

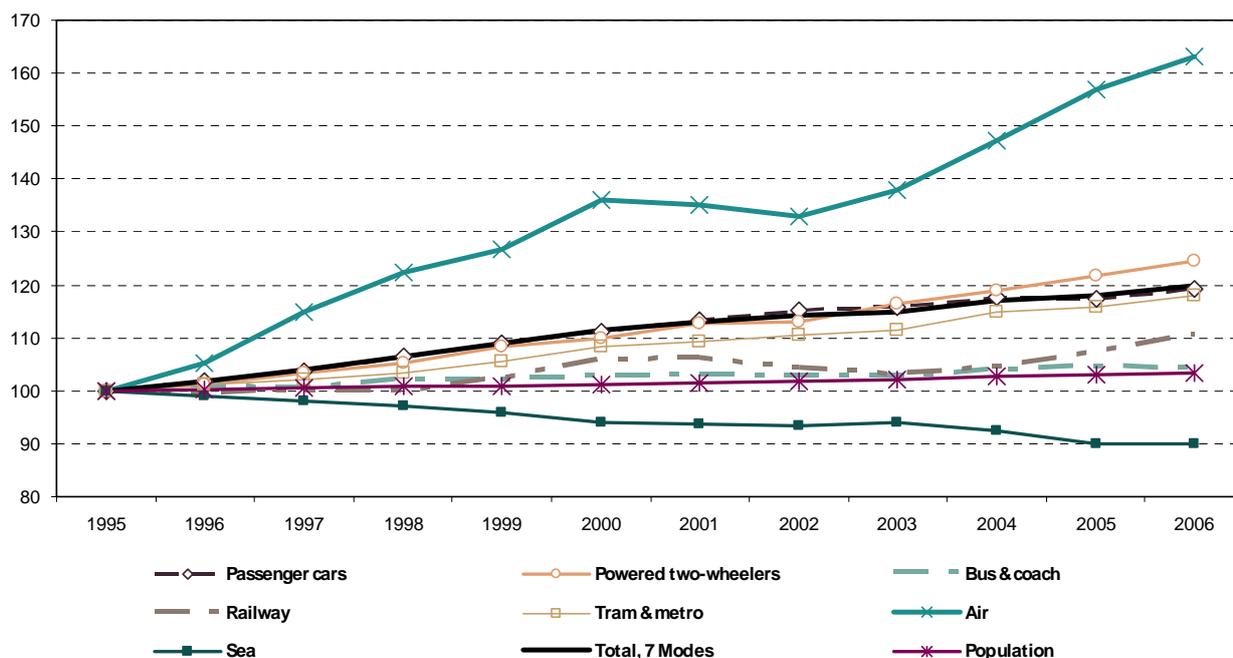
## Highlights of the Panorama of Transport

### Selected highlights

This *Statistics in Focus* highlights a small selection of the data presented in the sixth edition of the *Panorama of Transport*, to be published shortly.

- Not only does the transport sector support the mobility of people and the movement of goods, but it is also an industry in its own right. Transport services employed 8.7 million persons in EU-27 in 2005 and they generated EUR 380.1 billion value added.
- EU-27 passenger transport performance grew annually at an average rate of 1.7 %, while goods transport performance grew yearly by 2.8 % from 1995 to 2006.
- Bulky goods are transported over shorter distances than goods with higher value-added to weight ratios.
- In Road goods transport, Cross-trade and Cabotage were more widespread in the Member States of the 2004 and 2007 enlargements, the Benelux countries, Austria and Ireland.
- The number of road fatalities in the EU-27 fell at an average yearly rate of 3.5 % from 1990 to 2006.
- Transport accounted for 31.5 % of total final energy consumption in the EU-27 in 2006, and for 72.1 % of the consumption of oil-based fuels.
- The transport sector's greenhouse gas emissions grew annually by 1.5 % on average from 1990 to 2006.

**Figure 1 EU-27 passenger transport by mode, on the basis of pkm performed, 1995 to 2006 (Index 1995 = 100)**



Source: DG Energy and Transport

Passenger transport performance in the seven modes depicted (Figure 1), grew annually at an average rate of 1.7 %, from 5.3 trillion passenger-kilometres (pkm) in 1995 to 6.3 trillion pkm in 2006.

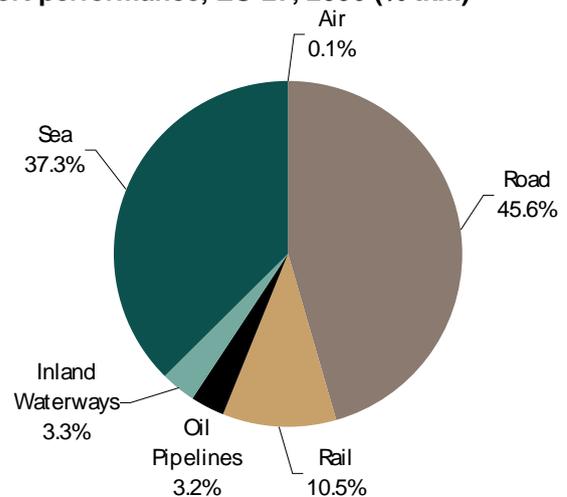
The two modes that contributed most to the overall increase were Passenger cars (71 %) and Air (20 %). Passenger cars made up a modal share of 73 % in 2006, unchanged from 1995, while Air's modal share rose from 6 % in 1995 to 9 % in 2006. This comes as a result of the liberalisation of the European Union's air transport market and of the growing role of low-cost carriers. The seaborne transport of passengers was the only mode to display a reduction in performance, which is in large part due to the opening of the Channel Tunnel between France and the United Kingdom, of the *Great Belt* bridges in Denmark and the *Charilaos Trikoupis* bridge in Greece.

Transport forms a vital structural part of many goods and service production and distribution chains.

Goods transport performance in the EU-27 grew at an annual average rate of 2.8 % from 3.1 trillion tonne-kilometres (tkm) in 1995 to 4.1 trillion tkm in 2006. All of the six modes depicted here displayed growth, ranging from 1.1 % in Rail to 3.8 % in Sea (Figure 3). Accounting for modal shares of 46 % and 37 % respectively, Road and Sea were the two main goods transport modes in 2006 (Figure 2). Growing at rates of 3.5 % and 2.7 % respectively from 1995 to 2006, Road (55 %) and Sea (37 %) accounted for a major share of the overall increase in goods transport performance in the EU-27. However, the increase in Road goods transport performance from 2003 to 2004 is in

part due to changes in the collection of freight transport statistics in some of the Member States. The main contributors to growth in goods transport in the EU were often the largest Member States. The Member States of the 2004 and 2007 enlargements however displayed strong growth in a number of goods transport sectors. In Road goods transport, some of the Member States of the 2004 and 2007 enlargements, for example, rapidly developed their cross-trade activities to become major players.

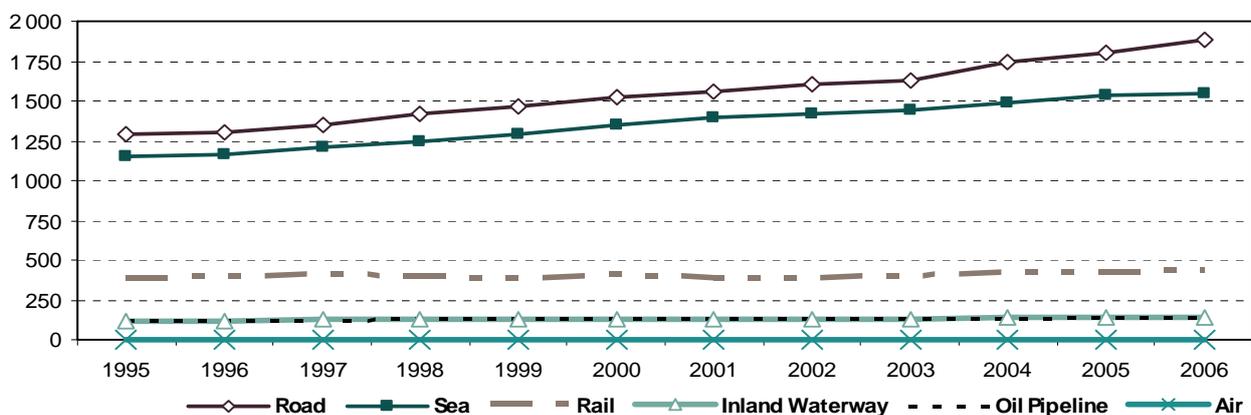
**Figure 2 Modal distribution of goods transport performance, EU-27, 2006 (% tkm)**



Source: DG Energy and Transport

The Panorama of Transport details goods transport in the EU-27 by product chapter (1 digit) and by group (2 digits) of the NST/R classification (Standard Goods Nomenclature for Transport Statistics/revised, Eurostat). Travelling an estimated 126.0 km on average by Road, Rail and Inland waterways, goods were transported furthest in the EU-27 by Inland waterway (273.7 km), followed by Rail (262.2 km). Road carried goods over a shorter average distance of 109.5 km.

**Figure 3 Goods transport performance, by mode, EU-27, 1995 to 2006 (billion tkm)**

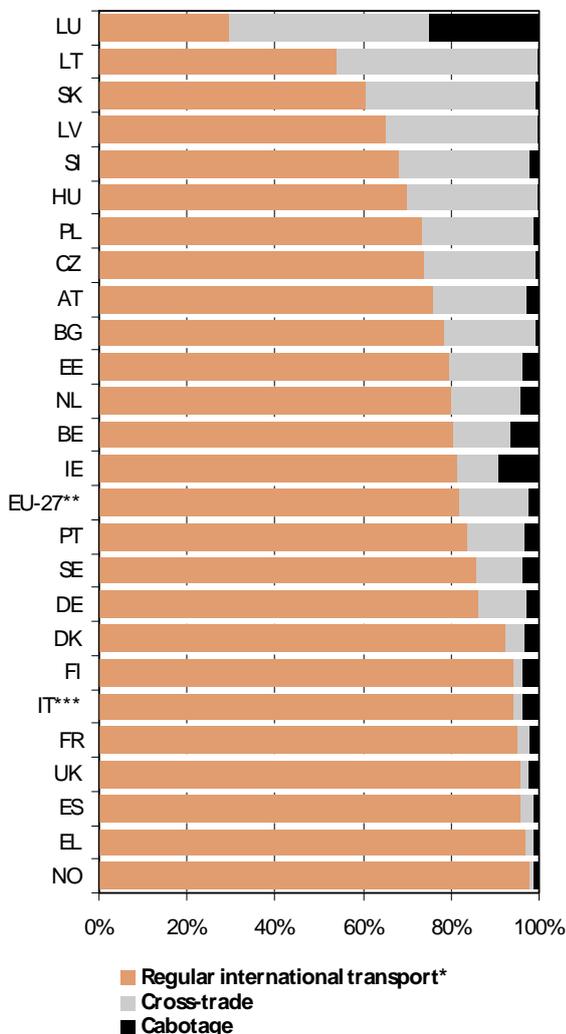


Source: DG Energy and Transport

In all three transport modes on average, the goods of NST/R chapters Metal products (235.3 km) and Machinery, transport equipment, manufactured and miscellaneous articles (213.4 km) travelled furthest. In comparison, the products of the NST/R chapter Crude and manufactured minerals, building materials were only carried over an estimated average 46.0 km.

Focusing on Road goods transport, Figure 4 shows that the two main types of goods transported were those of the NST/R product chapters Crude and manufactured minerals, building materials and Machinery, transport equipment, manufactured and miscellaneous articles. Whereas, in the first case, the product accounted for 47 % of the weight in tonnes of all

**Figure 5 International road goods transport: distribution by type of journey, 2006 (in % of tkm performed)**

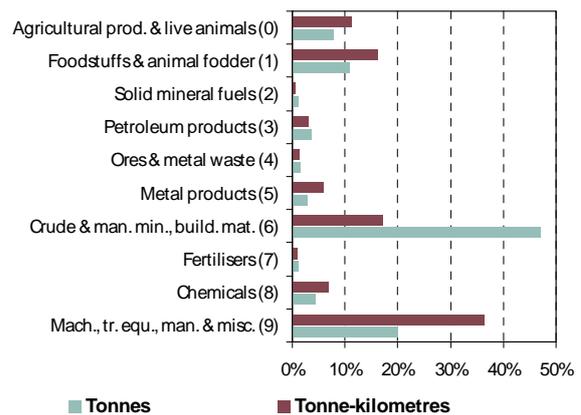


Source: Eurostat (Transport)

\* Road transport (goods loaded and unloaded) between two places (a place of loading and a place of unloading in two different countries. It may involve transit through one or more additional country or countries.

\*\* IT: 2006; excl. MT; \*\*\* 2006 estimate

**Figure 4 Road goods transport: distribution by group of goods (NST/R chapter), EU-27\*, 2006 (% t and % tkm)**



Source: Eurostat (Transport)

\* EU-27: IT (2005), excl. MT

goods transported by Road, it accounted for 17 % of Road goods transport performance in tonne-kilometres. This is due to the fact that minerals and building materials are bulky and their transport is only viable over short distances. On the other hand, making up 20 % of total tonnes carried, Machinery, transport equipment, manufactured and miscellaneous articles accounted for 36 % of tonne-kilometres performed by Road, reflecting the greater distances over which these lighter and more valuable goods are transported.

In the European Single Market, goods appear to be transported over greater distances internationally than they are nationally. The magnitude and proportions of national and international goods transport performance are influenced by the specificities of the transport mode employed, by the country's size, its topology and location in Europe, as well as by its commercial specialisation and degree of openness to trade. In terms of tonne-kilometres, 33 % of Road goods transport performance was international in the EU-27 in 2007, while this proportion was 40 % in Rail goods transport. In Inland waterway goods transport, in 2006, this share was 75 %.

The make-up of the EU-27 Member States' and Norway's international Road goods transport performance in 2007 is shown in Figure 5. Regular international transport (which includes goods loaded and unloaded), was clearly the main activity in the overwhelming majority of countries, with higher shares being displayed by countries that have larger territories. The Member States that engaged more in cross-trade and cabotage included all of the countries of the 2004 and 2007 enlargements for which data are available, the Benelux countries as well as Austria and Ireland.

## Enterprises, employment and economic performance

In 2005, 1.1 million enterprises employing 8.7 million persons were active in providing Transport services in the EU-27. They generated over EUR 1.1 trillion in turnover and produced

EUR 380.1 billion in value added. Transport services accounted for 6.9 % of the persons employed and for 7.1 % of the value added in the EU-27's non-financial business economy

**Table 1 Top ten contributors to Transport services, EU-27, 2005**

Number of persons employed			Number of enterprises			Value added (at factor cost)			Turnover		
	1 000s	% share		1 000s	% share		EURbillion	% share		EURbillion	% share
<b>EU-27</b>	<b>8 725.6</b>	<b>100.0</b>	<b>EU-27</b>	<b>1 104.3</b>	<b>100.0</b>	<b>EU-27</b>	<b>380.1</b>	<b>100.0</b>	<b>EU-27</b>	<b>1 115.0</b>	<b>100.0</b>
Germany	1 274.1	14.6	Spain	223.3	20.2	United Kingdom	69.3	18.2	United Kingdom	205.0	18.4
France	1 116.9	12.8	Italy	154.4	14.0	Germany	66.1	17.4	Germany	181.5	16.3
United Kingdom	1 105.9	12.7	Poland	131.9	11.9	France	57.5	15.1	France	156.4	14.0
Italy	954.7	10.9	France	93.5	8.5	Italy	41.5	10.9	Italy	126.6	11.4
Spain	863.7	9.9	Germany	84.1	7.6	Spain	34.6	9.1	Spain	97.3	8.7
Poland	557.5	6.4	Greece	68.2	6.2	Netherlands	21.1	5.5	Netherlands	58.6	5.3
Netherlands	282.5	3.2	United Kingdom	65.8	6.0	Belgium	11.9	3.1	Sweden	41.2	3.7
Romania	280.5	3.2	Czech Republic	44.9	4.1	Denmark	10.6	2.8	Belgium	40.3	3.6
Czech Republic	268.2	3.1	Hungary	34.5	3.1	Austria	10.6	2.8	Denmark	38.6	3.5
Sweden	221.0	2.5	Sweden	31.1	2.8	Sweden	10.3	2.7	Sweden	32.8	2.9

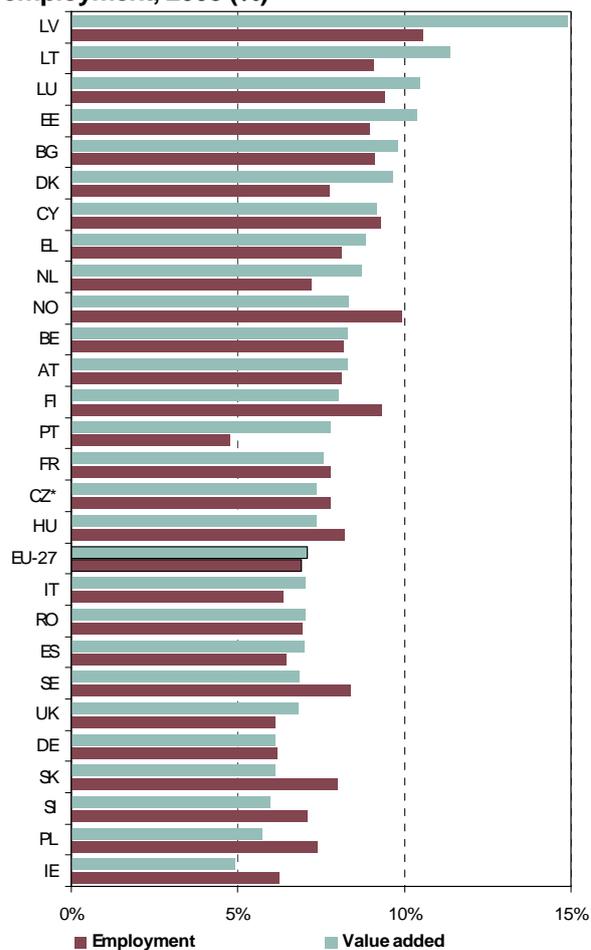
Source: Eurostat (SBS), Member States

Note: excluding Malta

From 2000 to 2005, in the EU-25, value added in Transport services grew at an average annual rate of 4.9 % while the number of persons employed rose by 2.2 % yearly.

While the EU-27's largest Member States were generally also those that contributed most to Transport services, their ranking varied according to the Structural Business Service indicators: Number of persons employed, Number of enterprises, Value added and Turnover (Table 1). Germany was the top contributor to the sector's employment, whereas Spain was the largest in terms of the number of enterprises. The top six contributors to EU-27 Transport services turnover and value added ranked in the same order. They were led by the United Kingdom. Together, those six Member States made up close to three quarters of both turnover and value added in EU-27 Transport services in 2005. Transport services contributed the highest shares to the value added in the non-financial business economies of the Baltic countries and Luxembourg in 2005 (Figure 6). Transport services accounted for 11 % of employment in Latvia. From 2000 to 2005, the number of persons employed in Transport services grew most, at annual average rates of close to 4 %, in Germany, Ireland, Spain and Latvia. Value added grew most over the period at yearly average rates of 16 % in Lithuania and 13 % in both Hungary and Slovakia. Eight out of nine of the Member States displaying the highest growth rates in Transport services value added from 2000 to 2005 belonged to the group of ten Member States with the highest GDP growth rates in the EU-27 over that period. This particularly includes the central and eastern European Member States.

**Figure 6 Contribution of Transport services (NACE 60 to 63) to the non-financial business economy (NACE C to I and K), value added and employment, 2005 (%)**



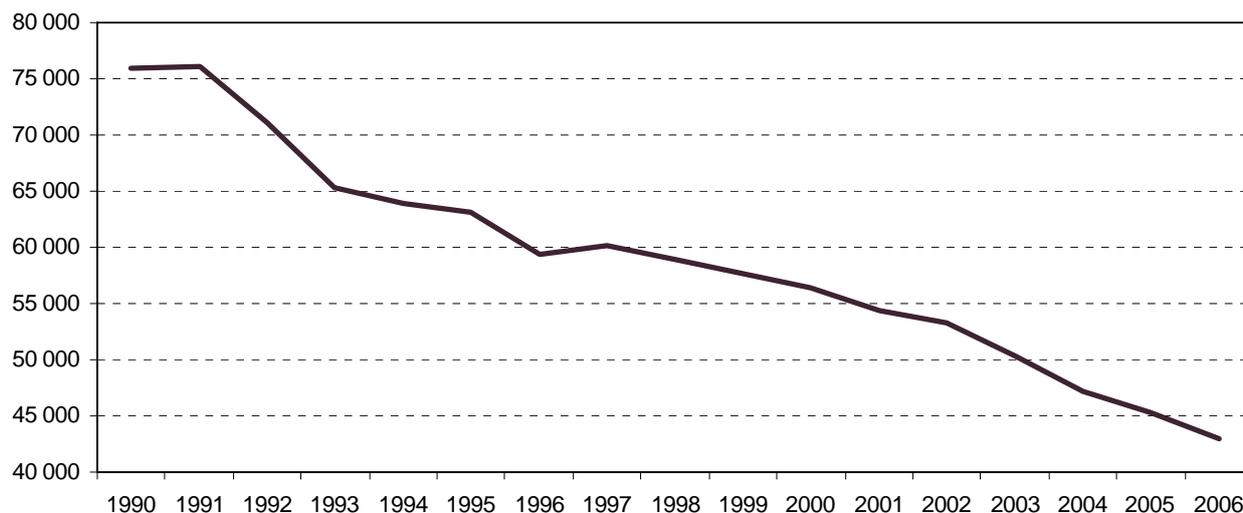
Source: Eurostat (SBS) excluding MT; CY: NACE K excl. K73 ('R&D'); IE: excl. NACE E; 2004: CZ & NL (NACE E)

## Transport safety

In 2006, 44 400 people lost their lives in transport accidents in the EU-27 – road, rail and air traffic combined – and most of them on the road (97 %). Road accidents were the cause of 42 950 fatalities in 2006: car drivers and passengers, occupants of buses and coaches, riders and passengers of powered two-wheelers, cyclists, pedestrians and commercial vehicle drivers. This corresponds to 87 fatalities per

million inhabitants in the EU-27, a ratio which has fallen steadily, nearly halving from 162 in 1990. Road safety is at the forefront of the EU's concerns, and measures taken have contributed to reducing the number of road fatalities at an average yearly rate of 3.5 % from 1990 to 2006 (Figure 7), while the EU-27's population grew at a yearly rate of 0.3 %.

**Figure 7 Number of road fatalities, EU-27, 1990 to 2006**



Source: DG Energy and Transport

Note: Persons killed are all persons deceased within 30 days of the accident. Corrective factors are applied to the figures from Member States not currently using this definition.

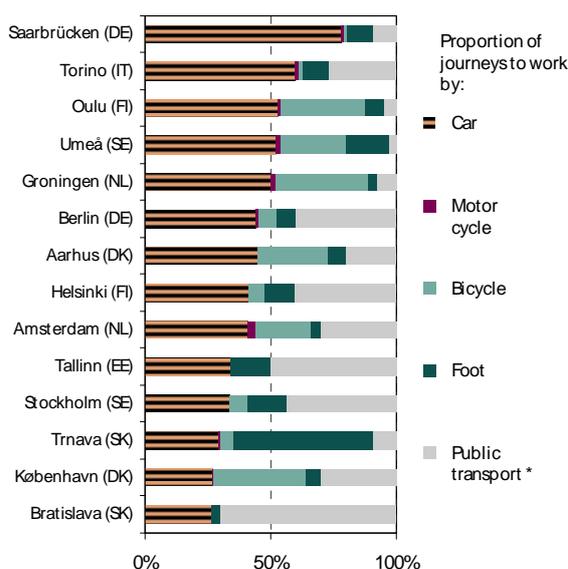
## Transport of commuters in European cities

The Urban Audit survey provides data on the distribution by mode of transport used for journeys to work. These are shown in Figure 8 for a selected number of cities.

Reflecting the importance that cars have in those cities, the proportion of journeys made by car ranged between 78 % in Saarbrücken and 26 % in Bratislava. Most capital cities displayed a share of journeys to work by public means of transport that was above 40 %, rising to as much as 50 % in Tallinn and 70 % in Bratislava.

The non-polluting, non-motorised means of transport that are cycling and walking do have their place in EU-27 cities. Cycling appears to be more widespread in northern-European cities, as close to one quarter of journeys to work were made in this way in Amsterdam, Umeå and Aarhus. That proportion rose to as much as 37 % in Groningen and 34 % in Oulu. In Trnava, 56 % of journeys to work were made on foot.

**Figure 8 Distribution of journeys to work, selected EU cities (2004)**



Source: Eurostat (Urban Audit)

\* Rail, Metro, Bus and Train.

SE: 2005; DK & NL: 2003; Tallinn excluding motor- and bicycles.

## Energy consumption and emissions

Somewhat under a third of total final energy consumption in the EU-27 (31.5 %) was accounted for by Transport in 2006 (Table 2). Transport accounted for 72.1 % of the final consumption of oil-based fuels, the main type consumed in the EU-27. In accordance with their performances in passenger and goods transport, Road (81.9 %) and Air transport

(14.0 %) were the two modes that consumed most energy in the transport sector. Vehicle mobility in those two modes requires a transportable and readily combustible fuel type, explaining their widespread use of oil derivatives. The share of biofuels in transport's total fuel consumption amounted to 1.5 % in 2006 compared to nearly nil in 1990.

**Table 2 Final energy consumption by fuel, by sector and by transport mode, EU-27, 2006 (in 1000 tonnes of oil equivalent and in %)**

	Total	Oil	Gas	Electricity	Renewables & Other	Solid fuels	Heat
<b>Final energy consumption</b>	<b>1 176 120</b>	<b>496 681</b>	<b>278 701</b>	<b>241 912</b>	<b>62 054</b>	<b>55 479</b>	<b>41 293</b>
<b>Industry (%)</b>	<b>27</b>	10	37	41	29	77	28
<b>Households/Services (%)</b>	<b>41</b>	18	62	57	62	23	72
<b>Transport (%)</b>	<b>31</b>	72	0.2	3	9	0	
<b>of which:</b>							
<b>Road (%)</b>	<b>82</b>	83	100		100		
<b>Rail (%)</b>	<b>2</b>	1		100			
<b>IWN (%)</b>	<b>2</b>	2					
<b>Air (%)</b>	<b>14</b>	14					

Source: Eurostat (Energy)

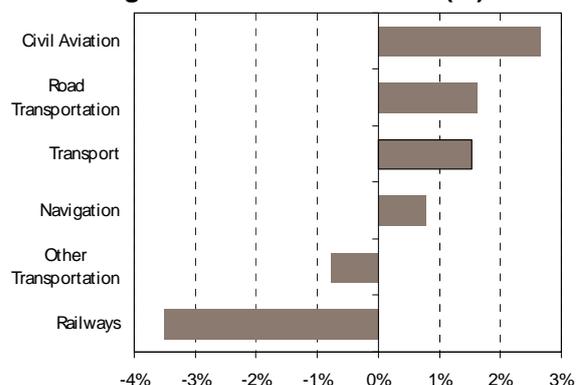
The transport sector's energy consumption grew at an average annual rate of 1.8 % from 1990 to 2006, accounting for 82.9 % of the increase in the EU-27's total final energy consumption over the period. Growing fleets of passenger and goods road vehicles with higher performances, and a strong increase in the provision of Air transport services were the main contributors to the transport sector's higher energy consumption, 76% of which was accounted for by Road and 25 % by Air transport. While a major share of the increase in consumption (83 %) over the period was attributable to the EU-15 Member States, the countries of the 2004 and 2007 enlargements displayed an acceleration in transport consumption after 2000.

The fuels used in the EU-27 have been made cleaner, for example through the removal of lead from petrol and of sulphur from diesel, and notable improvements in vehicle technology have resulted in energy efficiency gains. Given that diesel is relatively cheaper than petrol in a large number of Member States, a trend of 'dieselification' took place in road vehicles between the mid-1990s and the mid-2000s. Progress in diesel motor technology contributed to more than doubling the share of diesel in new passenger car registrations in the EU-15, from 23.1 % in 1994 to 53.6 % in 2007.

The costs of buying and running a transport vehicle are clear, yet transport also occasions a number of external costs such as the emissions of greenhouse gases (GHGs) and pollutants, as well as noise. Based on Eurostat's Sustainable Development Indicators, although total numbers of vehicles have further increased, average CO<sub>2</sub> emissions per kilometre from

new passenger cars decreased at an average yearly rate of 1.4 % in the EU-15 from 1996 to 2007. Transport's emissions of particulate matter (PM<sub>10</sub>) were reduced by 4.0 % yearly in the EU-25 from 1993 to 2004 and the emissions of ozone (O<sub>3</sub>) precursors from transport fell by 5.8 % yearly from 1994 to 2005.

**Figure 9 Total greenhouse gas emissions, by transport mode, average annual growth rate 1990 to 2006 (%)**



Source: Eurostat (Environment)

In 2006, accounting for a 19 % share, the transport sector was however the second main emitter of greenhouse gases in the EU-27 after the Energy industries (31 %). In comparison to an overall 0.5 % average yearly decrease in total GHG emissions in the EU-27 from 1990 to 2006, Transport was the only sector in which these grew. It recorded yearly growth of 1.5 % on average, a major part of this increase being attributable to Road transport (Figure 9).

## ➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

### PANORAMA OF TRANSPORT, SIXTH EDITION

This edition of *Statistics in Focus* presents a small selection of the data available in the sixth edition of the *Panorama of Transport*, which covers 1990 to 2007.

The Panorama provides a complete analysis of the EU-27 Transport sector, looking specifically at: infrastructure; vehicle fleets; goods and passenger transport performance; enterprises, employment and economic performance; transport safety; energy consumption and emissions.

### DATA SOURCES

All data presented in this *Statistics in focus* come from the *Panorama of Transport*, which draws primarily on data from Eurostat – Transport, but also the Urban Audit, SBS, LFS, Energy, Environment and SDI – as well as the DG Energy and Transport Pocketbook [EU energy and transport in figures - 2007/2008](#). Other data sources include OECD/IEA and Eurobarometer as well as the National Statistical Offices of Liechtenstein, China, Japan, Russia and the USA.

Eurostat data, publications and background information can be found under the theme 'Transport' on Eurostat's website: <http://epp.eurostat.ec.europa.eu/>.

Data compiled by the European Commission's DG Energy and Transport can be found in the Pocketbook *EU energy and transport in figures*: [http://ec.europa.eu/dgs/energy\\_transport/](http://ec.europa.eu/dgs/energy_transport/)

### DEFINITIONS

Terms and definitions for transport are based on the *Glossary of transport statistics* prepared by Eurostat, ITF (International Transport Forum) and UNECE (United Nations Economic Commission for Europe).

Other terms and classifications used in this *Statistics in focus* are:

#### **Figure 4**

**NST/R**, the Standard Goods Nomenclature for Transport Statistics / Revised. The NST/R Chapters are:

- 0 Agricultural products and live animals
- 1 Foodstuffs and animal fodder
- 2 Solid mineral fuels
- 3 Petroleum products
- 4 Ores and metal waste
- 5 Metal products
- 6 Crude and manufactured minerals, building materials
- 7 Fertilisers
- 8 Chemicals
- 9 Machinery, transport equipment, manufactured and miscellaneous articles

The 10 Chapters are made up by 24 Groups of goods. As from 2008, the NST/R was replaced by the NST 2007 classification, which has become the unique classification for transported goods in all modes.

#### **Figure 5**

**International road transport**, road transport between two places (a place of loading/embarkation and a place of

unloading/disembarkation) in two different countries. It may involve transit through one or more additional countries.

**Cross-trade road transport**, international transport performed by a road motor vehicle registered in a third country. **Road cabotage transport**, road transport performed within a country by a motor vehicle registered in another country.

#### **Table 1 and Figure 6**

Structural Business Statistics (SBS) are presented by sector of activity according to the NACE Rev. 1.1 system of classification. 'Transport services' includes the four NACE Divisions: Land transport (60), Water transport (61), Air transport (62) and Supporting and auxiliary services (63). These are further detailed at NACE Group or Class level.

The SBS variables used in the *Panorama of Transport* and in this *Statistics in Focus* include: **Number of enterprises**, the number of enterprises active during at least part of the reference period; **Number of persons employed**, the total number of persons who work in the observation unit, as well as persons who work outside the unit, who belong to and are paid by it, including working proprietors, employees, unpaid family workers, part-time workers, seasonal workers, etc.; **Value added at factor cost**, the gross income from operating activities after adjusting for operating subsidies and indirect taxes (including value added tax); and **Turnover**, totals invoiced by the observation unit during the reference period, which corresponds to market sales of goods or services supplied to third parties.

For further information on SBS data, please visit the 'Industry, trade and services' pages on Eurostat's website: <http://epp.eurostat.ec.europa.eu>

For further information on the NACE Rev. 1.1 system of classification, please visit 'Ramon', Eurostat's metadata server: <http://ec.europa.eu/eurostat/ramon/>

#### **Figure 7**

**Persons killed**, all persons deceased within 30 days of the accident. Corrective factors have been applied to the figures from Member States not currently applying this definition.

#### **Table 2**

**Final energy consumption** covers energy supplied to the final consumer for all energy uses. Readers should note that maritime transport and pipelines are excluded from these figures. Inland Waterway Networks (IWN) are defined differently to Inland Waterways in other parts of the *Panorama of Transport*.

#### **Figure 9**

**Greenhouse gases (GHGs)** are emissions of the 'Kyoto basket' of six GHGs, covered by the Kyoto Protocol. They are weighted by their global warming potentials (GWPs), expressed in tonnes-CO<sub>2</sub> equivalent and aggregated to yield total emissions. Ozone-depleting substances with global warming properties, as covered by the Montreal Protocol, are excluded. Figures do not include GHGs from international aviation and maritime transport, nor those from electric rail traction.

## Further information

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Data: [Eurostat Website: http://ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)

Select your theme on the left side of the homepage and then 'Data' from the menu.

Data: [Eurostat Website/Transport](#)

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