

# EU road safety 2004 : Regional differences

**Greek regions remain most at risk, despite considerable improvements over the last decade**

## Statistics in focus

TRANSPORT

14/2007

Author

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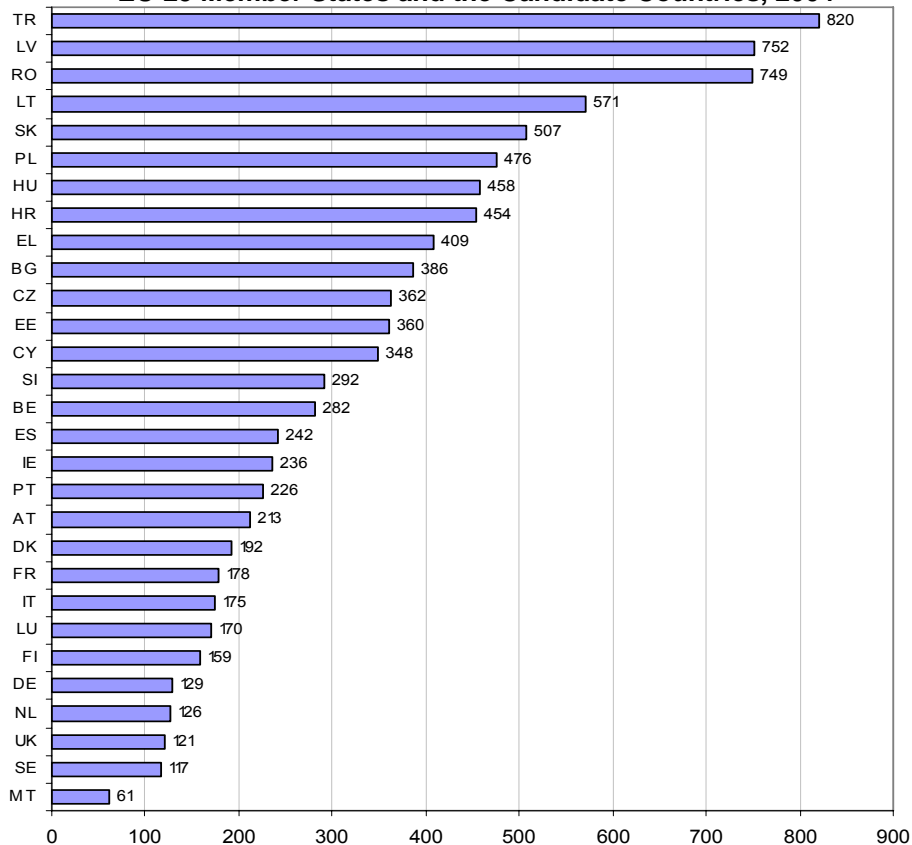
## Contents

Highlights .....	1
Factors influencing road safety .....	3
Noticeable progress in Eastern European new Member States .....	5
Greek regions remain particularly at risk .....	5

### Highlights

- Among the EU-25 Member States and at national level, Latvia, Lithuania and Slovakia display the highest number of persons killed in road accidents per million registered passenger cars – for the Candidate Countries, this is Turkey. Malta and Sweden display the lowest ratios.
- North-West European urban regions are the safest as regards the number of fatalities in road accidents per million registered passenger cars.
- In 2004, the German urban region of Bremen scored best with 23 fatalities per million passenger cars. Many capital regions (like Berlin, Vienna, Stockholm and Brussels) are among the safest in the EU.
- Passenger car density in a region is inversely proportional to the number of fatalities in road accidents: the higher the passenger car density, the 'safer' the region.
- During the last ten years, considerable progress in road safety was achieved in all countries for which data is available; a West-East divide however remains along with a less noticeable North-South gradient.

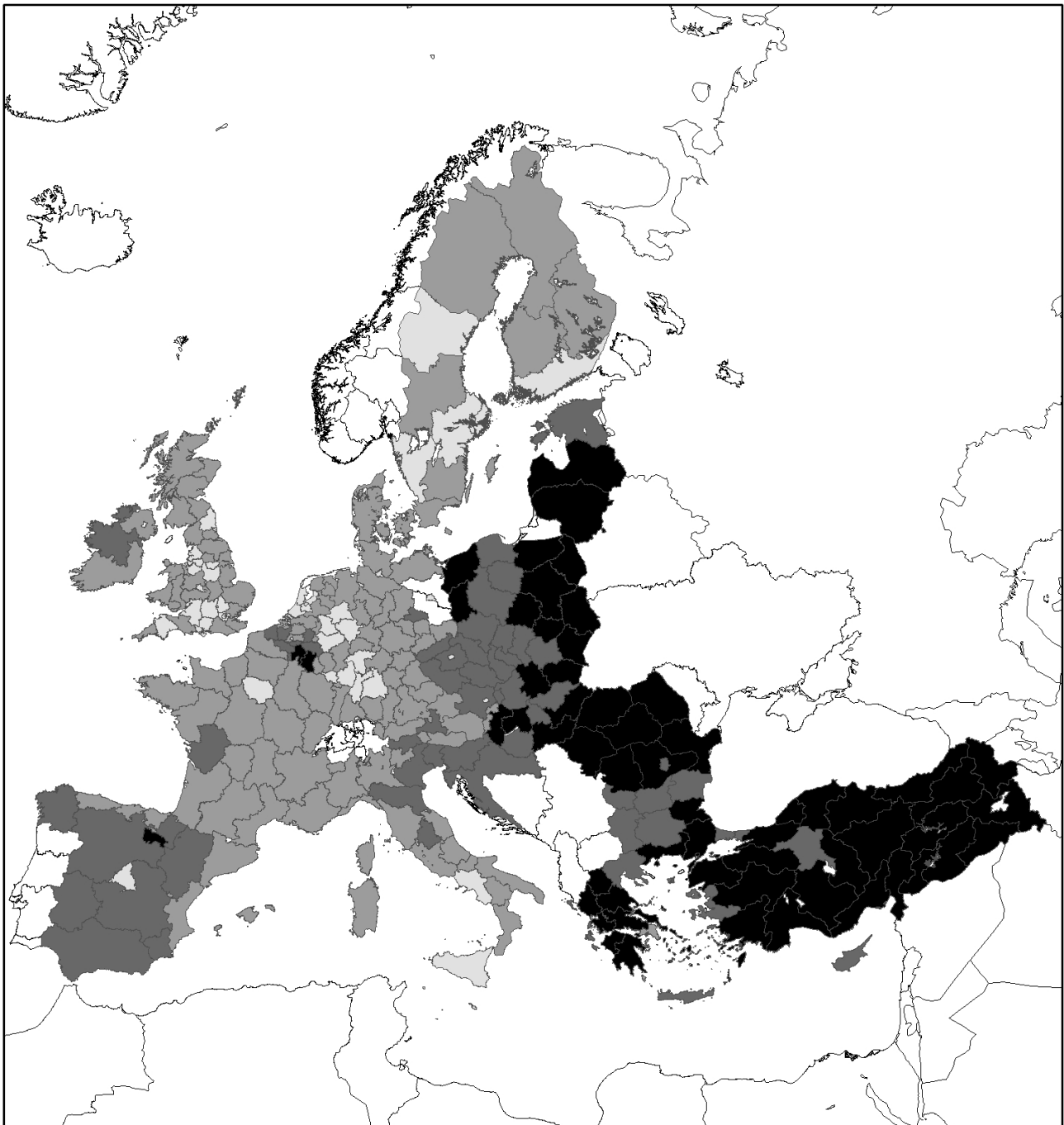
**Graph 1: Number of persons killed per million passenger cars in the EU-25 Member States and the Candidate Countries, 2004**



Note: BE: 2002 data – IT: 2003 data – PT: only data for PT1, 2003

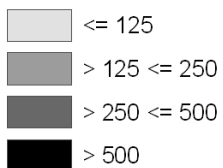
Source: Eurostat





**Map 1: Persons killed per million passenger cars in 2004 (EU25 + CC - NUTS2)**

Number of persons killed per million passenger cars



geographic data: GISCO  
 statistical data: EUROSTAT

2003 data: Italy  
 2002 data: Belgium  
 no data available: Portugal

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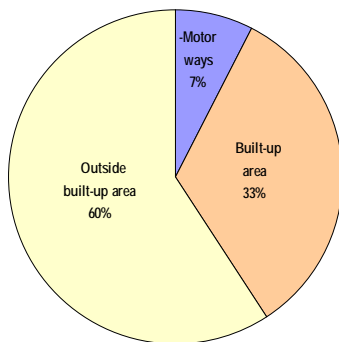
0 250 500 1.000 1.500 Km

## Factors influencing road safety

Of all transport modes, road transport is clearly the most dangerous and the most costly in terms of human lives. According to CARE (the Community Road Accident Database), there were about 1.3 million car accidents in the EU-25 in 2004, in which about 1.8 million persons were casualties, of which about 285 000 were serious. Of these cases, 43 358 lost their lives, which translates as 95 road deaths per million inhabitants in the EU.

Today, roads are without doubt safer than a few decades ago, despite the fact that the road transport performance has considerably increased. Graph 2 outlines that the majority of the fatalities occur in accidents outside built-up areas, whereas motorways appear to be the safest.

**Graph 2: EU-25 and EFTA states: share of fatalities by type of road, 2002**



Source: Eurostat

Better road design, higher standards for obtaining a driver's license, stricter standards in vehicle's technical inspection and especially safer vehicles (both active and passive safety) explain this positive development.

On the latter aspect, public awareness was notably raised by the activities of the European New Car Assessment Programme (Euro-NCAP), an independent organisation specialised in the assessment of

the safety of passenger cars through various crash tests. Established in 1997 and backed by five European Governments, the European Commission and motoring and consumer organisations in every EU country, Euro-NCAP has become a catalyst for encouraging significant safety improvements to new car design.

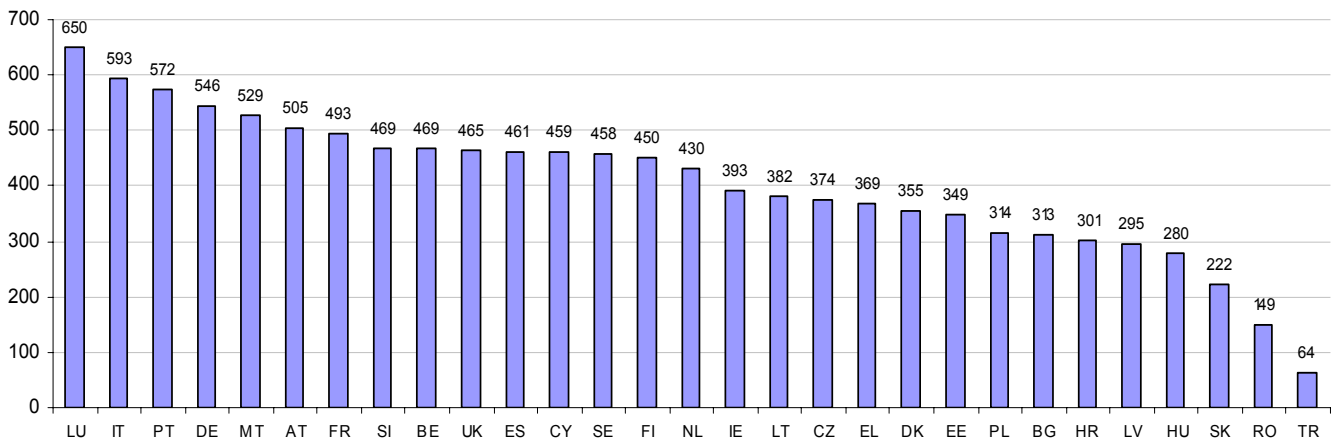
Looking at Graph 1 on the cover page, it becomes obvious that there are noticeable differences in road safety between the individual countries. Expressed in the number of persons killed per million registered passenger cars, fatalities varied between 61 in Malta and 820 in Turkey. Incomplete and partially non-harmonised data on the actual transport performance (expressed in passenger-kilometers) do not allow for other ratios.

Latvia, Romania, Lithuania and Slovakia are the other countries that show ratios of over 500 fatalities per million passenger cars. At the other side of the spectrum, Germany, the Netherlands, the United Kingdom, Sweden and Malta show ratios under 150 fatalities.

This general image is confirmed on the map on the facing page, where most regions of the former group of countries display shading belonging to the 'over 500' category. Only a few regions in the Western part of the EU belong to this category (*Province de Luxembourg* and *Province de Namur* in Belgium and *La Rioja* in Spain).

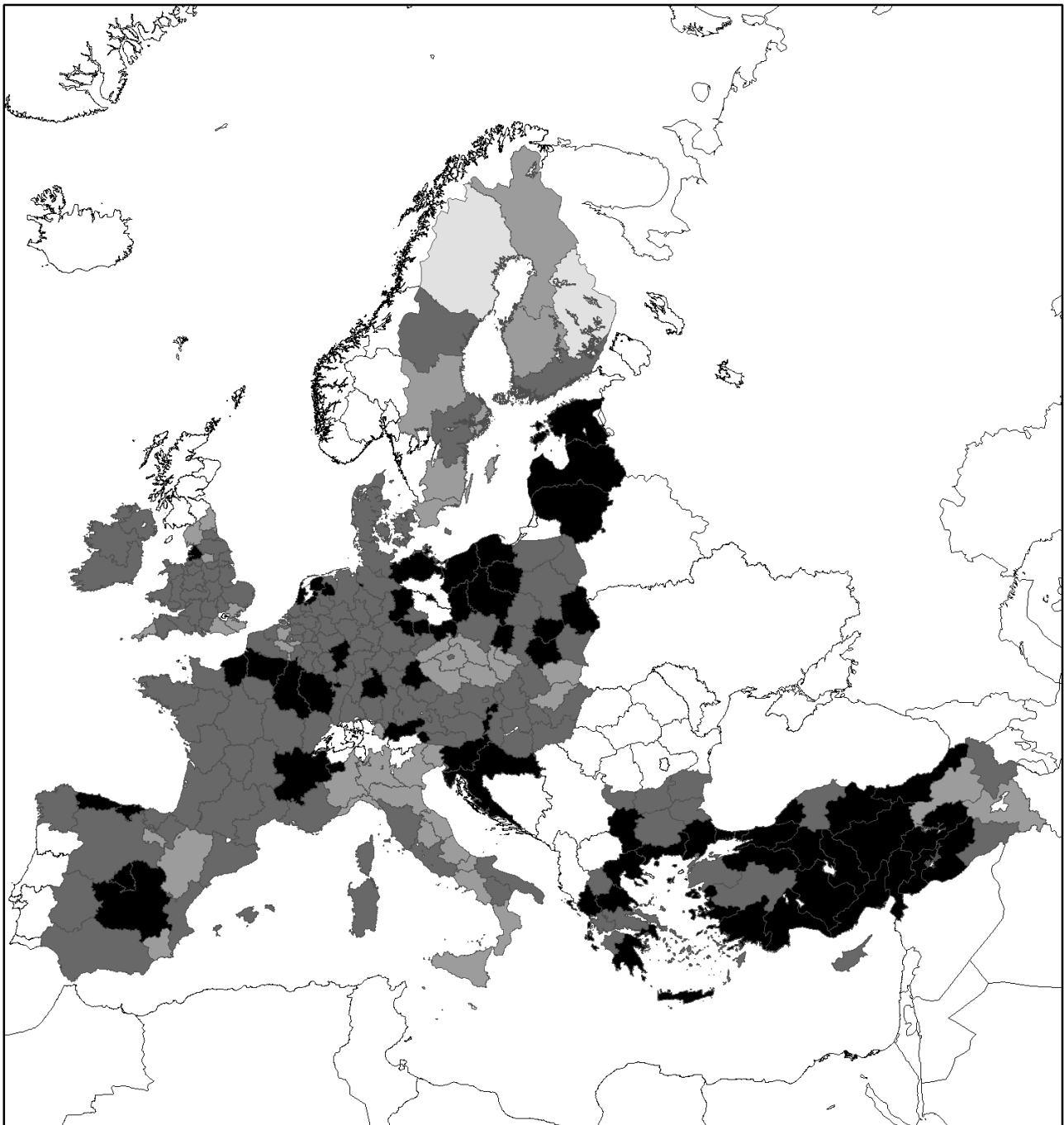
Density of car ownership (Graph 3) is inversely correlated with these ratios. For instance, the two countries displaying the highest passenger car density are rather at the lower end of the scale with regard to the number of fatalities per million passenger cars whereas the countries with the highest ratios show the lowest density figures.

**Graph 3: Vehicle density: number of passenger cars per 1000 inhabitants, 2004**







Note: Data on vehicle stock collected via the Regional Questionnaire may not be totally comparable to the data obtained for the same variable via the Common Questionnaire due to differences in the collection methods. IT: passenger cars 2003 data; PT: passenger cars only data for PT1, 2003

Source: Eurostat



**Map 2: Change in persons killed per million passenger cars from 1994 to 2004 (EU25 + CC - NUTS2)**

Decrease in number of persons killed per million passenger cars from 1994 to 2004

-   $\geq 50\%$
-   $< 50\% \geq 25\%$
-   $< 25\% \geq 0\%$
-  increase in number of persons killed



0 250 500 1.000 1.500 Km

geographic data: GISCO  
 statistical data: EUROSTAT  
 data used for basic year instead of 1994:  
 1995 data: BE24, BE31, Bulgaria, DEE1, DEE2, DEE3, F113, Hungary, Poland  
 1996 data: Czech Republic, Ireland  
 1997 data: DED1, DED2, DED3, F118, F119, F11A, SK, UKK3, UKK4, UKL1, UKL2  
 data used for reference year instead of 2004:  
 2003 data: Italy  
 2002 data: Belgium  
 no data available: ES63, ES64, FR91, FR92, FR93, FR94, Portugal, Romania, SE0A, UKI1, UKI2, UKM1, UKM2, UKM3, UKM4

For full names of NUTS2 zones, refer to Methodological Notes section.

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## Noticeable progress in Eastern European new Member States

The image drawn so far should not mask the fact that considerable progress has been achieved over the last decade in the relative safety of car transport. Map 2 on the facing page shows the percentage change in the number of deadly passenger car accident victims per million passenger cars between 1994 and 2004 (based on regional accident data and regional car register data for the reference years in question – for the few exceptions, please refer to the indications in the map legend). It should be reminded that these changes take into account the increased car ownership (number of passenger cars per million inhabitants) during the same period. Especially in Eastern European countries, passenger car density has increased considerably.

Another factor of influence is population. In certain countries, the population has increased considerably between 1995 and 2004 (for instance Turkey: +15 % – Cyprus: +13.7 % – Ireland (1995-2003) +11 %).

The map shows that nearly all NUTS level 2 regions for which data are available have registered progress in safety. In the Baltic States, Slovenia, Croatia and large parts of Poland, Bulgaria, Greece and Turkey, the number of persons killed per million registered

passenger cars has decreased by over 50 percent in ten years.

However, differences with other countries remain strong as in the more Western Member States and Scandinavia, similar progress was achieved. This was especially the case for most regions in Central Spain, regions in Northern and Eastern France as well as the new German 'Länder' (as far as data for the new 'Länder' are available).

There were only a few regions where an actual increase in the number of fatalities per million passenger cars was registered. The four regions were *Malta* (+69 % compared to 1994), the two Finnish regions *Åland* (+62 %) and *Ita Suomi* (+30 %) and the Swedish region *Övre Norrland* (+2 %). However, it should be borne in mind that even with this increase these regions still record fairly low ratios (especially Malta).

As in most other countries, all regions of Italy saw a decline in fatalities per million passenger cars – either between 50 and 25 percent or under 25 percent – but none showed a decrease of over 50 percent. A similar situation was registered in Belgium, Ireland and Denmark.

## Greek regions remain particularly at risk

Focusing on the individual regions of the EU-25, it appears that despite the progress noted over the last decade, many Greek regions continue to display a very high ratio. This is particularly the case for the region *Sterea Ellada* with a figure of 1 576 persons killed in road accidents per one million passenger cars registered, far ahead of the regions *Peloponnisos* (1 159) and *Dytiki Ellada* (1 095).

Among the 10 most dangerous regions based on the selected ratio, 7 are located in Greece. Four Polish regions are included in Table 1, *Warminsko-Mazurskie* being the least favorable positioned with 815 fatalities per million passenger cars.

Latvia and Lithuania (no regional breakdown available for these countries) appear in 5<sup>th</sup> and 18<sup>th</sup>, with 752 and 571 victims respectively. Neighbouring Estonia, the third Baltic State does not show up in the list; as a 'region' (no regional breakdown available), it has a far more favorable ratio (360 fatalities per million passenger cars).

When looking at the map on page 2, the Belgian *Province de Luxembourg* stands out. The ratio of close to 600 fatalities per million registered passenger cars (rank 14 in Table 1) might however be influenced by the fact that this region has a low population but is crossed by important transit road axes. Furthermore, there are many cross-border

**Table 1: EU-25: Persons killed per million passenger cars in 2004: 20 most dangerous regions**

	Name of the region	Country	Persons killed per million passenger cars
1	Sterea Ellada	Greece	1 576
2	Peloponnisos	Greece	1 159
3	Dytiki Ellada	Greece	1 095
4	Warminsko-Mazurskie	Poland	815
5	Latvia	Latvia	752
6	Ipeiros	Greece	681
7	Notio Aigaio	Greece	679
8	Észak-Alföld	Hungary	670
9	Anatoliki Maked., Thraki	Greece	669
10	Thessalia	Greece	637
11	Stredné Slovensko	Slovakia	632
12	Świętokrzyskie	Poland	617
13	La Rioja	Spain	609
14	Prov. Luxembourg (B)*	Belgium	597
15	Podlaskie	Poland	595
16	Lubelskie	Poland	590
17	Közép-Dunántúl	Hungary	582
18	Lithuania	Lithuania	571
19	Dytiki Makedonia	Greece	560
20	Dél-Alföld	Hungary	553

\*:2002

Source: Eurostat

workers (commuting to the Grand Duchy of Luxembourg) that drive a (Luxembourg-registered) company car (hence not included in the car register of the Belgian region).

Turning to the twenty EU-25 regions with the lowest ratios, it appears that many of those are in fact urban regions. Urban areas are relatively safe with regard to road accidents as only a third of the fatalities are registered in accidents happening in built-up areas (see Graph 2). Also, passenger car density in these urban regions is often high, frequently boosted by company car and rental fleets.

Among the first five individual regions listed in Table 2, three urban German NUTS level 2 regions appear: *Bremen*, *Berlin*, and *Hamburg*. Further down the list, various capitals or capital regions like *Wien* (Vienna), *Stockholm* and *Brussels* show up.

**Table 2: EU-25: Persons killed per million passenger cars in 2004: 20 safest regions**

Name of the region	Country	Persons killed per million passenger cars
1 Bremen	Germany	23
2 Ciudad Autónoma de Ceuta	Spain	26
3 Berlin	Germany	57
4 Hamburg	Germany	57
5 Malta	Malta	61
6 West Midlands	UK	63
7 Ciudad Autónoma de Melilla	Spain	64
8 Wien	Austria	65
9 Hampshire and Isle of Wight	UK	67
10 Düsseldorf	Germany	69
11 Bruxelles/Brussel*	Belgium	74
12 Arnsberg	Germany	76
13 Stockholm	Sweden	77
14 Outer London	UK	77
15 Devon	UK	78
16 Greater Manchester	UK	81
17 Köln	Germany	83
18 Utrecht	Netherlands	84
19 Stuttgart	Germany	88
20 Bedfordshire and Hertfordshire	UK	89

\*: 2002

Source: Eurostat

*Bremen* in the Northern part of Germany presents the most favorable ratio in 2004 with only 23 persons killed per million registered passenger cars. The next German region, *Berlin*, has a ratio of 57, more than double the value of Bremen.

On the map on page 2, the favorable ratios of the region *Île de France* (Paris and surroundings), *Comunidad de Madrid* as well as the very urban Rhein-Ruhr area (regrouping the NUTS Level 2

regions *Köln*, *Düsseldorf*, *Arnsberg* and *Münster*) and Rhein-Main-Neckar area (*Darmstadt*, *Karlsruhe*, *Heilbronn* and *Neustadt*) strike the eye. Some of the regions in these areas (*Düsseldorf*, *Arnsberg*, *Köln*) appear individually in the Table 2 ranking.

The second and seventh region listed in Table 2 are particular cases. In fact, both *Ceuta* and *Melilla* are small Spanish enclaves on the North African coast (across the Gibraltar Strait). These urban territories are densely populated and the stock of vehicles registered is relatively limited.

Table 3 singles out the Candidate Countries and shows the 20 regions with the least favorable ratios. Eighteen out of these 20 regions are located in Turkey. The four easternmost regions (*Agri*, *Erzurum*, *Mardin* and *Van*) are particularly at risk. More than or close to 4000 road accident fatalities per million passenger cars were calculated for the *Van* region (border region with Iran and Iraq) and the *Agri* region (border region with Armenia and Georgia) whereas three other Turkish regions show ratios of over 2000 fatalities.

The Romanian regions *Nord-Est* and *Sud-Muntenia* were particularly dangerous (with 1 160 and 1 031 fatalities in 2004 respectively).

**Table 3: Candidate Countries: Persons killed per million passenger cars in 2004: 20 most dangerous regions**

Name of the region	Country	Persons killed per million passenger cars
1 Van	Turkey	4 243
2 Agri	Turkey	3 978
3 Kastamonu	Turkey	2 822
4 Mardin	Turkey	2 776
5 Erzurum	Turkey	2 588
6 Sanliurfa	Turkey	1 965
7 Kirikkale	Turkey	1 934
8 Kocaeli	Turkey	1 813
9 Manisa	Turkey	1 781
10 Trabzon	Turkey	1 583
11 Samsun	Turkey	1 555
12 Gaziantep	Turkey	1 541
13 Malatya	Turkey	1 437
14 Kayseri	Turkey	1 343
15 Tekirdag	Turkey	1 268
16 Balikesir	Turkey	1 250
17 Nord-Est	Romania	1 160
18 Konya	Turkey	1 047
19 Sud-Muntenia	Romania	1 031
20 Adana	Turkey	1 014

Source: Eurostat



## ➤ ESSENTIAL INFORMATION - METHODOLOGICAL NOTES

### Attention

The content of this publication has been established at the end of 2006, i.e. before the latest enlargement of the European Union that took effect on 1 January 2007. Hence, data for Romania and Bulgaria are not included in certain tables referring to the EU and still considered in tables referring to 'candidate countries'. Where appropriate, clarification is supplied by specifically mentioning "EU-25".

### Data sources

The data presented in this publication were mainly collected via the annual Regional Questionnaire (RQ) of transport statistics. Currently this collection comprises a set of transport indicators at NUTS 2 level for road, railways, inland waterways (infrastructure), vehicle stock and road accidents. The RQ is a voluntary data collection independent of EU legal acts.

The main information presented refers to the number of fatalities per million passenger cars registered (as it is published also in NC). A ratio based on the actual transport performance (expressed in passenger-kilometers) is often considered more appropriate; however, transport performance figures at regional level are not available.

### Definitions

**Passenger car:** Road motor vehicle, other than a motor cycle, intended for the carriage of passengers and designed to seat no more than nine persons (including the driver). The term "passenger car" therefore covers micro cars (need no permit to be driven), taxis and hired passenger cars, provided that they have fewer than ten seats. This category may also include pick-ups.

**Person killed:** Any person killed immediately or dying within 30 days as a result of an injury accident. For countries that do not apply this definition, conversion coefficients should be indicated so that comparisons on the basis of the 30 day-definition can be made (France 1.057, Italy 1.03, Latvia 1.08, Portugal 1.3, Turkey 1.3).

### Regional breakdown

Data are basically shown at Level 2 of the NUTS 2003 rev., Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (Official Journal L 154, 21/06/2003)

[http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l\\_154/l\\_15420030621\\_en00010041.pdf](http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_154/l_15420030621_en00010041.pdf).

The Nomenclature of Territorial Units for Statistics (NUTS) was established by Eurostat more than 25 years ago in order to provide a single uniform breakdown of territorial units for the production of regional statistics for the European Union.

Certain smaller countries are not sub-divided in NUTS Level 2 regions. This is notably the case for Denmark (DK), Estonia (EE), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT) and Slovenia (SI).

### Country codes

**EU: European Union before the latest enlargement of 1. January 2007, including the 25 Member States (EU-25):** Belgium (BE), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Greece (EL), Spain (ES), France (FR), Ireland (IE), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK).

### **Candidate Countries:**

BG: Bulgaria  
HR: Croatia  
MK: Former Yugoslavian Republic of Macedonia  
RO: Romania  
TR: Turkey

### Map 2: Change in persons killed per million passenger cars from 1994 to 2004

This map looks at the percentage change of the number of road accident fatalities between 1994 and 2004. However, data availability is such that for certain countries or individual regions, different reference years had to be taken.


Whereas these different reference years for the individual countries are directly indicated in the map legend, space constraints do not allow the listing of the names of the individual NUTS Level 2 regions. Only the region codes are shown. The corresponding name of these codes is shown below:

BE24: Prov. Vlaams Brabant  
BE31: Prov. Brabant Wallon  
DED1: Chemnitz  
DED2: Dresden  
DED3: Leipzig  
DEE1: Dessau  
DEE2: Halle  
DEE3: Magdeburg  
ES63: Ciudad Autónoma de Ceuta  
ES64: Ciudad Autónoma de Melilla  
F113: Itä-Suomi  
F118: Etelä-Suomi  
F119: Länsi-Suomi  
FR91: Guadeloupe  
FR92: Martinique  
FR93: Guyane  
FR94: Réunion  
SE0A: Västsverige  
UK11: Inner London  
UK12: Outer London  
UKK3: Cornwall and Isles of Scilly  
UKK4: Devon  
UKL1: West Wales and The Valleys  
UKL2: East Wales  
UKM1: North Eastern Scotland  
UKM2: Eastern Scotland  
UKM3: South Western Scotland  
UKM4: Highlands and Islands

## ***Further information:***

Data: [EUROSTAT Website/Home page/Transport/Data](#)

 **Transport**

 Transport - Horizontal view

 ***Regional transport statistics***

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Their mission is to provide help and guidance to Internet users of European statistical data.

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