per million inhabitants. The differences between the Member States are decreasing (ranging between 30 and 100 road deaths per million inhabitants.). Twenty years ago, before the Maastricht Treaty introduced road safety as a policy area into the EU acquis, the annual fatality rates amounted to around 160 dead per million people and the figures varied substantially between the present EU countries, from 90 to 300 dead per million people.

Denmark and Ireland have recently joined the group of the traditional road safety top performers: the UK, Sweden and the Netherlands. Malta should also be mentioned as a country with very few road deaths, but with a different point of departure as a small country with big fluctuation rates over time.

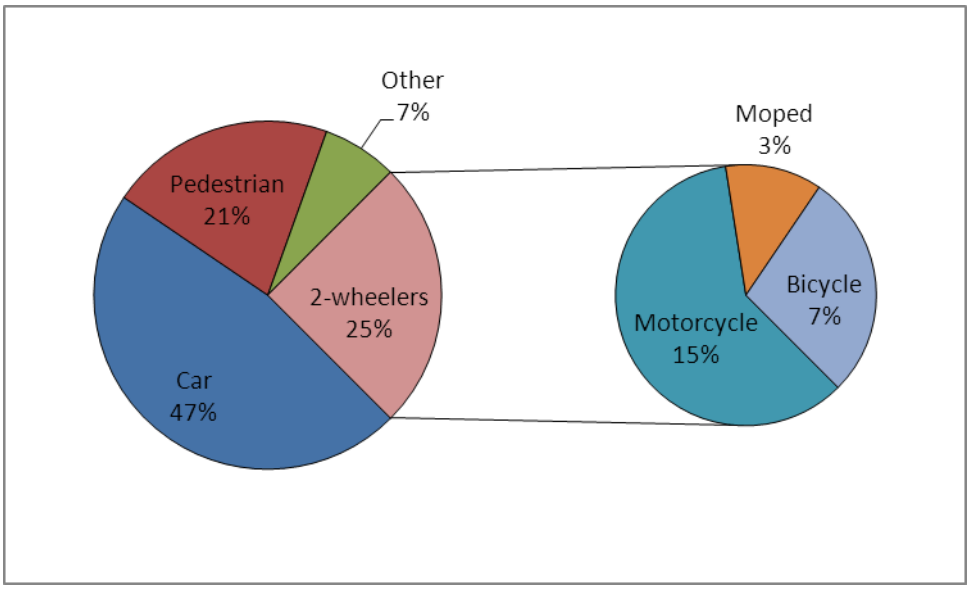
The highest number of road fatalities in 2012 is found, as in many previous years, in Lithuania, Romania and Poland as well as Greece. Of these Lithuania and Romania are of special concern as they have experienced an increased number of road deaths last year, defying the general European trend.

During 2013 Croatia is expected to become the 28th Member State of the EU and has already adopted a national road safety strategy aligned to the European road safety objectives. The number of road deaths is still high in Croatia. For 2011, 416 road deaths were reported to the European road accident database (the CARE database), corresponding to 94 dead per million inhabitants. The number of road deaths decreased by only 35% during the last decade compared to the 43% decrease in the EU. Croatia will thus face a real challenge in catching up to the road safety levels of the 27 current Member States.

Member State	Fatalities/million inhabitants				Evolution of total number of fatalities		
	1965	2010	2011	2012	average decrease/year 2000-2010	2010-2011	2011-2012
Belgique/België	147	77	78	73	-6%	2%	-12%
България (Bulgaria)	91	103	89	82	-3%	-15%	-8%
Česká republika	150	76	74	71	-5%	-4%	-4%
Danmark	212	46	40	32	-6%	-14%	-18%
Deutschland	234	45	49	44	-7%	10%	-10%
Eesti	178	58	75	65	-10%	29%	-14%
Éire/Ireland	124	47	41	36	-7%	-12%	-12%
Ελλάδα (Elláda)	89	111	101	92	-4%	-9%	-10%
España	114	54	45	41	-9%	-17%	-9%
France	249	62	61	56	-8%	-1%	-8%
Italia	186	68	64	62	-6%	-6%	-2%
Κύπρος (Kypros)/Kibris	162	73	85	59	-5%	18%	-28%
Latvija	290	97	86	86	-10%	-18%	-2%
Lietuva	250	90	97	100	-9%	-1%	2%
Luxembourg	250	64	64	65	-8%	3%	3%
Magyarország	86	74	64	60	-6%	-14%	-5%
Malta	36	36	51	26	-1%	40%	-48%
Nederland	202	32	33	32	-7%	2%	-1%
Österreich	252	66	62	64	-6%	-5%	4%
Polska	79	102	109	94	-4%	7%	-13%
Portugal	117	79	84	71	-6%	-7%	-16%
România	98	111	94	96	0%	-15%	1%
Slovenija	327	67	69	59	-7%	2%	-13%
Slovensko	128	68	60	55	-5%	-13%	-9%
Suomi/Finland	230	51	54	48	-5%	7%	-11%
Sverige	170	28	34	31	-8%	20%	-7%
United Kingdom	146	31	31	28	-7%	3%	-12%
EU	171	62	60	55	-6%	-2%	-9%

3. The road users

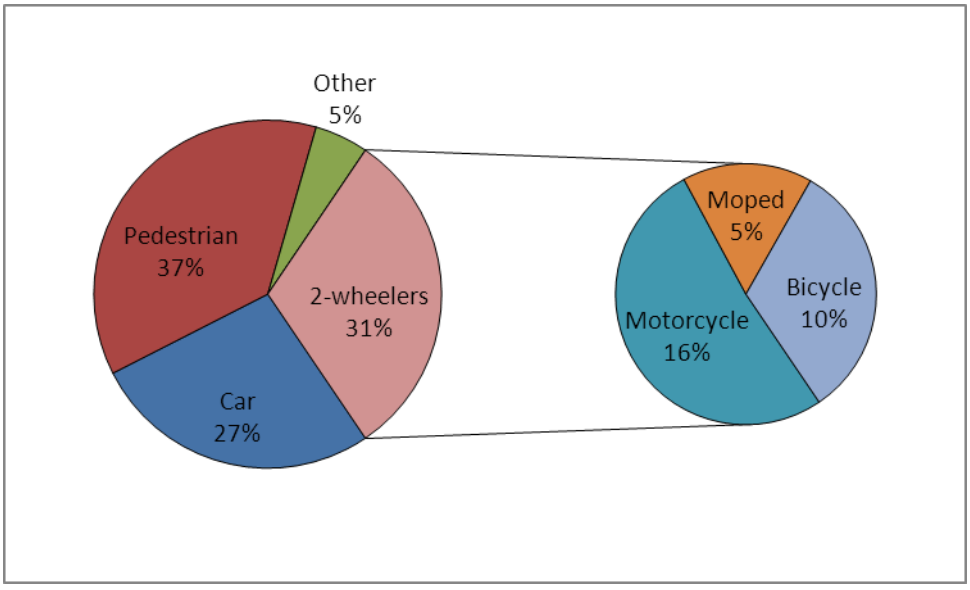
The road user is the most important – and also often the weakest – link in the road safety chain. Every road user is responsible for his or her behaviour on the roads and streets. But different categories of road users face different challenges and risks.



Shares of all road fatalities

Of all road fatalities, almost 50% are car occupants and around 15% are motorcyclists – although there are around 25 cars to every motorcycle registered in the EU. One in five of those killed on the roads is a pedestrian. Cyclists and moped riders together make up around 10% of all road deaths.

However, the situation is different within the urban areas where the pedestrian fatalities make up almost 40%



Shares of road fatalities inside urban areas

The risks of the various road users group have changed over time. The best improvements are seen for car drivers as cars have become increasingly safer. The trends for vulnerable road users are more prone to short-term changes, being affected also by external factors such as weather conditions.

Pedestrians

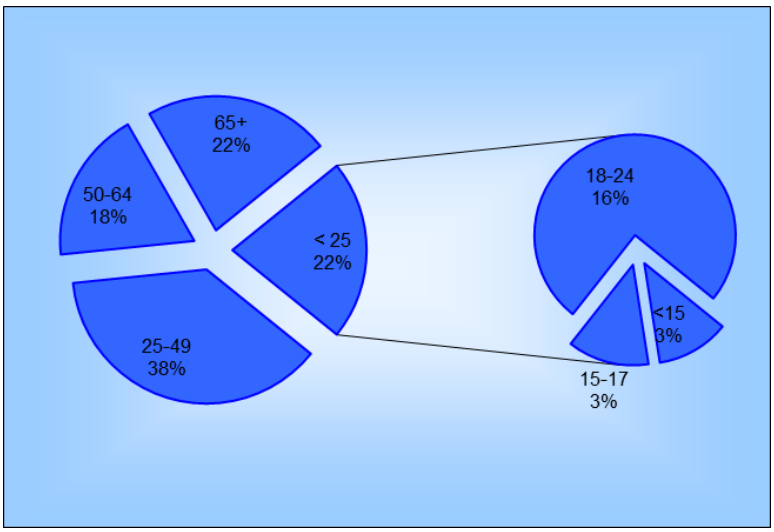
Among the main concerns during 2011 was the high number of pedestrian fatalities. The number of pedestrians killed increased 4% between 2010 and 2011. In 2011 around 6 400 pedestrians were killed on EU roads. The majority of them died inside urban areas. Among the suspected reasons to this negative development was the increasing presence of distractions, both for car drivers and pedestrians – not least in the form of smart phones.

However, the black year of 2011 is not representative for the long-term developments. In the decade 2001-2010 the pedestrian fatalities decreased significantly from more than 10 000 dead every year to around 6000 per year. The first preliminary figures for 2012 indicate that there is now again a decrease.

The road safety risks for pedestrians receive particular international attention in 2013. Pedestrian safety is the theme for the *United Nations Global Road Safety Week* 6-13 May 2013. The World Health Organisation releases a pedestrian safety manual and the EU contributes by organising the European Road Safety Day on the topic of pedestrian safety in EU urban areas as part of the UN week.

Risks per age groups

The majority of all road accident victims are in the age span of 25-49 years old, a large segment of the total population and an active group with high presence on the roads.



Shares of all road fatalities: per age group

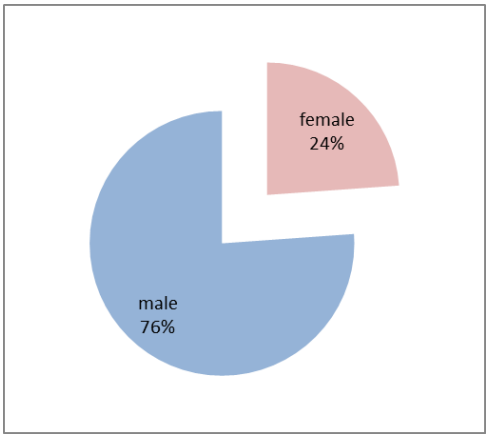
The best improvement over time in the EU is seen for children under the age of 17. Among the contributing factors are, most likely, the increased use of proper child restraints in cars[2] and the increased application of 30km/hour zones around schools.

[2] Council Directive 91/671/EEC of 16 December 1991 on the approximation of the laws of the Member States relating to compulsory use of safety belts in vehicles of less than 3,5 tonnes, OJ L 373, 31.12.1991, p. 26-28

The age groups of 18-24 and 65+ are of particular concern as these groups are heavily over-represented among road deaths. Young people, aged 18-24, make up around 10% of the total EU population but almost 16% of all road fatalities and more than 20 % of car driver fatalities. Elderly over 65 years old are especially in risk as pedestrians. Among the explanations to the high death tolls among these age groups are that young people seem more prone to risk-taking, including drink-driving. Elderly people may have reduced capacity to assess and deal with road traffic situations – for example reduced sight or hearing – and the elderly human body is often more vulnerable to the collision impact. The young drivers and young road users received special attention in 2012 when the 4th edition of the European Road Safety Day was organised by the European Commission together with the European Youth Forum for Road Safety.

The gender aspect

Still in 2012, the majority of road victims are men: 76% of all road fatalities. This is even a slight increase compared with a decade ago; the number of female road victims has decreased proportionally more than the number of male road victims.



Shares of all road fatalities: the gender aspect

Attitudes and behaviours

Road users' failure to respect the most important road traffic rules contributes to the occurrence of many accidents. For example, speeding is estimated to be a key factor in around 30% of all fatal road accidents. The second biggest contributing factor in fatal accidents is the failure to wear a seat belt. Driving under the influence of alcohol or drugs is a factor in an estimated 25% of all deadly crashes. For two-wheeled vehicle riders the lack of a helmet is a major risk factor.

According to the EU-funded SARTRE[3] studies on behaviours and social attitudes, 25% of all EU citizens admit to speeding on motorways and 13% admit to speeding on rural roads. Among those admitting most often to speeding on rural roads are the Cypriots, the Estonians and the Greek. The Irish perceive themselves as less prone to speeding, only 4% admit to speeding on the countryside. The Netherlands and Austria perform the most speed controls; both reported more than 450 speed tests per 1000 inhabitants and year.

[3] Social Attitudes to Road Traffic Risk in Europe, http://www.attitudes-roadsafety.eu/

The highest respect for seat belt rules[4] is found in Germany with a reported 98% using seat belt in the front seats and 96% in the rear seats. France and the Netherlands follow close behind. Lithuanians seem to be less inclined to wear the seat-belt – only 44% in the front seats. Bulgaria, Malta and Cyprus report remarkably low percentages for the use of seat belts in the rear seats.

There is a strong support for minimal allowed blood alcohol level especially in Poland and Hungary. Over-all, there is a notably strong support among the population for low maximum allowed blood alcohol levels in the zero-tolerance countries (Hungary, Slovakia and the Czech Republic). The UK and Finland are on the other end of the scale with weak popular support for low allowed blood alcohol levels. Finland and Sweden are reported to make the most alcohol blood level tests, respectively 385 and 285 tests per 1000 inhabitants and year according to the latest available figures.

Motorcyclist helmet use is overall very high in the EU. The helmet wearing rates for bicyclists are on the other hand fairly low and not compulsory in most Member States. Most countries have no information about use of bicyclist helmets, but among those who report such data, Ireland takes a clear lead with an estimated 40% of all cyclists wearing the helmet. Ireland is followed by the UK, Austria and Belgium. Poland on the other hand reports that less than 1% of cyclists use helmet.

4. The vehicles

Last year, almost 15 000 people were killed in a car, 4 600 people were killed on a motorcycle and almost 800 in a heavy-goods vehicle. However, these figures do not give a completely fair picture of the actual risk for the different vehicle groups as there are more than 250 million cars[5] and only around 11 million motorcycles[6] on the EU roads.

Motorcycles

Motorcycles are the vehicles that caused most road safety concern during the last years. Cars get safer and the number of car occupants in fatal road accidents goes down, whilst the trend for motorcyclists' safety is much less stable.

The motorcycles lack the protective shell of a car and the riders are therefore exposed to a much higher risk in the case of a crash. Other studies have shown that a higher share of motorcycle accidents than car accidents is linked to technical failure (8% and 6% respectively[7]). This could be an effect of vehicle inspections being mandatory for cars but not in every Member State for motorcycles.

During 2011, as with pedestrians, the number of motorcyclists killed increased by around 2%. The preliminary figures for 2012 are more positive, yet motorcyclists account for a disproportional share of all road deaths.

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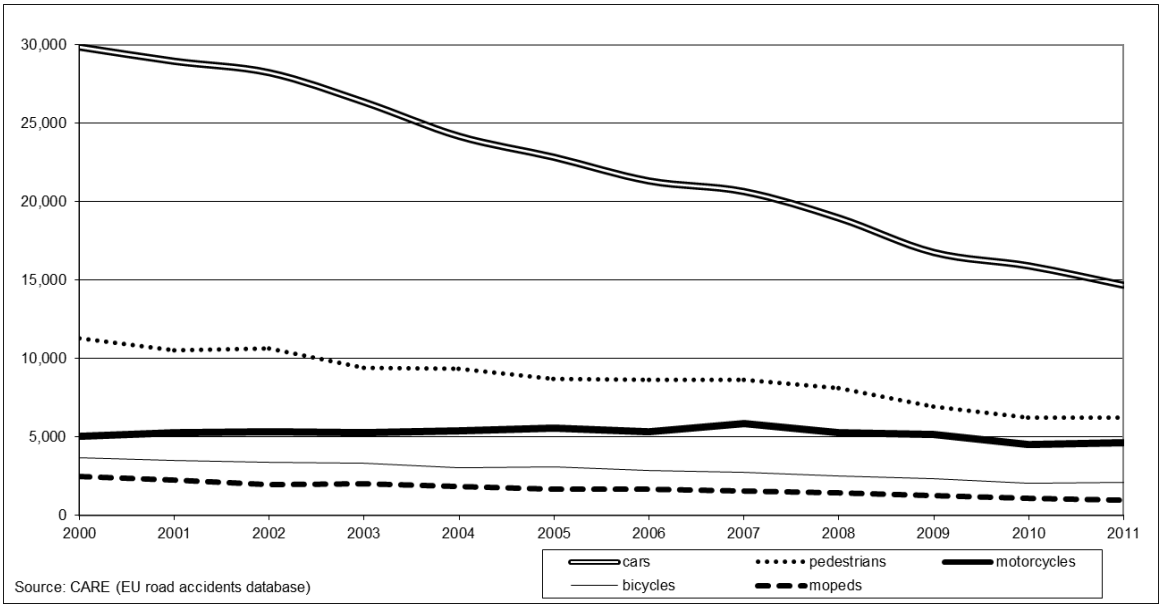
[4] Council Directive 91/671/EEC of 16 December 1991 on the approximation of the laws of the Member States relating to compulsory use of safety belts in vehicles of less than 3,5 tonnes, OJ L 373, 31.12.1991, p. 26-28

[5] ACEA http://www.acea.be/news/news_detail/vehicles_in_use

[6] ACEM statistical overview 2011: http://www.acem.eu/images/gallery/conferences/2013/Statistical_overview_full.pdf

[7] SWD(2012) 206 final, Brussels, 13.7.2012, Impact Assessment accompanying the Commission proposal on a Roadworthiness package, http://ec.europa.eu/transport/road_safety/pdf/road_worthiness_package/impact_assessment_en.pdf



Development over time: number of fatalities per vehicle category

Cars

Cars in the EU are in general comparably young and safe. The compulsory safety equipment in new cars includes for example anti-lock braking systems (ABS)[8]. On average, 31% of EU cars are 5 years and younger, 27% are 6 to 10 years and 42% are older than 10 years. The age of a vehicle is closely linked to its risk of technical failure, which is also the reason why the European Commission proposed in 2012 that the minimum requirements for technical vehicle inspections should be annual tests for older cars and cars with high mileage[9].

On average, around half of all new cars sold have received 5 stars on occupant protection by the EuroNCAP (European New Car Assessment Programme). Only around 6% of new cars sold received 3 stars or less.

[8] See also: Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor (Text with EEA relevance), OJ L 200, 31.7.2009, p. 1-24; Regulation (EC) No 78/2009 of the European Parliament and of the Council of 14 January 2009 on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, amending Directive 2007/46/EC and repealing Directives 2003/102/EC and 2005/66/EC (Text with EEA relevance), OJ L 35, 4.2.2009, p. 1-3; Commission Directive 2008/89/EC of 24 September 2008 amending, for the purposes of its adaptation to technical progress, Council Directive 76/756/EEC concerning the installation of lighting and light-signalling devices on motor vehicles and their trailers (Text with EEA relevance), OJ L 257, 25.9.2008, p. 14-15; Directive 2003/97/EC of the European Parliament and of the Council of 10 November 2003 on the approximation of the laws of the Member States relating to the type-approval of devices for indirect vision and of vehicles equipped with these devices, amending Directive 70/156/EEC and repealing Directive 71/127/EEC (Text with EEA relevance.), OJ L 25, 29.1.2004, p. 1-45; Council Directive 92/6/EEC of 10 February 1992 on the installation and use of speed limitation devices for certain categories of motor vehicles in the Community, OJ L 57, 2.3.1992, p. 27-28

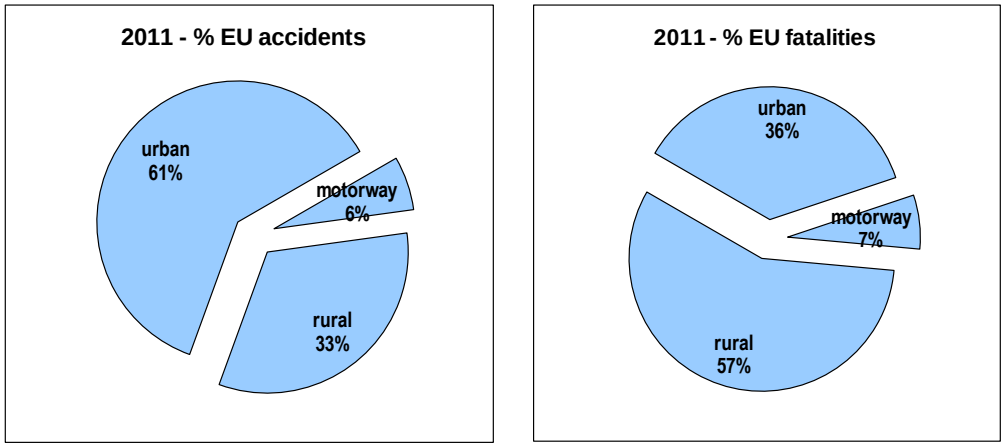
[9] http://europa.eu/rapid/press-release_MEMO-12-555_en.htm, see also Directive 2009/40/EC of the European Parliament and of the Council of 6 May 2009 on roadworthiness tests for motor vehicles and their trailers (Recast) (Text with EEA relevance), OJ L 141, 6.6.2009, p. 12-28

Goods vehicles
Some 35 million goods vehicles are registered in the EU. This includes both light and heavy goods vehicles. The heavy goods vehicles are those with a total weight – the vehicle and its load – of more than 3 500 kg.

The heavy goods vehicles transporting dangerous goods are of particular interest[10]. The training requirements of these drivers are more comprehensive than for other professional drivers. There are indications that this approach is successful. While the dangerous goods vehicles make up about 5% of the total transport volume, these vehicles are involved in less than 1% of the accidents with heavy goods vehicles.

5. The infrastructure

The majority of all accidents take place inside urban areas, but the majority of all fatal accidents take place on rural roads.



Number of accidents and number of road fatalities per road type, 2011

In spite of the higher speeds, EU motorways are comparably safe with few fatal accidents. Among the possible explanations for this are the perceived risk of speed enforcement on motorways and the safe design of motorway infrastructure, especially on the Trans-European Transport network roads covered by the Road infrastructure safety management directive[11].

Urban area road safety
There are around 11 000 fatal accidents in urban areas each year. The accidents in urban areas are of a different character than the accidents on rural roads and motorways. First, within the urban areas, the pedestrians and not the car occupants make up the largest share of victims. 37% of all road deaths in urban areas are pedestrians and around 70% of all pedestrian fatalities occur within urban areas. In the urban areas also the elderly people are clearly over-represented in fatal accidents: in 30% of all fatal accidents in urban areas the victim is aged 65 or more. This could be

[10] Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods (Text with EEA relevance), OJ L 260, 30.9.2008, p. 13-59; Council Directive 95/50/EC of 6 October 1995 on uniform procedures for checks on the transport of dangerous goods by road, OJ L 249, 17.10.1995, p. 35-40

[11] Directive 2008/96/EC of the European Parliament and of the Council of 19 November 2008 on road infrastructure safety management, OJ L 319, 29.11.2008, p. 59-67

compared with the elderly's share of all road fatalities: 22%. This means that the urban area road safety is closely linked to the safety of vulnerable road users.

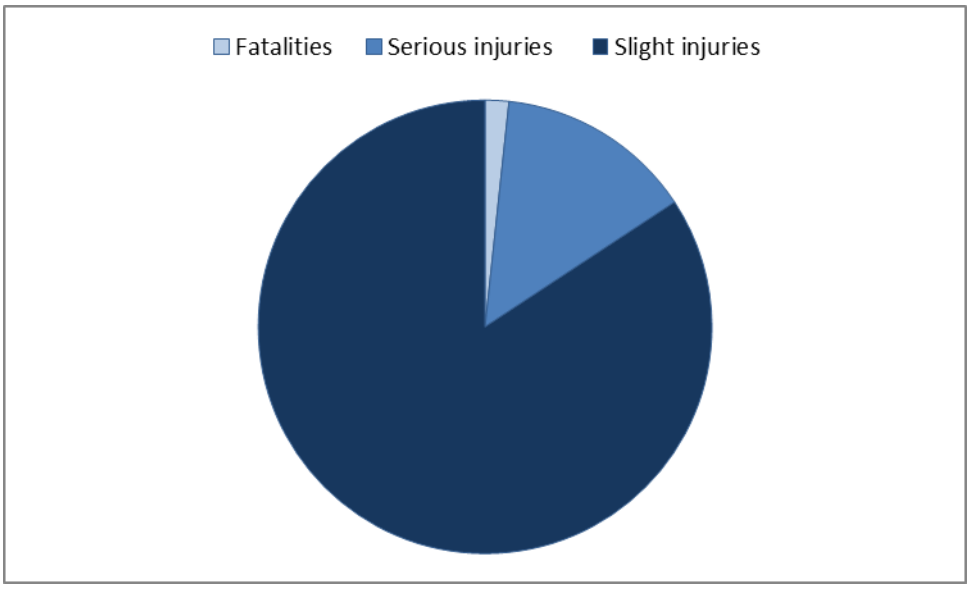
There is also a slight gender aspect to the rural/urban area road accidents. Women make up around 27% of the road deaths in urban areas compared to around 22% of the rural area road fatalities.

Urban area fatal accidents	**Rural area fatal accidents**	**Motorway fatal accidents**
37% are pedestrians	9% are pedestrians	8% are pedestrians
10% are cyclists	6% are cyclists	0% are cyclists
30% are elderly	24% are elderly	12% are elderly
27% are women	22% are women	22% are women

Characteristics of urban/rural fatal accidents

6. The non-fatal injuries

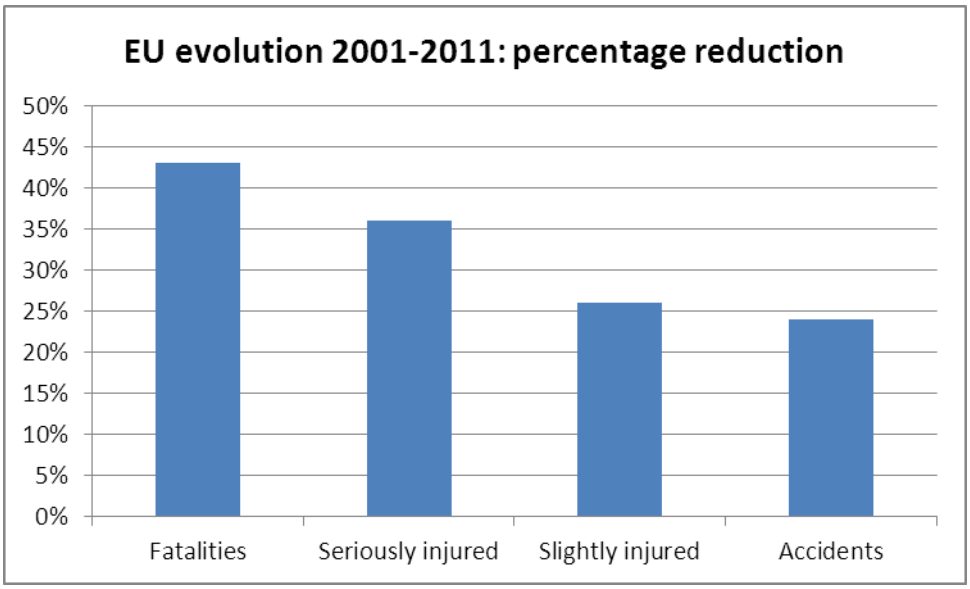
Finally, it should be remembered that the road deaths make up only a very small share of the total number of road accidents in the EU. Every year, almost a million and a half people are reported as road traffic injured. Roughly around a sixth of them are reported to have sustained serious, sometimes permanent injuries in the road accident.



Reported road deaths, serious injuries and slight injuries

It should be noted however that the number of reported serious road traffic injuries are uncertain as the Member States use different definitions and different data gathering methods. In order to improve the reliability of the data in this area, a common EU definition of serious road traffic injury was identified in 2012. The meeting of the High Level Group on Road Safety in January 2013 concluded that most Member States could start reporting new data under the common EU definition already for 2014, using flexible methods accommodating the different systems and conditions in place in the Member States today. The focus on serious road injuries complements the on-going efforts to reduce the number of road deaths.

While the number of road deaths decreased by 43% between 2001 and 2011, the number of reported serious injuries went down by 36% and the total number of reported accidents fell by only 24%.



Development over time: fatalities, injuries and accidents

This means that, in the last decade, the efforts to reduce the severity of accidents seem to have been more effective than the work to prevent accidents from ever even happening. This is in turn a logical outcome of many EU Member States adopting the *vision-zero* or *Safe System approach* which aims to abolish road deaths by taking into account the risk of human errors, the frailty of a human body in a collision and the shared responsibility for avoiding fatal outcomes of those human errors resulting in collisions.

7. Concluding remarks

The European Commission's road safety policy orientations for 2011-2020 set out seven objectives for education, enforcement, vehicles, infrastructure, modern safety technologies, serious injuries and vulnerable road users.

The good figures of 2012 are the result of dedicated work within all these areas. The implementation of the policy objectives will continue throughout the strategy period. Some of the recent progress and up-coming initiatives can be mentioned as concrete examples:

- Last year, new initiatives were taken in the area of enforcement[12]. For example, the Commission requested and received much useful information about the Member States' national road safety strategies and enforcement plans. The Commission now analyses this rich source of best practices.

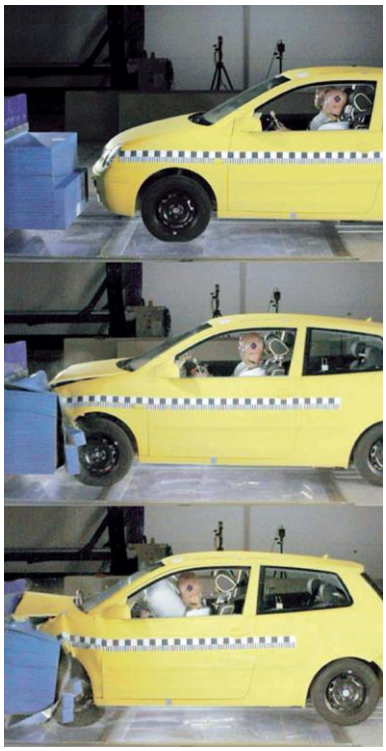
[12] Directive 2011/82/EU of the European Parliament and of the Council of 25 October 2011 facilitating the cross-border exchange of information on road safety related traffic offences, OJ L 288, 5.11.2011, p. 1-15

- The progressive access to motorcycles has been introduced with the new European driving licences[13]. This means that young people's access to the heaviest motorbikes will now become more gradual and linked to specific training.

- Work has been initiated to take the deployment of safety technology systems further. The Commission is looking at how to better use the tools that are already known to have great road safety potential, for example alcohol interlocks.

- The first step towards mutual recognition of vehicle inspection certificates in the EU was taken in 2012. The Commission proposed revised legislation to raise the minimum standards of roadworthiness testing in Europe. Cars cross borders just like people do and EU citizens should be able to feel safe, knowing that the car from the neighbour country has been tested just as thoroughly as the own car.

More information about these and many other road safety measures can be found on http://ec.europa.eu/roadsafety.



[13] Directive 2006/126/EC of the European Parliament and of the Council of 20 December 2006 on driving licences (Recast) (Text with EEA relevance), OJ L 403, 30.12.2006, p. 18-60