



# **Road Safety Vademecum**

**Road safety trends, statistics and challenges in the EU 2010-2013**

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

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Disclaimer

This report is an internal working material produced by unit C.4, DG MOVE, summarising preliminary EU road safety information for 2013 and final detailed data up to 2012.

## Summary of findings

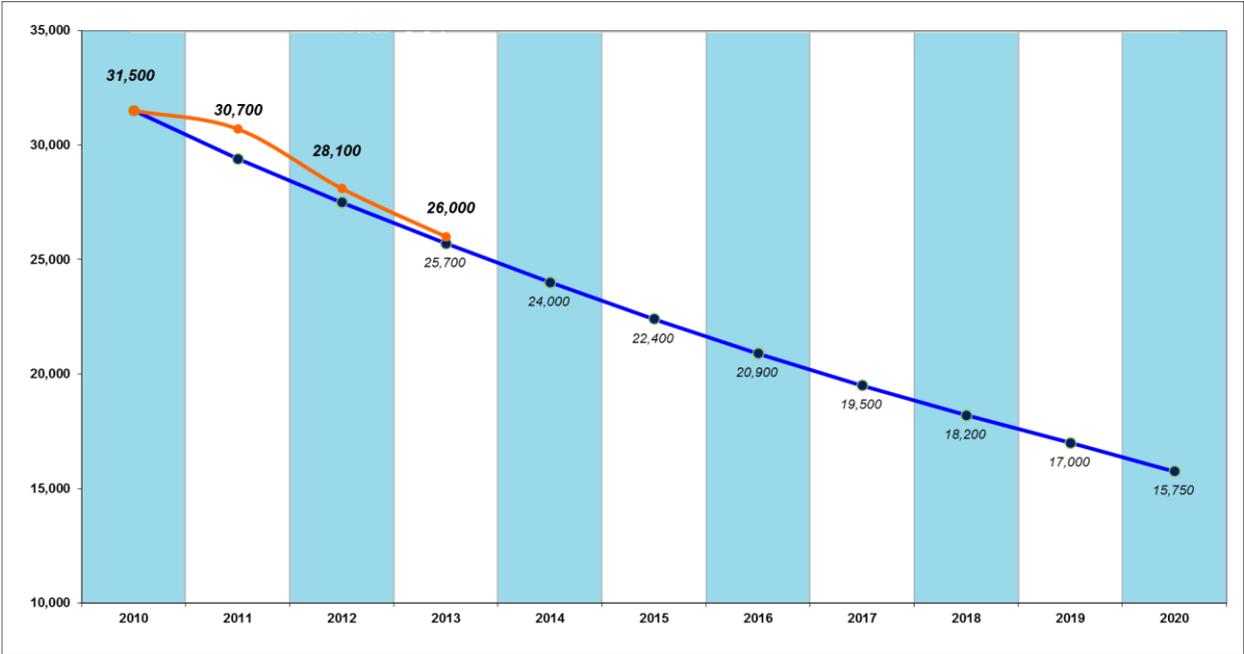
- In 2013, slightly more than **26,000** road fatalities were reported in the EU.
- This is a decrease of around **8%** compared to 2012.
- In total, there were **52 road deaths** per million inhabitants in 2013 in the EU.
- The top road safety performers (lowest number of road deaths per year and million inhabitants) in 2013 were **the UK, Sweden and Denmark**.
- The highest number of road fatalities in 2013 was found in **Romania, Latvia, Poland and Lithuania**.
- Over the period 2010-2012, the two main improvements are seen for **young road users** and for **car occupants**:
  - The number of young victims (aged 18-24) decreased by 19% to compare to the percentage reduction of elderly road users (above 65 years) of only 2% for the same period.
  - The number of car occupants killed decreased by 13% from 2010 to 2012, a stronger development than that for vulnerable road users.

# 1. Introduction

The Transport White Paper announced a strategic target for EU road safety for the period 2011-2020: to reduce the number of road deaths by half.

In 2010, some 31,500 people lost their lives on the roads in the 28 EU Member States. This figure is the baseline for the strategy objective and the target is to have less than 15,750 road deaths in 2020. If the target is achieved, more than 90,000 lives would have been saved in total during the decade.

Following a slow year in 2011, the number of road fatalities is now again substantially decreasing. The preliminary data for 2013 bring the EU development in line with the target curve.



*Development over time: reduction of number of fatalities in the EU 2010-2020  
(blue line = target, orange line = actual number of fatalities reported)*

This text provides an overview of the latest road safety data and the main road safety developments in the EU. It presents the first provisional figures reported for 2013, where available, complemented with the final detailed data for 2012.

## 2. The road safety situation in the EU today

In 2013, a provisional total of 26,200 road fatalities were reported in the EU. This is a decrease of around 8% compared to 2012.

The EU average road fatality rate in 2013 is 52 people killed per million inhabitants, to compare to the baseline year 2010 with 62 dead per million inhabitants.

Member State	Fatalities/million inhabitants	
	2010	2013
Austria	66	54
Belgium	77	65
Bulgaria	105	82
Croatia	99	86
Cyprus	73	53
Czech Republic	77	63
Denmark	46	32
Estonia	59	61
Finland	51	48
France	62	50
Germany	45	41
Greece	112	81
Hungary	74	59
Ireland	47	42
Italy	70	58
Latvia	103	86
Lithuania	95	85
Luxembourg	64	87
Malta	36	54
Netherlands	32	-
Poland	102	87
Portugal	80	62
Romania	117	92
Slovakia	69	42
Slovenia	67	61
Spain	53	37
Sweden	28	28
United Kingdom	30	29
<b>EU</b>	<b>62</b>	<b>52</b>

The best road fatality rate is reported from the Sweden and UK, with 28 and 29 dead per million inhabitants respectively. Both countries have defended this top position since the start of the strategy period. They are followed by Denmark with 34 reported dead per million inhabitants.

Slovakia has made the most impressive improvement from 2012 to 2013 with 24% fewer road deaths, giving a new fatality rate of 42 dead per million inhabitants. This brings Slovakia from 10<sup>th</sup> to shared 7<sup>th</sup> position among Member States, overtaking Finland and Malta.

Member State	Evolution of total number of fatalities	
	average percentage change/year 2000-2010	Percentage change 2012-2013
Austria	-6%	-15%
Belgium	-6%	-7%
Bulgaria	-3%	0%
Croatia	-	-6%
Cyprus	-5%	-14%
Czech Republic	-5%	-12%
Denmark	-6%	8%
Estonia	-10%	-7%
Finland	-5%	3%
France	-8%	-11%
Germany	-7%	-7%
Greece	-4%	-12%
Hungary	-6%	-2%
Ireland	-7%	19%
Italy	-6%	-6%
Latvia	-10%	1%
Lithuania	-9%	-15%
Luxembourg	-8%	32%
Malta	-1%	100%
Netherlands	-7%	-
Poland	-4%	-6%
Portugal	-6%	-9%
Romania	0%	-9%
Slovakia	-5%	-24%
Slovenia	-7%	-4%
Spain	-9%	-10%
Sweden	-8%	-7%
United Kingdom	-7%	-1%
<b>EU</b>	<b>-6%</b>	<b>-8%</b>

The highest number of road fatalities per inhabitants is found in Romania, followed by Latvia and Lithuania. However, Lithuania has made a substantial improvement of -15% road fatalities since 2012, reporting the second best percentage change over the year after Slovakia, same as Austria.

Malta and Luxembourg reported large percentage increases from 2012 to 2013 but have few road deaths in total numbers so the percentage change over a single year is not statistically significant. Also Ireland (+19) and Denmark (+8%) report large negative developments since last year.

In sum, the year 2013 was a year of great diversity, with some Member States reporting large improvements and other reporting a worrying deterioration of the road safety situation.

### 3. The road users

Road user group	Change 2010-2012
Pedestrians	-8%
Cyclists	+6%
Moped riders	-15%
Motorcycle riders	-13%
Car occupants	-13%
Heavy goods vehicle drivers	-10%
<b>All road deaths</b>	<b>-11%</b>

*Evolution over time: per road user group 2010-2012*

During the years 2010-2012 pedestrian road deaths only decreased by 8%, three percentage points less than the total percentage improvement for all road deaths. The best improvement among pedestrians is seen for the age groups 50-64 years and 65 years and above.

For cyclists, the trend is even worse: the number of cyclists killed actually increased by 6% from 2010 to 2012. This is explained at least partly by an increased total number of cyclists on the roads. Among cyclists, the age factor is quite striking. While the number of young and children who die while biking decrease, the number of killed grown-up bicyclist is on the increase. Among those older than 50 years, the number of fatalities increased by alarming 10% from 2010-2012.

For car occupants and motorcyclists, the fatalities decreased more than average. This is commented further upon in the following chapter on vehicles.

#### Risks per age groups

While the decade 2001-2010 could be called the decade of improved child safety with great improvements in safety for those younger than 15 years, the biggest improvement since 2010 is seen in the safety for people aged 18-24.

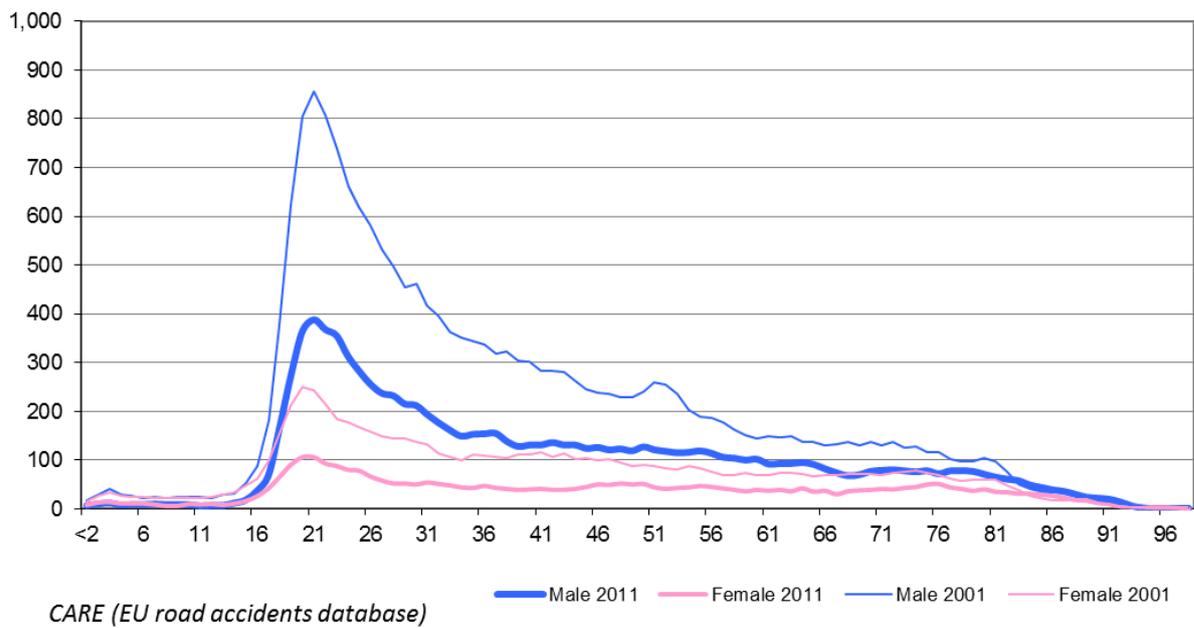
Age group	Change 2010-2012
< 15	-14%
15-17	-18%
18-24	-19%
25-49	-18%
50-64	-9%
>65	-2%
<b>All road deaths</b>	<b>-11%</b>

*Evolution over time: per age group 2010-2012*

On the other hand, the development for those older than 65 is less encouraging. This is partly linked to the demographic trend of an ageing society and the increase of the number of elderly in the EU over time.

#### The gender aspect

Male fatalities are still clearly over-represented in road traffic crashes. In 2012, 76% of all road fatalities were male and 24% were female. Among car driver fatalities, 82% were male.



*Number of car occupant fatalities by gender and age.*

Women are more often than men involved in fatal road accidents as pedestrians, whereas men are more often than women involved in fatal road traffic crashes as car drivers.

## 4. The vehicles

### Powered two-wheelers

Motorcycle fatalities have been an issue of great concern the last years, considering the large over-representation of motorcyclists among road fatalities. Most fatalities of motorcyclists and moped drivers occur on rural or urban roads.

To some degree, the trend has now turned and also the number of motorcyclist road deaths decreased more than average from 2010-2012, thanks to an increased focus on the safety of this road user group.

Countermeasures during the last years have included a legislative change in the EU driving licence directive to ensure a gradual access to the heaviest motorbikes for young people. Development and increased use of protective clothing and protective devices is another important action area, studied by an on-going EU-funded project. From 2016, the EU type approval requirements for motorcycles will include the more advanced braking systems such as ABS.

### Cars

The road safety evolution for car drivers is stronger than for most other road user groups.

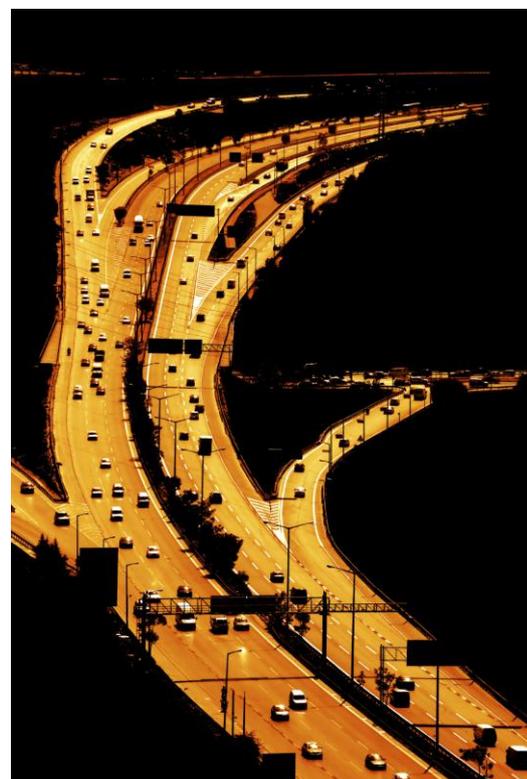
Cars are becoming safer, better equipped and more thoroughly tested for technical defects. Seat belt use is going up; the DaCoTA project reported that EU average seat belt use rates are around 85% in the front seat and 60% in the rear seat.

EuroNCAP, initiated as a study commissioned by the Commission Road Safety Unit, has led to a general fitting of airbags in cars. Technical developments for efficient enforcement of traffic rules in combination with better quality of driver training and road user education also have contributed to the positive development.

### Heavy goods vehicles

The motorised vehicle category which defies the general trend is the heavy goods vehicles. The number of heavy goods vehicle driver fatalities decreased by only -7% 2010-2012, which is an even slower improvement than that of pedestrians. However, the total number of heavy goods vehicle drivers killed is also already quite low. Fatalities as consequences of crashes involving trucks or buses are more common on rural roads and motorways and less common inside the urban areas.

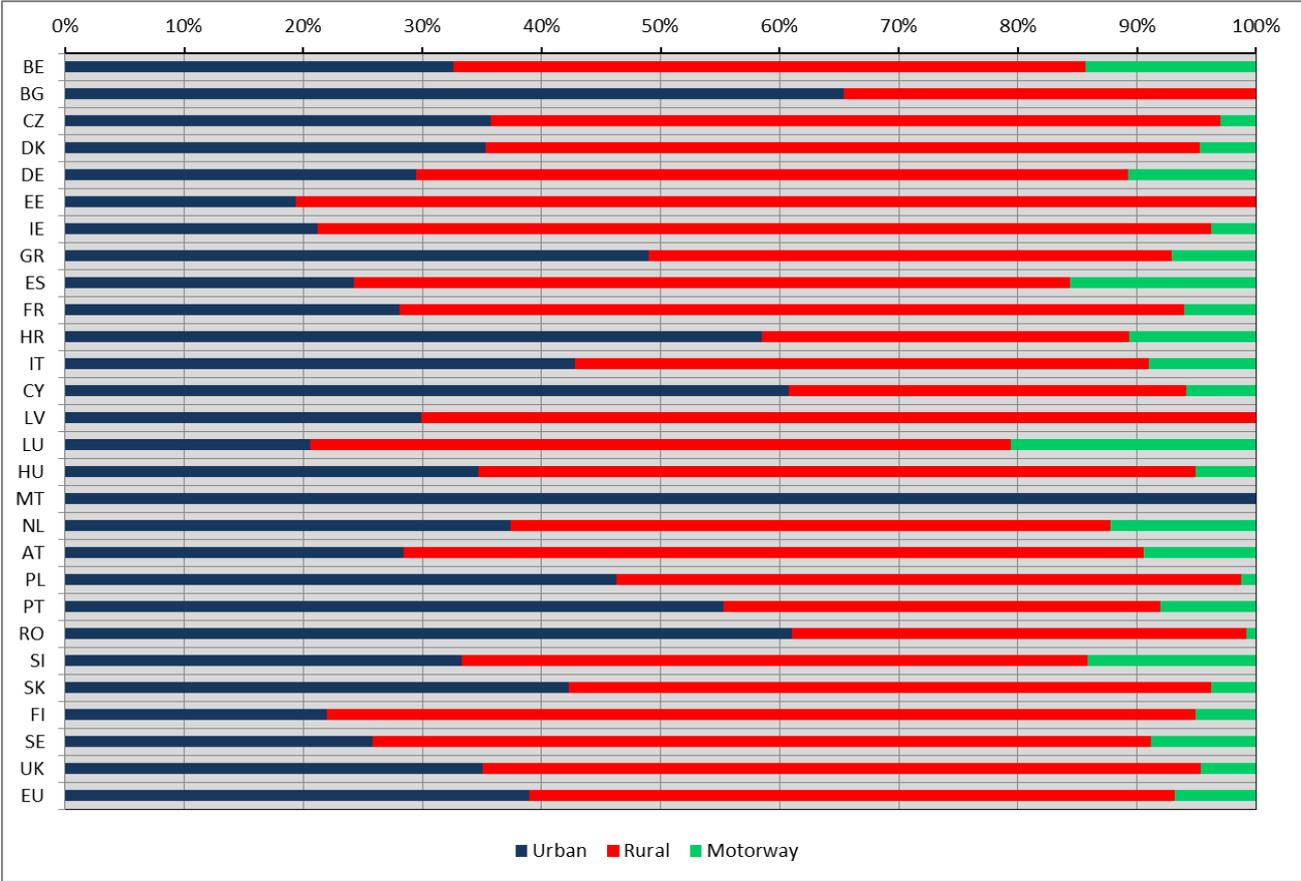
To further improve the situation, the Commission has initiated a review of the directive regulating minimum training and qualification requirements for professional drivers. The aim is to simplify and clarify the requirements and, where needed, to optimise the conditions for road safety training of professional drivers.



## 5. The infrastructure

Different types of accidents happen on different kinds of roads and the road fatalities are unevenly distributed on the different road types.

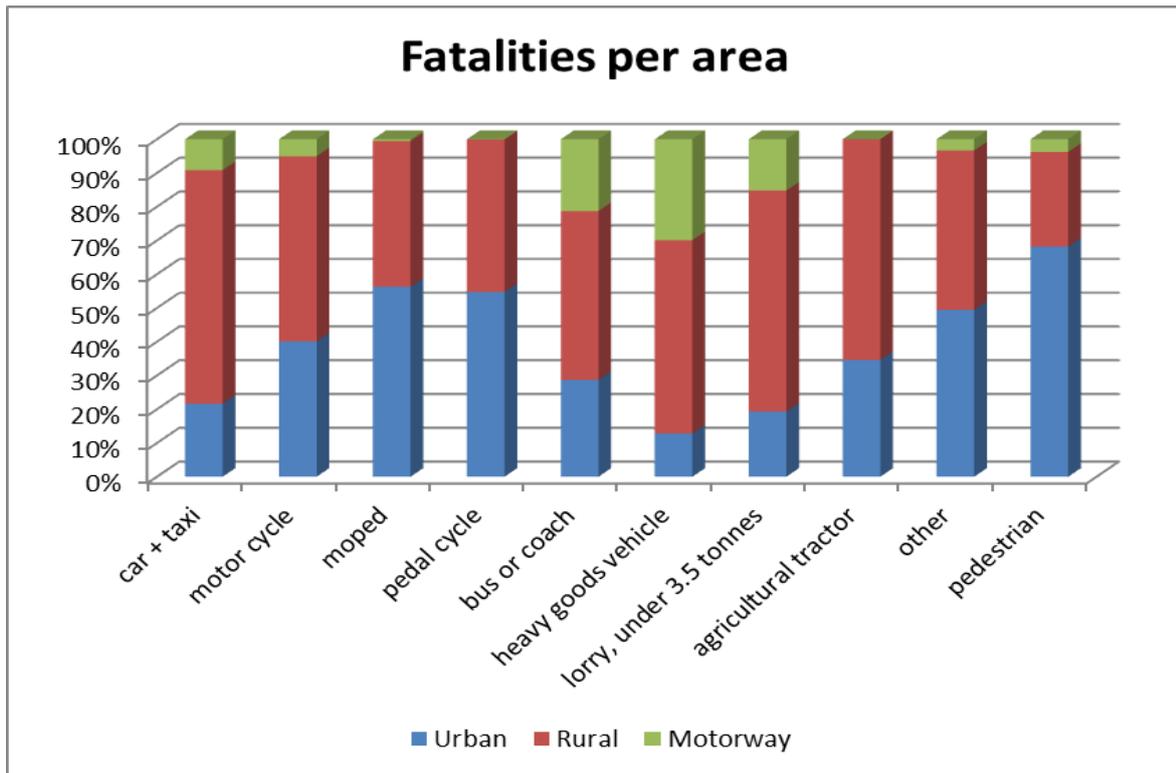
The situation also varies across the EU due to differences existing among Member States on traffic flows, population density and quality of road infrastructure. For example, in Romania, Cyprus, Croatia the highest share of fatalities occurred on urban roads while in Finland, Ireland, Luxembourg and Spain the majority of fatalities were on rural roads. Spain and Belgium reported the highest percentage of fatalities on the motorways.



Fatalities per road type (2012)

### Urban areas

The urban areas are characterised by frequent interaction between motorised vehicles and unprotected road users such as pedestrians and cyclists. However, the speed is also normally lower in the urban areas and the severity of road traffic crashes therefore somewhat lower. It is inside the urban areas that most of the less serious accidents occur. Of all fatal road traffic crashes however, only around 40% happen on urban roads. From 2010 to 2012, it was on the urban roads that the number of road fatalities decreased the most.



*Type of fatality per road category*

### Rural roads

Rural roads normally have higher speeds than urban roads but lower speeds than motorways. The infrastructure standards are not as well regulated for rural roads as for motorways. It is on the rural roads that most of all fatal road traffic crashes take place: more than 50% of all the fatal crashes.

### Motorways

Motorways and expressways are typically designed to accommodate long distance traffic travelling on a higher speed. In spite of the speed, only 5% of the total number of accidents took place on the motorways, but on the other hand, the consequences of each single crash are more serious and around 7% of all road fatalities occur on the motorways.

	Urban	Rural	Motorway
Accidents	68%	27%	5%
Fatal accidents	40%	53%	7%
Fatalities	39%	54%	7%
Injured	65%	29%	6%
Seriously injured	55%	39%	6%
Ratio victims(*)/accidents	1.2	1.4	1.5

*(\*) Victims includes both injured and fatalities*

### Infrastructure safety management: the legislative framework

Directive 2008/96/EC<sup>1</sup> provides the EU legislative framework for the safety management of road infrastructure. The directive establishes management procedures aimed to ensure that the road network is safe. It applies to the trans-European road network<sup>2</sup> but Member States are highly encouraged to apply the principles also on the secondary road network, notably where EU funding is provided to road infrastructure investments.

TEN-T Comprehensive Network (2013)		TEN-T Core Network (2013)	
	Length (km)		Length (km)
Completed	123.459	Completed	56.016
To Be Upgraded	43.723	To Be Upgraded	17.334
New Construction	13.247	New Construction	3.614

*Trans-European road network: length of roads*

For new roads, the directive provides that safety impact assessments and audits have to be carried out at different stages of planning and construction. For already existing roads, a periodic safety ranking to find the most dangerous sections (*blackspots*) and periodic safety inspections are mandatory. The results of these inspections should then be the starting point for targeting maintenance and improvements of the network.

The infrastructure safety management directive does not prescribe in detail what methods Member States should use to assess the safety of their roads. However, it lists a number of aspects that the assessments need to cover. Member States are also obliged to establish guidelines for the practical steps to be followed by national authorities or infrastructure managers in assessing the safety of roads.



A specific legislation is also currently in place for ensuring a minimum safety standard of tunnels<sup>3</sup>. Following the deadly accidents and fires of Mont Blanc, Tauern and St. Gotthard at the end of the 1990s and the early 2000s, systematic procedures and technical solutions have been established in EU legislation for tunnels longer than 500 meters.

<sup>1</sup> 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

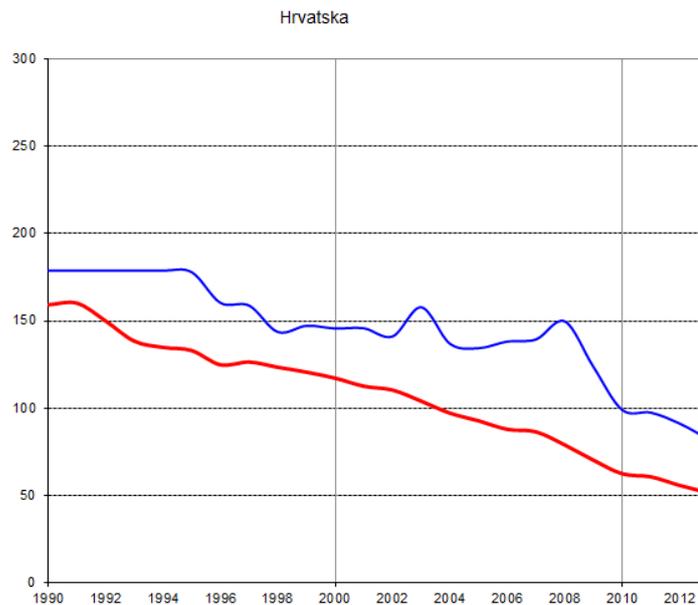
<sup>2</sup> Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU

<sup>3</sup> Directive 2004/54/EC of the European Parliament and of the Council of 29 April 2004 on minimum safety requirements for tunnels in the Trans-European Road Network, OJ L 167, 30.4.2004, p. 39-9

## 6. New Member State: Croatia

The newest EU Member State, Croatia, has taken on the challenge of reducing the number of road deaths by half until 2020. This strategic target is adopted in the *National road safety programme 2011 – 2020* which is closely aligned with the policy objectives of the European Commission.

Since around 2008, Croatia has succeeded in achieving a steep reduction of the number of road fatalities. In 2001, the number of dead per million inhabitants was 146; by 2013 this was down to 86 dead per million inhabitants compared to the EU average of 52.



*Number of road deaths per million inhabitants 1990-2012 in Croatia.  
Red line shows EU average.*

The majority of road traffic crashes and fatalities in Croatia take place in urban areas: 80% of the accidents happen inside urban areas (EU average 68%) and 59% of fatalities (EU average 39%).

Croatia has only a partial zero tolerance policy on alcohol: a 0.0‰ limit for young drivers (16 to 24 years old) and professional drivers but for other drivers the 0.5‰ limit applies.

## 7. Concluding remarks

The main trends between 2010 and 2012 are *the safety of young road users* and *the safety of cars*.

The young car drivers are especially important since they have been largely over-represented among road fatalities and because their big share of the road safety problem means that a large percentage decrease gives substantial effect to the total numbers.

The reduction of car occupant fatalities can be linked both to driver education efforts, to enforcement campaigns and to the increased safety and improved equipment of vehicles today – not least with advanced driver assistance technology for road safety.

### **Future developments**

For the coming years some additional focus on the unprotected road users seems to be called for. The low percentage improvements for pedestrians and cyclists indicate that more needs to be done. Among pedestrians, the increased use of smart phones and mobile phones as road user distractions is one risk factor to be further investigated. The Commission therefore launches a study on this during 2014.

The ageing Europe is mirrored also in the road safety statistics with the elderly making up an increasing share of the total number of road safety fatalities. Elderly pedestrians but also elderly car drivers face too high risks in road traffic today. To find solutions to the problem, the Commission initiates studies on road safety for elderly during the coming year.

The number of fatal motorway crashes no longer decreases at the same speed as other accidents. To investigate what more can be done to bring the improvement rate back on track, the Commission considers a review of the infrastructure safety management directive. A similar review is prepared for the professional driver training and qualifications directive, seeing that the number of heavy goods vehicle drivers killed is also decreasing less than average.

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