

Contents

Rising car ownership.....	2
Density of cars associated with urbanisation.....	2
Low traffic-death rates in urban regions.....	5
Transit regions may suffer disproportionately.....	7

Road-traffic deaths in the regions of Europe

Anna Lööf and Niall Finn

The number of deaths in road accidents decreased by around 20% between 1988 and 1998 in the EU countries. During the same period, the number of cars per inhabitant increased by around 30%.

In the candidate countries of central Europe (CEC countries), the number of persons killed in road accidents per inhabitant declined by around 10% between 1995 and 1999. Over those four years alone, the number of cars increased by almost 30%.

Although the number of persons killed in road accidents is decreasing in most regions in Europe, in other regions a considerable increase has been recorded.

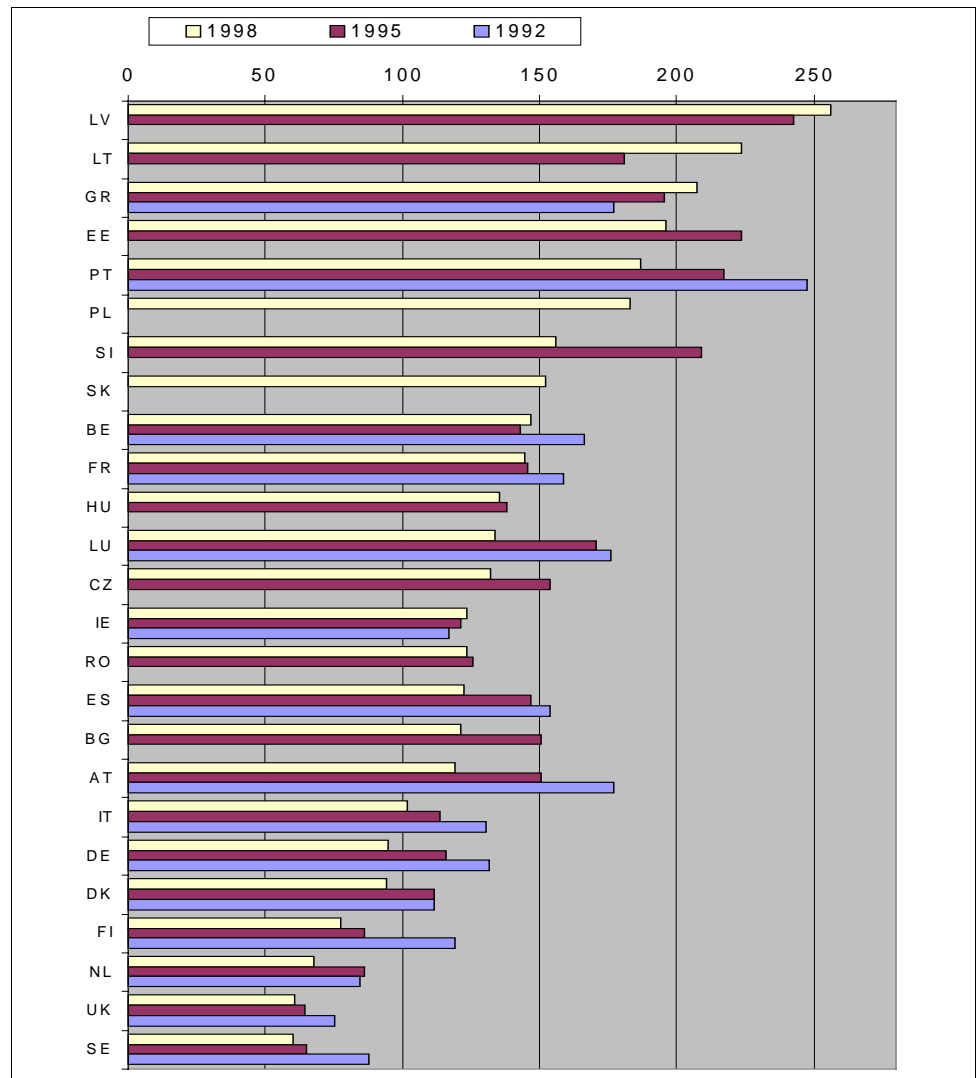


Figure 1: Persons killed in road accidents per million inhabitants

The most striking improvements took place in Austria, Finland and Sweden, where there traffic deaths fell by over 30% between 1992 and 1998. In Slovenia, the decrease exceeded 25% between 1995 and 1999 (earlier data not available on a regional level). Greece and Ireland are the only EU countries where the number of persons killed in road accidents has increased since 1992. Lithuania reported an increase of over 20% between 1995 and 1999.



Rising car ownership

One key element in road safety is the number of cars on the road. As can be seen in Table 1, the number of private vehicles has increased in all EU countries since 1988.

In Portugal, the number of cars had more than doubled

by 1998, while in Greece and Ireland the number of cars increased by more than 60% over those ten years. Latvia recorded an increase between 1995 and 1999 of 61%. Compared to the other countries, there was only a slight increase in Denmark, the Netherlands, Finland and Hungary.

		1988	1992	1995	1998	1999	increase % 1988-1998	increase % 1995-1999
BE	Belgium	3.61	4.02	4.27	4.49	:	24	:
DK	Denmark	1.60	1.6	1.67	1.82	:	14	:
DE	Germany	28.88	36.04	40.4	41.67	:	44	:
GR	Greece	1.50	1.83	2.2	2.65	:	77	:
ES	Spain	10.79	13.1	14.21	16.05	:	49	:
FR	France	22.37	23.62	24.54	28.63	:	28	:
IE	Ireland	0.75	0.86	0.99	1.2	:	60	:
IT	Italy	25.29	29.43	30.15	31.37	:	24	:
LU	Luxembourg	0.17	0.2	0.23	0.24	:	41	:
NL	Netherlands	5.25	5.66	5.63	5.9	:	12	:
AT	Austria	2.78	3.24	3.59	3.89	:	40	:
PT	Portugal	2.13	3.05	3.75	4.59	:	115	:
FI	Finland	1.80	1.9	1.9	2.02	:	12	:
SE	Sweden	3.48	4.23	4.19	4.5	:	29	:
UK	United Kingdom	18.85	20.97	21.95	23.29	:	24	:
BG	Bulgaria	:	1.41	1.65	1.81	1.91	:	16
CZ	Czech Republic	:	2.58	3.04	3.49	3.44	:	13
EE	Estonia	:	0.28	0.34	0.39	0.4	:	18
HU	Hungary	:	2.06	2.24	2.22	2.26	:	1
LT	Lithuania	:	0.57	0.72	0.98	1.09	:	51
LV	Latvia	:	0.35	0.33	0.48	0.53	:	61
PL	Poland	:	6.51	7.52	8.89	9.28	:	23
RO	Romania	:	1.59	2.2	2.82	2.98	:	35
SI	Slovenia	:	61	0.71	0.81	0.85	:	20
SK	Slovak Republic	:	0.97	1.02	1.2	1.24	:	22

Table 1: Number of private cars (million)

Figure 1 and Table 1 have shown two apparently opposing trends at national level. Road deaths generally fell over the reference periods despite what are in some cases very significant increases in the number of cars. Against this broad background, it is interesting to examine regional differences in these two parameters, possible interrelationships between them and other related aspects of a national nature.

Passenger cars are involved in around two thirds of all road accidents. Accordingly, the number of other vehicles on the roads should also be taken into account. Regional totals for other vehicles (buses, lorries, tractors, trailers and motorcycles) are available in REGIO.

Density of cars associated with urbanisation

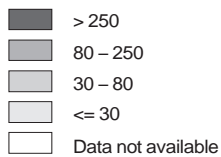
In Map 1, the density of traffic on the roads is approximated by mapping the number of cars per square kilometre. Reflecting population density, there are very evident areas of high vehicle density in capital cities.

Alongside individual city regions such as Berlin, Prague and Brussels, there are a number of high-density regions centred on major conurbations. These include Comunidad de Madrid, Île de France around Paris, Düsseldorf and

Köln in Germany and the Dutch regions of Noord-Holland, Zuid-Holland and Utrecht. In the candidate countries, there is relatively higher density in the regions around Tallinn, Riga, Bratislava, Budapest and Bucharest but not in the equivalent Lithuanian and Bulgarian regions.

It is important to note that these figures are based on where the cars are registered. Commuter and holiday traffic flows across regions may mean quite different actual traffic densities.

Number of private cars per km² 1998 – NUTS 2

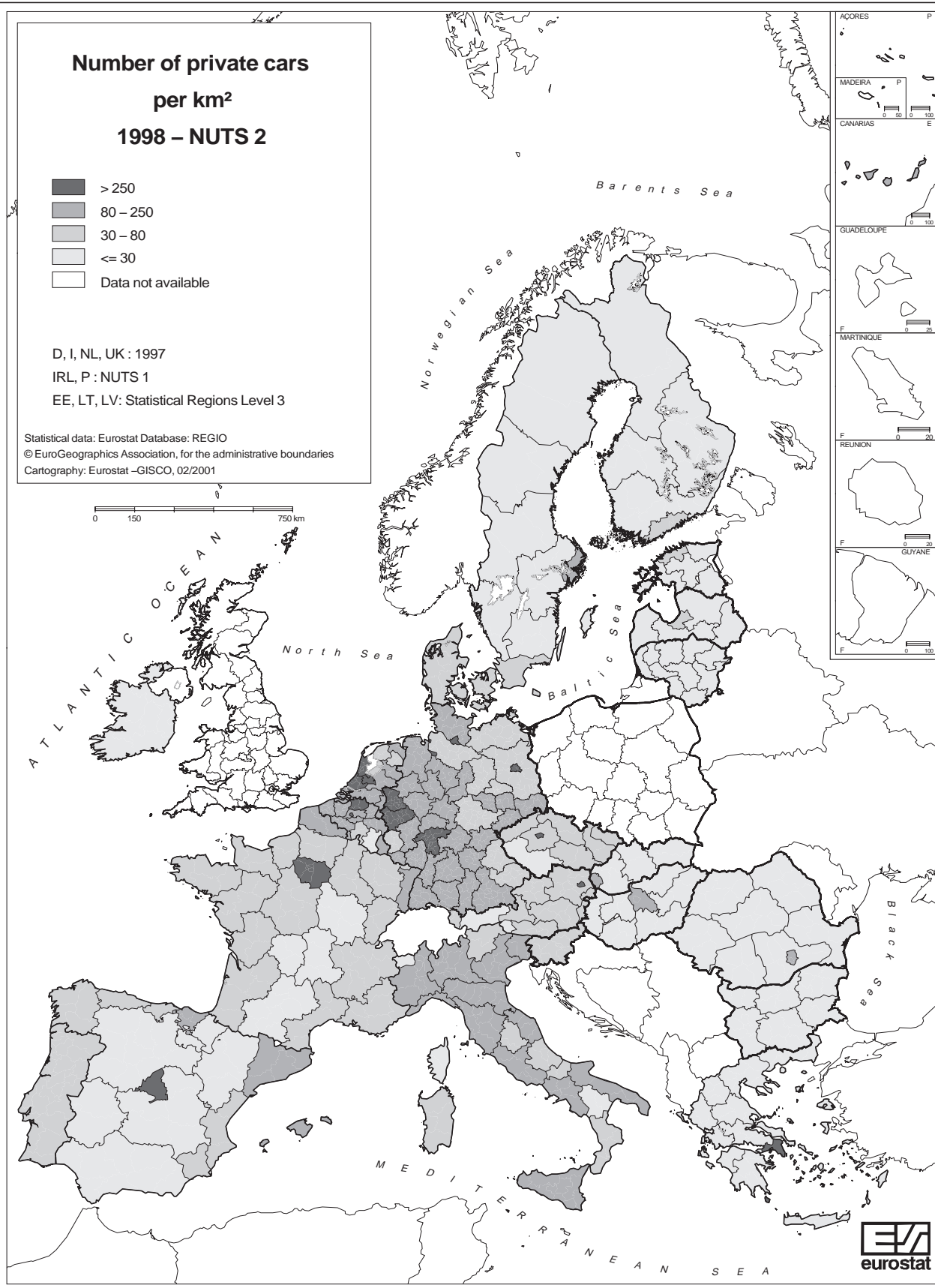


D, I, NL, UK : 1997

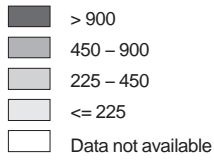
IRL, P : NUTS 1

EE, LT, LV : Statistical Regions Level 3

Statistical data: Eurostat Database: REGIO
© EuroGeographics Association, for the administrative boundaries
Cartography: Eurostat –GISCO, 02/2001

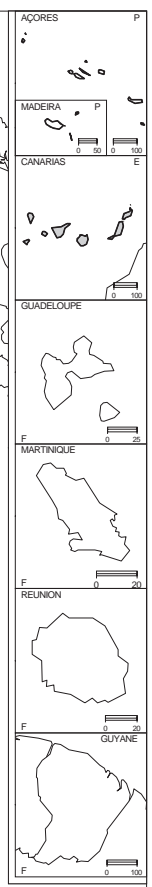
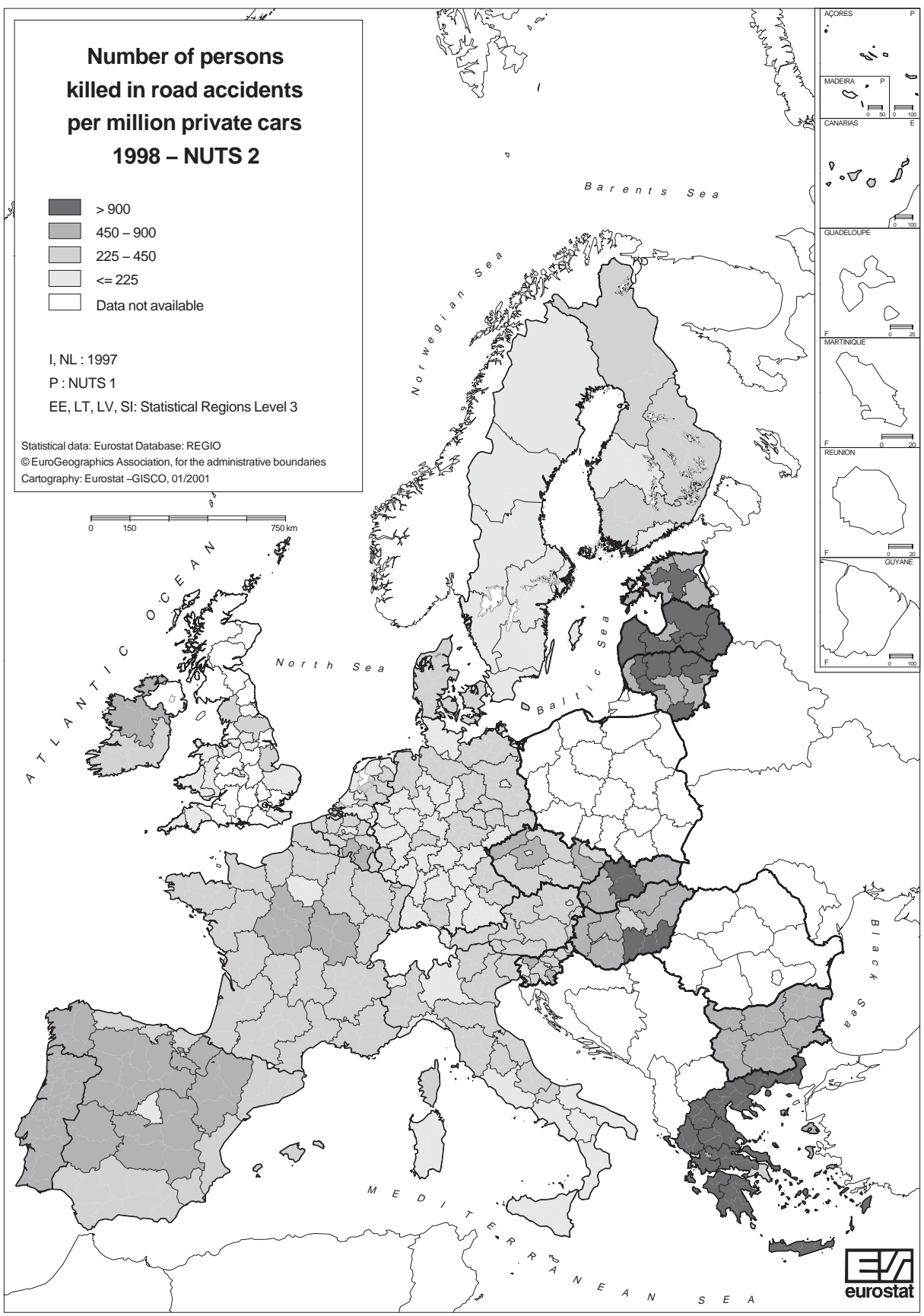


**Number of persons
killed in road accidents
per million private cars
1998 – NUTS 2**



I, NL : 1997
P : NUTS 1
EE, LT, LV, SI : Statistical Regions Level 3

Statistical data: Eurostat Database: REGIO
© EuroGeographics Association, for the administrative boundaries
Cartography: Eurostat – GISCO, 01/2001



Low traffic-death rates in urban regions

The second map, showing the number of deaths per million private cars, is compiled from REGIO data on deaths and injuries in road accidents (see methodological notes on page 7). Strikingly, the regional distributions are frequently the reverse of the first map. The lowest rates are observed in urban centres such as Hamburg, Vienna, Stockholm and Berlin. Possible explanations include relatively low speeds in urban areas and extensive use of public transport even among car owners.

Sterea Ellada, in Greece, and Vidzeme and Zemgale regions in Latvia had the highest rate of deaths per million private cars in 1998 (2587, 2152 and 2083 respectively). All the Greek regions have a high rate and only in Peloponnisos has the situation improved considerably since 1988. Although the number of cars in Greece did increase by 77% from 1988 to 1998, one alternative explanation in regions with fewer cars is that pedestrians and cyclists increased the number of fatalities disproportionately to the number of cars registered there.

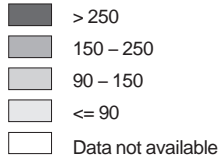
When comparing regional road-death rates, the population size and number of cars must be taken into account, together with other factors that affect road safety (quality of roads, size and quality of cars, attitude to safety belts and speed and respect of traffic regulations, etc.). For example, within the EU the permitted level of alcohol differs from 0.2 mg/ml (Sweden) to 0.8 mg/ml (Ireland, Italy, Luxembourg and UK) and the speed limit on motorways from 110 km/h (Sweden and Denmark) to 130 km/h (France, Italy and Austria). Germany enforces no speed limit on much of its motorway network. Widespread social acceptance of limits on driver behaviour may explain the uniformity of death rates right across Sweden's regions.

Table 2 shows the average change in number of deaths due to road accidents (%) between 1994 and 1998, as well as regional extremes for each country. Especially in the case of small regions, these figures must be interpreted with care since a single serious accident may artificially inflate figures.

Country	National average	Regions with largest decreases	Regions with largest increases
EE	-30	Louna-Eesti -41	- -
AT	-28	Vorarlberg -44	- -
DE	-21	Berlin -43	Mittelfranken +6
SI	-20	Koroska -53	Notranjsko-kraska +83
NL	-18	Friesland -36	Zeeland +17
BG	-17	Severozapaden -42	Yugozapaden +4
FI	-17	Väli-Suomi -27	- -
LU	-14	n/a	n/a
RO	-12	n/a	n/a
BE	-11	Luxembourg (B) -21	- -
IT	-11	Valle d'Aosta -66	Friuli-Venezia Giulia +21
SE	-10	Mellersta Norrland -30	Stockholm +4
DK	-9	n/a	n/a
CZ	-8	Praha -48	Severocesky +24
HU	-8	Dél-Alföld -16	Dél-Dunántúl +12
UK	-6	Shropshire and Staffordshire -36	Leicestershire, Rutland and Northamptonshire +29
PT	-5	n/a	n/a
GR	-3	Peloponnisos -15	Dytiki Makedonia +45
PL	-2	n/a	n/a
LV	-1	Kurzeme -21	Zemgale +14
FR	-1	Corse -26	Alsace +27
LT	+11	Klapedos -5	Taurages +48
IE	+13	n/a	n/a
SK	+2	n/a	n/a
ES	+6	Principado de Asturias -14	Región de murcia +29

Table 2: Change in number of deaths due to road accidents(%) 1998/1994 (CEC countries 1999/1995, IT 1997/1993)

Number of persons killed in road accidents per million inhabitants 1998 – NUTS 2

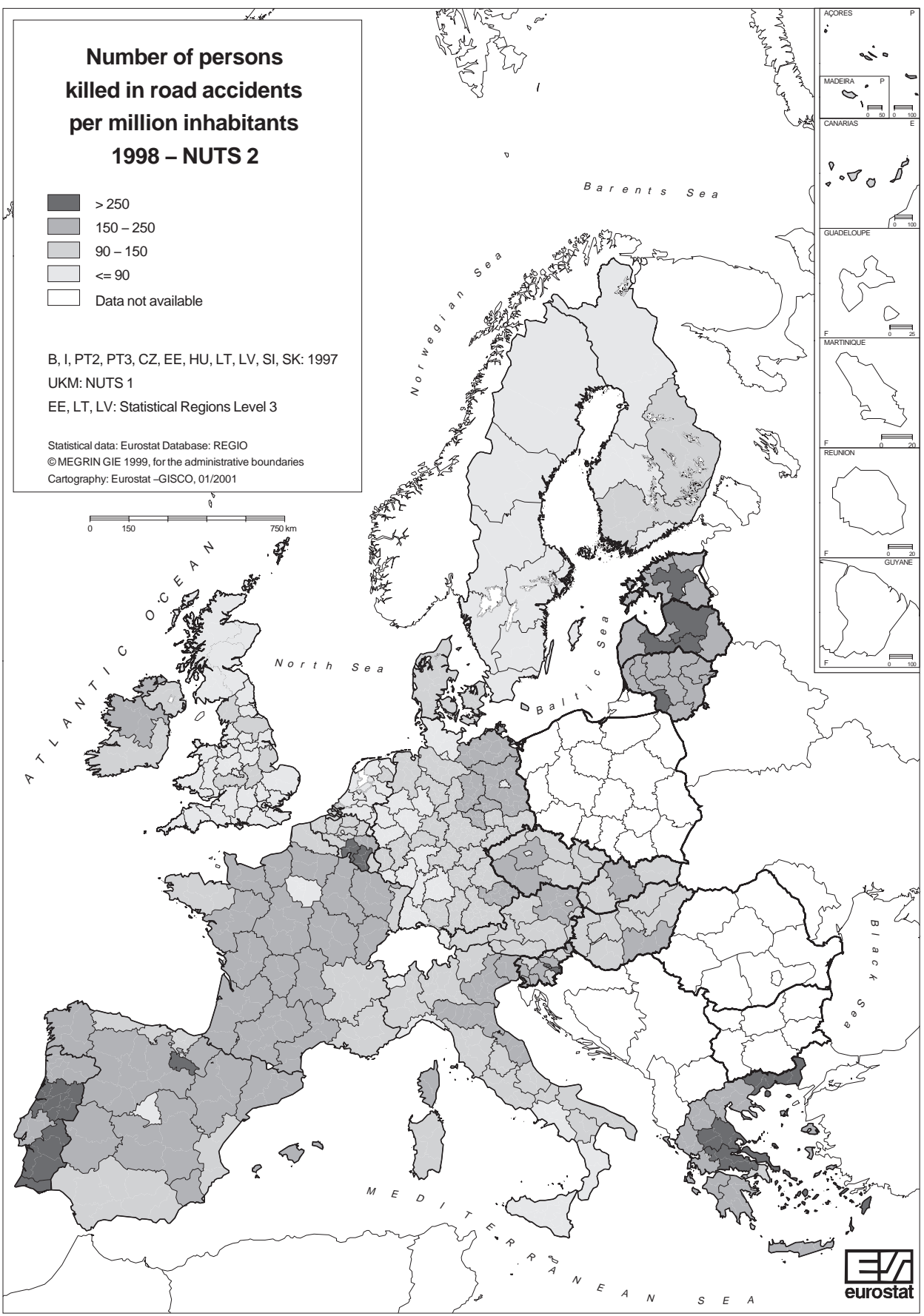


B, I, PT2, PT3, CZ, EE, HU, LT, LV, SI, SK: 1997

UKM: NUTS 1

EE, LT, LV: Statistical Regions Level 3

Statistical data: Eurostat Database: REGIO
© MEGRIN GIE 1999, for the administrative boundaries
Cartography: Eurostat –GISCO, 01/2001



Transit regions may suffer disproportionately

The traffic toll expressed as the number of deaths per million inhabitants has been selected for Map 3 in order to eliminate some of the apparent regional variation in absolute numbers of deaths due to the greater population of some regions. Although population is only an approximate indicator for another relevant factor not taken into account in this map – the number of cars on the road – a similar pattern to Map 2 is apparent in that regions around major conurbations (Athens in Greece, Vienna in Austria) tend to have fewer traffic deaths.

High traffic-death rates in Portuguese, Greek, Latvian and Lithuanian regions could reflect a rapid rise in car ownership combined with an inadequately modernised road network. This is unlikely to be the case in Hungary, since the number of cars decreased since 1995.

The high rate in the Belgian regions of Luxembourg (which is shown as having a low density of cars in Map 1) and Namur could be explained by the combination of low population density and extensive transit traffic along the route to the Mediterranean from the Channel ports, Belgium and the Netherlands. A similar pattern may apply in the Slovene regions of Zasavska and Spodnje Posavska, which lie between Ljubljana and the Croatian capital of Zagreb.

The impact of large seasonal influxes of tourists in certain regions is less easy to assess. In Map 3, they will raise rates since the ratio is based on the region's permanent population and the total number of fatalities, including tourists. Although this may partly explain high figures in Greek regions, a similar effect is not apparent in Spain's Mediterranean regions

➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

A "passenger car" is a 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 microcars, taxis and hired passenger cars, provided that they have fewer than ten seats. This category may also include pick-ups.

"Persons killed in road accidents" covers all categories of victim: pedestrians, cyclists, motorcyclists, car drivers, etc. According to the international standard (established by the ECMT- the European Conference of Ministers of Transport, an OECD body, UN/ECE and Eurostat), a fatality is classified as a road-traffic death if the victim dies within 30 days of the accident. Injuries resulting in deaths after this period are classified as injuries. For countries not using this definition (in the list below, the national definition is given in brackets), a corrective factor must be applied:

Greece : (3 days)	+18%	(up to and including 1995)
Spain : (24 hour period)	+30%	(up to and including 1992)
France : (6 days)	+5,7%	(9% up to and including 1993)
Italy : (7 days)	+7,8%	
Austria : (3 days)	+12%	(up to and including 1991)
Portugal :(1 day)	+30%	
Latvia : (7 days)	+7,8%	

REGIO contains non-adjusted data provided by Member States and CEC countries but in order to make the data more comparable, **all figures have been adjusted in this document.**

NUTS: The nomenclature of territorial units for statistics (NUTS) classifies the **Community regions** at three interrelated levels, level 1 territorial units comprising a whole number of level 2 units and level 2 units a whole number of level 3 units. The **statistical regions** in the CEC countries have been determined according to principles similar to those used in the establishment of the NUTS.

Symbols and abbreviations

%	Per cent	CEC	Central European Candidate countries
:	Not available	n/a	Not applicable
EU	European Union		

Further information:

➤ Databases

New Cronos, Domain REGIO

To obtain information or to order publications, databases and special sets of data, please contact the **Data Shop** network:

BELGIQUE/BELGIË	DANMARK	DEUTSCHLAND	ESPAÑA	FRANCE	ITALIA – Roma
Eurostat Data Shop Bruxelles/Brussel Rue du Commerce 124 Handelsstraat 124 B-1049 BRUXELLES / BRUSSEL Tel. (32-2) 299 66 66 Fax (32-2) 295 01 25 E-mail: datashop.brussels@cec.eu.int	DANMARKS STATISTIK Bibliotek og Information Eurostat Data Shop Sejrogade 11 DK-2100 KØBENHAVN Ø Tlf. (45) 39 17 30 30 Fax (45) 39 17 30 03 E-mail: bib@dst.dk	STATISTISCHES BUNDESAMT Eurostat Data Shop Berlin Otto-Braun-Straße 70-72 (Eingang: Karl-Marx-Allee) D-1 0178 BERLIN Tel. (49) 1888-644 94 27/28 Fax (49) 1888-644 94 30 E-mail: datashop@statistik-bund.de	INE Eurostat Data Shop Paseo de la Castellana, 183 Oficina 009 Entrada por Estébanez Calderón E-28046 MADRID Tel. (34-91) 583 91 67 Fax (34-91) 579 71 20 E-mail: datashop.eurostat@ine.es	INSEE Info Service Eurostat Data Shop 195, rue de Bercy Tour Gamma A F-75582 PARIS CEDEX 12 Tel. (33-1) 53 17 88 44 Fax (33-1) 53 17 88 22 E-mail: datashop@insee.fr	ISTAT Centro di Informazione Statistica Sede di Roma, Eurostat Data Shop Via Cesare Balbo, 11a I-00184 ROMA Tel. (39) 06 46 73 31 02/06 Fax (39) 06 46 73 31 01/07 E-Mail: dipdiff@istat.it
ITALIA – Milano	LUXEMBOURG	NEDERLAND	NORGE	PORTUGAL	SCHWEIZ/SUISSE/SVIZZERA
ISTAT Ufficio Regionale per la Lombardia Eurostat Data Shop Via Fieno 3 I-20123 MILANO Tel. (39) 02 80 61 32 460 Fax (39) 02 80 61 32 304 E-mail: mileuro@tin.it	Eurostat Data Shop Luxembourg BP 453 L-2014 LUXEMBOURG 4, rue A. Weicker L-2721 LUXEMBOURG Tel. (352) 43 35-2251 Fax (352) 43 35-2221 E-mail: dslux@eurostat.datashop.lu	STATISTICS NETHERLANDS Eurostat Data Shop-Voorburg Postbus 4000 2270 JM VOORBURG Nederland Tel. (31-70) 337 49 00 Fax (31-70) 337 59 84 E-mail: datashop@cs.nl	Statistics Norway Library and Information Centre Eurostat Data Shop Kongst gate 6 Boks 8131, Dep. N-0033 OSLO Tel. (47) 21 09 46 42/43 Fax (47) 21 09 45 04 E-mail: datashop@ssb.no	Eurostat Data Shop Lisboa INE/Serviço de Difusão Av. António José de Almeida, 2 P-1000-043 LISBOA Tel. (351) 21 842 61 00 Fax (351) 21 842 63 64 E-mail: data.shop@ine.pt	Statistisches Amt des Kantons Zürich, Eurostat Data Shop Bleicherweg 5 CH-8090 Zürich Tel. (41-1) 225 12 12 Fax (41-1) 225 12 99 E-Mail: datashop@statistik.zh.ch Internet: http://www.zh.ch/statistik
SUOMI/FINLAND	SVERIGE	UNITED KINGDOM	UNITED KINGDOM	UNITED STATES OF AMERICA	
STATISTICS FINLAND Eurostat Data Shop Helsinki Tilastokirjasto PL 2B FIN-00022 Tilastokeskus Työpajakatu 13 B, 2 Kerros, Helsinki P. (358-9) 17 34 22 21 F. (358-9) 17 34 22 79 Sähköposti: datashop.tilastokeskus@tilastokeskus.fi Internet: http://www.tilastokeskus.fi/kk/datashop.html	STATISTICS SWEDEN Information Service Eurostat Data Shop Karlavägen 100 - Box 24 300 S-104 51 STOCKHOLM Tfn. (46-8) 50 69 48 01 Fax (46-8) 50 69 48 99 E-Post: info@scb.se Internet: http://www.scb.se/info/ datashop/edatashop.asp	Eurostat Data Shop Enquiries & advice and publications Office for National Statistics Customers & Electronic Services Unit 1 Drummond Gate - B1/05 LONDON SW1V 2QQ Tel. (44-20) 75 33 56 76 Fax (44-1 633) 81 27 62 E-mail: eurostat.datashop@ons.gov.uk	Eurostat Data Shop Electronic Data Extractions, Enquiries & advice - R.CADE Unit 1L Mounjroy Rese arch Centre University of Durham DURHAM DH1 3SW Tel: (44-191) 374 73 50 Fax: (44-191) 384 49 71 E-mail: r-cade@dur.ac.uk Internet: http://www.rcade.dur.ac.uk	HAVER ANALYTICS Eurostat Data Shop 60 East 42nd Street Suite 3310 NEW YORK, NY 10165 Tel. (1-212) 986 93 00 Fax (1-212) 986 69 81 E-mail: eurodata@haver.com	

Media Support Eurostat (for professional journalists only):

Bech Building Office A3/48 - L-2920 Luxembourg - Tel. (352) 4301 33408 - Fax (352) 4301 32649 - e-mail: eurostat-mediasupport@cec.eu.int

For information on methodology

Anna Lööf, Eurostat/E.4, L-2920 Luxembourg, Tel. (352) 4301 35108, Fax (352) 4301 34029, E-mail: Anna.Loof@cec.eu.int

ORIGINAL: English

Please visit our web site at www.europa.eu.int/comm/eurostat/ for further information!

A list of worldwide sales outlets is available at the **Office for Official Publications of the European Communities**.

2 rue Mercier - L-2985 Luxembourg
Tel. (352) 2929 42118 Fax (352) 2929 42709
Internet Address <http://eur-op.eu.int/tf/general/s-ad.htm>
e-mail: info.info@cec.eu.int

BELGIQUE/BELGIË - DANMARK - DEUTSCHLAND - GREECE/ELLADA - ESPAÑA - FRANCE - IRELAND - ITALIA - LUXEMBOURG - NEDERLAND - ÖSTERREICH
PORTUGAL - SUOMI/FINLAND - SVERIGE - UNITED KINGDOM - ISLAND - NORGE - SCHWEIZ/SUISSE/SVIZZERA - BALGARIJA - CESHÁ REPUBLIKA - CYPRUS
EESTI - HRVATSKA - MAGYARORSZÁG - MALTA - POLSKA - ROMÂNIA - RUSSIA - SLOVAKIA - SLOVENIA - TÜRKIYE - AUSTRALIA - CANADA - EGYPT - INDIA
ISRAËL - JAPAN - MALAYSIA - PHILIPPINES - SOUTH KOREA - THAILAND - UNITED STATES OF AMERICA

Order form

I would like to subscribe to Statistics in focus (from 1.1.2001 to 31.12.2001):
(for the Data Shop and sales office addresses see above)

Formula 1: All 9 themes (approximately 140 issues)

Paper: EUR 360
Language required: DE EN FR

Formula 2: One or more of the following seven themes:

Theme 1 'General statistics'
 Paper: EUR 42

Theme 2 'Economy and finance'

Theme 3 'Population and social conditions'

Theme 4 'Industry, trade and services'

Theme 5 'Agriculture and fisheries'

Theme 6 'External trade'

Theme 8 'Environment and energy'
 Paper: EUR 84

Language required: DE EN FR

Statistics in focus can be downloaded (pdf file) free of charge from the Eurostat web site. You only need to register. For other solutions, contact your Data Shop.

- Please send me a free copy of 'Eurostat mini-guide' (catalogue containing a selection of Eurostat products and services)
Language required: DE EN FR
- I would like a free subscription to 'Statistical References', the information letter on Eurostat products and services
Language required: DE EN FR
- Mr Mrs Ms
(Please use block capitals)
- Surname: _____ Forename: _____
Company: _____ Department: _____
Function: _____
Address: _____
Post code: _____ Town: _____
Country: _____
Tel.: _____ Fax: _____
E-mail: _____

Payment on receipt of invoice, preferably by:

Bank transfer
 Visa Eurocard
Card No: _____ Expires on: ____/____/____

Please confirm your intra-Community VAT number:
If no number is entered, VAT will be automatically applied. Subsequent reimbursement will not be possible.