Statistics in focus

TRANSPORT

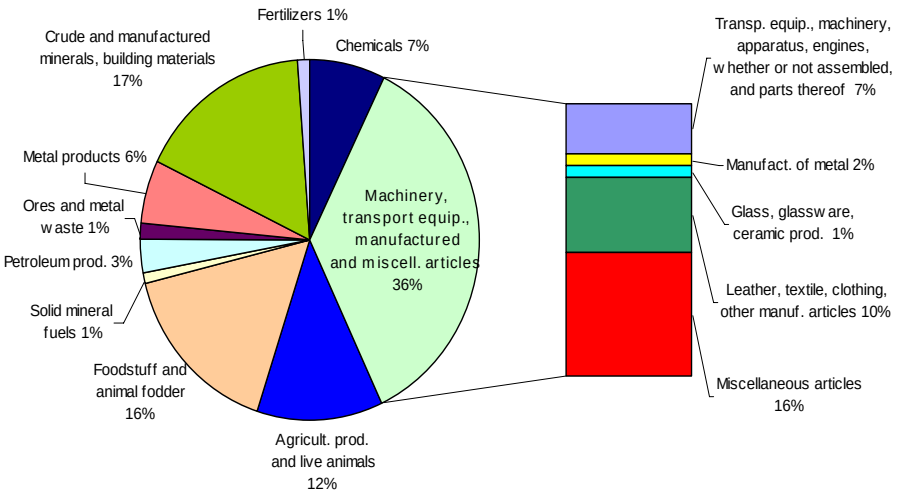
11/2006

Authors
Carla SCIULLO
Maria SMIHILY

Road freight transport by type of goods 1999-2004

Nearly half of tonnes carried in 2004 were Crude and manufactured minerals, building materials.

Graph 1: Total transport by type of goods, 2004 - % in tkm



Data availability: see Methodological notes

Highlights

Road freight performance reported by EU and Norwegian hauliers (excluding hauliers from Greece and Malta) in 2004 was 1 677 billion tonne-kilometres. More than one third of this total was formed by goods in Chapter 9 of the NST/R classification (machinery, transport equipment, etc). Chapter 6 (crude and manufactured minerals, building materials) was the second largest group of goods with 17%, closely followed by Chapter 1 (foodstuffs and animal fodder) with 16%. Within Chapter 9 the sub-groups 'Miscellaneous articles' and 'Leather, textile, clothing, other manufactured articles' comprised 16% and 10% respectively of total tonne-kilometres.

The picture is however very different when considering tonnes carried, almost half of the 15.2 billion tonnes carried by road by hauliers registered in the EU25 and Norway in 2004 was Crude and manufactured minerals and building materials.

Road transport performed by hauliers from EU15 and Norway increased by 12% when comparing 2004 to 1999. The increase was 20% for goods belonging to Chapter 9.

4.5 % of the goods transported in 2004 were dangerous goods. Over half of these 75 billion tonne-kilometres were in the category 'Flammable liquids' (57%). Only two other categories recorded more than 10%: 'Gases, compressed, liquefied, dissolved under pressure' was second with 14%, followed by 'Corrosives' at 11%.

Contents

Manuscript completed on: 08.12.2006
Data extracted on: 07.04.2006
ISSN 1562-1324
Catalogue number: KS-NZ-06-011-EN-C

Table 1: Total transport by type of goods (EU15* and Norway) - million tkm

	Type of goods	1999	2000	2001	2002	2003	2004
0	Agricultural products and live animals	157 302	162 585	162 119	165 086	159 486	172 034
1	Foodstuff and animal fodder	224 356	226 998	231 159	237 126	236 237	240 973
2	Solid mineral fuels	7 756	7 185	7 511	7 349	6 943	8 765
3	Petroleum products	46 488	46 714	48 971	48 018	47 686	46 455
4	Ores and metal waste	15 271	16 958	15 063	14 642	14 686	16 662
5	Metal products	81 344	80 736	81 039	79 531	78 704	83 864
6	Crude and manuf. minerals, building materials	218 043	221 184	224 937	231 971	232 419	244 813
7	Fertilizers	14 021	14 013	13 770	13 972	14 725	14 279
8	Chemicals	98 606	100 311	101 959	99 779	102 798	106 257
9	Machinery, transport equipment, manufactured and miscellaneous articles	434 951	455 685	468 787	488 078	487 900	520 419
	Total goods	1 298 138	1 332 371	1 355 320	1 385 553	1 381 597	1 454 526

* Data availability: see Methodological notes

Table 2: Total transport by type of goods (EU25* and Norway), 2004 - 1000 tonnes and million tkm

	Type of goods	1000 tonnes	Share of chapter in total tonnes	Million tkm	Share of chapter in total tkm
0	Agricultural products and live animals	1 267 294	8.3%	198 385	11.8%
1	Foodstuff and animal fodder	1 686 053	11.1%	273 123	16.3%
2	Solid mineral fuels	138 749	0.9%	13 872	0.8%
3	Petroleum products	578 586	3.8%	51 756	3.1%
4	Ores and metal waste	201 249	1.3%	22 723	1.4%
5	Metal products	443 268	2.9%	97 227	5.8%
6	Crude and manuf. minerals, building materials	6 980 141	45.9%	279 907	16.7%
7	Fertilizers	184 526	1.2%	16 890	1.0%
8	Chemicals	680 712	4.5%	121 985	7.3%
9	Machinery, transport equipment, manufactured and miscellaneous articles	3 049 846	20.1%	601 350	35.9%
	Total goods	15 210 441	100%	1 677 223	100%

* Data availability: see Methodological notes

In order to make comparisons over time, only data for EU15 (except Greece) and Norway can be included (Table 1) for all the years from 1999. The data availability for the 10 new Member States (covering only the year 2004 in Table 2) is set out in the Methodological notes at the end of this publication.

In 2004, the total road freight transport performance of the EU15 Member States and Norway was 1 455 billion tonne-kilometres with an increase of 12% compared with 1999. There were marked differences from the overall average growth over the period for some of the groups of goods. For goods belonging to Chapter 9 there was an increase of 20% in tonne-kilometres; this Chapter accounted for over a third of tonne-kilometres performed. In contrast, there was little change between 1999 and 2004 in the tonne-kilometres for 3 groups; petroleum products, metal products and fertilizers. In 2004, Chapter 6 was the second largest group of goods with 16.8% closely followed by Chapter 1 with 16.6%. These two groups also took second and third places in 1999 but in the reverse order, Chapter 1 then being in second place with 17.3% and Chapter 6 with 16.8%. The group in fourth place in both years and the only other group with over 10 % of the total was Chapter 0 (Agricultural products and live animals) with 12%.

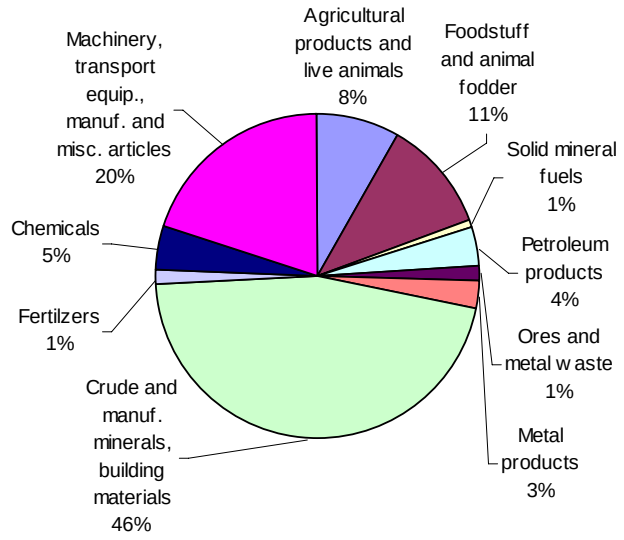
Table 2 provides information on tonnes carried and tonne-kilometres performed by NST/R chapters of goods for hauliers of the EU25 Member States (except Greece and Malta) and Norway. The table also gives the percentage share of the chapters.

In 2004, 1 677 billion tonne-kilometres were performed and 15.2 billion tonnes were carried by the EU25 Member States and Norway. The new Member States recorded 223 billion tonne-kilometres, 13% of the total.

The percentage shares of the chapters for tonne-kilometres for the EU15 for 2004 are very similar to the percentages of tonne-kilometres for the EU25 shown in table 2 and in Graph 1. Any differences are only in the first decimal place. Chapter 9 formed over one-third of the total with Chapter 6 in second place followed by Chapters 1 and 0. The only other Chapters with over 5% were Chapter 8 (Chemicals) with 7% and Chapter 5 (Metal products) 6%.

As Chapter 9 formed such a large proportion of the total, Graph 1 provides an interesting breakdown of the various sub-categories of this chapter for 2004. 'Miscellaneous articles' took a share of 16% of all tonne-kilometres performed in road transport. This was nearly half of the total for this chapter. This large share is due, in part, to goods transported in containers where the exact nature of the goods is not known to the transporters or there may be a mixture of various goods in the container. Over a quarter of the total for chapter 9 was taken by 'Leather, textile, clothing, other manufactured articles' which had a 10% share of total transport. The only other significant group in this chapter was 'Transport equipment and machinery' with a 7% share of the total and forming over one-fifth of the chapter total.

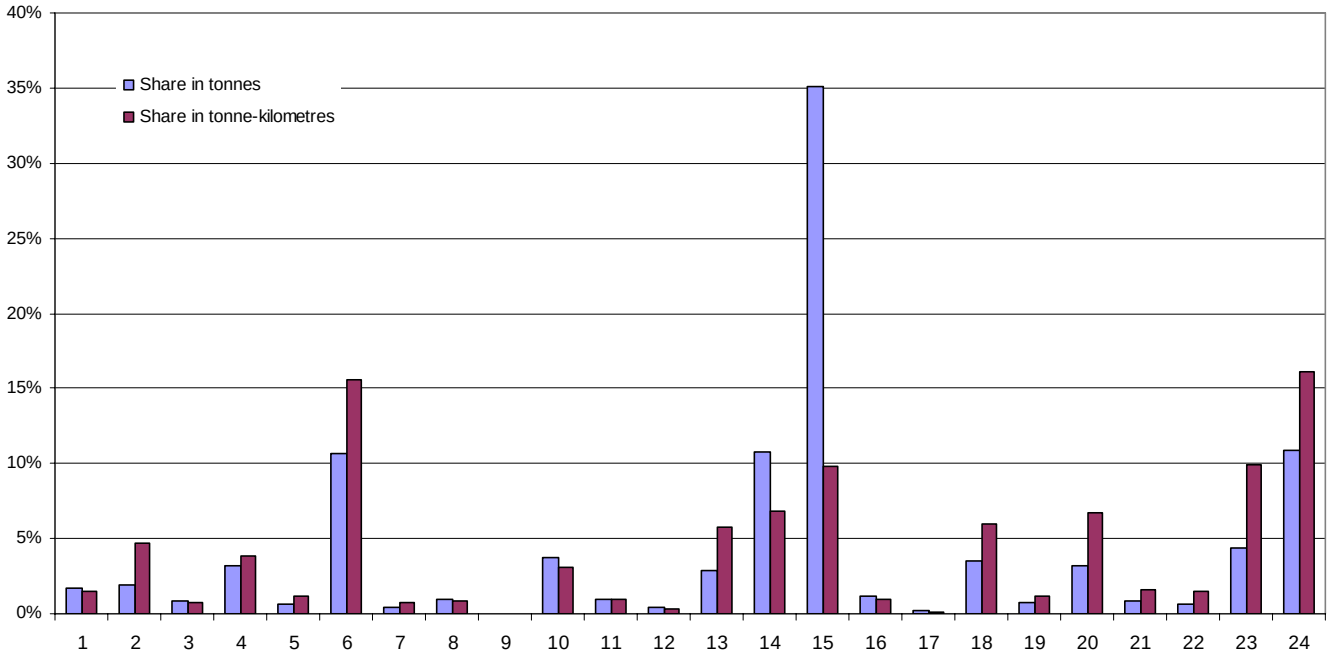
Graph 2: Total transport by type of goods, 2004 – % in tonnes



Data availability: see Methodological notes

The picture was very different in terms of tonnes carried as illustrated by graph 2. 7.0 billion of the 15.2 billion tonnes carried by road by hauliers from the EU25 and Norway in 2004 was in Chapter 6 (Crude and manufactured minerals, building materials). This was nearly half (46%) of total tonnes followed by Chapter 9 with 3.0 billion tonnes (20% of the total).The only other Chapters recording over a billion tonnes were Chapter 1 (1.7 billion tonnes and 11% of the total) and Chapter 0 (1.3 billion tonnes and 8%). None of the other Chapters represented more than 5% of the total tonnage.

Graph 3: Share by group of goods in total transport, 2004 - tonnes and tonne-kilometres



Data availability: see Methodological notes

Graph 3 illustrates, for each of the 24 groups of goods, the relative share in tonnes and in tonne-kilometres for total transport in 2004. Only the numbers of the groups are shown in the graph, and the description of the 24 groups is given in the Methodological notes. Quantities carried by road in group 9 'Crude petroleum' and group 17 'Coal chemicals, tar' are extremely small.

Where the share for tonnes is markedly larger than that for tonne-kilometres, it indicates that goods are carried over a relatively short distance. This is clearly illustrated for group 15 'Crude and manufactured minerals' which registered a 35% share for tonnes but only a 10% share for tonne-kilometres. Group 14, 'Cement, lime and manufactured building materials' portrays a similar picture with an 11% share of tonnage but only 7% of tonne-kilometres. These materials are often carried in bulk by other modes of transport to convenient locations where they can then be moved over relatively short distances to their final destination.

In contrast, more groups display the opposite situation. Although from the graph groups 6, 23 and 24 appear prominent cases, group 2 'Potatoes, other fresh or frozen fruits and vegetables' recorded the largest relative variation with a 5% share of tonne-kilometres but only a 2% share of tonnage. The time-sensitivity of seasonable fresh fruit will account for much of the

transport of these goods by road over long distances. There were four other groups where the share of tonne-kilometres was double that of the share in tonnes: group 22 'glass, glassware, ceramic products', group 23 'leather, textile, clothing, other manufactured articles', group 20 'transport and group 13 'metal products'.

From the graph, the share of tonne-kilometres for group 24 'Miscellaneous articles' appears much larger than that for tonnes, however, the ratio is only 1.5; 16% share of tonne-kilometres and 11% share of tonnes. Although goods in containers are frequently declared as miscellaneous goods and carried long distances, there will be many other journeys carrying this category of goods over relatively short distances distributing goods from warehouses to retail outlets.

Table 3 shows the tonnage in national, intra-EU international and extra-EU international road transport by NST/R chapters in 2004. Cabotage transport data are not included as data breakdown by groups of goods is not published. National transport is dominant for all Chapters. In the table, the percentages where the share of international transport forms over 10% have been emboldened. These cases are 'Metal products', 'Chemicals' and 'Machinery, transport equipment, etc' with 13.3%, 12.6% and 10.4% respectively. However, for both intra-EU and extra-EU international transport, goods in Chapter 9 'Machinery, transport equipment, etc' formed around 40% of the total tonnage carried on these routes.

Table 3: Total* transport by type of goods and trading area, 2004 - 1000 tonnes

	Type of goods	National	Share of national	International* Intra-EU	International* Extra-EU	Share of international*
0	Agricultural products and live animals	1 164 766	92.4%	89 902	6 333	7.6%
1	Foodstuff and animal fodder	1 579 668	94.1%	93 957	4 784	5.9%
2	Solid mineral fuels	131 458	94.9%	6 981	80	5.1%
3	Petroleum products	564 260	97.6%	12 758	1 139	2.4%
4	Ores and metal waste	187 718	93.7%	12 385	276	6.3%
5	Metal products	380 822	86.7%	55 532	2 746	13.3%
6	Crude and manuf. minerals, building materials	6 865 158	98.6%	90 863	7 710	1.4%
7	Fertilizers	176 416	95.9%	7 519	109	4.1%
8	Chemicals	589 277	87.4%	80 028	5 193	12.6%
9	Machinery, transport equipment, manufactured and miscellaneous articles	2 707 566	89.6%	294 028	21 881	10.4%
	Total	14 347 097	94.8%	743 961	50 251	5.2%

* Cabotage transport is not included
Data availability: see Methodological notes

The table also shows that the international transport by vehicles registered in the EU and Norway was mainly intra-EU transport. The tonnage carried on international extra EU transport was 6% of the total international transport and formed only about one-third of one percent of total tonnage. It should be kept in mind that transport performance of non-EU hauliers (other than Norway) is not considered and they may have had a large share of extra-EU road freight.

Dangerous goods

Table 4 shows the available information on the transport performance of the carriage of dangerous goods for the Member States and Norway. Over 75 billion tonne-kilometres were performed in 2004 by all EU and Norwegian hauliers (excluding Greece and Malta where no information was received and Hungary who did not report any carriage of dangerous goods). These data present some fluctuation over the years (this holds true also for table 5), but table 4 indicates relatively steady increases for Spain, Ireland, Luxembourg the Netherlands and Portugal (see Methodological notes for the reliability of data on dangerous goods). For most other countries similar volumes were recorded over the time period. Transport of dangerous goods has declined in Belgium during the last few years. A slow decline is also displayed for the United Kingdom but the figures for 2004 are subject to revision (see Methodological notes).

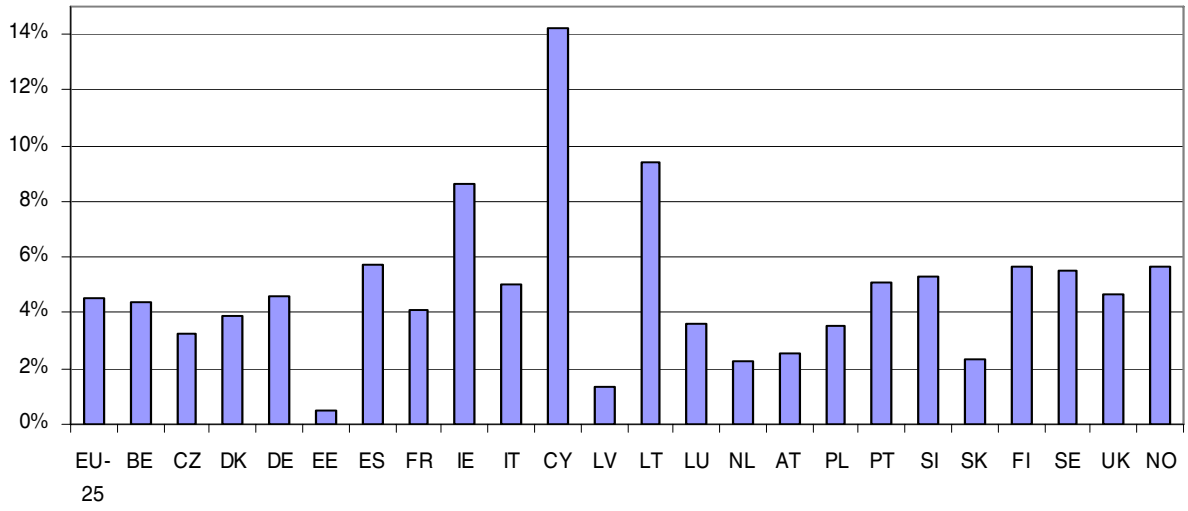
Table 4: Transport of dangerous goods by reporting country - million tkm

	1999	2000	2001	2002	2003	2004
BE	2 768	3 545	4 177	3 779	2 623	2 284
CZ	:	2 905	2 117	1 905	2 172	1 498
DK	887	853	827	998	780	901
DE	12 261	12 782	13 437	12 034	12 777	13 524
EE	:	:	:	:	25	24
ES	8 998	10 690	10 300	12 036	12 185	12 669
FR	8 328	7 607	8 132	8 471	8 797	8 701
IE	597	954	1 139	1 094	1 414	1 468
IT	10 875	10 894	11 086	10 523	10 131	9 935
CY	:	:	:	134	118	159
LV	:	:	:	117	153	97
LT	:	:	:	:	1 173	1 151
LU	200	189	245	337	327	344
NL	950	848	2 123	1 680	1 664	2 021
AT	960	924	1 064	985	1 132	940
PL	:	:	:	:	:	3 651
PT	1 571	1 276	1 775	1 730	1 900	2 066
SI	:	:	542	407	418	477
SK	:	:	:	:	406	431
FI	1 946	2 077	2 427	2 253	2 401	1 818
SE	:	1 779	1 623	2 009	1 778	2 180
UK	10 790	11 654	10 655	10 178	9 899	8 091
Total	:	:	:	:	:	74 430
NO	1 085	1 139	828	908	1 120	886

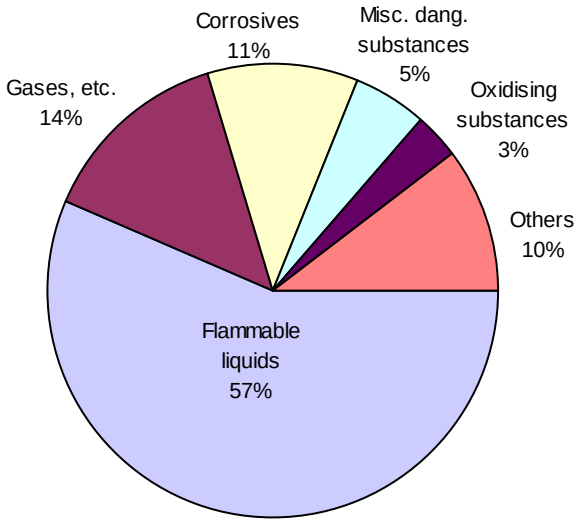
Graph 4 displays the relative share of total transport taken by dangerous goods. It should be noted that the figures include transport performed in foreign countries by hauliers registered in a given Member State and that the proportion of dangerous goods carried on international journeys is extremely small (for details on these figures please refer to Eurostat Website).

The EU average share of dangerous goods in total transport (of those reporting data on dangerous goods) was 4.5%. For most countries, the relative share fell within the range of 3 to 6%. However, there were significant differences from this average for some countries; the availability of pipelines for the transport of petroleum products may, in part, account for some of this fluctuation. The lowest shares were recorded by Estonia and Latvia, with 0.5% and 1.3% respectively. The Netherlands and Slovakia with 2.3% and Austria (2.5%) were also noticeably lower than the EU average. Conversely, countries where the share was over twice the EU average were Cyprus with 14.2% (virtually all the transport of petroleum products), followed by Lithuania at 9.3% and Ireland 8.6%.

Graph 4: Share of transport of dangerous goods in total transport by reporting country, 2004 - % in tkm



Graph 5: Transport of dangerous goods by type of dangerous goods, 2004 - % in tkm



Data availability: see Methodological notes

Graph 5 illustrates the types of dangerous goods transported in 2004. Over half of all dangerous goods transported were in the category of 'Flammable liquids' (57%). Only two other categories formed more than 10%; 'Gases, compressed, liquefied, dissolved under pressure' was second with 14% followed by 'Corrosives' at 11%. Within the group 'Others' in graph 5, 'Substances liable to spontaneous combustion' formed 3% for the total of all dangerous goods followed by 'Flammable solids' (3%) and 'Toxic substances' (2%). The remaining 5 categories made up only 2% of the overall total.

Table 5 illustrates the changes over time in the carriage of the various categories of dangerous goods. The comparisons over time are not always possible due to the lack of data for some countries for certain years. Full information on the availability of data for this table is given in the Methodological notes.

The table has been divided into two sections in order to provide comparability over time. The last two columns give the comparison between 2003 and 2004 for the 25 EU Member States and Norway. Poland started reporting data in 2004, hence its data are shown in table 4 but excluded from table 5 in order to allow comparison between the two years.

Table 5: Transport of dangerous goods by type of dangerous goods - million tkm

		EU-15* + NO						EU-25* + NO	
		1999	2000	2001	2002	2003	2004	2003	2004
1	Explosives	303	538	451	756	521	411	557	444
2	Gases, compressed, liquified, dissolved under pressure	7 992	8 766	8 675	9 075	9 215	9 020	9 664	9 412
3	Flammable liquids	36 723	38 534	41 220	40 248	40 457	38 975	41 959	40 604
4.1	Flammable solids	1 018	1 281	1 092	1 207	1 032	1 030	2 330	2 076
4.2	Substances liable to spontaneous combustion	2 063	2 470	2 150	2 658	2 287	2 263	2 303	2 281
4.3	Substance emitting flammable gases (with water)	228	161	270	123	242	240	280	314
5.1	Oxidising substances	1 371	1 987	1 593	1 626	1 944	2 336	2 121	2 392
5.2	Organic peroxides	170	152	161	247	290	330	293	337
6.1	Toxic substances	1 231	1 601	1 574	1 425	1 431	1 578	1 492	1 617
6.2	Substances liable to cause infections	198	206	324	185	204	260	252	278
7	Radioactive material	65	103	36	62	68	116	69	116
8	Corrosives	7 447	8 003	8 086	7 817	7 800	7 721	8 010	7 904
9	Miscellaneous dangerous substances	3 337	3 300	4 091	3 491	3 274	3 370	3 901	3 713
99	Unknown dangerous goods	70	107	115	97	164	180	164	180
	Total	62 217	67 211	69 839	69 015	68 929	67 829	73 395	71 666

* Data availability: see Methodological notes

The longer time series of table 5 give the changes over time for the EU15 and Norway. 1999 data on dangerous goods for Sweden are not available. The table shows that there has been little change in the total tonne-kilometres transported by these countries for all the years from 2000 to 2004, varying between just over 67 (2000) and just under 70 (2001) billion tonne-kilometres.

Similarly for most categories of dangerous goods there has been no discernable trend over the period. The final two columns of table 5 show a small fall of 2.4% between 2003 and 2004 in the total tonne-kilometres of dangerous goods transported by the EU25 and Norway hauliers. This slight fall was mirrored for the three main categories of dangerous goods - 'Flammable liquids' (-3%), 'Gases, compressed, liquefied, dissolved under pressure' (-3%) and 'Corrosives' (-1%). Changes of over 10% were recorded for many of the other categories, although the absolute figures for tonne-kilometres for these categories were small in relation to the total.

The percentage changes between 2003 and 2004 for EU15 were similar to those for the EU25 apart from 4 categories. There was no fall for the EU15 in the categories of 'Flammable solids' and no increase for 'Substance emitting flammable gases (with water)'. However, there was a 27% rise in the transport of 'Substances liable to cause infections' for the EU15 compared with only 10% for EU25 but there are substantial year to year changes in the transport of this type of material and such variation is typical (see Methodological notes for the reliability of data on dangerous goods).

Comparing the data for 2004 for the EU25 and the EU15, the tonne-kilometres performed by the new Member States in the carriage of dangerous goods added only a small percentage (5.7%) to the total for the EU15. However there were two categories where the new Member States were major transporters of dangerous material. The new Member States transported half of the 'Flammable solids' and a quarter of 'Substance emitting flammable gases (with water)'.

➢ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

The data presented in this publication were collected in the frame of Council Regulation (EC) 1172/98 on statistical returns in respect of the carriage of goods by road. These data are based on sample surveys carried out in the reporting countries, i.e. EU Member States and Norway and record the road goods transport undertaken by vehicles registered in these countries.

Breakdown by goods groups

As foreseen in Annex D of the Council Regulation (EC) 1172/98, the classification of goods shall be according to the NST/R classification (Standard Goods Nomenclature for Transport Statistics / Revised) which consists of 24 goods groups. For detailed information on the NST/R classification, please refer to 'Ramon', Eurostat's Classification Server (www.europa.eu.int/ comm/ eurostat/ramon).

Group	Chapter	Description
1	0	Cereals
2		Potatoes, other fresh or frozen vegetables, fresh fruits
3		Live animals, sugar beet
4		Wood and cork
5		Textiles and waste, other raw animal and vegetable materials
6	1	Foodstuffs and animal fodder
7		Oil seeds and oleaginous fruits and fats
8	2	Solid mineral fuels
9	3	Crude petroleum
10		Petroleum products
11	4	Iron ore, iron and steel waste and blast furnace dust
12		Non-ferrous ores and waste
13	5	Metal products
14	6	Cement, lime, manufactured building materials
15		Crude and manufactured minerals
16	7	Natural and chemical fertilisers
17	8	Coal, chemicals, tar
18		Chemicals other than coal, chemicals and tar
19		Paper pulp and waste paper
20	9	Vehicles and transport equipment, machinery, apparatus, engines, whether or not assembled, and parts thereof
21		Manufactures of metal
22		Glass, glassware, ceramic products
23		Leather, textiles, clothing, other manufactured articles
24		Miscellaneous articles

Member States use their own national surveys for the collection of data based on returns from road hauliers. The results are micro-data referring to vehicles and their linked journeys providing detailed information on goods transported.

Tables providing a breakdown by group of goods are since 1999 on European level derived from basic goods transport operations (goods related information).

Total transport

Total transport includes national transport, international transport - goods loaded in the reporting Member State, international transport - goods unloaded in the reporting Member State, cross-trade and cabotage transport.

Dangerous goods

Since 1999, road freight transport statistics are established on the basis of Council Regulation (EC) 1172/98. This regulation foresees the collection of information on different categories of dangerous goods. If applicable, these variables are obligatory. Annex E of the Council Regulation (EC) 1172/98 provides the categories to be used.

As the carriage of dangerous goods by road represents only a small percentage of total road transport and the data are collected on the basis of sample surveys, the importance of the carriage of these goods could sometimes either be over- or underestimated. These elements should be kept in mind when reading this publication.

The term 'hauliers' used in this publication refers to transport operators that perform road transport for 'hire or reward' as well as those that perform transport for 'own account'.

Germany: National figures published on the transport of dangerous goods may differ from figures in this publication as a result of different methods to calculate tkm of multiple-stop journeys. Moreover, the total weight of goods loaded is applied to dangerous goods when dangerous goods are transported together with other cargo.

Greece: Since 1999, Greece has not reported any road transport data.

Italy: Due a change in the methodology, there is a break in the time series 2003-2004.

Malta: Since 2004, Malta has not reported any road transport data.

Hungary: Hungary has not reported any data on dangerous goods for the period 1999-2004.

The Netherlands: A change in the methodology occurred between 2002-2003.

Portugal: Since 2004 the response rate has been improved, therefore the number of vehicles transporting goods has been increased by about 25%. This has caused an enormous increase of road freight transport between 2003 and 2004, resulting in a break in time series.

Sweden: Sweden reported 1999 data according to the former Directives and no data for dangerous goods were provided for that year.

United Kingdom: 2004 data are provisional and will be revised.

More detailed data and metadata are available in the Eurostat dissemination database and on CIRCA:
http://forum.europa.eu.int/Public/irc/dsis/transport/library?l=/03_road/data_monitoring&vm=detailed&sb=Title
http://forum.europa.eu.int/Public/irc/dsis/transport/library?l=/03_road/5_methodology/precision_calculations&vm=detailed&sb=Title

Graph 1, Table 2, Table 3, Graph 2 and Graph 3

The figures presented for the year 2004 include total transport reported by the EU25 Member States (excluding Greece and Malta) and Norway.

Table 1: The figures presented for the period 1999 to 2004 include total transport reported by the EU15 Member States (excluding Greece) and Norway.

Graph 5: The figures presented for the year 2004 include transport of dangerous goods reported by the EU25 Member States (excluding Greece, Malta and Hungary) and Norway.

Table 5

The figures presented for the period 1999 to 2004 for EU15 + NO include transport of dangerous goods reported by:

1999: EU15 Member States (excluding Greece and Sweden) and Norway.

2000 to 2004: EU15 Member States (excluding Greece) and Norway.

The figures presented for the years 2003 and 2004 for the EU25 + NO include transport of dangerous goods reported by EU25 Member States (excluding Greece, Hungary, Malta and Poland) and Norway.

Data availability

The figures presented in this publication have been extracted from Eurostat's free dissemination database and reflect the state of data availability on the 7th of April 2006.

In this publication

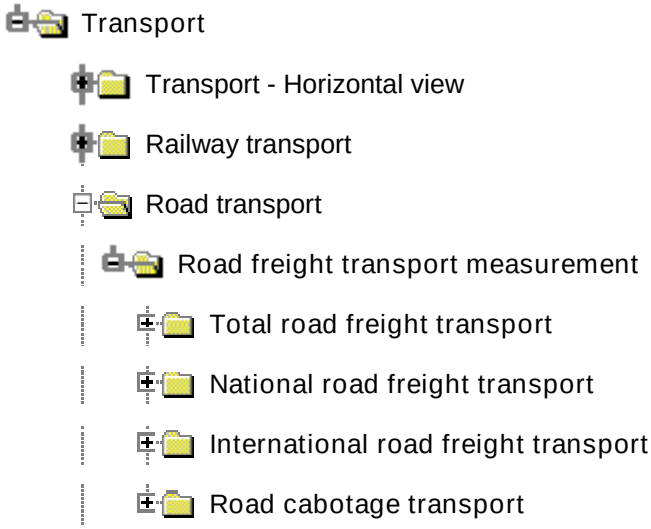
1 billion = 1 000 000 000

: not available

This publication was prepared with the assistance of Howard Collings and Marie-Noëlle Dietsch.

Further information:

Data: EUROSTAT Website/Home page/Transport/Data



Journalists can contact the media support service:

Bech Building Office A4/125
L - 2920 Luxembourg

Tel. (352) 4301 33408
Fax (352) 4301 35349

E-mail: eurostat-mediasupport@ec.europa.eu

European Statistical Data Support:

Eurostat set up with the members of the 'European statistical system' a network of support centres, which will exist in nearly all Member States as well as in some EFTA countries.

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

Contact details for this support network can be found on our Internet site: http://ec.europa.eu/eurostat/

A list of worldwide sales outlets is available at the:

Office for Official Publications of the European Communities.

2, rue Mercier
L - 2985 Luxembourg

URL: http://publications.europa.eu
E-mail: info-info-opoce@ec.europa.eu
