European Environment Agency

Kiev report:

Final Draft Chapter:
2.6 Transport

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2.6 Transport

The apparently inexorable increase in demand for road transport and, to a lesser extent, air transport, has made the sector a major contributor to several environmental problems in Europe. Although the WE transport system complies with stricter environmental and safety standards than those in CEE and certainly in the NIS, WE citizens use about three times as much transport fuel and face approximately the same probability of death in a transport accident as those in the east. The EU experience shows that technology and fuel improvements - through environmental regulation – can help to reduce certain impacts per unit of transport significantly. But such gains in eco-efficiency are often offset by drastic growth in transport volume and shifts towards road use and aviation. Better-integrated transport and environmental strategies will be needed to restrain traffic growth and to promote the use of more environmentally friendly modes - two of the key-objectives of the EU Sustainable Development Policy.

The most important short-term challenges for the NIS and the Balkan countries are to phase out leaded petrol, abolish fuel subsidies (three countries only), introduce self-financing of the transport system via fuel taxes, and move towards cleaner vehicles and better inspection and maintenance regimes. For the Accession Countries (AC), the main short-term challenge is complying with the complex and extensive EU environment and transport legislation. The upgrading of their infrastructure networks - while at the same time maintaining their high share of rail transport –is another major challenge.

Despite regular increases in tax, fuel for road transport remains cheaper in real terms than it was twenty years ago. The EU recognises the need to internalise the unpaid external costs of transport on society in its Common Transport Policy. Some Member States have begun to introduce instruments to achieve this, but a number of barriers to implementation remain. There is little evidence of similar measures being developed or introduced in other parts of Europe.

Strategic Environmental Assessment is a useful tool to help integrate environmental concerns at various policy and planning levels and a recent EU Directive requires that transport plans and programmes be subject to environmental assessment prior to their adoption. Large variations exist across the EU; some countries have an established history of SEA of transport plans or policies and others are moving towards systematic SEA of transport. Some accession countries are considering SEA of national transport plans, but these are either non-existent or still optional in others.

In addition to the necessary legal requirements, practical implementation also requires sufficient administrative capacity to perform an SEA, which is often not present. Moreover, to be effective, the findings of SEAs should also be taken into account in decision-making, which is as yet rarely the case - in the EU as well as in the accession countries.

Investment in infrastructure remains a priority of transport policy. Investment in WE has focused on extending the infrastructure, particularly roads, and investment in the ACs is moving in the same direction. The multi-modal trans-European transport network and its extension to the east constitutes a major pillar of the common transport policy. Although investments were originally targeted to have a dominant rail share, road network development is currently ahead of the railway network. Completion of the proposed 12 600 km network of high-speed railway lines is expected to take 10 years longer than planned.

2.6.1. Introduction

Transport is essential for the functioning of modern societies. A well-developed transport system should enable the free movement of goods, services and people and promote inter- and intra-regional communication. It should also allow businesses and people a greater choice in locations for work, trade, living, shopping, learning and leisure.

But transport also contributes significantly to several environmental (and health) problems, particularly climate change, acidification, local air pollution, noise, land take and the fragmentation and disruption of natural habitats. It is a major consumer of fossil fuels and other non-renewable resources. Transport accidents kill more than 100,000 people every year in Europe.

The challenge for transport policy is to strike a balance between the economic and social benefits of transport and its negative impacts on society and the environment.

2.6.2. Transport growth

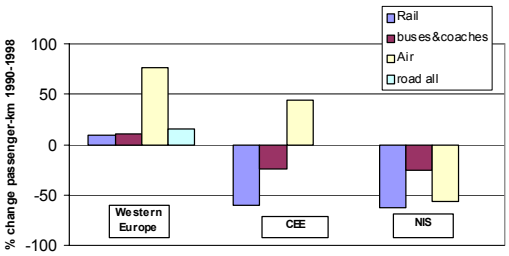
Growth in transport is closely linked to economic growth and political openness on one hand, and the price and quality of transport on the other hand. Growth in incomes, opening of borders, and better technology (resulting in lower prices and higher speeds) have all contributed to growth in transport. Increases in transport infrastructure and car ownership form a circle of demand: more infrastructure leads to greater car ownership, in turn fuelling demands for more infrastructure.

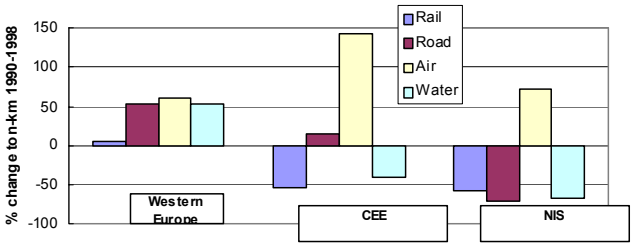
The patterns of growth have differed markedly between Europe's regions, reflecting differences in economic and political development. A key factor is the number and rate of increase in the number of private cars (
Figure 2.6.3.). Figure 2.6.1. shows how demand for passenger and freight transport in WE, CEE and the NIS changed between 1990 and 1998, for different transport modes.

In WE, there has been steady growth in transport demand since the Second World War. Both freight and passenger volumes have more than doubled since 1970. The increases in WE between 1990 and 1998 were primarily in road and air transport. Further increases of 38 % for freight and 24 % for passenger transport in WE are expected between 1998 and 2010 (EC 2001a). Important factors behind the increase in passenger transport by road over the past twenty years in the EU are growing car ownership, transport prices (in a number of countries private car use has become relatively cheaper than rail and bus use), infrastructure investment that prioritise roads and the degrading quality of public transport and rail (EEA 2001). Urban sprawl has enhanced this trend. A Dutch case study (SEO 1991) helps to explain the success of the passenger car. It shows that the price/quality ratio of the Opel Kadett rose by almost 1 % per year over the entire 35-year life span of the model, demonstrating the impressive improvement in the competitive position of the car.

In CEE and the NIS there was a sharp decline in transport volumes after 1989 following economic recession. Freight transport in both regions is back at the level of the mid 1970s and still well below that in the 1980s. In CEE freight volumes have been on the rise again since mid 1990ties, following economic recovery. The limited passenger transport data show a more mixed picture: volumes in the NIS are currently at about 1970 levels, whereas in CEE they are back at 1990 levels and rising rapidly. The figures given for CEE and the NIS may be unreliable because of data limitations– data on car use are lacking for most of those countries. However, judging from the steady growth in passenger car ownership in these regions, demand for passenger car use is likely also to have risen rapidly, especially in CEE.

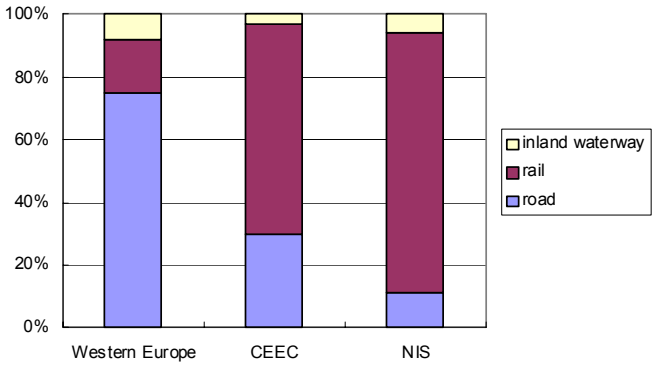
Figure 2.6.1. Changes in passenger-kilometre and tonne-kilometre, 1990-1999





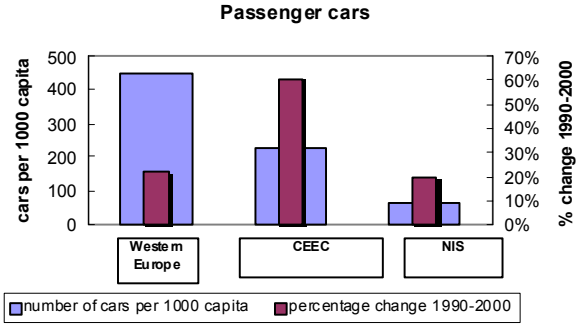
Note: data for car passenger-km lacking for CEE and NIS
Source: UNECE

Figure 2.6.2. Modal shares in tonne-kilometre, 2000



Source: ECMT 2002

Figure 2.6.3. Car ownership, 1999



Source: UNECE

As well as transport volumes, shares of road, rail, waterways, and air transport differ markedly across the regions (Figure 2.6.2.). Road has been increasingly dominant in WE for many decades and is still gaining market share. While rail and public transport dominated the transport system in the CEE countries in the early 1990s, road is gaining rapidly at the expense of rail. The market share of rail in CEE is however still much higher than in WE. In NIS, the position of rail remains strong with no signs of decline. Aviation is the fastest growing mode. Its EU market share (5 %) is about to overtake that of rail, but its share in other regions is still much smaller.

In order to combat the environmental, safety and congestion problems resulting from the continuing growth in transport, the EU's Sustainable Development Strategy, adopted at the Gothenburg Council in 2001, contains policy objectives to break the link between economic growth and the growth of transport to stabilise the modal shares at the 1998 level by 2010, and to shift transport from road to rail, inland waterways and shipping from 2010 onwards.

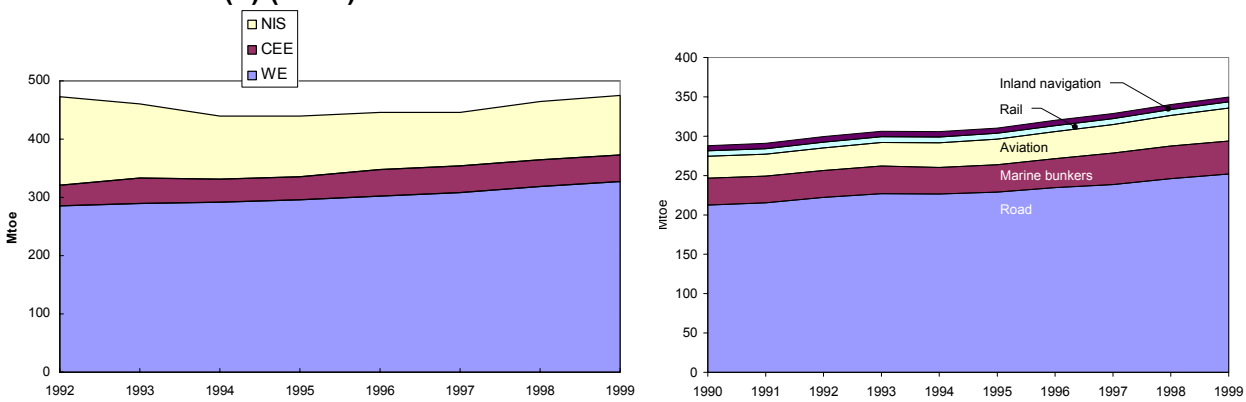
2.6.3. Environmental impacts

The most important environmental impacts of transport are air pollution and climate change, loss of biodiversity due to habitat disruption, and effects on human health and well-being due to accidents, air pollution, and noise.

2.6.3.1.Greenhouse gas emissions

Greenhouse gas emissions from the transport sector are almost entirely dependent on the amount of energy used**.** Figure 2.6.3. shows trends in transport energy use for WE, CEE and the NIS, and by different transport modes for the EU.

Figure 2.6.3. Total energy consumption by transport in the three regions (a) and split of EU transport energy consumption between modes (b) (Mtoe)



Note: Transport by oil pipelines is responsible for between 1 and 1.5 % of total energy consumption by transport and is therefore omitted
Marine bunkers: fuel oil sold for international seaborne shipping
Source: IEA Energy Balances 2002, Eurostat 2002

For Europe as a whole energy consumption by transport in 1999 was the same as in 1992, mainly because of the economic downturn in the NIS, which drastically reduced consumption between 1992 and 1997. In WE transport is the second largest energy consumer, and – given its almost entire reliance on fossil fuels – also a major contributor to CO2 emissions (see chapter 2.1). The sector's share in energy consumption is currently much lower in CEE countries and NIS. There are also large differences between the regions in transport energy use per person (about 840 kg of transport fuel in WE, 240 kg in CEE and 360 kg in the NIS). Following the dramatic growth in road transport and aviation, transport energy consumption rose by almost 2 % per year in WE (1990 - 1999) and by almost 3 % per year in CEE. As a result, the sector's greenhouse gas emissions are growing drastically, thus jeopordising achievment of the reduction targets set by the Kyoto Protocol. Energy consumption and CO2 emissions are expected to grow in the NIS as economies recover and the demand for transport increases.

The share of transport in total European energy consumption increased from 22 to 25 % between 1992 and 1999 (between 1990 and 1999 from 28 to 30 % in WE; from 15 to 22 % in CEE and stable at about 17 % in NIS between 1992 and 1999). These figures suggest that energy use for transport is strongly related to the level of economic development. Achieving economic growth while reducing greenhouse gas emissions from transport therefore poses a major policy challenge.

Aviation requires special attention. It is the fastest growing energy user in the sector, and the impact on the climate of all aviation emissions is estimated at two to four times that of the CO_2 alone, mainly because of NO_X emissions and condensation trails at higher altitudes (IPCC 1999).

An important factor in assessing progress in reducing energy use, and hence greenhouse gas emissions, is the specific fuel consumption of cars, or the energy efficiency (fuel use per passenger-km or tonne-km) for different transport modes. Figure 2.6.3. shows that the increase in fuel efficiency of passenger cars has not yet been enough to outweigh the impacts of growth of passenger and freight transport by road on energy use.

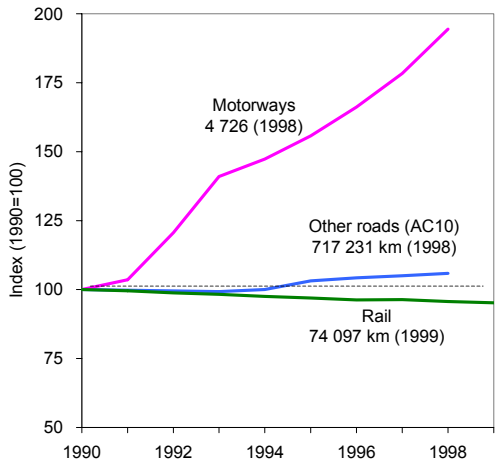
2.6.3.2 Infrastructure and biodiversity

Trends in infrastructure lengths indicate that infrastructure investments are gearing the ACs' road density in the direction of EU road density. While the motorway length in ACs

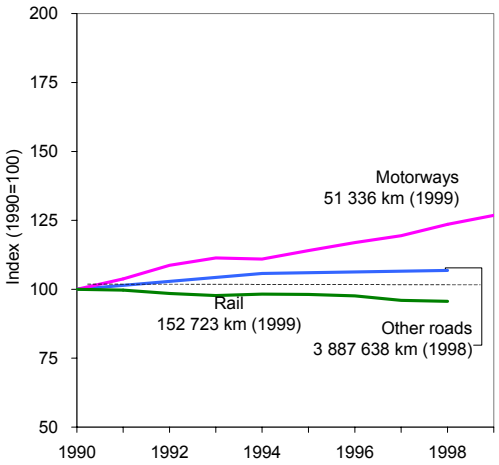
is less than one-tenth of the EU's, it almost doubled between 1990 and 1999. In both regions the length of railways is decreasing (Figure 2.6.4.).

Figure 2.6.4. Changes in transport infrastructure length in AC-13, 1990-1998

Accession countries



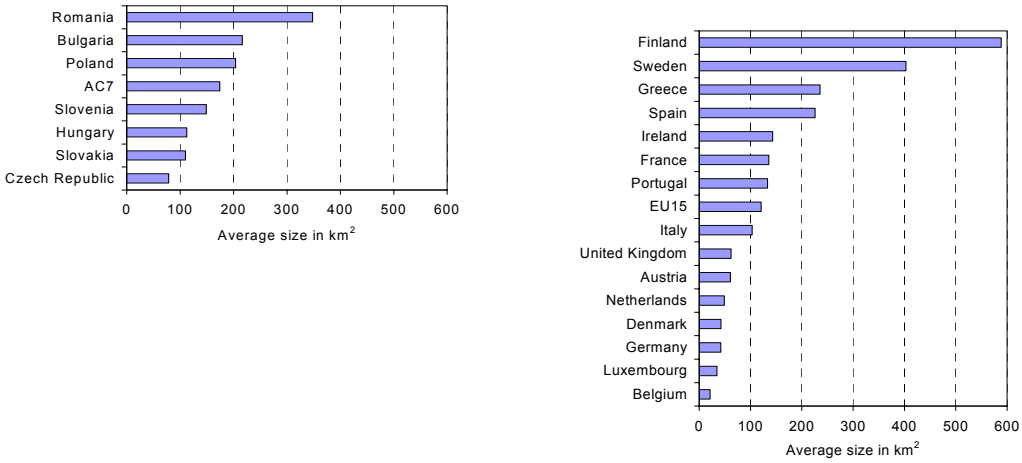
Member States



Notes: Road, excluding motorways, is based on AC-10 (excluding Czech Republic, Estonia and Turkey). Oil pipelines and inland waterways remained more or less stable and are therefore left out of the chart.
Source: UNECE, 2001; Eurostat, 2002 (for gap filling).

The road and rail density in the ACs is as yet lower than in EU, and their territory therefore less fragmented. The expansion of transport infrastructure networks – in WE as well as CEE – leads however to increasing land take and fragmentation, and increases the pressure on designated nature conservation sites. Fragmentation by transport infrastructure in the Czech Republic, Hungary and Slovakia is more severe than the EU average. The development of the trans-European transport network, and its extension to the east, risks aggravating further the conflicts between infrastructure development and nature conservation.

Figure2.6.5. Average size of non-fragmented land



Sources: EEA, 2002h

2.6.3.3.Accidents

Road transport accidents are now the largest cause of death for people under 45 in Europe (the impacts of transport emissions on human health are discussed in chapter 12). More than 100 000 people died on European roads in 2000 (ECMT, 2002) and almost 2 million people were injured in the EU alone (EC 2001a). All regions show a gradual reduction in the annual number of fatalities – although levels have remained more or less stable in WE and CEE during the last 2-3 years. The numbers of injuries and accidents in WE and CEE is rising. Annual fatality rates per million road vehicles range from 100 to 150 for the best WE countries (UK, Sweden, Switzerland, Norway, Netherlands) to more than 1 000 for some NIS and Balkan countries. Fatality rates per million inhabitants give a different and more mixed picture of 'worst performers' - Latvia, Russia, Greece, and Portugal (180 to 270), have three to four times the rate in the best countries (ECMT 2002).

In WE, one accident in two occurs in the urban environment (European Commission, 2001a). Pedestrians, cyclists and motorcyclists are the most vulnerable. Lack of harmonisation and enforcement of speeding, drink and driving rules hinders efforts to reduce driver-related accidents and their consequences. The European Commission has adopted a target of halving the annual number of road fatalities by 2010 (EC 2001a).

2.6.3.4. Air and noise pollution

Transport is a significant source of emissions of acidifying pollutants, eutrophying compounds, ozone precursors and particulate matter (see chapter 5). In WE, regulation on vehicle technology (e.g. introduction of catalysts) and fuel quality has helped to reduce emissions substantially. Substantial reductions are also expected in the CEE, with gradual fleet renewal and uptake of EU regulation. However, the environmental benefits of technological improvements are being partly offset by growth in road transport, and air quality in most European cities remains poor.

Road, rail and aviation transport are also major causes of noise annoyance. Data are however scarce and not harmonised. In the EU, it is estimated that more than 30 % of citizens are exposed to road noise levels, and around 10 % to rail noise levels, above 55 L_{dn} dB(A) (EEA, 2001). Data on noise nuisance by aircraft are the most uncertain, but 10 % of the total EU population may be highly annoyed by air transport noise. Noise levels around several large airports in the EU have dropped in recent years as a result of the phasing out of noisier ‘Chapter 2’ aircraft. However, this trend is expected to reverse as the growth in aircraft movements is no longer compensated by the use of quieter aircraft.

2.6.4. Policy prospects

2.6.4.1.Cleaner vehicles and fuels

Introduction of cleaner vehicles and fuels has proved to be extremely effective in reducing air pollution from transport. In the 1970s, WE gradually started introducing environmental standards in transport, following the US example. Harmonised and binding EU legislation for road vehicles (passenger cars, vans, trucks) has been coming into force since 1993[1], accompanied by the gradual phase-out of leaded petrol, which is expected to be completed by 2005.

Current EU discussion is focused on the introduction of 'zero sulphur' petrol and diesel fuel. This increases the possibility of using the highly effective $DeNO_X$ catalysts and particle filters, which further reduce air pollution and improve fuel economy. The EU has proposed a Directive[2] for the mandatory introduction of such fuels by 1 January 2005. As a result, emissions of NO_X, HC and PM_{10} from the newest generation of vehicles will be only a few per cent of those from vehicles of the 1980s. Non-road transport modes are lagging - standards are either much more lax or not yet legally binding. As a result, the generally accepted view that rail and water transport is always cleaner than road is becoming less tenable.

For CEE and the NIS, the most important measures needed are the phase-out of leaded petrol (for direct health benefits and to avoid catalyst poisoning), strict standards for new vehicles (often difficult because of the outdated technological level of domestic vehicle production) and an effective inspection and maintenance regime for the existing fleet (particularly important as old vehicles often have very high emissions). The average age of the passenger car fleet is currently 7.3 years in the EU and 11.5 in the ACs.

Most ACs have already introduced higher taxes on leaded petrol or banned leaded petrol completely. They are in the process of adopting the strict EU environmental standards and inspection regimes. Non-accession countries do not feel the pressure of the Acquis Communautaire and therefore generally lag behind.

Eight of the NIS (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) signed a resolution which states that they support the total phase-out of leaded petrol by 2005 (2008 in Uzbekistan). Support was also expressed for better vehicle and fuel inspection and maintenance and air quality monitoring. They also requested that these recommendations be included in the agenda of the Kiev Environment Ministers Conference (World Bank 2001).

Despite efforts at EU level to promote alternative and renewable transport energy sources[3], their use and penetration remains low. The Commission proposes that 5.75 % of fossil-based fuels should be replaced with biofuel substitutes by 2010 (COM(2001)547). The environmental impact of this is highly dependent on how and where such fuels are produced and any resulting emissions from the production plant and vehicles.

2.6.4.2. Infrastructure investments

Infrastructure investments is another long-standing priority of transport policy. A good quality transport infrastructure network is an essential backbone for society and the economy. Transport investment policies in WE during recent decades have focused on extending infrastructure, particularly roads, as a response to increasing traffic demand.

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[1] Directives 91/441 and 91/542, respectively, followed by 94/12, 98/69, 98/70, and 99/96

[2] COM (2001) 241 Final

[3] Such as: electricity, natural gas, biofuels

ECMT statistics for 1995 show that in the EU 64 % of transport infrastructure investments are devoted to road and 28 % to rail, showing a clear prioritisation of road investments. For the ACs these figures were respectively 47 % and 42 % respectively in 1995. More up to date figures on investments by international banks indicate more bias towards road funding in the ACs as well as in the EU (see Box 1). This can be an indication of more recent overall investment trends, which risk to enhance the shift towards road transport in future.

The multi-modal trans-European transport network (TEN-T), and its extension to the east, constitutes a major pillar of the common transport policy (EC, 2001a). Total TEN investments – originally estimated to exceed EUR 400 billion by 2010. Although TEN-T investments were originally targeted to have a dominant rail share, to support in particular the development of the high speed rail network, the building of the TEN road network is currently running ahead of railway network development. In 2001, only 2 800 km of high-speed railway lines were in service, and it is expected that the completion of this 12 600 km network will take 10 years longer than planned (i.e. until 2020) (EC, 2001a).

The network's extension to the east relies heavily on the TINA (transport infrastructure needs assessment) process. This has resulted in the definition of a network centred on 10 trans-European corridors but also including some additional links and all international air and seaports. By 2015, the TINA rail network is planned to extend to 20 924 km and the motorway network to 18 638 km. The network's costs are estimated at EUR 91.5 billion, with 48 % for the motorway network and 40.5 % for the rail network. (EC, 2001c).

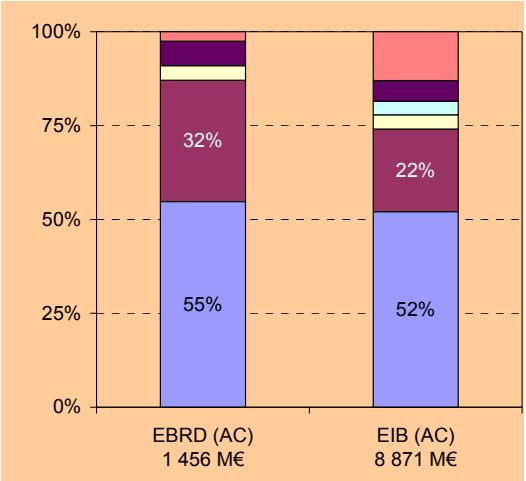
An overall assessment of the transport, economic, social, environmental impacts and benefits of the TEN or the TINA has as yet not been made.

Box 2.6.1. Transport infrastructure funding by the EIB and EBRD

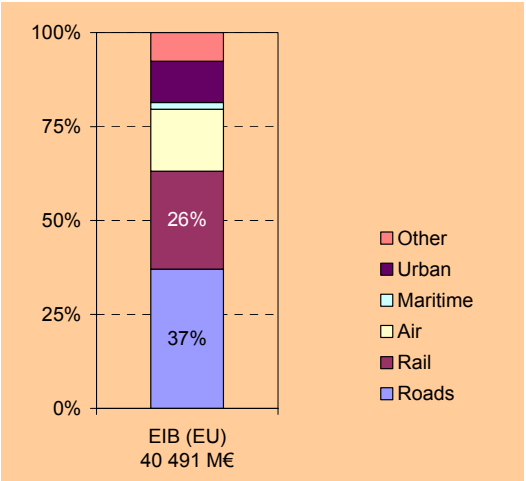
An indication of more recent investment trends can tentatively be derived by looking at loans by the European Investment Bank (EIB) and investments made by the European Bank for Reconstruction and Development (EBRD). Even though these account for only a part of the total financing for transport infrastructure, funding by international banks is often a catalyst to attract funding from the private sector and other international financial institutions. Both the loans signed and the investments made by the EIB and EBRD incline towards road, in the Accession countries as well as in the EU. Despite the EIB being an important contributor to almost all major railway investment projects in the ACs (EIB, 2001b), rail investments cover 24 % of all loans signed by the bank, versus 59 % for road. The imbalance between road and rail investments has worsened in the ACs since 1995, when road transport volumes rapidly recovered and rail traffic continued declining. Under these circumstances, funding for road improvements were probably easier to obtain than for rail.

Figure 2.6.6. Modal distribution of transport infrastructure funding by EIB and EBRD, accession countries and EU

Accession countries



Member States



Notes: EIB data for the ACs refers to 1990 to June 2002, for the EU to 1995–2001. 'Other' for ACs refers to repairs of different infrastructure after floods (Czech Republic, Hungary and Poland), oil pipelines (Czech Republic and Slovakia), multi-modal (road–rail) transport (Czech Republic) and improvement of navigation on the Sulina Canal in the Danube Delta (Romania).
Sources: EBRD, 2002; EIB, 2001a; EIB, 2002.

2.6.4.3. Fuel taxes

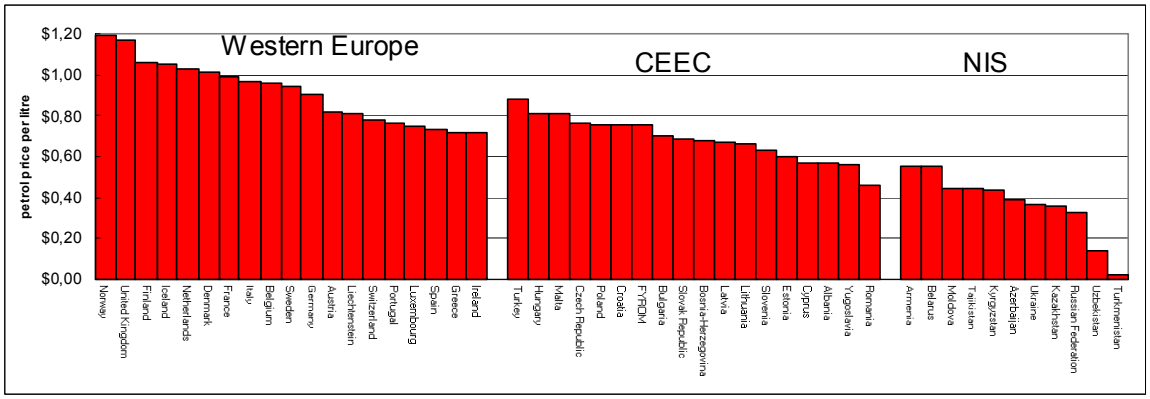
Fuel taxation is an important policy tool that provides a direct incentive to improve the energy efficiency of transport and thereby reduce environmental impacts. It is a straightforward way of making the user pay for the maintenance and construction of infrastructure. It also a way of making transport users pay for the other costs that they impose on society such as those of accidents and pollution. Fuel taxation is, however, a 'second best' alternative to differentiated kilometre charges. These are generally considered to be more appropriate internalisation instruments, as they can be varied according to trip circumstances (e.g. time of day and location) and vehicle characteristics (see section on internalisation). And finally, increasing fuel taxes provides an opportunity to lower other taxes, such as those on labour which reduces unemployment.

Figure 2.6.7. shows European petrol and diesel fuel prices in November 2000 (GTZ, 2001). The figures also show the pre-tax retail price of petrol and diesel (i.e. world market price plus distribution costs). Some countries actually subsidise their transport fuels, in the sense that the fuel is sold below the world market price plus distribution costs. In November 2000, Turkmenistan and Uzbekistan subsidised both petrol and diesel and Cyprus and Azerbaijan subsidised diesel. Cyprus intends to abolish the diesel subsidy

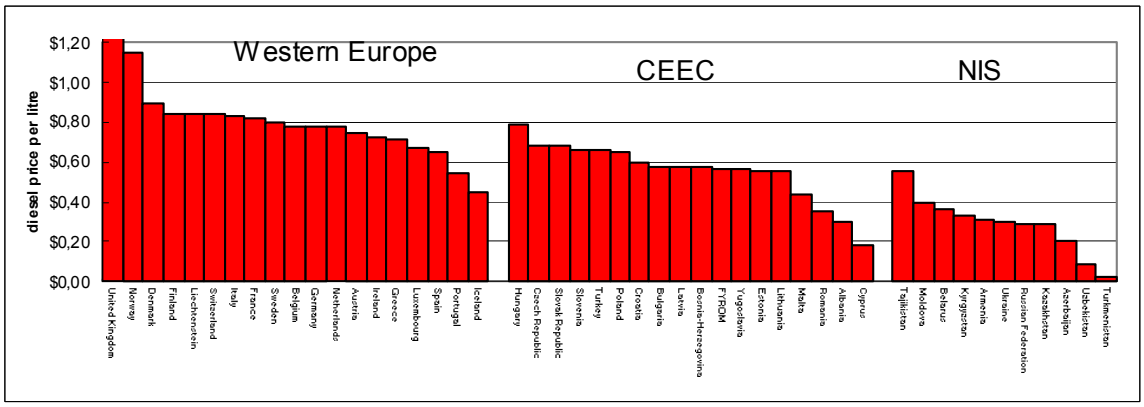
by January 2003. A number of countries, particularly NIS, levy hardly any tax on petrol or diesel. Despite regular rises in fuel tax, the weighted average EU road fuel price is still 10 to 15 % lower than it was 20 years ago and has remained fairly stable over the past 15 years, with the exception of a price hike in Autumn 2000 (EEA, 2002).

Figure 2.6.7. Petrol (a) and diesel (b) prices in the three regions as of November 2000, in US$ per litre (GTZ 2001)

(a)



(b)



Shipping and aviation fuels are not taxed at all. Railway diesel and electricity are either not taxed or relatively mildly taxed. This distorts competition between transport modes and the untaxed sectors face no extra incentives to reduce their greenhouse gas emissions.

2.6.4.4. Internalisation of external costs

Every transport user poses a burden of unpaid costs on other people, including the costs of accidents, pollution, noise and congestion. In the EU, these costs are estimated at 8 % of GDP (Infras/IWW 2000).
At the same time, many transport taxes are poorly targeted and unequal. They do not differentiate between users and their different impacts on infrastructure, or contributions to pollution, accidents and bottlenecks.

A restructuring (and in many cases increase) of transport taxes and charges could contribute to making individual users pay the true costs imposed on society. With such internalisation of external costs, users would have incentives to drive cleaner and safer vehicles, avoid peak hours, and accidents and congestion should decrease.

Switzerland is the only country to have introduced a kilometre-dependent transport charge on its whole territory. A Heavy Goods Vehicle (HGV) charge is dependent on distance driven in Switzerland, size of truck and the environmental class of the engine. Germany and Austria have plans for the introduction of such charges. London is

considering a congestion charge for its centre; some Norwegian cities have already implemented such an access fee.

The European Commission intends to publish a Framework Directive on Infrastructure Charging which aims to co-ordinate the principles on which transport pricing should be based. Following this Framework Directive, subsequent daughter Directives are to be published for each mode, starting with road.

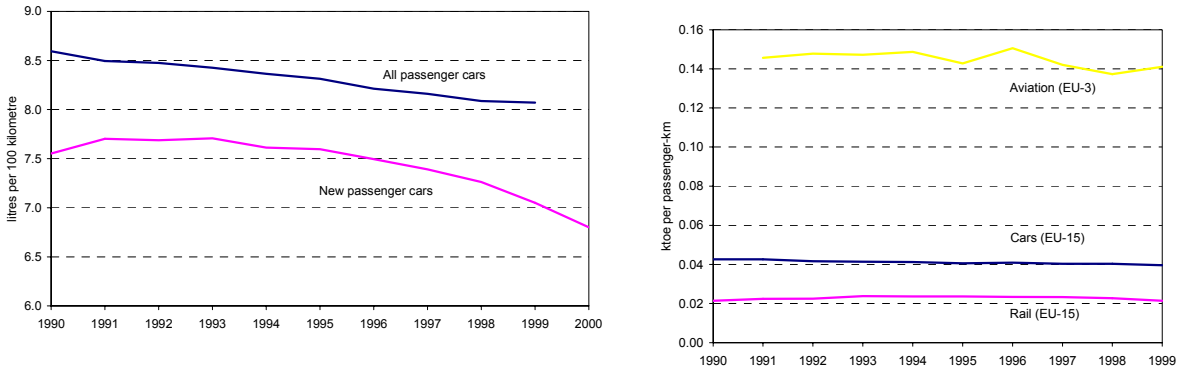
2.6.4.5. Voluntary agreements

The EU focuses its policy efforts mainly on the Community strategy to reduce CO_2 from passenger cars, which includes three pillars, i.e. the voluntary agreement with the European car manufacturers, car labelling and fiscal measures for new passenger cars. Other transport modes are as yet much less addressed by EU policies.

The voluntary agreement between car manufacturers and the European Commission aims to reduce average CO_2 emissions from new vehicles sold on the EU market (EC, 2001b) The target for European manufacturers is 140g CO_2/km by 2008 (compared with 186 in 1995) and by 2009 for Japanese and Korean manufacturers**.** By 2000 the upper limit of the intermediate target range (165-170g CO_2/km) was largely achieved (EC 2001b). However, the greatest challenge is to achieve the improvements that have to be made between 2001 and 2008. Trucks and vans are not yet included in the voluntary agreement. The Commission has however submitted a proposal to measure CO_2 emission and fuel consumption from light commercial vehicles (European Commission, 2001d) and is currently studying measures to reduce their CO_2 emissions.

There are no voluntary requirements (or, indeed, legal requirements) for air and rail transport to reduce their CO_2 emissions, despite the lack of any recent improvement (Figure 2.6.8.).

Figure 2.6.8. Specific fuel consumption of (new) passenger cars in the EU-15, 1990-2000 (left)* and energy efficiency of car, rail and air passenger transport 1990-1999 (right)



*: Source for test values left graph: national agencies, except Ireland, Luxembourg and Portugal. For these countries the data is elaborated for ODYSSEE from data provided by Association of car manufactures from Europe (ACEA), Japan (JAMA) and Korea (KAMA). Data based on the new test cycle according to the Directive 93/116/EC. For 1995, data were initially based on the old cycle; they have been adjusted by the ACEA applying a 9 % adjustment 'across the board'. For previous years, data have been adjusted to be consistent within the new cycle.

Source: ODYSSEE, 2002

2.6.4.6.Strategic environmental assessment and monitoring

Strategic environmental assessment can be a useful tool to help integrate environmental concerns at various policy and planning levels. According to the recently adopted SEA

directive (2001/42/EC[4]) –to be implemented by EU Member States by 2003 – transport plans and programmes should be subject to environmental assessment prior to their adoption. The UNECE is developing a protocol on SEA. This would also require the countries to establish mechanisms for SEA at international, national, regional and local levels as well as in transboundary and non-transboundary contexts (UNECE, 2002).

Large variations exist across the EU with Denmark, Finland, Sweden and the Netherlands having an established history of SEA of transport plans or policies, supported by legal instruments. Seven other countries are moving towards systematic SEA of transport (EEA 2001). Bulgaria, Czech Republic, Poland and the Slovak Republic are considering SEA of national transport plans, but these are either non-existent or still optional for most accession countries (EEA, 2002).

In addition to the necessary legal requirements, practical implementation also requires sufficient administrative capacity to perform an SEA, which is often not present. Moreover, to be effective, the findings of SEAs should also be taken into account in decision-making, which especially for SEA is as yet rarely the case – in the EU as well as in the ACs (IEEP, 2001).

One of the strengths of SEA is that it would also provide for a trans-boundary assessment of international transport planning. It is therefore indicative that major infrastructure programmes such as the TEN-T and TINA, have not yet been assessed at a strategic level.

Finally, regular monitoring is crucial to asses whether transport and environment policies are successful or not, and whether adjustments are needed. In order to do so the EU has established the Transport and Environment Reporting Mechanism (TERM), in which indicators are used to track progress in various policy areas. TERM will require long-lasting effort is to build up a policy-orientated system of data generation, integration and interpretation.

2.6.5 References

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