10 Transport

Transport plays a crucial role in an economy, transferring goods between the place of production and consumption, as well as transporting passengers for work or pleasure. However, transport problems such as congestion, quality of services (such as punctuality and connectivity), affordability and environmental impact put general economic developments at risk.

Measures to address these concerns, among others, whilst maintaining the EU's competitiveness, were at the heart of an EU transport policy White Paper titled 'European transport policy for 2010: time to decide' ([1]), which was adopted in 2001. This policy document was supplemented in June 2006 by a mid-term review ([2]) 'keep Europe moving – sustainable mobility for our continent'. Some of the key conclusions of this review were that each transport mode must be optimised to help ensure competitiveness and prosperity; all modes must become more environmentally friendly (underlining commitments such as those under the Kyoto Protocol), safe and energy efficient; each mode should be used efficiently on its own and in combination to achieve an optimal and sustainable utilisation of resources.

Approaching the end of this ten-year policy remit, a further European Commission Communication ([3]) was adopted in June 2009 on 'a sustainable future for transport', which will form the basis for outlining transport policy for the decade through until 2020. The Communication is both consultative and strategic in nature, and underlines the challenges of reducing greenhouse gas emissions,

([1]) COM(2001) 370 final; for more information: http://ec.europa.eu/transport/white_paper/index_en.htm.

([2]) COM(2006) 314 final; for more information: http://ec.europa.eu/transport/transport_policy_review/index_en.htm.

([3]) COM(2009) 279 (final); for more information: http://ec.europa.eu/transport/publications/doc/2009_future_of_transport_en.pdf.

the growing demand for – but increasing scarcity of – fossil fuels that is forcing oil prices up to new levels, and increasingly restrictive levels of congestion in many cities, airports and ports as the trend of urbanisation continues.

In this respect, it is worth noting that the transport sector is the fastest growing consumer of energy and producer of greenhouse gases in the EU, even if advances in transport technology and fuel have resulted in marked decreases in emissions of certain pollutants. Although issues in their own right, the environment and energy clearly come together (see Chapter 11 for more details) when looking at the subject of transport sustainability, for consumption and emissions are fairly closely linked: what goes into the fuel tank comes out of the exhaust pipe.

The European Commission also issued a Communication ([4]) in January 2009 in which it presented the main strategic objectives for the European maritime transport system up to 2018. In broad terms, the strategic goals and recommendations were:

- the ability of the maritime transport sector to provide cost-efficient maritime transport services adapted to the needs of sustainable economic growth of the EU and world economies, and;
- the long-term competitiveness of the EU shipping sector, enhancing its capacity to generate value and employment in the EU, both directly and indirectly, through the whole cluster of maritime industries.

Eurostat's transport statistics describe the most important features of transport, not only in terms of the quantities of freight and numbers of passengers that are moved each year, or the number of vehicles and infrastructure that are used, but also the contribution of transport services to the economy as a whole. Data collection is supported by several legal acts obliging the Member States to report statistical data, as well as voluntary agreements to supply additional data.

10.1 Modal breakdown

Introduction

Transport is defined as any movement of passengers and/or goods (freight). The demand for increased mobility from individuals and increased flexibility and timeliness of delivery from enterprises (both within the Single Market and outside it) has driven rapid growth in road transport and maritime freight transport services. Each mode of transport has its own particular advantages in relation to a set of criteria covering issues such as capacity, speed, cost, safety, flexibility, energy consumption, and environmental impact. European transport policy aims to create a transport system that allows each mode of transport to play a role in a developing transport infrastructure, resulting in more efficient, cost-effective and sustainable transport solutions.

One of the main challenges identified by successive transport policies has been the imbalance in the development of the different modes of transport. One of the key programmes to address this imbalance is the Marco Polo programme, which aims to shift freight transport from the road to short-sea shipping, rail and inland waterways. The second of these programmes ([5])

([4]) COM(2009) 8 final; for more information: http://ec.europa.eu/transport/strategies/2018_maritime_transport_strategy_en.htm.

([5]) Revised Regulation (EC) No 923/2009; for more information: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:266:0001:0010:EN:PDF.

runs from 2007 to 2013 and is enlarged to cover a wider geographical scope (incorporating neighbouring non-member countries), includes new actions regarding 'motorways of the sea' and traffic avoidance, and builds on improving modal synergies and common learning actions.

Definitions and data availability

Definitions of terms used within transport statistics are available in a 'glossary for transport statistics – third edition'.

For statistical comparisons between different modes of transport, standardised units are often used:

- for measuring freight, a **tonne-kilometre** is the unit of measure representing the transport of one tonne of goods by a given mode of transport over one kilometre;
- for measuring passengers, a **passenger-kilometre** is the unit of measure representing the transport of one passenger by a given mode of transport over one kilometre.

A number of inland movements are recorded:

- **rail and inland waterways movements** are recorded in each reporting country on national territory ('territoriality principle'), regardless of the nationality of the vehicle or vessel; road statistics are based on all movements, in the registration country or abroad, of the vehicles registered in the reporting country ('nationality principle');
- **inland passenger transport** corresponds to road (buses and passenger cars) and rail (including inter-city and urban rail transport), thus excluding air and water transport;
- **inland freight transport** corresponds to road, rail, inland waterways and pipeline transport, thus excluding air and sea transport.

The **modal split** (of transport) indicates the share of each mode of transport based on passenger-kilometres (p-km) for passenger transport and tonne-kilometres (t-km) for goods (freight) transport, based on movements on national territory, regardless of the nationality of the vehicle. It should be noted that the data collection methodology is not harmonised at the EU level. As statistics on road and other inland modes are based on different principles, the figures of the smallest reporting countries (for example, Luxembourg and Slovenia) may, therefore, be misleading.

Modes of transport include train, sea, inland waterways and air (for goods and passengers), as well as passenger cars, powered two-wheelers, buses, coaches, trams and metros for passengers and pipelines for goods. In practice, an analysis of the modal split may exclude certain modes, for example, it may be limited to inland transport and therefore exclude international air and sea transport.

Passenger cars are road motor vehicles, other than motorcycles, 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 (which need no permit to be driven), taxis, and hired passenger cars, provided that they have fewer than ten seats; this category may also include pick-ups. **Railways** are lines of communication made up by rail exclusively for the use of railway vehicles. **Inland waterways** (navigable) are stretches of water, not part of the sea, over which vessels of a carrying

capacity of not less than 50 tonnes can navigate when normally loaded; this term covers both navigable rivers and lakes and navigable canals. The length of rivers and canals is measured in mid-channel, while the length of lakes and lagoons is measured along the shortest navigable route between the most distant points to and from which transport operations are performed. A waterway forming a common frontier between two countries is reported by both.

Main findings

The vast majority of inland freight in the EU-27 was carried by road in 2007; road transport accounted for a little over three quarters (76.5 %) of total inland freight (excluding pipelines). A little less than one fifth (17.9 %) of inland freight transport across the EU-27 was by rail, with the rest (5.6 %) accounted for by inland waterways.

Among the individual Member States, road was also the dominant means of inland freight transport in the vast majority of cases. The two exceptions were Estonia and Latvia, where a majority (56.8 % and 58.1 % respectively) of inland freight transport was by rail. Rail was also used to a relatively high degree in Lithuania (a little over 41.5 % of inland freight), Sweden (36.4 %) and Austria (34.8 %). Between 10 % and 15 % of inland freight was carried by inland waterways transport in Belgium, Germany and Romania, this share rising to one third (33.0 %) of inland freight in the Netherlands.

The main measure of the volume of passenger transport is the number of passenger-kilometres travelled within the national territory, which can be analysed by mode of transport; some caution must be applied in making comparisons because of the coverage of national data. Nonetheless, car transport accounted for a sizable majority of inland passenger transport (excluding motorcycles and other powered two-wheelers) among all the Member States for which data are available ([6]). The reliance on the car for inland passenger transport was particularly strong in Lithuania, the United Kingdom and the Netherlands, where it accounted for upwards of 86 % of all inland passenger-kilometres in 2007. Between a fifth and one quarter of inland passenger-kilometres in Hungary, Bulgaria, Slovakia, Greece and Estonia were by bus. Railways (including also trams and underground railways/metros) accounted for about one tenth of all inland passenger-kilometres in Austria, France and the Netherlands, a share that rose as high as 13.1 % in Hungary.

It should be noted that the above analysis refers only to inland transport: significant proportions of international freight and passenger travel are accounted for by maritime and air transport, and in some countries national (domestic) maritime and air transport may also be important.

([6]) Cyprus and Malta, not available.

Table 10.1: Modal split of inland passenger and freight transport, 2007

	(% of total inland passenger-km) (1)			(% of total inland tonne-km) (2)		
	Passenger cars	Buses	Railways, trams and metros	Railways	Roads	Inland waterways
EU-27	*83.4*	*9.5*	*7.1*	*17.9*	*76.5*	*5.6*
Belgium	80.1	13.3	6.7	13.2	71.1	15.7
Bulgaria	*71.3*	*23.6*	*5.1*	25.1	70.0	4.8
Czech Republic	75.7	17.0	7.3	25.3	74.7	0.1
Denmark	80.2	10.8	8.9	7.8	92.2	-
Germany	85.8	6.4	7.8	21.9	65.7	12.4
Estonia	*77.2*	*20.7*	*2.1*	56.8	43.2	0.0
Ireland	*76.3*	*18.6*	*5.1*	0.7	99.3	-
Greece	*77.0*	*21.2*	*1.9*	2.9	97.1	-
Spain	80.9	13.9	5.2	3.9	96.1	-
France	84.9	5.5	9.6	*15.2*	*81.4*	*3.4*
Italy	*82.4*	*11.9*	*5.7*	*11.6*	*88.3*	*0.0*
Cyprus	:	:	0.0	-	100.0	-
Latvia	*79.5*	*15.0*	*5.5*	58.1	41.9	0.0
Lithuania	90.7	8.4	0.9	41.5	58.5	0.0
Luxembourg	*84.9*	*11.1*	*4.1*	4.1	92.5	3.3
Hungary	61.8	25.2	13.1	21.0	74.4	4.6
Malta	:	:	0.0	-	100.0	-
Netherlands	*86.7*	*3.8*	*9.5*	5.7	61.4	33.0
Austria (3)	79.2	10.8	10.1	34.8	60.9	4.2
Poland	83.6	9.6	6.8	26.4	73.5	0.1
Portugal	*83.3*	*12.2*	*4.5*	5.3	94.7	-
Romania	*75.3*	*15.3*	*9.4*	18.9	71.3	9.8
Slovenia	85.1	11.9	3.0	20.8	79.2	-
Slovakia	72.4	21.6	6.0	25.5	71.8	2.7
Finland	84.9	10.0	5.0	25.9	73.9	0.3
Sweden	84.1	7.2	8.7	36.4	63.6	-
United Kingdom	87.3	6.3	6.4	*13.3*	*86.6*	0.1
Croatia	*82.9*	*12.1*	*5.0*	25.2	74.0	0.8
FYR of Macedonia	:	:	:	11.5	88.5	-
Turkey	*51.9*	*45.5*	*2.5*	5.1	94.9	-
Iceland	88.6	11.4	0.0	-	100.0	-
Norway	88.0	7.0	4.9	15.1	84.9	-

(1) Excluding powered two-wheelers.
(2) Excluding pipelines.
(3) The railway in Liechtenstein is owned and operated by the Austrian ÖBB and included in their statistics.

Source: Eurostat (tsdtr210 and tsdtr220)

10.2 Passenger transport

Introduction

The principal goal of EU transport policy is to establish a sustainable transport system that meets society's economic, social and environmental needs. People from different regions of Europe have been brought closer together through an expanded road infrastructure, the creation of an integrated high-speed rail network, as well as the expansion of air travel at affordable prices to numerous new destinations. As well as the closer reach of Europe's regions, improving the speed, connectivity and convenience of urban transport continues to be a key policy initiative. This was the subject of a Green Paper ([7]) in 2007 that looked to stimulate the adoption of best practices regarding transport infrastructure, norm-setting, congestion and traffic management, public transport services, infrastructure charging, urban planning, safety, security and cooperation with the surrounding region.

Against this background, a 2009 European Commission Communication on a 'sustainable future for transport' underlines that within an improvement of the overall quality of transport, a high priority must continue to be given to personal security, the reduction of accidents and of health hazards, the protection of passengers' rights and the accessibility of remote regions.

Definitions and data availability

The **volume of inland passenger transport** is defined as the ratio between passenger-km (inland modes) and GDP (gross domestic product in constant (2000) euro terms), indexed on 2000. It is based on transport movements by passenger cars, buses and coaches, and trains on the national territory, regardless of the nationality of the vehicle.

Rail transport statistics are reported on the basis of the '**territoriality principle**'. This means that each reporting country reports the loading/embarkation, unloading/disembarkation and movements of goods and passengers that take place in their national territory. For this reason, indicators that use tonne-kilometres and passenger-kilometre as units are generally considered as the best measure for comparisons between transport modes and countries, because the use of tonnes or passengers entails a high risk of double-counting, particularly in international transport. A **rail passenger** is any person, excluding members of the train crew, who makes a journey by rail. A **rail passenger-kilometre** is a unit of measure representing the transport of one rail passenger by rail over a distance of one kilometre. Rail passenger data are not available for Malta and Cyprus as they do not have railways. Annual passenger transport statistics (international and national breakdown) cover railway undertakings subject to detailed reporting only, while total annual passenger statistics may include the undertakings under simplified reporting as well. Some countries apply detailed reporting to all railway undertakings and in the case of these countries the total passenger transport is equal to the sum of international and national passenger transport.

([7]) COM(2007) 551 final; for more information: http://ec.europa.eu/transport/clean/green_paper_urban_transport/index_en.htm.

Maritime transport data are available for most of the period from 2001 onwards, although some Member States have provided data since 1997. Maritime transport data are not transmitted to Eurostat by the Czech Republic, Luxembourg, Hungary, Austria and Slovakia as they have no maritime traffic. A **merchant ship** is a ship designed for the carriage of goods, transport of passengers, or specially fitted out for a specific commercial duty. A **sea passenger** is any person that makes a sea journey on a merchant ship. Service staff assigned to merchant ships are not regarded as passengers. Non-fare paying crew members travelling but not assigned and infants in arms are excluded.

Air transport statistics concern national and international transport. Passenger transport is measured by the number of passengers on board, passengers carried and passenger commercial air flights, in all cases separating arrivals and departures. Statistics on individual routes provide information on seats available, again separating arrivals from departures. The data are presented with monthly, quarterly and annual frequencies. Annual data are available for the Member States for most of the period from 2003 onwards. **Air passengers carried** relate to all passengers on a particular flight (with one flight number) counted once only and not repeatedly on each individual stage of that flight. This includes all revenue and non-revenue passengers whose journey begins or terminates at the reporting airport and transfer passengers joining or leaving the flight at the reporting airport; but excludes direct transit passengers.

Fatalities caused by road accidents include drivers and passengers of motorised vehicles and pedal cycles as well as pedestrians, killed within 30 days from the day of the accident. For Member States not using this definition, corrective factors were applied.

Main findings

In the vast majority of Member States, the growth in GDP between 1997 and 2007 was greater than the growth in the volume of inland passenger transport. The most notable exception was Lithuania, where the rate of growth in the volume of inland passenger transport was about one third faster than the rate of growth in GDP, although other exceptions were also recorded for Latvia, Portugal, Poland and Greece. In contrast, the rate of GDP growth in Slovakia and Hungary was about one third faster than the rate of growth in the volume of inland passenger transport between 1997 and 2007.

The average distance travelled on railways (national and international travel) per inhabitant, was higher in France, Sweden, Denmark and Austria than elsewhere in the EU-27 in 2007, averaging 1 000 kilometres per inhabitant in each of these Member States. In terms of international travel, the average distance travelled on railways per inhabitant was highest in Luxembourg and Austria, reflecting, for example, the number of international borders, the importance of international commuters within the workforce, the relative proximity of capitals or other cities to international borders, the access to high-speed network rail links, or their position on major international transport corridors.

Almost 800 million passengers were carried by air in 2008 in the EU-27. The largest number of passengers carried (about

214 million) was reported by the United Kingdom; this was equivalent to 3.5 passengers carried per inhabitant. Relative to the size of the population, however, the largest numbers of air passengers carried were reported by the islands of Cyprus and Malta (equivalent to 9.1 and 7.6 passengers carried per inhabitant).

Within the EU, London Heathrow remained the busiest airport in terms of passenger numbers (about 67 million in 2008), followed by Paris' Charles de Gaulle airport (about 60 million), and then Frankfurt, Madrid's Barajas airport and Amsterdam's Schiphol airport (all three with between 53 million and 47 million passengers).

With the exception of Madrid's Barajas airport, the overwhelming majority (about 90 % or higher) of passengers through the other four largest airports in 2008 were on international flights. Madrid's Barajas airport stands out in that national (domestic) flights accounted for a high share (40.8 % in 2008) of the passengers carried. There were also relatively high proportions of passengers on national flights to and from Roma's Fiumicino airport, Barcelona and, in particular, Paris' Orly airport where they were in the majority (representing 55.8 % of all passengers).

Ports in the EU-27 handled 414 million ([8]) maritime passengers in 2008, a rise of 1.9 % on numbers for 2007. Greek and Italian ports handled more passengers than in any other Member State, followed by Danish ports and then, with similar numbers, ports in Sweden, the United Kingdom and Germany. Relative to the size of national populations, the largest numbers of maritime passengers were recorded in Malta (almost 20 passengers per inhabitant), followed by Denmark and Greece (both between 8 and 9 passengers per inhabitant), Estonia and then, some way behind Sweden, Finland and Italy; in the remaining Member States, the number of maritime passengers per inhabitant averaged less than one.

Road fatalities in the EU-27 fell sharply (down 29.9 %) in the decade between 1997 and 2007, from 60 267 deaths to 42 854 deaths. The road fatality rate, expressed as the number of deaths per million inhabitants, averaged 87 across the EU-27, although there were stark contrasts between Member States. The highest road fatality rates in 2007 were recorded in Lithuania (218 deaths per million inhabitants), Latvia (184), Poland and Estonia (both 146). In contrast, rates were much lower in the United Kingdom and the Netherlands (50 and 43), and particularly in Malta (29).

Around 2 900 people were the victims (seriously injured or killed) of railway accidents in the EU-27 in 2007, which represented a sharp rise of about 15 % in the number of victims compared with 2006. It should be noted that the number of victims in any particular year can be greatly influenced by a small number of major incidents and that there had been considerable declines in the number of victims in 2005 and 2006. Of the total number of victims seriously injured or killed in railway accidents in the EU-27 in 2007, a little less than one sixth (16 %) were either train passengers or railway employees. Approximately two thirds (66.5 %) of the lives lost in rail accidents were from incidents involving rolling stock in motion, with almost all others (32.5 %) from incidents at level-crossings. The highest numbers of rail fatalities within the EU-27 in 2007 occurred in Poland (359) and Germany (200).

([8]) The total number of maritime passengers includes passengers who have been double-counted, once when embarking and then when disembarking. The double counting arises when both ports of embarkation and disembarkation report data to Eurostat. This is quite common for the maritime transport of passengers, which is a short distance activity, compared with the seaborne transport of goods. Indeed, there is no significant difference between the number of passengers embarking and disembarking at an aggregated level, as most transport corresponds to main national and intra-EEA ferry connections.

Table 10.2: Volume of inland passenger transport
(index of inland passenger transport volume relative to GDP (2000=100))

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
EU-27	:	:	:	100.0	:	*99.8*	:	:	*96.3*	*95.8*	*93.9*
Belgium	102.6	104.3	*102.6*	100.0	101.3	101.9	102.5	101.6	97.9	96.5	96.3
Bulgaria	:	:	*104.1*	100.0	*98.2*	*99.8*	*92.6*	*86.9*	*84.9*	*78.9*	*79.5*
Czech Republic	*98.2*	*100.0*	*100.6*	100.0	98.6	96.9	95.5	90.5	86.6	82.6	79.6
Denmark	106.7	105.5	104.2	100.0	98.0	97.7	98.0	98.2	96.8	95.8	96.7
Germany	105.4	104.6	104.7	100.0	100.9	101.4	101.1	101.2	99.4	98.0	95.8
Estonia	:	:	:	100.0	:	:	:	:	*83.3*	*76.6*	*71.3*
Ireland	*114.5*	*110.9*	*104.9*	100.0	*98.8*	*96.5*	*95.7*	*94.4*	*92.3*	*93.1*	*93.9*
Greece	*91.3*	*92.8*	*95.6*	100.0	*100.9*	*102.8*	*100.4*	*99.8*	*101.6*	*101.3*	*101.6*
Spain	*101.5*	101.6	102.3	100.0	98.4	97.2	95.8	96.0	94.5	91.1	90.3
France	104.4	103.8	103.3	100.0	101.6	101.6	101.0	98.8	96.2	94.2	93.1
Italy (1)	95.0	96.4	95.5	100.0	97.4	96.4	96.4	96.1	92.7	*97.1*	*93.1*
Cyprus	:	:	:	:	:	:	:	:	:	:	:
Latvia	:	:	:	100.0	:	*99.8*	:	:	*133.0*	*125.0*	*119.4*
Lithuania	:	:	:	100.0	:	*93.3*	*98.8*	*120.2*	*145.6*	*151.3*	*137.4*
Luxembourg	*110.0*	*105.3*	*97.5*	100.0	*101.3*	*99.8*	*98.6*	*95.9*	*94.3*	*91.7*	*88.9*
Hungary	111.1	106.1	103.6	100.0	96.3	93.4	89.6	85.2	80.1	77.1	69.0
Malta	:	:	:	100.0	:	:	:	:	:	:	:
Netherlands	109.4	106.0	103.8	100.0	98.5	99.8	99.5	*100.8*	*97.3*	*94.1*	*91.6*
Austria	106.6	104.1	102.3	100.0	100.0	99.6	100.0	98.5	96.9	95.4	93.4
Poland	103.0	103.8	100.3	100.0	101.5	103.1	101.3	99.6	102.2	104.5	105.6
Portugal	*97.7*	*97.9*	*99.5*	100.0	*99.8*	*102.1*	*105.4*	*107.3*	*110.8*	*111.3*	*112.2*
Romania	:	:	*102.6*	100.0	*95.7*	*91.7*	*93.1*	*88.4*	*89.2*	*84.9*	*81.8*
Slovenia	111.5	105.4	105.7	100.0	98.7	96.7	94.7	92.5	89.7	86.4	81.6
Slovakia	94.9	89.9	93.0	100.0	96.4	94.1	88.3	81.9	79.3	74.8	66.9
Finland	108.8	105.4	103.7	100.0	99.1	99.5	99.5	97.7	96.4	92.7	90.8
Sweden	107.4	104.4	102.8	100.0	99.6	99.6	99.5	95.8	93.1	89.6	89.6
United Kingdom	109.3	106.4	104.2	100.0	99.7	100.7	97.6	96.0	93.9	93.1	91.1
Croatia	:	:	:	100.0	*100.8*	*99.4*	*96.9*	*95.3*	*93.3*	*92.9*	*92.6*
FYR of Macedonia	:	:	:	100.0	*100.0*	*103.6*	*107.8*	:	*104.8*	*101.5*	*98.5*
Turkey	:	:	108.1	100.0	*100.6*	:	*93.5*	*89.9*	*90.6*	*90.6*	*91.4*
Iceland	*90.2*	*89.9*	*89.8*	100.0	*103.7*	*106.5*	*107.0*	*102.5*	*101.9*	*102.7*	*88.3*
Norway	103.8	102.9	102.1	100.0	99.8	100.2	101.1	98.4	97.3	95.8	95.2

(1) Break in series, 2000.

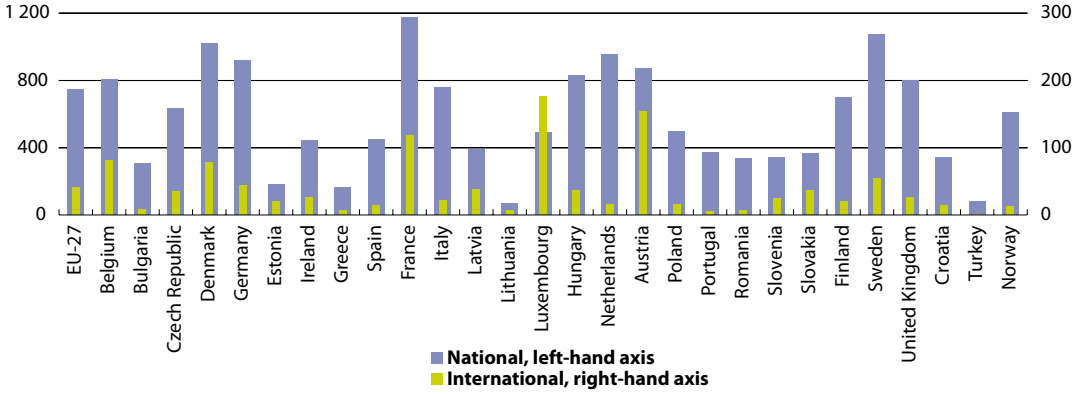
Source: Eurostat (tsien070)

Table 10.3: Rail passenger transport

	Rail passenger transport (million passenger-km)				Rail passenger transport (passenger-km per inhabitant)				Rail accidents (number of persons)			
	National		International		National		International		Killed		Seriously injured	
	2006	2007	2006	2007	2006	2007	2006	2007	2007	2008	2007	2008
EU-27	361 305	369 137	21 149	20 175	733	746	43	41	1 512	:	1 381	:
Belgium	8 190	8 547	774	856	779	807	74	81	37	15	48	26
Bulgaria	2 366	2 342	45	62	307	305	6	8	27	44	34	38
Czech Republic	6 564	6 536	358	362	640	635	35	35	25	44	101	139
Denmark	5 531	5 554	359	425	1 019	1 020	66	78	8	12	11	9
Germany	75 263	75 528	3 472	3 587	913	918	42	44	200	:	199	:
Estonia	231	246	26	27	172	183	19	20	0	9	19	10
Ireland	1 872	1 898	:	109	445	440	:	25	1	1	1	1
Greece	1 748	1 853	63	77	157	166	6	7	18	17	38	29
Spain	20 260	19 966	714	618	463	449	16	14	75	49	34	24
France	72 359	74 473	7 476	7 517	1 149	1 175	119	119	78	93	44	39
Italy	43 712	44 707	2 726	:	744	756	46	22	71	68	49	39
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	893	889	93	86	389	390	41	38	28	29	17	31
Lithuania	246	223	22	24	72	66	6	7	36	40	13	13
Luxembourg	219	233	79	84	467	489	168	176	0	0	0	0
Hungary	9 190	8 379	334	372	912	832	33	37	59	115	92	60
Malta	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	15 445	15 634	251	254	946	956	15	16	20	20	10	6
Austria	7 051	7 235	1 211	1 279	853	872	147	154	52	40	63	53
Poland	17 675	18 952	565	573	463	497	15	15	359	307	274	264
Portugal	3 821	3 933	55	55	362	371	5	5	58	:	34	:
Romania	7 902	7 271	164	146	366	337	8	7	186	208	185	233
Slovenia	675	690	48	49	337	343	24	24	17	9	30	41
Slovakia	2 043	1 970	170	195	379	365	32	36	57	56	36	38
Finland	3 447	3 675	93	103	656	696	18	20	18	21	3	6
Sweden	9 037	9 771	580	499	999	1 072	64	55	25	15	15	9
United Kingdom	45 565	48 633	1 472	1 537	754	800	24	25	57	59	31	20
Croatia	1 257	1 508	65	65	283	340	15	15	27	13	25	45
Turkey	5 201	5 472	76	81	2 551	2 680	37	40	108	111	204	247
Liechtenstein	:	:	:	:	:	:	:	:	0	0	0	0
Norway	2 779	2 840	41	61	599	607	9	13	0	1	5	1

Source: Eurostat (rail_pa_typepkm, tps00001 and rail_ac_catvict)

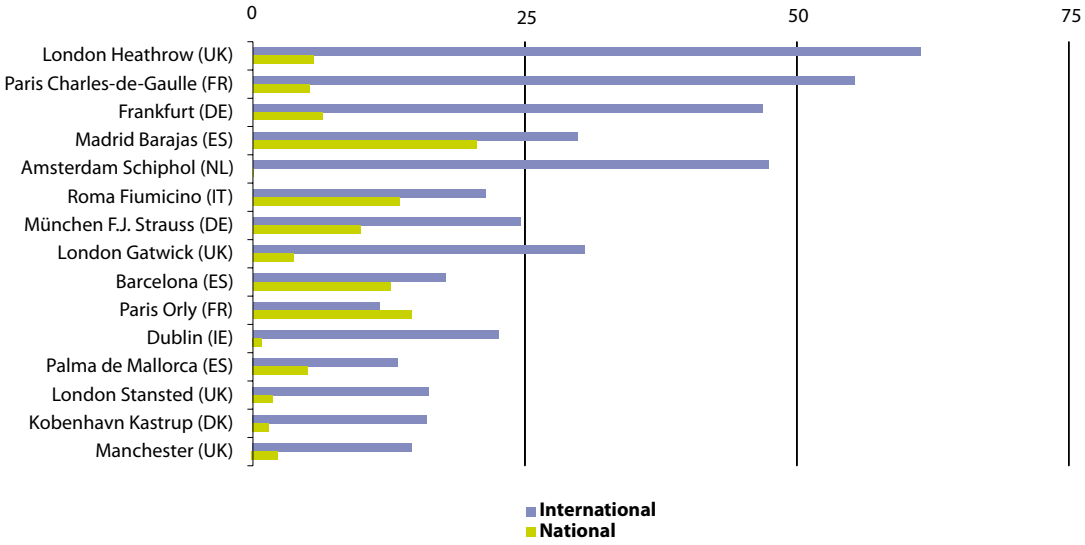
Figure 10.1: Rail passenger transport, 2007 (1)
(passenger-km per inhabitant)



(1) Cyprus, Malta and Liechtenstein, not applicable.

Source: Eurostat (rail_pa_typepkm and tps00001)

Figure 10.2: Top 15 airports, passengers carried (embarked and disembarked), EU-27, 2008
(million passengers)



Source: Eurostat (avia_paoa)

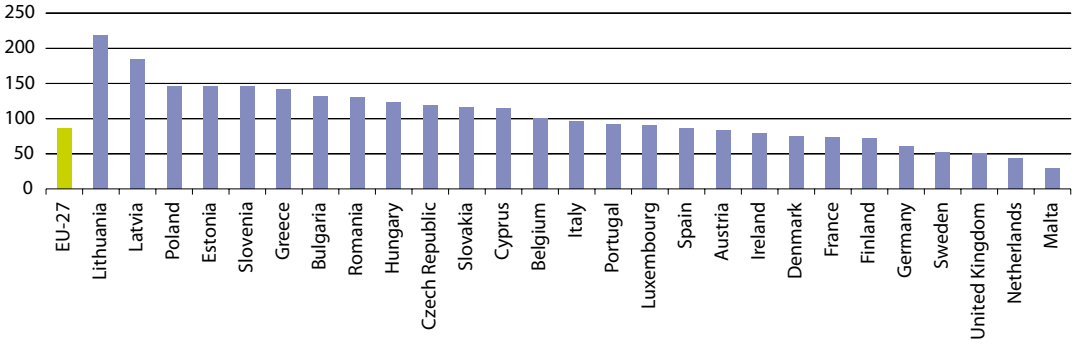
Table 10.4: Air and sea passenger transport ([1])

	Air passengers, 2008 ([2])		Maritime passengers, 2007 ([3])	
	(1 000)	(passengers per inhabitant)	(1 000)	(passengers per inhabitant)
EU-27	797 892	1.6	414 232	0.8
Belgium	21 982	2.1	909	0.1
Bulgaria	6 418	0.8	10	0.0
Czech Republic	13 429	1.3	-	-
Denmark	24 629	4.5	48 409	8.9
Germany	165 822	2.0	30 200	0.4
Estonia	1 804	1.3	8 665	6.5
Ireland	30 016	6.8	3 225	0.7
Greece	34 404	3.1	92 423	8.3
Spain	161 401	3.6	23 134	0.5
France	122 724	1.9	27 048	0.4
Italy	105 236	1.8	86 970	1.5
Cyprus	7 218	9.1	174	0.2
Latvia	3 687	1.6	362	0.2
Lithuania	2 552	0.8	212	0.1
Luxembourg	1 713	3.5	-	-
Hungary	8 429	0.8	-	-
Malta	3 125	7.6	8 132	19.8
Netherlands	50 419	3.1	1 871	0.1
Austria	23 900	2.9	-	-
Poland	18 727	0.5	2 456	0.1
Portugal	25 047	2.4	735	0.1
Romania	8 031	0.4	0	0.0
Slovenia	1 649	0.8	51	0.0
Slovakia	2 596	0.5	-	-
Finland	14 851	2.8	16 450	3.1
Sweden	27 817	3.0	32 662	3.6
United Kingdom	213 888	3.5	30 465	0.5
Croatia	4 504	1.0	24 611	5.5
Iceland	2 241	7.1	433	1.4
Norway	27 717	5.9	6 447	1.4
Switzerland	36 596	4.8	-	-

([1]) For air: aggregates exclude the double-counting impact of passengers flying between countries belonging to the same aggregate. For maritime: figures refer to the number of passengers 'handled in ports' (i.e. the sum of passengers embarked and then disembarked in ports); if both the port of embarkation and disembarkation report data to Eurostat, then these passengers are counted twice.
([2]) Total passengers carried (arrivals and departures for national and international).
([3]) Malta, 2008; Iceland, 2006.

Source: Eurostat (ttr00012 and mar_pa_aa)

Figure 10.3: People killed in road accidents, 2007 (1)
(persons killed per million inhabitants)



(1) Italy, 2006.

Source: Eurostat (tsdtr420), European Commission CARE database (Community Database on Road Accidents)

Table 10.5: Rail accidents by type of victim and accident, EU-27, 2007 (1)
(number of persons)

	Total		Passengers		Railway employees		Others	
	Killed	Seriously injured	Killed	Seriously injured	Killed	Seriously injured	Killed	Seriously injured
Total	1 512	1 381	61	259	37	102	1 414	1 020
Collisions (excluding level-crossing accidents)	12	44	2	16	5	23	5	5
Derailments	5	18	2	14	3	4	0	0
Accidents involving level-crossings	491	571	2	26	2	19	487	526
Accidents to persons caused by rolling stock in motion	1 005	680	53	168	27	40	925	472
Fire in rolling stock	0	0	0	0	0	0	0	0
Others	13	68	2	35	1	16	10	17

(1) Slightly injured persons are not included in rail accident statistics; Cyprus and Malta, not applicable.

Source: Eurostat (rail_ac_catvict)

10.3 Freight transport

Introduction

The ability to move goods safely, quickly and cost-efficiently to market is important for national and international trade, and economic development. Strains on infrastructure, demonstrated by congestion and delays, as well as the constraints of disparate standards, technical barriers and poor interoperability all impact on economic development.

The European Commission's Communication on 'boosting the efficiency, integration and sustainability of freight transport in the EU' in October 2007 set out a number of policy initiatives and actions. These ideas have been brought up-to-date in the 2009 through a Communication on 'a sustainable future for transport', which sets out a number of policy initiatives for the period through until 2020. These revolve around the following themes:

- **infrastructure – better integrating the different transport modes**; the promotion and development of intermodal and transhipment platforms: the optimising of transport chains to reduce congestion and pollution (for which the European global navigation satellite systems, Galileo and EGNOS, will complement more traditional tools) in part through the promotion of interoperability across the individual parts of the network.
- **funding – sending the correct price signals**; external costs of transport (such as pollution, noise, global warming, congestion and accidents) should be internalised in price structures for all transport modes, in a stepwise strategy ([9]). Furthermore, the inclusion of aviation in the EU emission trading scheme from 2012 ([10]) and the introduction of internalisation charges for heavy goods vehicles should be considered.
- **technology – accelerating the transition to a low-carbon economy**; standards and norms for new low and zero-emission vehicles to be set: the further development of e-freight and intelligent transport systems as well as alternative vehicle propulsion systems.
- **legislation and effective governance – promoting further market opening but harmonising actions at all levels**; the removal of regulatory obstacles but strong enforcement of competition rules, without sacrificing safety and security, working conditions and customer rights; development of harmonised environmental obligations; consideration of transnational infrastructure managers.
- **behaviour – inform travellers and businesses about different transport possibilities**; educate, inform and involve the public about the effects of transport behaviour and reasons for sometimes controversial transport policies.

Definitions and data availability

Road freight transport statistics are reported by Member States for vehicles registered in their country. On the basis of information on the reporting country, country of loading, and country of unloading, five types of operations are derived:

- national transport;

([9]) COM(2008) 435.

([10]) A Commission proposal on aviation activities was made in 2006 and the resulting Directive adopted in November 2008.

- international transport – goods loaded in the reporting country;
- international transport – goods unloaded in the reporting country;
- international transport – cross-trade (transport between two countries by a vehicle registered in a third country);
- international transport – cabotage (transport inside one country by a vehicle registered in another country).

Rail freight data are provided to Eurostat in line with Regulation 91/2003; this Regulation has been implemented from 2004. Whereas the quarterly data concern railway enterprises under detailed reporting (usually large ones ([11]), annual data cover all enterprises. Rail freight data are not available for Malta and Cyprus as they do not have railways. Switzerland will provide railway statistics starting from 2008 as a reference year, while Iceland has no railways.

Maritime transport data are available for most of the period from 2001 onwards, although some Member States have provided data for the period since 1997. Maritime transport data are not transmitted to Eurostat by the Czech Republic, Luxembourg, Hungary, Austria and Slovakia as they have no maritime ports.

Air freight and mail transport statistics are broken down by freight and mail on-board (arrivals, departures and total), freight and mail loaded and unloaded, and all-freight and mail commercial air flights (arrivals, departures and total). The data are presented with monthly, quarterly and annual frequencies. Annual data are available for most of the Member States for the period from 2003, with a majority also providing data for 2001 and 2002, while some Member States have provided data back to 1993.

Weight transported by rail and inland waterways is the gross-gross weight of goods. This includes the total weight of the goods, all packaging, and tare-weight of the container, swap-body and pallets containing goods. In the case of rail, it also includes road goods vehicles carried by rail. The tare-weight is the weight of a transport unit before any cargo is loaded; when the tare-weight is excluded, the weight is the gross weight (as is the case for sea and road freight transport).

Goods loaded are those goods placed on a road vehicle/railway vehicle/merchant ship and dispatched by road/rail/sea. Unlike in road and inland waterway transport, transhipments from one railway vehicle directly to another and change of tractive vehicle are not regarded as unloading/loading; however, if the goods are unloaded from one railway vehicle to another railway vehicle, this is considered as a break of the journey. **Goods unloaded** are those goods taken off a road vehicle/railway vehicle/merchant ship.

The **volume of inland freight transport** is defined as the ratio between tonne-km (inland modes) and GDP (gross domestic product in constant (2000) euro terms), indexed on 2000. Rail and inland waterways transport are based on movements on the national territory, regardless of the nationality of the vehicle or vessel. Road transport is based on all movements of vehicles registered in the reporting country.

Main findings

The volume of freight transported by road in the EU was a little over four times as high as the volume transported by rail in 2008. About two thirds of the volume of road freight transport by

([11]) Countries may cover all railway undertakings operating on their national territory with detailed reporting only (irrespective of the undertaking's transport performance). In this case, quarterly data are comparable with annual ones.

vehicles registered in the EU was national in 2008. However, this proportion varied greatly between Member States: national transport dominated in Cyprus (99.1 % of all road freight transport), the United Kingdom (93.6 % in 2007) and Finland (92.5 %), whereas its importance was much lower in Slovenia (16.2 %), Lithuania (12.5 %) and Luxembourg (6.6 %).

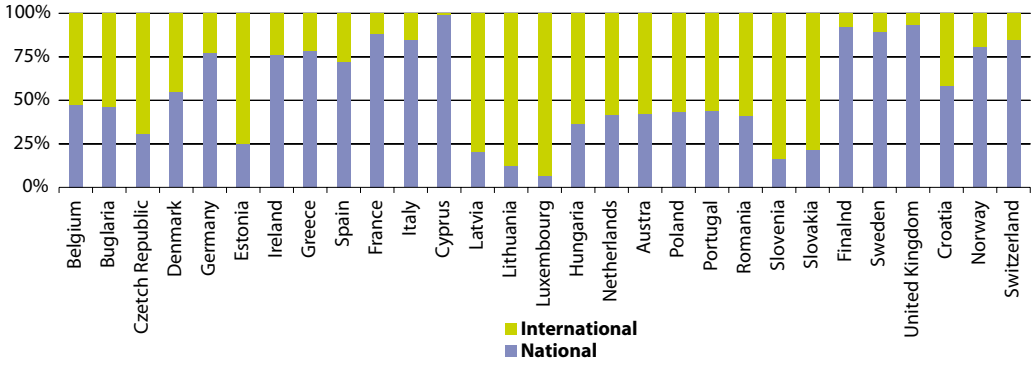
Across the whole of the EU-27, the volume of inland freight transport grew at a slightly faster pace than GDP during the ten-year period through until 2007. Relative to growth in GDP, Spain and Portugal recorded the most dramatic growth in their respective volumes of inland freight transport during this period, followed by Bulgaria, Lithuania, Ireland, Hungary and Slovenia. In contrast, there was sustained decoupling of transport growth from economic growth in a number of Member States, most notably Cyprus, the Czech Republic, Finland, Denmark and the United Kingdom.

Estonia and Latvia were the only Member States where a greater volume of freight was transported by rail than by road in 2008, while the Netherlands was the only Member State where a greater volume of freight was transported by inland waterways than by rail. Relative to the size of the population, the greatest volume of road freight transport was reported by Luxembourg, over 21 000 tonne-km per inhabitant, about two and a half times the next highest volume in Slovenia; in both cases, the majority of road freight was performed outside these countries, but by vehicles registered in them.

About 14 million tonnes of air freight (both national and international) was carried through airports within the EU-27. Airports in Germany dealt with 3.6 million tonnes of air freight in 2008, considerably more than in any other Member State. Some of the smaller Member States are relatively specialised in air freight, notably all of the Benelux countries, and in particular, Luxembourg.

Maritime ports in the EU-27 handled 3 934 million tonnes of goods in 2007 (about 2.5 % higher than in 2006). Ports in the United Kingdom handled 582 million tonnes of goods in 2007, more than any other Member State and about 15 % of the EU-27 total. Among the smaller Member States, the weight of goods handled in maritime ports was particularly high in Estonia, the Netherlands, Latvia, Finland, Belgium and Sweden.

Figure 10.4: National and international road transport of goods, 2008 (1)
(% based on million t-km of laden transport)



(1) Greece, Italy and the United Kingdom, 2007; Malta, not available.

Source: Eurostat (road_go_ta_to)

Table 10.6: Volume of inland freight transport (1)
(index of inland freight transport volume relative to GDP, 2000=100)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
EU-27	*101.5*	*101.1*	*100.1*	100.0	*99.0*	*100.0*	*99.4*	105.5	*105.4*	*106.3*	*106.8*
Belgium	94.2	89.0	80.3	100.0	102.2	101.2	97.0	91.2	84.7	*82.3*	*78.3*
Bulgaria	82.0	63.6	49.9	100.0	104.8	105.0	109.9	119.7	128.0	118.3	116.6
Czech Republic	117.3	100.9	101.5	100.0	99.6	103.9	105.2	98.6	88.5	94.0	86.4
Denmark	*97.7*	*95.6*	100.1	100.0	91.9	92.7	94.5	93.2	91.0	80.7	78.0
Germany	95.4	97.0	100.4	100.0	99.9	98.9	100.0	104.5	106.0	109.9	111.9
Estonia	65.4	76.4	91.3	100.0	89.4	92.7	84.9	90.2	87.3	76.7	67.1
Ireland	76.8	82.0	91.9	100.0	95.1	102.3	106.8	111.5	108.9	99.8	102.1
Greece	:	:	:	:	:	:	:	:	:	:	:
Spain	*87.5*	*93.6*	95.5	100.0	104.0	114.9	116.1	128.1	130.1	129.6	133.1
France	100.3	100.3	103.2	100.0	97.1	95.0	92.5	92.8	87.4	87.8	*88.5*
Italy	*101.1*	*105.1*	99.4	100.0	98.8	100.4	91.6	101.2	107.0	*96.4*	*95.2*
Cyprus	*106.3*	*104.8*	*101.6*	100.0	*99.3*	101.2	105.3	80.7	96.6	77.6	76.7
Latvia	110.7	104.3	96.7	100.0	99.9	101.9	111.0	107.2	105.0	91.6	95.2
Lithuania	91.1	85.5	97.4	100.0	89.9	107.6	109.2	106.2	116.8	118.5	121.5
Luxembourg	77.5	*80.9*	91.6	100.0	109.2	109.4	111.6	106.9	92.3	87.5	89.3
Hungary	*100.0*	110.7	102.2	100.0	93.9	89.7	86.1	93.9	105.0	118.1	132.2
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	103.7	106.7	106.9	100.0	97.4	95.5	96.2	105.6	98.7	95.2	*88.7*
Austria	91.9	93.4	98.1	100.0	104.7	105.7	105.2	104.3	98.1	101.9	97.9
Poland	118.3	112.0	103.0	100.0	97.6	98.4	98.4	108.2	108.9	115.2	*121.7*
Portugal	105.5	101.6	101.2	100.0	108.4	107.0	99.7	143.5	148.6	153.8	155.8
Romania	:	:	95.0	100.0	106.3	119.6	127.1	145.1	174.2	171.4	165.8
Slovenia	*106.1*	*106.2*	*102.1*	100.0	101.3	95.5	98.9	114.5	128.9	132.0	138.5
Slovakia	114.9	116.3	112.9	100.0	92.4	86.9	88.1	88.0	93.7	86.9	92.1
Finland	*97.0*	98.6	98.4	100.0	93.4	94.8	91.7	91.5	87.2	81.5	77.3
Sweden	*110.4*	*102.9*	*98.0*	100.0	95.4	96.9	96.7	94.4	95.3	94.4	94.4
United Kingdom	112.8	110.8	104.3	100.0	97.0	95.1	94.0	*93.8*	*91.6*	*93.6*	*90.1*
FYR of Macedonia	:	:	:	100.0	*93.4*	*111.7*	146.0	138.9	141.4	198.4	:
Turkey	92.8	96.7	99.2	100.0	98.4	92.2	89.1	84.2	82.2	81.7	:
Iceland	102.4	102.1	103.8	100.0	*105.5*	*108.3*	*108.8*	*109.7*	*113.2*	*119.2*	:
Norway	101.8	102.6	101.5	100.0	97.8	96.6	101.4	102.8	105.3	109.4	107.0

(1) Excluding pipelines; breaks in series: Estonia, 1997; Bulgaria, Hungary and Slovakia, 2000; Bulgaria, 2001; EU-27, Spain, Portugal and Romania, 2004.

Source: Eurostat (tsien060)

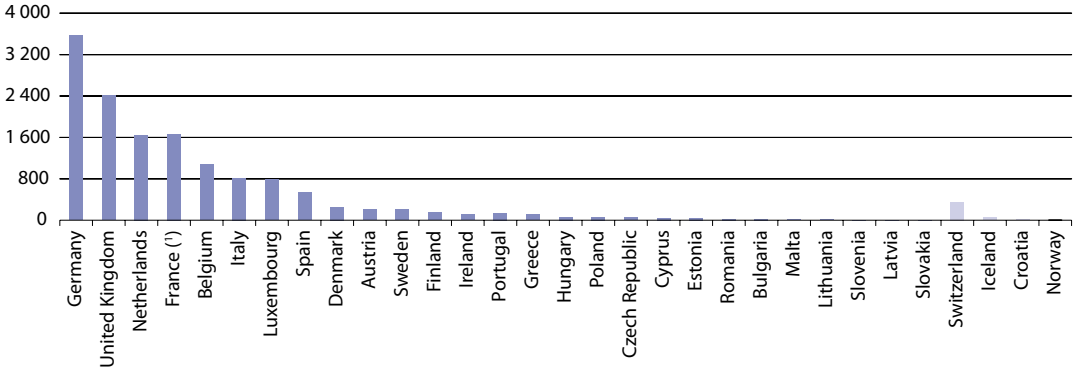
Table 10.7: Inland freight transport, 2008

	(million t-km)			(t-km per inhabitant)			National air freight and mail transport (tonnes) (3)
	Road (1)	Rail (2)	Inland waterways	Road (1)	Rail (2)	Inland waterways	
EU-27	:	:	145 680	:	:	293	659 223
Belgium	38 356	9 258	8 746	3 596	875	820	721
Bulgaria	15 322	5 241	2 890	2 005	682	378	29
Czech Republic	50 877	16 304	28	4 901	1 585	3	1 934
Denmark	19 480	1 779	-	3 560	327	-	2 403
Germany	341 532	114 615	64 056	4 154	1 392	779	141 139
Estonia	7 354	8 430	:	5 484	6 280	:	0
Ireland	17 402	129	-	*3 954*	30	-	9 827
Greece	27 791	835	-	*2 488*	75	-	15 023
Spain	242 983	11 064	-	5 366	249	-	102 265
France	206 304	41 190	8 896	*3 224*	654	139	141 920
Italy	179 411	25 285	:	3 034	428	:	62 195
Cyprus	1 308	-	-	1 657	-	-	566
Latvia	12 344	18 313	:	5 436	8 027	:	0
Lithuania	20 419	14 373	:	6 066	4 246	:	7
Luxembourg	10 273	427	367	21 234	897	759	0
Hungary	35 759	10 048	2 250	3 560	998	224	0
Malta	:	-	-	:	-	-	:
Netherlands	81 457	7 216	46 024	4 965	441	2 805	0
Austria	34 327	21 371	2 359	4 127	2 575	284	854
Poland	164 930	54 253	277	4 327	1 423	7	6 914
Portugal	39 091	2 586	-	*3 682*	244	-	20 599
Romania	56 386	15 757	8 687	2 619	731	404	291
Slovenia	16 261	3 603	:	8 089	1 792	:	0
Slovakia	29 276	9 647	1 101	5 420	1 789	204	1
Finland	29 856	10 434	:	5 633	1 977	:	3 628
Sweden	29 075	23 250	-	3 166	2 551	-	19 314
United Kingdom	171 477	26 384	:	*2 820*	434	:	129 593
Croatia	11 042	3 574	79	2 489	805	18	1 590
Turkey	:	9 755	-	:	140	-	:
Iceland	:	:	-	:	:	-	:
Liechtenstein	:	18	:	:	512	:	:
Norway	20 595	3 456	-	4 348	738	-	17 095
Switzerland	11 321	:	:	*1 491*	:	:	4 685

(1) Greece, Italy and the United Kingdom, 2007; road transport is based on movements all over the world of vehicles registered in the reporting country.
(2) All data refer to 2007, except France, 2006.
(3) Data based on departures; Denmark does not include data for Copenhagen/Kastrup airport; France underestimated as freight transport at Paris Charles-de-Gaulle and Paris Orly is incomplete.

Source: Eurostat (road_go_ta_tott, rail_go_typeall, ttr00007, tps00001 and avia_gooc) and Directorate-General for Energy and Transport

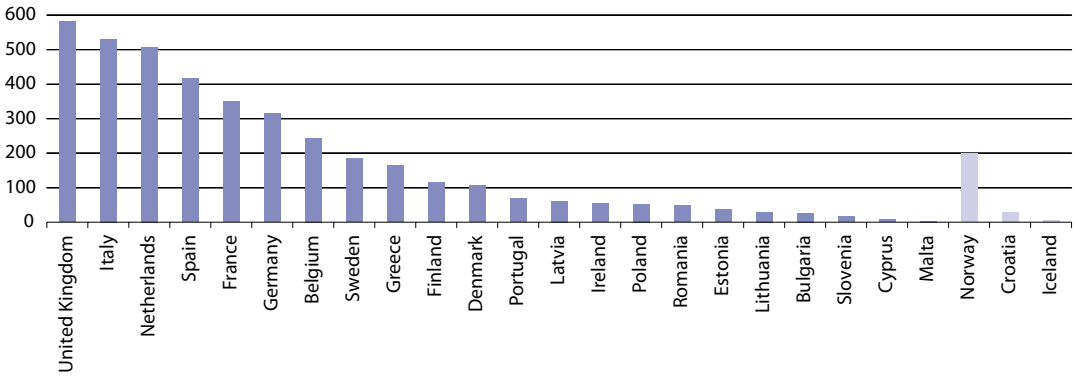
Figure 10.5: Air freight transport, 2008 (1)
(1 000 tonnes)



(1) Underestimated: freight transport at Paris Charles-de-Gaulle and Paris Orly is incomplete.

Source: Eurostat (ttr00011)

Figure 10.6: Gross weight of seaborne goods handled in ports, 2008 (1)
(million tonnes)



(1) Germany, Ireland, Greece, France, Italy, Cyprus, Lithuania, the Netherlands, Poland, Portugal, Romania, Finland, Sweden, the United Kingdom and Norway, 2007; Iceland, 2006; the Czech Republic, Luxembourg, Hungary, Austria and Slovakia, not applicable.

Source: Eurostat (mar_go_aa)