4. Transport

policy issue	indicator	assessment
decoupling transport volume growth from economic growth	passenger-km per GDP	☹
- " -	tonne-km per GDP	☹
shifting the balance between transport modes from road to rail and inland waterways	modal split of passenger transport	☹
- " -	modal split of freight transport	☹
reducing use of resources and emissions that damage the environment	transport eco-efficiency	😐
shifting to improved technologies and fuels	uptake of cleaner technologies and fuels	☺
internalising external costs	differentiation of transport taxes and charges	😐
stimulating fuel efficiency	real changes in fuel prices	☹

Current trends are away from achieving the EU's recently-announced objectives of breaking the link between economic growth and growth in transport, and bringing about a shift in transport use from road to rail, water and public passenger transport. Alongside greater use of cars and planes, passenger transport is growing at a rate close to gross domestic product (GDP), while freight transport is growing faster than GDP.

These traffic trends, combined with little improvements in energy efficiency, result in growing energy use and greenhouse gas emissions. Transport is thus offsetting other sectors' efforts to reach the Kyoto targets. Advances in vehicle technology and fuels have resulted in a significant decrease in emissions of acidifying gases and ozone precursors, though in many cities air quality still poses health risks and further improvement is needed.

Several Member States are now moving towards tax structures that differentiate between the various transport modes in ways that reflect their environmental costs, but there remain significant barriers to implementation.

At its June 2001 summit in Gothenburg, the European Council singled out the transport sector as one of the four priority areas where sustainability policy development must be put on a faster track. The sector is also high on the agenda of the EU's sixth environment action programme and Sustainable development strategy. The recently published White Paper European Transport Policy for 2010: Time to Decide (European Commission, 2001a) proposes an action plan of sixty or so measures around four main themes:

- shifting the balance between modes of transport (improving the quality of the road sector, revitalising rail, controlling air transport growth and adapting maritime and inland waterway transport systems, linking up of transport modes);
- eliminating bottlenecks (developing the trans-European transport network);
- placing the users at the heart of transport policy (improving road safety, fair and efficient pricing through infrastructure charging and harmonisation of fuel taxation);
- managing the globalisation of transport (linking the future Member States to the trans-European transport network).

The proposed action programme aims mainly at stabilising the modal shares at

1998 levels by 2010. The White Paper suggests that this would also result in decoupling transport growth (in terms of vehicle-km) from GDP growth. However, no evaluation has been made of the effectiveness of the proposed measures, nor of their environmental gains. In 2002, the Commission intends to issue a communication with quantified targets for transport. An assessment of the implementation of the action programme and its socio-economic and environmental impacts will be made in 2005. Meanwhile, the transport and environment reporting mechanism (TERM) will continue to monitor the progress of the transport and environment integration process (EEA, 2001).

As stated above, the White Paper also identifies enlargement of the EU as one of the major transport policy challenges for the next ten years. Assessing the future impacts of enlargement first requires a good overview of the current status in the accession countries as well as in the EU; EU developments have been reported in previous TERM reports. This is a first step into gearing in the new countries into the TERM information system. A next step will be to report on the effects of enlargement in both regions.

In joining the European Union, the accession countries will also share the objectives of its Treaty. The new countries should therefore be actively involved in implementing the main policies such as the EU sustainability development strategy and the sixth environmental action programme, which both have transport as one of the priority concerns. The integration of environmental concerns in sectoral policies, which was initiated by the Cardiff Council in 1998, has become a major policy pillar of the SDS. The EU Transport Council therefore invited the accession countries 'to follow the integration principle as it is being developed in the Community when formulating national and local strategies during the pre-accession period' (European Council, 1999).

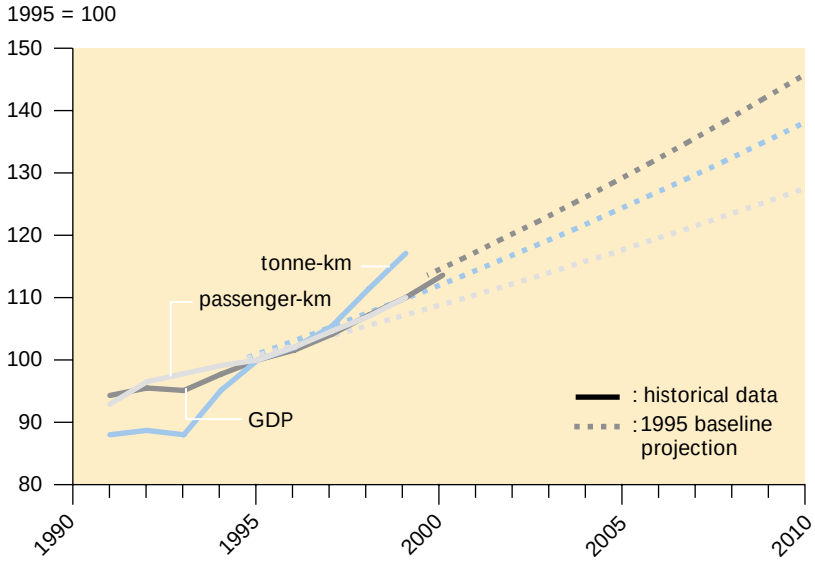
The Marco Polo programme

The Commission proposal for a Parliament and Council Regulation setting up the Marco Polo programme was announced in the White Paper (European Commission, 2001a) and adopted on 4 February 2002. The main goal of the ten-year Marco Polo scheme is to reduce road congestion and improve the environmental performance of the transport system by shifting freight from road transport to short sea, rail and inland waterway transport. The Commission proposes a budget of 115 million euros (2003 – 2007) to achieve this goal.

Taking into account the principle of subsidiarity, the programme will focus on international, rather than national, projects. Marco Polo funds would be offered to reduce the start-up costs of new, international non-road freight services and to stimulate co-operative behaviour in the freight logistics market. The programme will also be able to fund actions involving countries, which are candidates to accession to the European Union. It is envisaged that the Marco Polo programme will be fully operational by 2003.

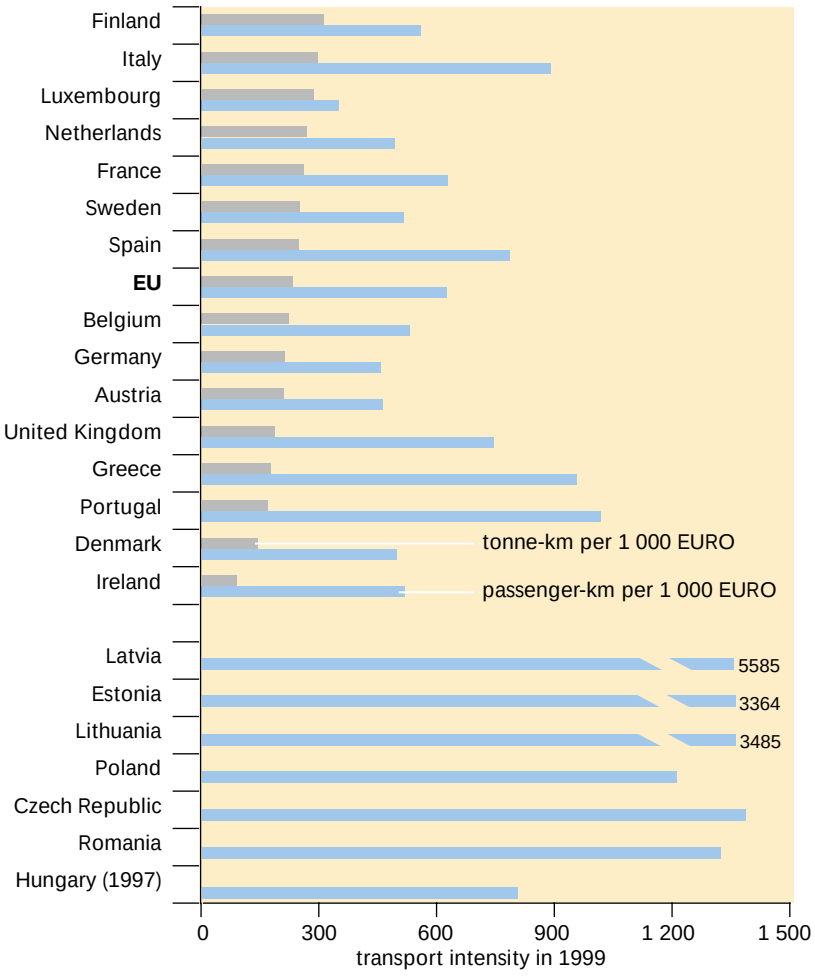
Source: http://europa.eu.int/comm/transport/themes/land/english/lt_28_en.html

Figure 4.1. **Passenger and freight transport and GDP, EU**



Note: Passenger transport includes road, rail and domestic, intra- and extra-European flights. Motorcycle and inland waterway transport are excluded due to lack of historical data, and tram/metro are not included since these modes are not included in the projection model PRIMES. Freight transport includes road, rail and inland waterways. Short-sea shipping and air freight transport are not included as these are not covered by the PRIMES projections.
Source: Eurostat, 2002; European Commission, 2001b

Figure 4.2. **Passenger and freight transport per GDP, 1999, EU and some accession countries**



4.1. Passenger and freight transport volumes

Passenger transport in the EU grew at the same rate as GDP (i.e. at an annual rate of 2.4 %) between 1995 and 1999 (slightly faster than GDP before 1995). Air and road transport are the fastest growing modes (with average annual growth of 6.9 % and 1.8 % respectively between 1991 and 1999). Leisure trips, commuting and shopping account for the vast majority of car trips. Distances to basic services increase as a result of spatial planning decisions (e.g. urban sprawl) (see Chapter 13). Car ownership, a main driving force for passenger car transport growth, has increased by 17 % between 1990 and 1999, closely linked to growing incomes and the increasing number of households (see Chapter 3). Another worrying trend is the rapid increase of powered two-wheelers, for which stricter emission standards come into force only in 2003.

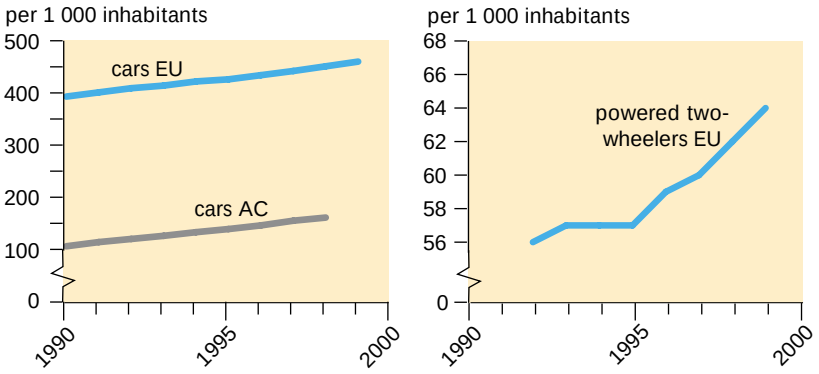
Tonne-km in the EU increased by almost 30 % between 1991 and 1999 (an annual average of 3.3 %) and thus grew much faster than GDP (1.9 % annually over the same period). Road haulage is the fastest growing mode of freight transport (4.7 % per year), followed by short-sea shipping (2.9 %). The globalisation of the economy and the liberalisation of the internal market result in more complex production and trading networks, and thus greater distances and more trips. Freight transport costs are often low compared to other production costs (e.g. storage costs and the benefits of timely delivery). This also encourages the shift of stocks from warehouses to roads.

Note: Passenger transport includes passenger car, bus/coach, rail, tram/metro and domestic aviation. Freight transport includes road, rail, inland water and oil pipelines. Short sea shipping and intra- and extra-European flights are excluded due to a lack of some country breakdown data. Accession countries: 1998 data.
Source: Eurostat, 2002; UNECE, 2001

According to 1995 baseline projections, future passenger travel is expected to decouple slightly from economic growth. The reasons for this include limits on the average travelling speed (due to safety concerns and congestion) and the expected saturation of car ownership in the Member States. The main assumption for the projected decoupling of freight transport demand and economic growth is a gradual shift away from industry towards a knowledge-based economy. However, the above-mentioned factors could counterbalance any benefits from this shift, as appears to been happening in most recent years (tonne-km grew faster than originally projected between 1995 and 1999).

EU enlargement is expected to increase transport flows within and between the accession countries and the EU significantly. The rapidly growing car fleet in accession countries, which grew by 52 % between 1990 and 1999 (UNECE, 2001), and the decline in rail and public transport which is observed in some countries (a decrease of 18 to 30 % in passenger-km), are indications of drastically growing car transport. Freight transport intensity dropped in almost all accession countries, but is still much higher than the EU average. After an initial decrease in the early 1990s, following structural changes in the economy and recession, freight volumes in the accession countries are now growing significantly. Increasing trade with the EU is expected to enhance this trend (IVM, 1998).

Number of passenger cars and powered two-wheelers, EU and accession countries Figure 4.3.



Source: European Commission, 2001b; UNECE, 2001

Teleworking is growing, and may help to avoid congestion

The European Commission intends to promote teleworking by accelerating investment in communications infrastructure and services (European Commission, 2001a). Currently, about 4 % of European employees are regular teleworkers, with the highest shares in the Scandinavian countries and the Netherlands. The UK and Germany are above the European average. Teleworking is lagging in Italy, France, Spain and Ireland.

The number of teleworkers is expected to rise to 11 % of the EU labour force by 2005. However, only a minority will use telework to reduce commuting trips ('telecommuting'). Other types of decentralised work like mobile telework are also important. Teleworking may affect location patterns, as it can lead to people moving to residences further away from work.

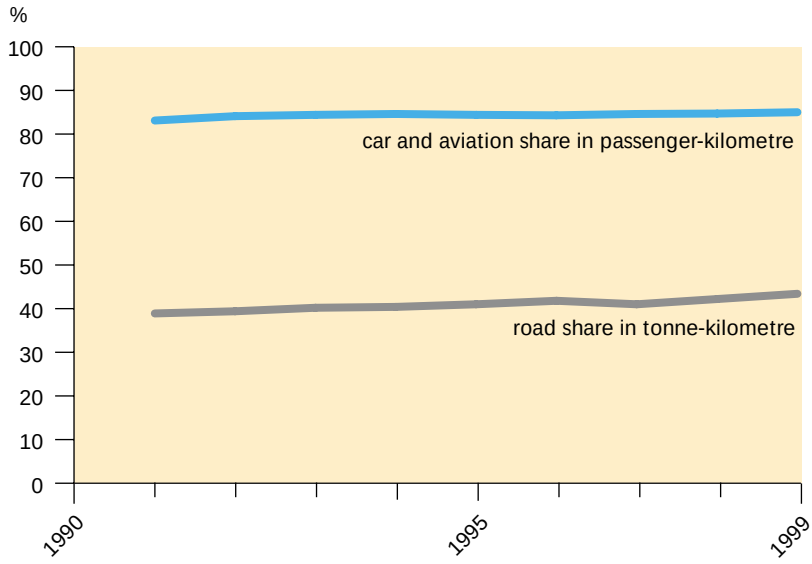
Source: EcaTT web site: http://www.ecatt.com/ecatt/

In the past decade, passenger transport volume has grown at the same rate as the economy, while freight transport growth outstripped it. By 2010, a slight relative decoupling is expected for passenger transport only.

Quality of information ☆☆

http://themes.eea.eu.int/Sectors_and_activities/transport/indicators
http://europa.eu.int/comm/energy_transport/en/lb_en.html

Figure 4.4. **Shares of road and air in passenger and freight transport, 1991–1999, EU**



Note: Passenger transport includes passenger car, rail, tram/metro, bus/coach and domestic and intra- and extra-European aviation; freight transport includes road, rail, inland navigation and short-sea shipping.
Source: Eurostat, 2002 ; statistics on Danish oil pipelines taken from European Commission, 2001b

☹ **Passenger transport continues be dominated by the car (75 % of total passenger-km), but air transport is now the fastest-growing mode. The share of the more environmentally-friendly modes (i.e. bus/coach, rail and tram/metro) is declining slightly.**

Quality of information ☆☆

http://themes.eea.eu.int/Sectors_and_activities/transport/indicators

4.2. Modal split in passenger and freight transport

As part of the Sustainable Development Strategy, the EU has set itself the goal of bringing about a shift in transport use from road to rail, water and public passenger transport. The White Paper aims at stabilising modal shares at 1998 levels by 2010, as a first step towards a shift in transport use from then onwards. The proposed measures include pricing, revitalisation of rail and inland waterways, promotion of inter-modality (through, for example, the Marco Polo programme) and investments in the trans-European transport network. However, it is unclear how far these measures will contribute to achieving modal stabilisation and the extent of the environmental gains that modal shifts will achieve.

Car transport, which is generally considered to be faster and more flexible than public transport, retains its dominant share of the passenger transport market. The slight drop in its share in passenger-km (from 77 % in 1991 to 75 % in 1999) is explained by the drastic increase in aviation, of which the share rose from 6 to 10 %, as a result of growth tourism and business travel. The share of public transport (i.e. rail, bus/coach and tram/metro) fell by 1 % in the period 1991–1999.

Between 1991 and 1999 the share of road in freight transport rose from 39 to 43 %. The shares of rail, inland waterways and oil pipelines have all decreased. The increase in road haulage can be explained by the requirements of modern production and trade patterns, which are geared towards 'just-in-time' delivery of goods, where transport speed and flexibility are essential. Furthermore, the road sector is liberalised to a great extent, while the rail sector is just starting to open up. In addition, the distance over which goods are transported by road is on average 110 km/tonne (European Commission, 2001b), a relatively short distance over which rail and inland waterways are less efficient.

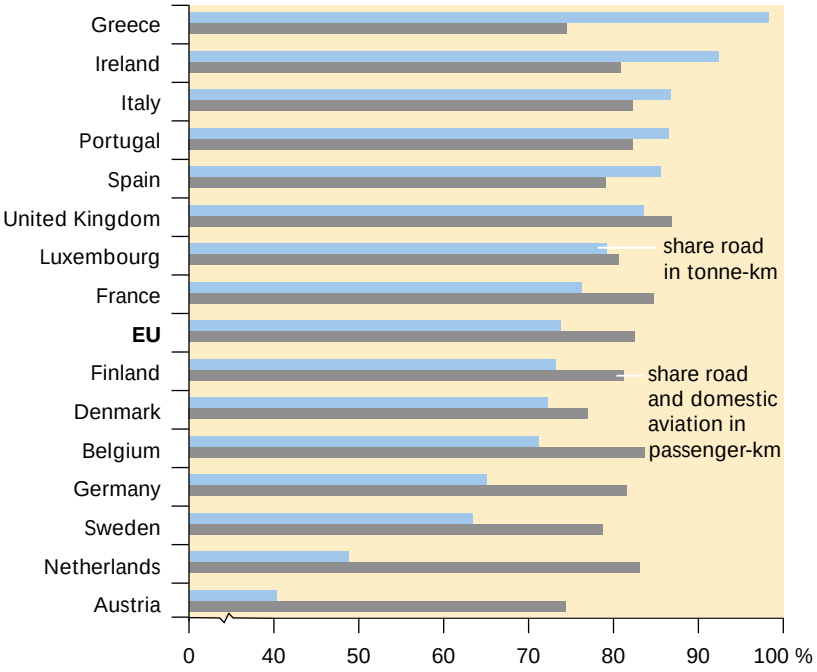
For longer distances, short sea shipping has become quite successful in some parts of the EU. To revitalise the rail freight sector the Commission has recently made proposals dealing with the liberalisation of the rail freight market and the development of a dedicated rail freight network (European Commission, 2002). However, growing concerns are being expressed regarding the environmental performance of shipping (in particular related to its high emissions of acidifying substances) as well as rail (in particular related to noise).

Incorrect pricing (i.e. price structures that do not correctly reflect the real costs to society) has also contributed to the distortion of the transport market to the advantage of road use and aviation (see Section 4.5). Infrastructure investments have enhanced this imbalance; investment shares have remained almost unchanged since 1980, dominated by road (62 % in 1995) and rail (28 % in 1995) (ECMT, 1999). Public transport received only a small part of all investments, high-speed rail being a notable exception.

In the accession countries, rolling stock and infrastructure are deteriorating due to investment shortages and problems related to the restructuring of railway and public service companies. As a result, the share of rail in freight transport, which in 1990 reached almost two thirds in some countries, is falling rapidly. The greatest part of investments in new infrastructures is allocated to roads, partly reflecting a very limited initial road infrastructure endowment in these countries. The motorway network in accession countries has grown by 94 % since 1990. The second largest share is taken by rail, in order to upgrade the infrastructure to western European standards. The extension of the trans-European transport network (the 'TINA' process) is focusing on the links connecting accession countries with the EU.

Passenger and freight transport: shares of road and domestic aviation, 1999, EU

Figure 4.5.



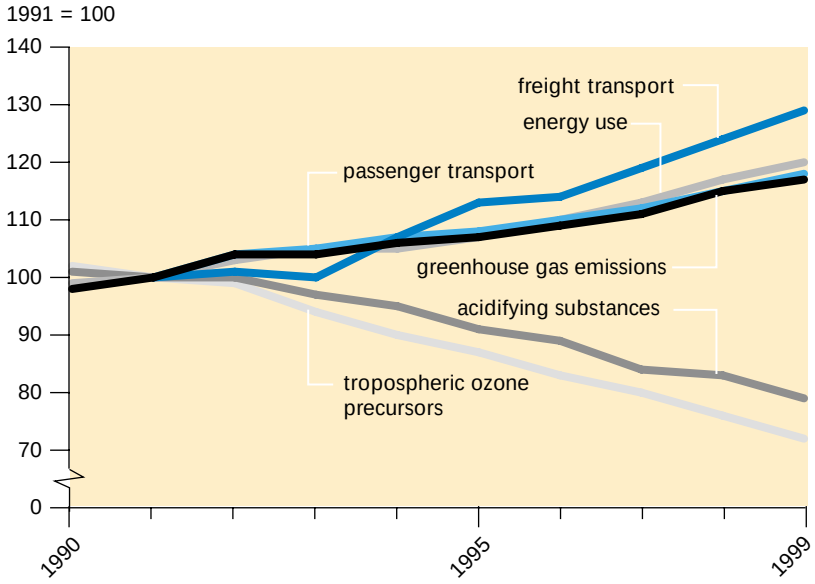
Note: Passenger transport includes car, bus/coach, rail and tram/metro, and domestic aviation. Intra and extra-European flights are excluded due to missing country breakdown of data. Freight transport includes road, rail, inland waterways and oil pipelines. Short sea shipping is excluded due to missing country breakdown of data.
Source: Eurostat, 2002

☹ **There is no sign as yet of a shift of freight from road to rail (rail's share fell from 10 % in 1991 to 8 % in 1999). Road haulage and short sea shipping remain the main freight transport modes, with a share of 43 % and 42 % of total tonne-km respectively.**

Quality of information ☆☆

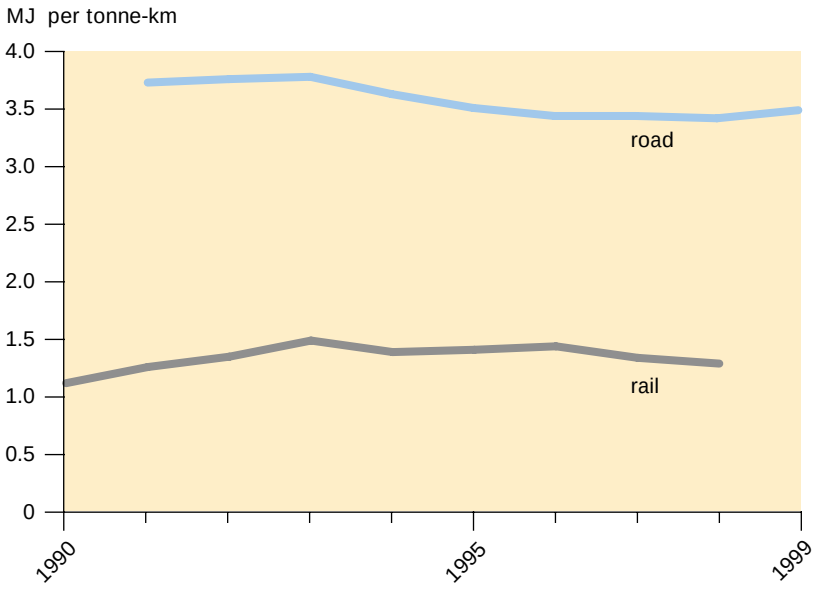
http://europa.eu.int/comm/transport/rail/index_en.html

Figure 4.6. **Eco-efficiency of transport, EU**



Note: Passenger transport includes car, bus/coach, rail, tram/metro and domestic, intra- and extra-European aviation. Freight transport includes road, rail, inland waterways short-sea shipping and oil pipelines.
Sources: EEA; Eurostat, 2002

Figure 4.7. **Energy efficiency in road and rail freight transport, selected Member States**



Note: Road based on weighted average of five Member States (Austria, Denmark, France, Sweden and the United Kingdom).
Source: ODYSSEE

4.3. Transport eco-efficiency

The energy efficiency of passenger car transport has improved slightly during the past decade, and as a result so has its average specific carbon dioxide emissions (EEA, 2001). The voluntary agreement with the car industry to reduce carbon dioxide emissions from new cars is making progress towards its target. Although the energy efficiency of rail has not been improved in recent decades, it remains the most energy-efficient mode of passenger transport. Despite technological progress during the 1980s, aviation continues to be the least efficient mode. The energy efficiency of road freight transport has not improved during recent years. Trucks consume significantly more energy per tonne-km than rail or ship transport.

The few gains in energy efficiency are offset by the growth in transport. Transport is the fastest-growing energy consumer in the EU; energy use since 1990 increased by 21 %, compared with 6.7 % for the remaining economic sectors. More than 30 % of final energy in the EU is now used by transport, which makes the sector a major source of greenhouse gas emissions. Transport is therefore one of the priority areas sectors for the Community's action plan to improve energy efficiency and the European Climate Change Programme.

Alternative and renewable energy sources for transport still have a low penetration. The European Commission aims at a 20 % substitution of diesel and gasoline fuels by alternative fuels (biofuels, natural gas and hydrogen) in the road transport sector by 2020 (European Commission, 2000a). Two Directives have been proposed recently: one setting a minimum level of biofuels as a proportion of fuels sold from 2005 (starting with 2 % and reaching 5.75 % of fuels sold in 2010); and the other providing a framework for reduced excise duties on biofuels. However, these plans have raised serious concerns, as the consequences on biodiversity can be detrimental and the impact on greenhouse gas and air pollutant emissions reduction remains uncertain.

In 1999, road transport contributed 25 % of total carbon dioxide emissions. Road transport is also a small but growing source of nitrous oxide emissions, a side-effect of the fitting of catalysts to passenger cars. Nitrous oxide emissions from transport more than doubled between 1990 and 1999 to 7 % of total emissions. A further substantial rise is expected by 2010. However, since transport is not a large source of nitrous oxide, this will not have a major impact on the overall trend of greenhouse gas emissions.

Between 1990 and 1998, EU greenhouse gas emissions from international transport (based on fuel sold in the EU to ships and aircraft engaged in international transport) increased by 33 %, to 5 % of total EU emissions. These emissions are not addressed under the Kyoto Protocol, but the International Civil Aviation Organisation and the International Maritime Organisation are currently examining options for their reduction.

Transport is also responsible for more than half of EU emissions of tropospheric ozone precursors and more than 20 % of emissions of acidifying substances. Technology and fuel improvements (in particular the introduction of catalysts and stricter emission regulations for diesel vehicles) have led to significant reductions in these emissions. Without these measures, nitrogen oxides emissions from traffic in the EU would have been 50 % higher in 1998. Extra efforts are however still needed, as urban air quality in most European cities remains poor (see Chapter 10).

Emissions from international shipping are currently not included in national inventories, but it is estimated that shipping in European waters contributed 24 % of total sulphur dioxide emissions and 22 % of total nitrogen oxide emissions from EU15 countries in 1998 (European Commission, 2000).

A large proportion of the population is exposed to traffic noise levels that can be annoying or harmful for health. The Environmental Noise Directive, which is expected to be adopted in 2002, would require countries to make noise maps for agglomerations, major roads, major railways and airports, by 2004. These would serve as a basis for the development of action plans to combat noise pollution. The expansion of infrastructure continues to take land from agriculture and urban use, affecting a wide range of designated natural sites and habitats (see Chapter 13).

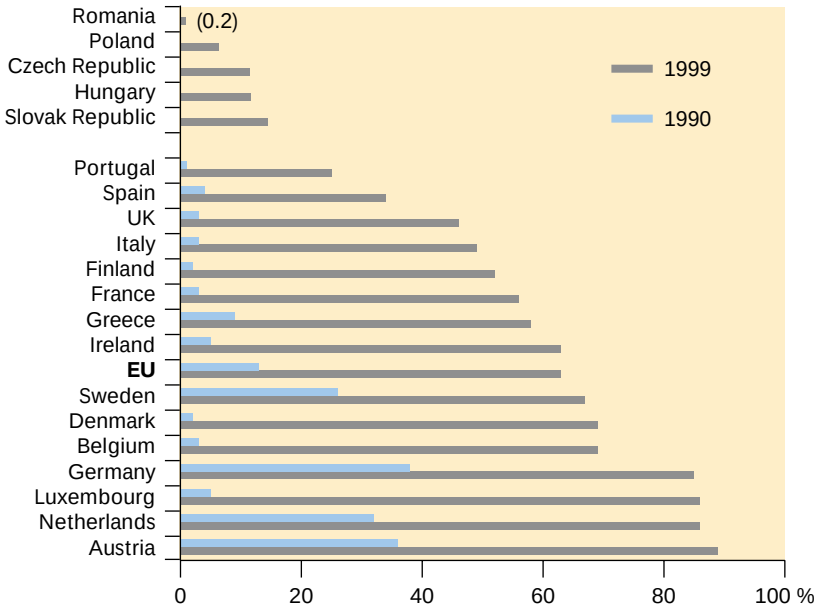
As a consequence of the major growth in transport, and the shift to road and aviation, carbon dioxide emissions from the transport sector are continuing to grow.

Cleaner technologies and fuels have led to significant reductions in emissions of local and regional air pollutants, but additional efforts are needed to reach targets

Quality of information ☆☆

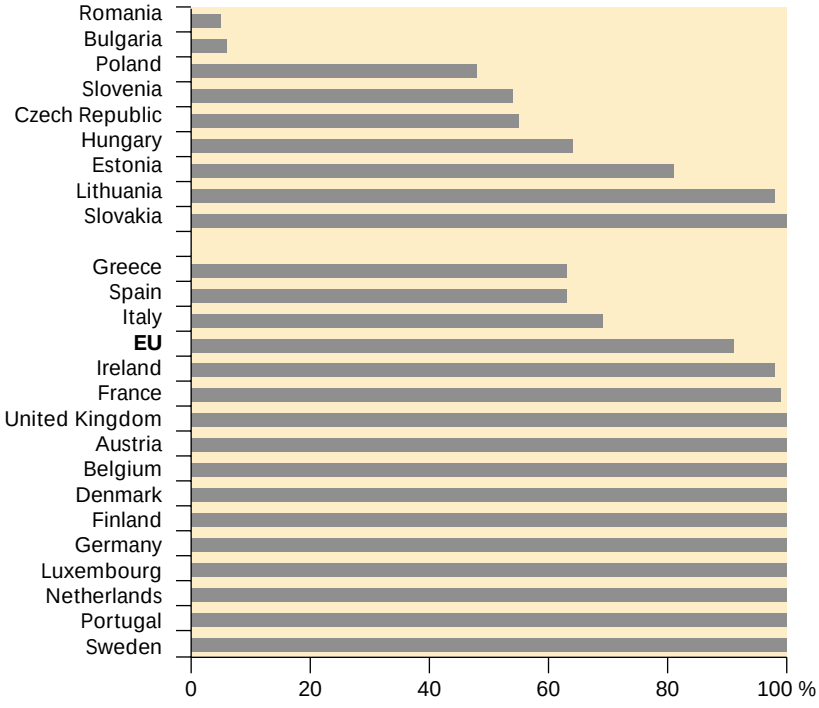
http://themes.eea.eu.int/Sectors_and_activities/transport/indicators
http://europa.eu.int/comm/environment/air/transport.htm

Figure 4.8. **Estimated share of petrol cars fitted with a catalytic converter, EU and selected accession countries**



Note: Accession countries 1996 and IRL, I, P, UK 1998
Source: Eurostat, 2002; REC,1998

Figure 4.9. **Share of unleaded petrol in total petrol deliveries, EU and accession countries**



Note: EU 1999 and accession countries 1996.
Sources: Eurostat, 2002; REC, 1998

Technology improvements, such as three-way catalysts, and cleaner fuels have made vehicles less polluting per transport unit.

Quality of information ☆☆

http://themes.eea.eu.int/Sectors_and_activities/transport/indicators
http://europa.eu.int/comm/environment/air/transport.htm

4.4. Uptake of cleaner technologies and fuels

Environmental regulation, through which vehicle emission standards have gradually been tightened and fuel quality improved, has been successful in reducing the emissions of certain air pollutants (see Section 4.3.). The penetration rate of new technologies is closely correlated with the average lifetime of vehicles and the average age of the fleet. Estimates based on the numbers of cars fitted with catalytic converters suggest that it takes at least ten years for a new technology to penetrate the entire car fleet.

In 1999, 63 % of petrol-driven cars had catalytic converters, although there were wide variations between Member States. The promotion of unleaded petrol, through a mixture of fiscal and regulatory instruments, is a major success story in the EU; it is expected that leaded petrol will be completely phased out by 2005 in the EU.

Compared to the EU, the car fleet in the accession countries has a high average age. In 1996, the share of passenger cars fitted with a catalytic converter in five accession countries ranged from zero to 14.5 %. The process of phasing out leaded petrol started five years later in the accession countries than in the EU, yet the Slovak Republic and Lithuania have already completed phasing it out. At the other end of the spectrum, in countries such as Romania and Bulgaria the share of unleaded petrol in 1996 reached only 5 %.

Currently a number of Member States are also promoting low or ultra-low sulphur fuels in advance of the EU standards in Directive 98/69, which comes into force in 2005. The main purpose is not to reduce sulphur dioxide emissions, which have already been substantially reduced in the past two decades, but to facilitate the introduction of advanced DeNO$_x$ and particulate filters.

4.5. Differentiation of transport taxes and charges

It is estimated that the external costs of transport amount to 8 % of GDP, with road transport accounting for more than 90 % of these costs (INFRAS/IWW, 2000). Accidents, noise, air pollution and climate change are the most important contributors. Costs of infrastructure and congestion are not included in this figure. The EU 'fair and efficient pricing' policy for the transport sector aims at the internalisation of external costs (European Commission, 2001a). This would encourage shifts to cleaner or safer vehicles or fuels, shifts of demand away from peak periods, safer driving, more efficient logistics, and increases in occupancy rates and load factors.

To be effective, internalisation instruments should be location-, time- and mode-specific, as social marginal costs differ for the various mode of transport, for various regions and times of the day and week. Shifting the burden from fixed taxes and charges, such as annual vehicle taxes or the annual ticket for motorway use, to variable taxes and charges, such as road cordon or kilometre pricing, is generally considered the most effective. Other tools can be modifications of existing taxes (e.g. differentiation of annual road tax according to energy efficiency) or the introduction, reduction or removal of subsidies. In 2002, the Commission will propose a framework Directive to establish the principles of infrastructure charging and a pricing structure for all modes of transport, including new regimes for road user charges, airport charges and air transport services charges (European Commission, 2001a).

Differentiated transport taxes and charges are currently applied mostly in the road sector on air pollution, and on aviation noise. Some schemes also exist for other modes. Finland applies track access charges on freight rail transport, differentiated according to marginal environmental and accident costs. Many EU airports raise a surcharge on landing fees that is differentiated according to noise levels. For some domestic flights, Sweden operates a surcharge on certain air emissions. Finland, The Netherlands, Portugal, Spain, Sweden and the UK have differentiated harbour fees favouring ships with a Green Award, or ships that have reduced nitrogen oxides and sulphur dioxide emissions.

Germany operates an annual vehicle tax differentiated by Euro class, as to emissions and noise. For passenger cars a variety of tools is in operation. Austria, Denmark and the UK have differentiated the annual road tax according to fuel consumption and carbon dioxide emissions. The Netherlands grants a reduction of the sales tax for the most fuel-efficient cars in their class.

Switzerland has introduced a distance-related fee for heavy duty vehicles on all roads effective from January 2001. In the Member States, road pricing schemes (other than road tolls on main highways) or kilometre charging have not yet been introduced, but systems are being developed in Germany, Austria and the Netherlands.

Fuel taxes can be used for internalising the external costs linked to carbon dioxide emissions, but are less well suited for internalising other externalities, as fuel taxes cannot be differentiated according to vehicle and trip characteristics (see Section 4.6). However, fuel tax differentiation has been used successfully in promoting a shift to from leaded to unleaded petrol. In road freight transport many countries have reduced the tax for low-sulphur diesel. A reduced tax on low-sulphur diesel is applied in The Netherlands and a reduced tax for clean petrol operates in Belgium and Denmark.

Table 4.1. Transport tax/charges differentiation in the Member States

		A	B	DK	FIN	F	D	EL	IRL	I	L	NL	P	E	S	UK
Non fuel-related taxes and charges																
Air pollution	Rail transport				✔											
	Aviation														✔	
	Water transport				✔							✔	✔	✔	✔	✔
	Road freight	✔	✔	✔			✔					✔			✔	✔
	Road passenger		✔	✔		✔	✔					✔			✔	
CO_2	Rail transport				✔											
	Aviation															
	Water															
	Road freight															
	Road passenger	✔		✔								✔				✔
Noise	Rail transport															
	Aviation	✔	✔			✔	✔			✔	✔	✔			✔	✔
	Water transport															
	Road freight	✔					✔									
	Road passenger															
Congestion (**)	Rail transport															
	Aviation															
	Water transport															
	Road freight															
	Road passenger															
Total number of measures (excluding fuel taxes)		4	3	3	3	2	4			1	1	5	1	1	5	4
Fuel taxation																
Lower fuel tax for unleaded petrol		(*)	(*)	(*)	(*)	(*)	(*)	✔	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Lower fuel tax for low-sulphur diesel or petrol			✔	✔	✔		✔					✔			✔	✔
Carbon tax on diesel and petrol					✔					✔						

✔ Countries that have or are introducing differentiated tax/charge schemes aimed at charging the user of transport services with the marginal external costs (i.e. environment, accidents and congestion costs) of the trip. Only instruments introduced at the national level are included, excluding e.g. parking fees and local road tolls.

(*) Leaded petrol no longer on the market.

Several countries apply tax differentiation schemes with the purpose of internalising the external costs of transport. The focus, however, is on air pollution from road transport and noise from aircraft.

Fuel tax differentiation has been successfully applied to promote the use of cleaner fuels.

Quality of information ☆☆

http://themes.eea.eu.int/Sectors_and_activities/transport/indicators
http://europa.eu.int/comm/transport/infr-charging/charging_en.html

4.6. Real changes in fuel prices

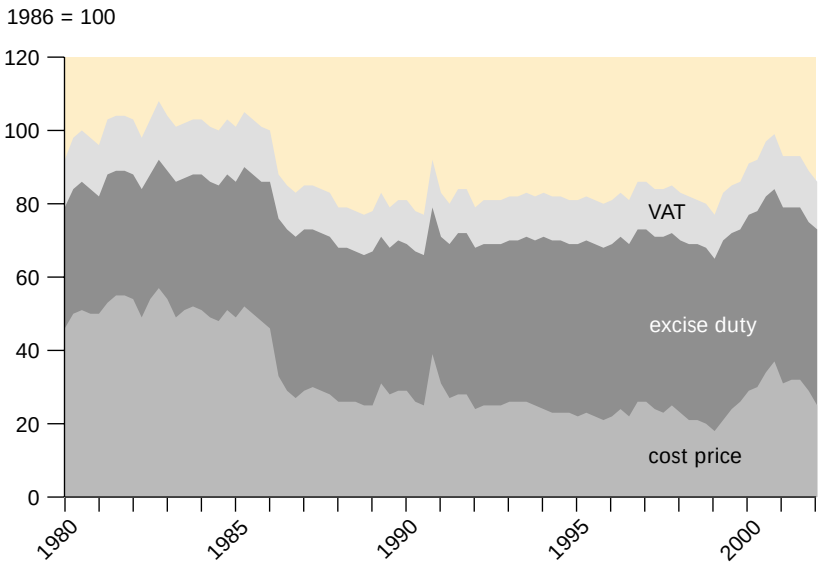
Fossil fuel consumption has a direct correlation with carbon dioxide emissions. Higher fuel prices can encourage the purchase of more fuel-efficient vehicles, and thus help to reduce fuel consumption. However, the impact of fuel prices on travel demand seems much less. Research has suggested that a 10 % increase in petrol price will, in the long run, reduce fuel consumption by 5 to 10 %, but would lead to only a 1 % to 3 % reduction in travel demand (IEA, 2001).

After the increase in the last months of 2000, fuel prices dropped again. Although trends vary among countries, the inflation-corrected EU average price of road fuel in early 2002 was lower than in the first half of the 1980s. The petrol price is significantly lower than 25 years ago, whereas the price of diesel is slightly higher. The share of taxes in prices at the pump has increased, in particular for diesel, preventing fuel prices falling as low as they would have under market forces only.

Tax regimes vary between countries, and in addition to fuels taxes, countries apply various other transport taxes and charges (Section 4.5). An increase or decrease in fuel taxes will therefore have a different effect in each country. The fuel tax competition provoked by 'tank tourism' between countries makes it furthermore difficult for individual countries to levy sufficiently high charges for internalisation (ECMT, 2000). The high excise duties in the UK are explained by its isolated position, which makes tank tourism difficult. The European Commission intends to propose a uniform taxation for commercial road transport fuel by 2003.

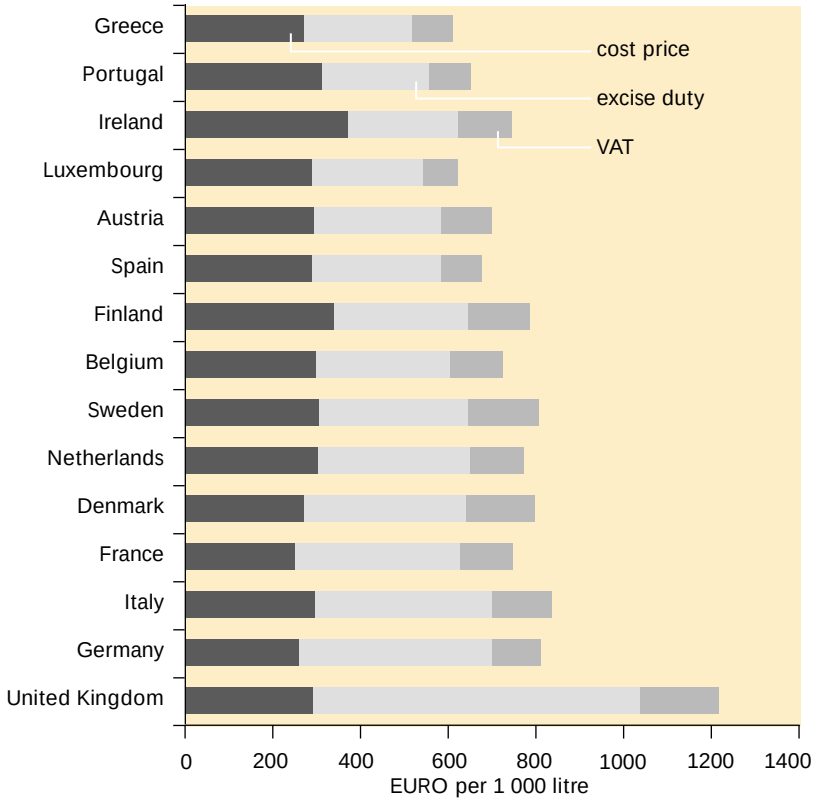
Fuel prices are, however, less appropriate instruments to internalise externalities other than the effects of climate change, as this requires a differentiation on the basis of vehicle type, time of the day, and location. Nevertheless, fuel tax differentiation has proved to be successful in promoting a shift towards cleaner fuels.

Real average prices of motor fuel, EU Figure 4.10.



Notes: petrol and diesel average combined
Source: Eurostat (processed by CE Delft)

Diesel prices in January 2002, EU Figure 4.11.



Source: Eurostat (processed by CE Delft)

The inflation-corrected EU average price of road fuel in early 2002 was lower than in the first half of the 1980s. This trend does not encourage fuel-efficient driving.

Quality of information ☆☆☆

http://themes.eea.eu.int/Sectors_and_activities/transport/indicators