



International Association for the  
Study of Insurance Economics

# Geneva Association Information Newsletter

# 25

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## World Fire Statistics

Information Bulletin of the World Fire Statistics Centre

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### ROAD DEATHS AND FIRE DEATHS COMPARED

The United Nations Economic Commission for Europe (UNECE) has published figures showing that most ex-Soviet Union countries have experienced poor and deteriorating road death records since 1997. Insofar as the East European members of this group of countries are concerned, a comparison with the World Fire Statistics Centre (WFSC) estimates of fire death rates has been made in this Newsletter, which indicates that the latter are generally between two and three times lower than the former, but have also often been deteriorating. Some of the factors underlying the poor fire safety record, such as inappropriate alcohol consumption, parallel those affecting road safety. Moreover, the figures examined suggest that the East European fire death record is relatively worse in comparison with their road death experience than is the norm in Western Europe. Is there therefore a case for the UNECE to start paying attention to fire safety as well as to road safety?

## **The Geneva Association**

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Established in 1973, The Geneva Association, officially the “International Association for the Study of Insurance Economics”, is based in Geneva, Switzerland and is a non-profit organisation funded by its members.

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## **Aims and Activities of the World Fire Statistics Centre (WFSC)**

The WFSC’s main objective is to persuade governments to adopt strategies aimed at reducing the cost of fire which, although running at around 1 per cent of GDP in most advanced countries, has generally received much less attention than the cost of crime or of road accidents. In pursuit of this objective, the Centre collects statistics on national fire costs from some 20 leading countries (see contents above), upon which it reports annually to a United Nations Committee.

Apart from undertaking an annual questionnaire enquiry among national correspondents in participating countries, the Centre also makes use of relevant data published by the World Health Organization with respect to its annual causes of death enquiry, in which many of its member countries take part.

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See also: [www.genevaassociation.org/Affiliated\\_Organizations/WFSC.aspx](http://www.genevaassociation.org/Affiliated_Organizations/WFSC.aspx)

### **The Geneva Association Newsletter – “World Fire Statistics”, No. 25, October 2009 Information Bulletin of the World Fire Statistics Centre**

This information bulletin of the World Statistics Centre appears annually. It presents statistics on national fire costs from around 20 leading countries in an effort to persuade governments to adopt strategies aimed at reducing the cost of fire. It has been published since March 1984.

**Printed copies:** 1’100. Unrestricted circulation. Free of charge.

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## I. EDITORIAL: Road Deaths and Fire Deaths Compared

In its Issue No. 319 (18-22 May 2009) of *UNECE Weekly*, the e-mailed newsletter of the UN Economic Commission for Europe (UNECE), attention was drawn to the improving road safety record of many European countries, but to a contrary trend in the majority of countries formerly part of the Soviet Union. In particular, a table of graphs was published showing that in 2007, nearly all such countries suffered rates of road accident deaths per 100,000 population of over 10, with some exceeding 20, and that most showed a deterioration in experience since 1997. This stimulated the thought that a comparison with the fire death rates for these countries might be interesting.

The WFSC's estimates of fire death rates for the relevant countries in the Caucasus and Central Asia are subject to considerable data timeliness, coverage and reliability problems, so the table below is confined to those in Eastern Europe, but including the three Baltic States (not covered in the UNECE table), for which road death data was derived from the European Road Accident Database (CARE) and population estimates from the UN Population website. For most countries, fire death data are not available beyond 2006, or even earlier in some cases.

Per 100,000 Population (rounded to nearest 0.5)	Road Deaths		Fire Deaths	
	1997	2007	1997	2007
Belarus	17.0	17.5	6.5	9.0 (2003)
Estonia	20.0	14.5	14.0	12.5 (2005)
Latvia	21.5	18.5	8.0	10.5
Lithuania	21.0	22.0	5.5	4.0
Republic of Moldova	15.5	13.0 (2006)	5.5	7.0 (2006)
Russian Federation	19.0	23.5	6.5	10.0 (2006)
Ukraine	12.0	20.5	4.0	7.5 (2005)

In contrast to the fairly grim figures shown above, death rates in West European countries have been much lower and have been improving. Examples are:

Per 100,000 Population	Road Deaths (rounded to nearest 0.5)		Fire Deaths (rounded to nearest 0.1)	
	1997	2007	1997	2006
Germany	10.5	6.0	0.9	0.6
Netherlands	7.5	4.5	0.8	0.5
United Kingdom	6.5	5.0	1.3	0.9

Why this difference in experience? The UNECE suggests that the bad and deteriorating road death record of most ex-Soviet Union countries can be ascribed to the sharp rise in the number of vehicles, the poor condition of infrastructure and inadequate behaviour, such as high speed, driving under the influence of alcohol, and the low rate of using seat belts, child restraints and helmets (for motor cyclists). Some of these factors parallel those resulting in poor fire death experience: falling asleep while smoking and under the influence of alcohol, inadequate building construction and maintenance, the deteriorating condition of electrical wiring and gas pipes, and the low rate of installation of smoke alarms.

However, it is also significant that the East European fire death record is relatively worse in relation to their road death experience than is the case in Western Europe, where the rate of road deaths is generally between five and ten times that of fire deaths. In the former group of countries, however, the road death rate is now usually less than three times that for fire, and is often less than double. Is there therefore a case for the UNECE to start paying attention to fire safety as well as road safety?

**United Nations Fire Statistics Study**

The Centre presented its annual report to the UN Committee on Housing and Land Management at its meeting in Geneva in September 2009.

The following eight tables of international fire cost comparisons are based on those which appeared in the report.

**II. COST OF DIRECT FIRE LOSSES—Table 1****Table 1**

**Adjusted direct losses** (in millions, except for Japan—billions)

Country	Currency	2004 Direct Losses	2005 Direct Losses	2006 Direct Losses	Percentage of GDP 2004-06
Singapore	\$S	120	135	125	0.06
Czech Republic	CzKr	1,900	1,850	2,200	0.07
Poland	Zl	650	645	750	0.07
Slovenia	SIT	4,250	—	—	0.07 (2002-04)
United States	\$US	10,500	11,500	12,000	0.09
Australia	\$A	805	980	905	0.10
New Zealand	\$NZ	165	—	—	0.11 (2004)
Japan	Yen	520	615	625	0.12
Hungary	Ft	—	—	—	0.12 (1986-88)
Spain	Pta	—	—	—	0.12 (1984)
Germany	€	2,750	2,900	3,300	0.13
United Kingdom	£	1,300	1,900	1,650	0.13
Netherlands	€	—	765	745	0.14 (2005-06)
Finland	€	235	225	260	0.15
Italy	€	2,050	2,350	2,350	0.16
Sweden	SKr	4,050	4,750	4,300	0.16
Canada	\$Can	—	—	—	0.17 (1999-2001)
Denmark	DKr	3,000	2,600	2,250	0.17
France	€	3,350	3,050	3,350	0.19
Norway	NKr	3,550	3,850	—	0.22 (2003-05)
Switzerland	SwF	—	—	—	0.23 (1989)
Belgium	€	—	—	—	0.24 (1998-2000)
Austria	Sch	—	—	—	0.26 (1998-2000)

**Note:** Fire losses include explosion losses following fires, but exclude explosion loss where no fire occurs, for example in some acts of terrorism.

**III. COST OF INDIRECT FIRE LOSSES—Table 2****Table 2**

Average percentage of GDP (2004-06)

Country	%
Norway	0.002 (2003-05)
Czech Republic	0.005 (2000-02)
Sweden	0.005
United States	0.006
New Zealand	0.007 (2004)
Finland	0.009
United Kingdom	0.009
France	0.010
Italy	0.014 (1993-94)
Germany	0.015
Austria	0.016 (1998-2000)
Japan	0.016 (1985-86)
Slovenia	0.021 (2002-04)
Canada	0.022 (1991)
Netherlands	0.027 (1995-96)
Denmark	0.029 (1993-95)
Hungary	0.029 (1992-93)
Switzerland	0.095 (1989)

Note: This table must be regarded with serious reservations—the figures are produced on widely varying bases and some of the differences seem too large to be credible.

**IV. FIRE DEATHS—Tables 3 and 4****Table 3**

Country	Adjusted estimates (fire deaths) *		
	2004	2005	2006
Singapore	10	5	10
Netherlands	–	70	85
Switzerland	40	35	30
Italy	–	–	280
Australia	110	140	90
Austria	50	45	–
Spain	275	280	–
Germany	560	605	510
New Zealand	30	30	25
Sweden	70	110	90
United Kingdom	535	515	515
Ireland	40	50	35
France	585	660	620
Slovenia	20	–	–
Greece	145	140	100
Norway	55	65	–
United States	4,250	4,000	3,550
Czech Republic	130	145	150
Poland	485	590	605
Denmark	85	85	70
Japan	2,050	2,250	2,100
Finland	110	85	100
Hungary	195	195	–

\* Deaths unknown to fire brigades or hospitals.

## Population Comparisons for Fire Deaths (2004-06)

Table 4

Country	Deaths per 100,000 persons
Singapore	0.19
Netherlands	0.47 (2005-06)
Switzerland*	0.47
Italy	0.48 (2006)
Australia	0.56
Austria	0.57 (2003-05)
Spain	0.65 (2003-05)
Germany	0.68
New Zealand	0.68
Sweden	0.86
United Kingdom	0.86
Ireland	0.99
France	1.02
Slovenia	1.09 (2002-04)
Canada	1.15 (2000-02)
Greece	1.16
Norway	1.27 (2003-05)
United States	1.30
Belgium	1.35 (1995-97)
Czech Republic	1.39
Poland	1.47
Denmark	1.48
Japan	1.67
Finland	1.87
Hungary	1.98 (2003-05)

\* Excluding firefighter deaths; deaths in buildings only.

Note: Population figures used are derived from the United Nations Population website.

## V. COST OF FIRE FIGHTING ORGANISATIONS—Table 5

Table 5

### Average percentage of GDP (2004-06)

Country	%
Singapore	0.04
Slovenia	0.05 (2002-04)
Denmark	0.08
Austria	0.11 (1994)
Norway	0.11 (2003-05)
Belgium	0.14 (1998-2000)
Sweden	0.14
Australia	0.16 (2005-06)
New Zealand	0.16
Poland	0.17
Netherlands	0.18 (2005-06)
Finland	0.21
United Kingdom	0.22
United States	0.25
Japan	0.33
Canada	0.35 (1991)

Note: The low Danish cost is largely due to the private company, Falck, which runs many fire brigades, together with ambulance, rescue and motor breakdown services.

**VI. COST OF FIRE INSURANCE ADMINISTRATION\*—Table 6****Table 6****Average percentage of GDP (2004-06)**

Country	%
Hungary	0.01 (1987-88)
Singapore	0.02
Finland	0.03
Netherlands	0.04 (1987-88)
Germany	0.04
Sweden	0.04
Italy	0.05
Spain	0.05 (1986)
Canada	0.06 (1991)
Slovenia	0.06 (2002-04)
France	0.07
Denmark	0.08
Japan	0.08
New Zealand	0.08 (2004)
Norway	0.10 (2003-05)
United Kingdom	0.11
United States	0.13
Austria	0.14 (1979-80)
Belgium	0.23 (1999-2000)

\* For the purposes of this enquiry, "administrative costs" should cover all the expenses involved in transacting fire insurance, including marketing costs and commission, except for costs of paying and administering claims.

**VII. COST OF FIRE PROTECTION TO BUILDINGS—Tables 7 and 8****Table 7****Estimated Cost of Fire Protection to Buildings**

Country	Fire Protection**	Currency	Cost in millions (except for Japan—billions)		
	(%)		2004	2005	2006
Australia	—	\$A	—	3,600	—
Canada	3.9	\$C	3,900	4,150	4,650
Czech Republic	3.0	CzKr	5,150	5,300	6,050
Denmark	5.0	DKr	3,100	3,600	4,350
France	2.5	€	2,650	2,900	3,150
Italy	4.0	€	4,850	5,200	5,250
Japan	2.5	Yen	745	745	765
Netherlands	3.0	€	—	1,450	1,600
New Zealand	2.5	\$NZ	285	310	—
Norway	3.5	NKr	6,250	7,050	—
Singapore	4.0	\$S	400	450	645
Slovenia	2.5	SIT	11,000	—	—
Sweden	2.5	SKr	4,400	4,850	5,550
United Kingdom	2.5	£	2,550	2,700	2,900
United States	—	\$US	41,500	46,000	48,500

\*\* Estimated cost of building fire protection in relation to total national cost of building and construction.

Note: In the United Kingdom, the estimated fire protection costs varied from 1 per cent for housing to 7 per cent for hospitals and office buildings, in the United States, from 2.5 per cent for housing to 12 per cent for private non-residential structures, and in Canada from 2 per cent for single homes to 13.2 per cent for high-rise apartments.

**Fire Protection to Buildings****Table 8**

Average percentage of GDP (2004-06)

Country	%
Japan	0.15
Slovenia	0.16 (2002-04)
France	0.17
Czech Republic	0.18
Sweden	0.18
New Zealand	0.19 (2003-05)
United Kingdom	0.22
Denmark	0.24
Singapore	0.25
Belgium	0.29 (1998-2000)
Netherlands	0.29 (2005-06)
Switzerland	0.29 (1989)
Canada	0.31
Italy	0.36
Norway	0.36 (2003-05)
United States	0.36
Australia	0.42 (2005)
Hungary	0.42 (1987-88)

**VIII. UNITED NATIONS SCHEME ENDORSED**

In their session held in Geneva on 23-25 September 2009, the United Nations Committee expressed its interest in the Report, thanked Mr Paish, invited him to present a similar report on behalf of the World Fire Statistics Centre to its next session and encouraged countries which had not yet done so to participate in the study.

**IX. EUROPEAN FIRE SAFETY ACTION**

In April 1999, an international conference, "Firesafe Europe 99", was organised in Chester, U.K. on behalf of FEU<sup>1</sup> and CACFOA<sup>2</sup> with EU financial support. This resulted in a suggested European fire safety action programme, and the Centre helped FEU to carry this forward by jointly organising an FEU/WFSC seminar in Augsburg in June 2000 on "European Fire Strategy – the Part of Statistics".

As a result of the seminar, the "League of Augsburg 2000" was formed to develop proposals for a European fire statistical database which would meet the needs of likely users of the figures. A core group was formed from among the likely users: fire services, fire protection associations, fire equipment suppliers, fire insurers, government, industry and commerce and academics. A questionnaire was circulated to core group members seeking (i) views on additional fire statistics that would be useful, and (ii) information on existing statistics available for publication. The European Commission was kept informed of the progress of the core group, whose role was to produce a report suggesting the best way of carrying forward the proposals. This report was in due course produced and circulated to interested parties, including the Commission. Copies are available on request from [wfsc@genevaassociation.org](mailto:wfsc@genevaassociation.org).

<sup>1</sup> Federation of European Union Fire Officers' Associations.

<sup>2</sup> Chief and Assistant Chief Fire Officers' Association (U.K.); this body has now changed its name to Chief Fire Officers' Association (CFOA).



Another European fire initiative, organised in 2003 by the Swedish Fire and Rescue Service (SRSA), under a contract from the European Commission's DG III (Environment) was to study "Fire Prevention and other incidents" at the European level. This aimed at finding common problems associated with fires and at preparing principles and guidance to handle these problems. A group of five countries worked on the project, which resulted in the publication in February 2004 of a comprehensive report, with recommendations for action. As a result, with the support of the Commission, an EU Fire Safety Network, composed of relevant government representatives from EU States, was set up to interchange information and statistics on fire safety matters. It has held regular meetings and its latest initiative is to seek to commission outside researchers to undertake a study of European fire statistics.

In a report on "Social and Economic Challenges in Distressed Urban Areas of the UNECE<sup>3</sup> Region" presented to the meeting of the UN Committee on Housing and Land Management in September 2006, the authors drew on the 2005 WFSC report to the Committee in the following paragraph:

"For the UNECE region the annual toll of fire deaths is measured in tens of thousands ....

The most effective way to minimize this toll is better fire protection, coupled with consumer education. To coordinate such efforts, urgent actions by governments are needed, which should include (a) collecting fire statistical data and analysis, and (b) developing a national fire safety strategy ...."

### European Parliament and Fire Costs

Following a meeting which WFSC had with Sir Christopher Prout MEP and DG III (Industry), in 1994 Sir Christopher drafted the following Motion for resolution by the European Parliament:

"Whereas fire is currently costing countries of the European Union approximately 1% of GDP,

Whereas in comparison with road safety, crime prevention and industrial safety, little or nothing is being done to monitor progress on safety measures,

Whereas the rewards have been high for Governments, such as the United States of America, which have organised a determined campaign to cut fire costs.

#### NOW THEREFORE

1. The European Parliament urges the Council of Ministers to make a public announcement stating their concern over the level of fire costs in the EU.
2. The European Parliament calls on the European Commission to establish a Working Party of fire experts whose terms of reference would be to recommend ways of tackling the fire problem".

Sir Christopher (now Lord Kingsland) shortly thereafter ceased to be an MEP, but in 1995 Ms Christine Crawley MEP put down a similar motion, which went to the Environment Committee in 1996. However, only three of the 20 proposed motions before the Committee were accepted for pursuit and, although the fire resolution was "recognised to be an issue of great importance", it was not accepted. Lord Kingsland raised it again in 1997 with the Chairman of the Environment Committee, who took it up with the Commission, only to receive a stonewall response.

<sup>3</sup> United Nations Economic Commission for Europe; the region in question covers the whole of Europe, together with all the republics of the former Soviet Union, even though some are situated in Asia.

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### X. CONFERENCES ORGANISED AND / OR SPONSORED BY THE GENEVA ASSOCIATION

## 2009

### October

- |       |        |   |
|-------|--------|---|
| 16    | Rome   | <b>AXA/MPS Vita Forum</b> , organised by AXA/MPS and The Geneva Association   |
| 19-20 | Bogotá | <b>The M.O.R.E. 23 Seminar on Climate Change and its Economic Impact on Insurance</b> , hosted by Suramericana de Seguros |
| 26-27 | Zurich | <b>6<sup>th</sup> Liability Regimes Conference</b> , hosted by Swiss Re   |

### November

- |       |            |  |
|-------|------------|--|
| 11-12 | Rüschlikon | <b>5<sup>th</sup> CRO Assembly</b> , jointly organised with Swiss Re   |
| 26-27 | Warsaw     | <b>6<sup>th</sup> Health &amp; Ageing Conference – Development of Health and Long-term Care Insurance in Central and Eastern European Countries</b> , jointly organized with PZU |

### December

- |       |        |   |
|-------|--------|---|
| 14-15 | London | <b>6<sup>th</sup> International Insurance and Finance Seminar of The Geneva Association</b> |
|-------|--------|---|

## 2010

### January

- |    |          |   |
|----|----------|---|
| 13 | New York | <b>Joint Industry Forum for P&amp;C Insurance Industry</b> , co-sponsored by The Geneva Association |
|----|----------|---|

### February

- |     |           |   |
|-----|-----------|---|
| tba | Amsterdam | <b>12<sup>th</sup> Meeting of the Amsterdam Circle of Chief Economists</b> , hosted by ING ( <i>ACCE members only</i> ) |
|-----|-----------|---|

### March

- |       |           |   |
|-------|-----------|---|
| 22-23 | Singapore | <b>10<sup>th</sup> Asia CEO Insurance Summit</b> co-organised by Asia Insurance Review and The Geneva Association |
|-------|-----------|---|

### April

- |       |          |  |
|-------|----------|--|
| 15-16 | Montreux | <b>26<sup>th</sup> PROGRES Seminar on Insurance Regulation and Supervision</b> |
|-------|----------|--|

### June

- |     |        |   |
|-----|--------|---|
| 2-5 | Zurich | <b>37<sup>th</sup> General Assembly of The Geneva Association</b> ( <i>members only</i> ) |
| 6-9 | Madrid | <b>The Geneva Association/IIS Research Award Partnership</b>                              |

### July

- |       |           |  |
|-------|-----------|--|
| 25-29 | Singapore | <b>World Risk and Insurance Economics Congress (WRIEC)</b> |
|-------|-----------|--|