

T&E

Europe's voice for sustainable transport

European Federation for Transport and Environment

Be smart, do it better!

A guide to sustainable transport
in accession countries



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Be smart, do it better! – A guide to sustainable transport in accession countries

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Bd. de Waterloo 34, B-1000 Brussels, Belgium

Tel: + 32-2-502 99 09 / Fax: + 32-2-502 99 08 / info@t-e.nu / <http://www.t-e.nu>

This publication has been prepared by Nicoleta Ion, with contributions from Jörg Beckmann, Markus Liechti and José Palma (Chapter 5 – Case studies)

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<i>Introduction</i>	3
1.1 Transport and the Environment	3
1.2 Transport and the Economy.....	4
1.3 Transport and the Enlargement	5
2 <i>The European Transport System</i>	6
2.1 TENs.....	6
2.2 TINA.....	7
3 <i>What has happened in the EU?</i>	9
3.1 The investment patterns	9
3.2 The environmental risk of modes	11
3.3 The regional development mechanisms	13
4 <i>Instruments to avoid negative impacts</i>	14
4.1 Political agreements.....	14
4.2 Policy measures	15
4.3 Decision-making instruments	16
5 <i>Case studies</i>	16
5.1 The reunification of Germany	16
5.2 The railway sector	18
5.3 Vasco da Gama Bridge in Lisbon.....	19
6 <i>Recommendations</i>	21

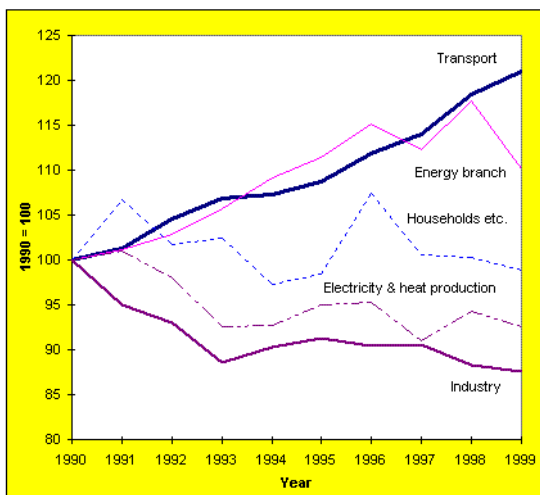
Introduction

Within the next few years, ten Eastern European countries will join the European Union, increasing its population to more than 451 million and its territory to 3 929 600 square kilometres. Naturally, the EU enlargement will lead to increased trade and travel between the old and new members of the European Union, and such movements are likely to take place mostly by road, towards Western Europe, rather than by rail to the old Soviet partners. But the increase in traffic across Europe can bring long-lasting damages to people, economies and environment if the candidate countries fail to learn from the mistakes of the present Member States. The future of the transport systems in Central and Eastern Europe depends on the capacity to combine the experience of other states with the newest research and technical innovation, within a democratic policy-making process that translates political commitments into reality.

This publication summarizes some of the lessons that should be learnt from the Western European states' experience in the transport sector and draws some conclusions on what should have been done differently. The following three sections of this opening chapter will look at the relationship between transport and environment, economy and the implications of enlargement. The second chapter gives an overview of the developments in the transport sector, especially in its pan-European incarnations: the TENs and TINA¹. A third chapter looks at the developments across the Member States, especially in the former "accession" countries, while the fourth chapter presents some of the instruments that can be used to avoid repeating the same mistakes. It also includes 3 case studies that look at specific situations and a final synthesis of our recommendations.

1.1 Transport and the Environment

Figure 1: CO₂ Emission per sector



It has been recognized for many years that transport has a significant contribution to a whole series of environmental problems. It is, after the energy sector, the biggest single consumer of non-renewable fossil fuels. Issues like climate change, air pollution, noise, land take and destruction of natural habitats appear more and more in connection to terms like greenhouse gas emission, transport, roads and airports or congestion. The environmental movement and the scientific community warned about these links already 20 years ago. In 1992, at the Rio Conference, most world governments recognized the need for sustainable development, but just recently extended the concept to the transport sector. About 5 years ago, the European

¹ TENs – Trans European Networks (transport), and TINA – the transport corridors identifies in the Transport Infrastructure Needs Assessment report.

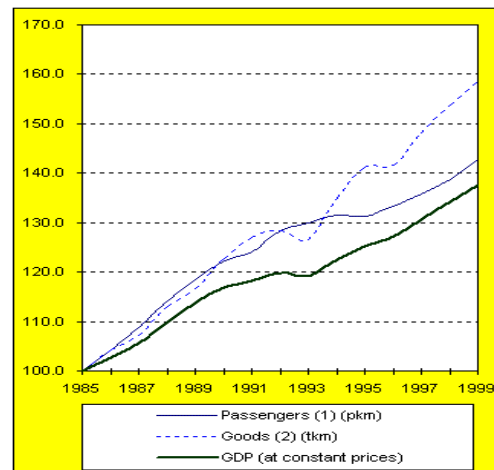
governments started to acknowledge the direct link between the levels of transport and the environmental problems of our age, and came forward with the first plans to deal with them. However, today, transport is still the only sector inside the European Union where CO₂ emissions levels are constantly growing (Figure 1)².

At the Cardiff Summit in June 1998 the Transport, Agriculture and Energy Councils were invited to start the process of integrating environmental concerns into the sectoral strategies. Later on, in the proposal for a Sustainable Development Strategy of the European Union³, the European Commission set as headline objectives for the transport sector the *decoupling* of transport and economic growth, the *shift* towards more sustainable transport modes and a more *balanced regional development* by reducing the economic disparities between regions.

Despite declared political will to reduce emissions, today as much as one third of the total greenhouse gases are released as a result of transport activity. Overall transport levels continue to increase at greater speed than the economic growth (Figure 2)⁴, especially for road and air traffic. Despite the strict regulation of emission limits, the abrupt increase in travelled kilometres leads to more and more emissions of CO₂, congestion and health hazards to human beings. A decoupling between transport and economic growth is essential in order to avoid further environmental problems.

If the present trend in the transport sector continues, as seems likely under business-as-usual, the Kyoto Protocol target for the reduction of CO₂ emission levels will be impossible to achieve for the EU Member States. The candidate countries are bound to share the same problems if they adopt the development patterns of the EU without modification.

Figure 2: Transport growth



Notes :

(1) : passenger cars, buses & coaches, tram+metro, railways, air
 (2) : road, rail, inland waterways, pipelines, sea (intra-EU)

1.2 Transport and the Economy

Within the transport sector itself there are problems. Comparatively low energy consuming modes of transport – like trains, ships and public transport – are constantly losing ground to rising shares of road and air transport, both from freight and passenger traffic⁵. These trends are not only unsustainable, but also economically inefficient and unfair to those citizens who for different reasons don't have access to a private car. Such problems will have to be tackled through adequate policies, that include a better integration of environmental concerns into transport policies and decision-making and through economic measures that take into account all types of costs to the society. The West European experience shows that building new roads every time congestion becomes a problem on existing ones does not provide a solution, as it simply induces more traffic and persuades more people to drive around, rather than bring long-term relief for the older roads.

² Transport in Figures, Eurostat 2001, chapter X.

³ Gothenburg Council conclusion and the Sustainable Development strategy of May 2001.

⁴ Source: DG TREN web-site

⁵ DG TREN web-site.

Some recent studies show that there is no automatic link between economic growth and transport⁶. When new opportunities arise and transport is made easier, the small, local economies often lose out in favour of bigger economic centres, which attract the human resources and compete un-fairly with the local business, increasing the disparities between regions.

External costs such as the costs of accidents and health, of air pollution and climate change, of the damage to the transport network or costs like the loss of biodiversity are not accounted for and provide a form of subsidy that is rarely tolerated in other sectors. To play by the same rules, transport needs to pay its true price. Within the EU some attempts have been made to internalise the external costs of transport, but a comprehensive charging system for transport is still under preparation⁷.

1.3 Transport and the Enlargement

In 2004 the European Union will enlarge with 10 more countries and at least three other candidates are waiting to join in subsequent years. The increase in population and in size will lead to changes within the system, which can have irreversible negative impact on the environment if not managed properly. The internal market will increase considerably and the freedom of movement and trade will encourage more and more movements inside Europe. The estimations in the volume of transport between the countries of the enlarged union vary widely, but none of them fail to point out the future increase if the candidate countries adopt the same policies as the Member States. Such increases are likely to pose immediate threats to the rich bio-diversity of the countries in Eastern Europe, destroying habitats that are not yet under the protection of strict environmental legislation and leading to high land fragmentation.

At the same time, as the economies of the candidate countries are growing, the level of motorization is growing as well. Car ownership levels have increased by 52% between 1990 and 1998 in the candidate countries, and the share of car travel is now almost comparable to the levels inside EU⁸. Traditionally, the Central and Eastern European countries had an extensive railway network, built to provide fast and reliable connections with the states of the Warsaw Pact and the Soviet Union. The railway network was much better developed than the road network, but the investments in road infrastructure increased after the fall of communism, in an attempt to re-create the links to Western Europe. While the length of motorways almost doubled between 1990 and 1999, the length of railway lines actually decreased over the same period (by 0.7%⁹), due to lack of proper investments. More tellingly, the share of rail transport halved over the same period.

The decision-makers in the candidate countries have to prove now that they can live up to the challenges and adopt a policy that can reverse the trend and restore a sustainable

⁶ See for example the study of The Standing Advisory Committee on Trunk Road Assessment (SACTRA), "*Transport and the Economy*", DETR, London, August 1999, ISBN 011 753507 9, or the study "*Strategic competition with public infrastructure: Ineffective and Unwelcome?*", CPB Netherlands Bureau for Economic Policy Analyses, Hague 2002, ISBN 90-5833-106-7.

⁷ The Common Transport Policy announced an infrastructure charging framework directive for June 2002, but as of December 2002 it has yet to be published.

⁸ Paving the way for EU enlargement, TERM 2002 – Passenger transport demand by mode, EEA 2002.

⁹ Paving the way for EU enlargement, TERM 2002– Capacity of transport infrastructure networks, EEA 2002 and Transport Infrastructure in the European Union and Central European Countries – 1990-1999, Statistics in focus, Theme 7- 4/2002, Eurostat.

balance between modes. While investments in the road infrastructure are needed, they should focus mostly on maintaining the present network, rather than on building new infrastructure or constantly increasing the capacity. In cases where such actions cannot be avoided, they should at least give equal access to all users and provide for separate bicycle and bus lanes. Roads are a good means to achieve growth but they are overused and thus they are no longer efficient.

2 The European Transport System

In 1980s, the European governments decided to move the European Single Market a step forward and create a common Trans-European network that will serve all the Member States by stimulating economic growth and providing new jobs for the people across the Union. The Trans-European Networks, seen as a requirement for the free movement of people and goods, had a legal basis in the Treaty establishing the European Union¹⁰.

The Trans-European Networks (TENs) were defined as a strategic element for the creation of the *internal market* and the reinforcement of *economic and social cohesion*, and were specifically designed to provide interconnection and interoperability of national networks as well as access to them, in the fields of transport, energy and telecommunications. While the energy and the telecommunications networks did not pose major problems, the transport required heavy investments and a good coordination of efforts across the union. At the same time the TENs became an issue of long disputes between the Member States, the civil society and the industry.

For a long period of time, urban transport infrastructure, falling outside the scope of the TENs, had access only to a limited share of financing under the Structural Funds. Only more recently have initiatives like the CIVITAS and CUTE programmes¹¹ of the European Union tried to refocus the attention on the traffic within the city, financing projects that come with a new way of managing people and goods transport, propose measures for traffic management and aim to provide cities with cleaner vehicles. Such initiatives are only in the beginning phases, with the first projects started in 2000. In the candidate countries, there are some initiatives to promote clean urban transport, mostly projects that integrate public transport systems and use alternative fuel buses (for example in Budapest), restrict traffic in city centre areas, develop cycling infrastructure and create park and ride facilities at public transport terminals.

However, such initiatives lack the high profile of big, international projects like those included on the TENs and TINA maps and are not attractive enough for the international financing institutions, except in the case of some capitals and bigger cities.

2.1 TENs

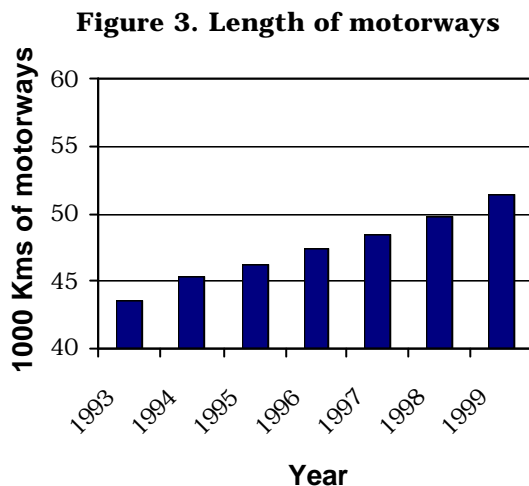
The trans-European transport network comprises infrastructure (roads, railways, waterways, ports, airports, navigation aids, intermodal freight terminals and pipelines), together with the services necessary for the operation of these infrastructures. Inside the EU, the final network should include about 27.000 kilometres of roads, of which about 46% new roads; 10.000 kilometres of high speed rail; 14.000 kilometres of conventional rail up-graded to high speed tracks; and airports of which 20 international connection points, 20

¹⁰ Articles 154 to 156, Chapter XV of the Treaty.

¹¹ See http://www.europa.eu.int/comm/energy_transport/en/prog_cut_en.html for details.

community connecting points and about 200 regional airports¹². A significant part of the TENs network is already completed, especially in the central regions of the Union.

To provide a common frame for the development of the Trans-European transport Networks (TENs), in 1996 the European Council and the Parliament adopted a decision on the Community guidelines for the development of TENs¹³, accompanied by an annex that listed 14 priority projects, previously agreed upon at the Essen European Council in 1994. Among these projects were controversial initiatives like the Channel Tunnel, the Øresund Bridge or Malpensa Airport that are now completed, despite serious environmental and economic concerns over their viability. On the other hand, there are projects like the rail link between France and Italy through the sensitive Alpine area that could not be completed because of financial and technical difficulties.



To help the completion of the TENs network, the European Union put together a series of financial instruments, like the TENs budget line, the Structural and Cohesion funds and loans from the European Investment Bank (EIB) to add to the national resources. Together with agriculture and environment, transport tops the list of sectors heavily supported by the European Union. Throughout the years, these investments lead to an increase in the length of motorways (Figure 3).

2.2 TINA

At the same time, the European Commission initiated a study called the Transport Infrastructure Needs Assessment (TINA)¹⁴ based on the same criteria outlined in the TENs guidelines. The study was intended to provide the outline of a multi-modal backbone network across 11 candidate countries and make the link with the TENs networks inside the European Union. The TINA report also assessed the financial implications of building the network in Central and Eastern Europe. In June 1998, in a meeting in Vienna, the TINA Senior Officials' Group endorsed the alignment of the backbone network, mostly following the pan-European routes agreed at the Third Pan-European Transport Conference in Helsinki, in 1997.

The TINA network comprises 18.683 km of roads, 20.924 km of railways, 4.052 km of inland waterways, 40 airports, 20 sea ports, 58 river ports and 86 terminals, of which 20 are situated in seaports and river ports and 68 stand alone. Just like the TENs, the TINA network does not include infrastructure of national importance or urban public transport infrastructure.

The network described by the report should be completed in a time horizon running between 1998 and 2015, with an average investment of 1,5% per year of the GDP in each

¹² COM (98) 716, The Common Transport Policy, sustainable mobility, perspectives for the future.

¹³ Decision N° 1692/96/EC of 23 July 1996.

¹⁴ For more details and maps of the TINA network see <http://www.tinavienna.at/ftinaprozess.htm>

candidate country. The report estimates the total investment for the completion of the network will amount to about 91,5 billion Euros. But it notes, "the main financing sources for infrastructure in Central Europe are the national budgets and loans from international financing institutions and other banks. The European Union only adds a small share to the necessary financial packages. The main financial efforts have to come from the countries concerned."¹⁵

Given their primary role as an instrument for facilitating Community trade, both TENs and TINA reflect the member states' commercial concerns – rather than the candidate countries'. Although the set-up of TINA did involve candidate countries consultations, these were in no way a driving force behind the decisions.¹⁶ This privileged position is still held by the European Union, that through the grants it provides and the access to other financial institutions continues to influence the decision-making. Already, as the TINA network is more likely to receive EU funding, the national governments included most of the identified corridors in the national development plans, many times by diverting financial resources from other national priority projects.

At present about 3 billion Euros have been committed to TINA transport projects, of which about one billion Euros come from the European Unions' Instrument for Structural Policies for Pre-Accession (ISPA)¹⁷, the rest representing contributions from the national budgets or loans on the international financial markets. Until 2006, there are a further 2,5 billion Euros to be allocated from ISPA transport. In total non-reimbursable money from EU represents only an investment of about 10% of the money needed over this period.

¹⁵ Final TINA Report – October 1999, page 12.

¹⁶ ITDP, *Transport sector decision-making in the Baltic sea region*, 1999 New York

¹⁷ ISPA Annual Report, COM(2001) 616 final.

3 What has happened in the EU?

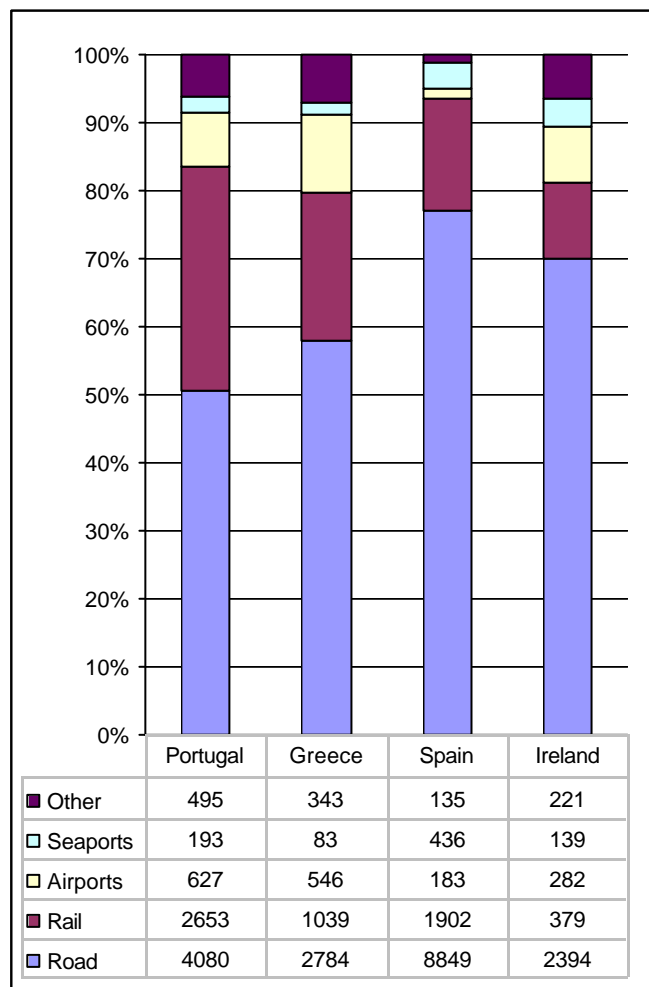
Across all 15 Members States transport has become one of the most disputed sectors. The impact of transport policies on other sectors – notably health, environment and national budgets – are now clear and negative. A study¹⁸ of the external costs of transport in Western Europe estimated the total damages at about 530 billion Euros per year. This sum represents 7.8% of the combined GDP of the countries under discussion, and the total is divided between accidents (29% of the costs), air pollution and climate change (48%), while the rest accounts for nature, landscape and urban pollution costs. Congestion costs are additional to this estimate. If no action is taken, the work needed to recover and reverse the effects will be just as costly. The candidate countries can avoid this trap if they avoid making the same mistakes.

3.1 The investment patterns

Although a considerable part of the infrastructure was in place even before the TEN-Ts were defined, the period after that set the basis of the transport system that exists now in the European Union, by facilitating investments in certain “priority” areas. The availability of bulk funding from European sources was a quick motivation for the road building industry, which adapted itself much faster than the railway industry, still heavily dependent on state initiatives and lacking institutional flexibility. But, as more and more money was poured into asphalt and rail lines, the order of project completion became decisive for the users’ choice of transport mode.

When the Structural Funds were restructured in 1988, community support for investment in transport infrastructure increased considerably with the specific aim of stimulating economic development in the lagging regions of the European Union. The European Regional Development Fund (ERDF), the largest of the Structural Funds, has been a major source of finance for

Figure 4: Investments by mode, in €Million



Source: Thematic evaluation of the Impact of Structural Funds on Transport Infrastructure, November 2000.

¹⁸ UIC and INFRAS, External costs of transport, Karlsruhe 2000.

transport infrastructure investment. In 1993 the Cohesion Fund complemented the ERDF. The fund provided support for both transport and environmental infrastructure projects. For transport, support was conditional on the development of TENs and projects that provide access to TENs. Four countries with the GDP per capita less than 90% of the European Community average were eligible for funding: Portugal, Greece, Spain and Ireland. In these four countries the share of investments in road, from both Cohesion funding and ERDF was well above 40% of the total transport investments (Figure 4).

The availability of EU grants was a quick motivation for development, and investments in transport became more and more important, attracting considerable resources both from national sources and loans on the international market. In Portugal and Greece only 28-30% came from European grants, due to the poor absorption capacities of the countries, which led in the end to huge borrowings from the European Investment Bank and significant national contributions to cover up for the losses. However, in Ireland and Spain more than 60% of all funding came from EU resources.

In total, over the period from 1993 to 1999, the Structural and Cohesion funds contributed with over 18 billion Euros to the development of transport infrastructure in countries and regions lagging behind. In all these regions the TENs motorway and road network blueprints catalysed the efforts of planners and entrepreneurs, leaving smaller local projects aside. The table below shows the allocation of European funds between modes:

Table 1 – Share of EU expenditure per transport mode.

Structural Funding (1994-1999)	Cohesion Funding (1993-1999)	Transport mode
56%	69%	Motorways/other roads
24%	23%	Railways
4%	3%	Ports
5%	5%	Airports
11%	-	Other transport infrastructure and technical assistance

Considerably more money was invested in road transport both in the four Cohesion Fund countries and in the regions eligible for Structural Funds from ERDF¹⁹. The total EU15 investment in transport kept a relatively constant share of 62% for road and 20% for rail (in 1995), with a slight decline for the overall invested sum of about 3 percent since 1992²⁰.

Over the years, this investment pattern led to a relatively high level of completion for the road network long before any significant improvement could be noticed in the railway system or in the public transportation system (only one project, for the improvement of Dublin public transport planning, has been financed under the Structural Funds). While investment-heavy improvements to the railway tracks and construction of high-speed lines proceeded at a slow pace, motorways and new roads quickly filled up with the unhappy former users of the public transport system, slowly changing the modal split and increasing the modal share of road transport.

¹⁹ Objective 1 regions – where the GDP per capita was less than 75% of the community average.

²⁰ Paving the way for EU enlargement, TERM 2002– Investment in transport infrastructure, EEA 2002.

Table 3: Combined Implementation Progress²¹

Type	Target	Achieved	Percentage
New Road (Km)	4918	3414	70%
Improved Road (Km)	5058	4095	81%
New Rail (Km)	1243	663	53%
Improved Rail (Km)	4625	2988	65%
No. Improved Ports	34	34	—
No. Improved Airports	14	14	—

The direct consequence of this pattern of investment can be now seen in the ascending trends of emissions from transport, lack of proper rail infrastructure which causes bottlenecks and unnecessary delays (especially for freight traffic), lack of adequate public transport solutions in big cities and accelerated sprawl in the car-friendly areas. Europe is struggling with high car-dependency.

Apart from the investments, there are also other causes that lead to the situation today. As bottlenecks and congestion caught up with the construction of new roads, more and more capacity had to be added, leading to a vicious planning circle based mostly on reactive measures to control the traffic flows. The poor coordination between spatial planning and transport planning lead to excessive construction in areas well connected to the road network, while former central areas serviced by public transport suffered from increased congestion and air pollution.

The lack of public transport facilities as well as the long delays of rail freight networks encouraged both passengers and businesses to use cars and trucks, perceived as more comfortable and relatively cheaper. This was also encouraged by the motor industry, which invested large sums in publicity campaigns, playing with concepts like *freedom* and *mobility* in association with their products.

3.2 The environmental risk of modes

All types of motorized transport leave their mark on the environment to a greater or lesser extent. The challenge to the candidate countries is to find the right balance and the mix of policies that can lead to the best economic results with the least environmental consequences.

Road transport accounts for 24% of the total CO₂ emissions in EU15 and has increased three times since 1970s, although other emissions like NO_x and VOC declined due to improving technical standards. The EURO standards, introduced progressively since 1993, as well as regulations regarding the sulphur content in diesel fuel and the introduction of unleaded petrol improved significantly the emissions levels of new vehicles. Another initiative was the End-of Life Vehicle directive that involves car manufacturers in the recovery and recycling of vehicles out of use.

Despite all these, the Cohesion Countries still show an overall increase in emissions from road transport (see Table 2), a situation that can be naturally linked to the tremendous

²¹ Thematic Evaluation of the Impact of Structural Funds on Transport Infrastructures, Final Report, DG TREN, November 2000.

increase in car use over the past decades. Also it should be noted that the average age of the vehicle fleet is still considerably higher than in the wealthier countries and the replacement rate is relatively low while mileage has been increasing.

Table 2 - Changes in Road Transport Emissions (1990-96)²²

	CO₂	NO_x	NMVOCs
Greece	+8.6%	+4.2%	+25.9%
Spain	+23.0%	+4.9%	-8.2%
Irish Republic	+29.6%	+23.3%	-4.4%
Portugal	+36.4%	+33.8%	+111.1%
Cohesion Countries average	+24.4%	+16.55	+31.1%
EU 15 average	+7.9%	-15.7%	-27.2%

The global warming effect of aviation is still relatively small, but the speed at which the sector is growing may pose serious risks to the achievement of such targets as the Kyoto protocol, if nothing is done to curb the development. The impact of emissions (CO₂, NO_x) and condensation trails at high altitude is considerably higher than initially thought. At the same time aviation noise continues to be a problem for tens and thousands of people living close to airports. A recent ruling²³ of the European Court of Human Rights declared the right to a good sleep as part of the human rights, thus forcing the Heathrow Airport to pay damages to local residents disturbed by night flights.

However, environmental issues do not constitute a priority in international forums like ICAO (the International Civil Aviation Organisation). New noise standards have been agreed in ICAO, but this is not enough to deal with all problems caused. The EU has made an attempt to deal with this issue, but a real solution to the problems can come only from a combination of operational restrictions and night bans for flight – the so-called “balanced approach” developed by ICAO, but not legally binding yet. Other measures like introducing a charge on aviation emissions, taxing aviation fuel or the introduction of VAT on airplane tickets are not for the moment a priority.

Rail transport, although considerably less damaging than the other modes, still bears the responsibility for the energy in-efficiency of high-speed trains. Although such trains attract more and more of the air and car passengers, they also attract the passengers of low energy conventional rail connections. Other problems derive from the lack of a playing field in the rail sector, considering that the railways markets have been opened only recently and not all countries changed yet. More details can be found in chapter 5.

Waterborne transport is less environmentally damaging, although the latest floods in Europe have raised questions over the impacts of big anthropogenic alterations along rivers and floodplains areas. Draining and drainage actions done in relation to port extensions reduced the absorption capacity of floodplains, reduce the sediments transported by the rivers and increase the relative speed of the watercourses. While there are a number of technical solutions (like the creation of upstream flooding lakes), all port developments should be subjected to careful environmental impact assessments and river basin management strategies should include evaluations of inland waterways impact. Regarding sea transport, there are two aspects: one related to the security of big marine

²² Source: based on Eurostat, Statistics for the Transport and environment Reporting Mechanism (TERM), 1998, and EU Transport in Figures, 2000.

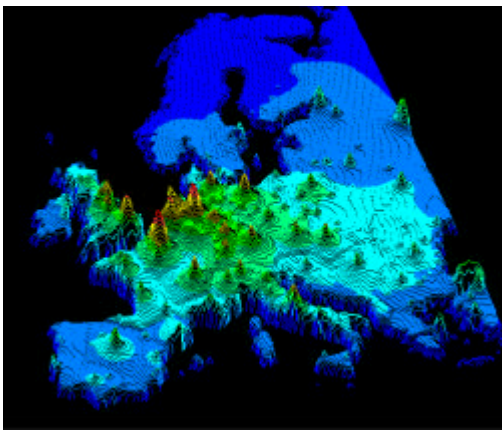
²³ Of the European Court of Human Rights, October 2001, see also <http://www.echr.coe.int/eng/Press/2001/Oct/Hattonjudepress.htm>

and oceanic vessels and one related to the technical performances of the ship's engines which still need to be addressed.

Pedestrian and cycling networks are becoming more and more popular especially in urban and semi-urban areas. Their impact on the environment is minimal and the investments needed to set up such networks and maintain them are by far the lowest. Overall, all transport modes have a certain negative impact on the environment and only a careful balancing of investments and levelling policies can ensure all the costs are accounted for and carried by the ones who take most advantages from using the networks.

3.3 The regional development mechanisms

Fig. 5 Accessibility by high-speed train, in 1993.



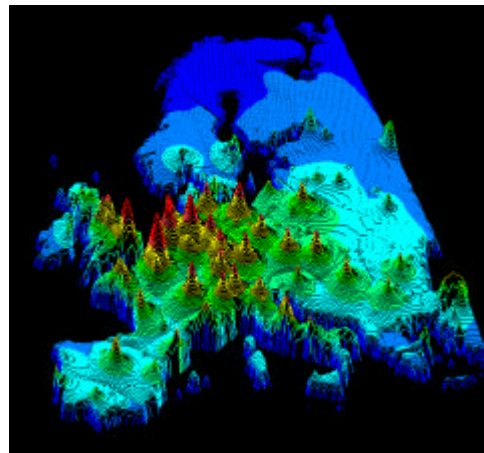
Substantial parts of the cohesion funding and of the pre-accession funds are earmarked for improvements in the transport infrastructure. The Trans-European Transport Networks and the TINA network are thus supposed to provide easy access to all regions in Europe, and at the same time act as engines for economic development in regions that are lagging behind.

However, this assumption has frequently been challenged during the last few years. A number of studies show there are no automatic links between the provision of new, faster transport routes and accessibility and economic development rates for the regions that is crosses. For example, the UK government's SACTRA Report²⁴ argues that less transport could benefit

rather than harm the economy, and the provision of new roads is not automatically linked to an increase of economic output. Following the same line, a study of the Netherlands Bureau for Economic and Policy Analysis²⁵ argues that investments in infrastructure are worthwhile for the countries that already have or acquire the position of hubs, while for the rest of the areas the investments will be a continuous struggle to eradicate the hub position of the regions already established.

Going further than this, a study of Klaus Spiekermann and Michael Wegener²⁶ looks at the changes in the levels of accessibility produced by different investments in the development of the Trans-European Networks. The comparison between the accessibility levels for the high-

Fig. 6 Accessibility by high-speed train, 2020



²⁴ Standing Advisory Committee on Trunk Road Assessment (SACTRA), *Transport and the Economy*, DETR, London, 1999.

²⁵ "Strategic competition with public infrastructure: Ineffective and Unwelcome?" CPB Netherlands Bureau for Economic Policy Analysis, Hague 2002, ISBN 90-5833-106-7.

²⁶ Spiekermann, K., Wegener, M. (1996): 'Trans-European Networks and Unequal Accessibility in Europe'. *European Journal of Regional Development (EUREG)* 4/96, 35-42.

speed railway networks in 1993 and the projections for 2020 confirm the hypothesis that the high-speed rail lines mainly benefit the large cities in the center of Europe. The gains in accessibility of the central regions are much larger than those of the peripheral regions, which lose both in absolute and in relative terms.

A further case study on Via Egnatia in Greece was carried out more recently using indicators like regional accessibility, GDP gains and employment levels. It showed that although some of the regions will yield significant reductions in the traveling time, the relative increase in accessibility would remain low for others.

Such studies show the need for a good coordination between the transport plans and the spatial planning of the territories covered. More often than not, longer distances to be traveled offset increases in infrastructure and the GDP gains continue to be unequally distributed, leaving behind more disparities than they initially set out to level.

4 Instruments to avoid negative impacts

4.1 Political agreements

Within the last few years, the EU Member States adopted a policy line that shows more support for the strategic analysis of plans and programs, integrating environmental concerns into all sectors, including transport. The 1996 Amsterdam Treaty underlined the importance of integration mechanisms in a sustainable development²⁷.

At the Cardiff Summit in June 1998 the Transport, Energy and Agriculture Councils were invited to start the process of defining their strategies for integrating environmental concern into sectoral strategies, as part of the larger commitment for a sustainable development. In October 1999, the Commission presented to the Transport Council a strategy for transport, document that was later adopted by the Helsinki European Council. It focused on reducing transport emissions of CO₂ and acknowledged the un-sustainability of the present transport trends.

In June 2001, the Gothenburg Council adopted a Council Resolution on the sustainable development strategy and established the priorities for a sustainable transport policy. The Conclusions state that action is needed to bring about a significant decoupling between transport growth and GDP growth, in particular by a shift from road to rail, water and public transport. It invited the Commission and the Parliament to adopt by 2003 revised guidelines for the TEN-t network and noted that the Commission will propose a framework to ensure that by 2004 the price of using different modes of transport will better reflect costs to society.²⁸

On the other hand, Community actions outside its borders are not beyond criticism. The TINA network, for example, has been widely criticized by both Central and Eastern European stakeholders and the wider European NGO community. Unlike the TENs network, the TINA process did not involve any sort of public participation or environmental

²⁷ Article 6 of the Amsterdam Treaty states that “*Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities referred to in Article 3 [paragraph f) a common policy in the sphere of transport], in particular with a view to promoting sustainable development.*”

²⁸ See Swedish Presidency Conclusions, paragraph 29.

assessment, although such actions was recommended by the TINA Group of Senior Officials. The final report was adopted by the EU as a basis for further investment in the CEE infrastructure, without being previously scrutinized by either national parliaments or other stakeholders in the candidate countries.

To rectify this, NGOs and other stakeholders asked for a Strategic Environment Assessment along all TINA corridors and Environmental Impact Assessments (EIA) for all transport projects. The problem has been partially solved on project level, through the adoption of the *acquis* according to the directive 85/337/EEC²⁹ on the assessment of the effects of certain public and private projects on the environment, but the question will remain open until a full Strategic Environment Assessment will be carried out on a corridor level, ideally with coordination from the European Commission.

Although the SEA directive³⁰ will become a legal requirement only in January 2004, most of the Member States and some of the candidate countries have already transposed the directive or at least parts of it. Moreover, the mini-revision of the TEN guidelines directive asks for an SEA on all new projects financed with money from the European Union³¹.

4.2 Policy measures

At the same time, infrastructure investments have not been counter-balanced by effective policy measures. The use of motorized transport was, and still is, largely subsidized through an un-equal distribution of the costs for risks as health problems from pollution, accidents, congestion and biodiversity loss. Although T&E outlined the need for the right price for transport as early as 1993³², the Commission is still in the process of adopting a methodology for a Directive on pricing for road infrastructure use and the system is not expected to be operational before 2004.

The only measures that were consistently taken up by the policy-makers were those that aimed at a technical fix of the problems. Initiatives like the Auto-Oil I and II and the adoption of the EURO norms, the adoption of legislation on car labelling³³, on the recycling of used cars reduced significantly the emissions and waste from auto vehicles and improved their energy efficiency. Still, the increase in the number of newly registered vehicles combined with the increase in kilometres travelled sustains an up-going trend of the emission levels.

In order to achieve sustainable results, the focus of the policies should change from the "end-of-pipe" solutions currently employed towards more varied economic and regulatory actions that have a preventive role. Such actions can no longer be taken at the initiative of environment authorities, but should come from an integrated sectoral policy. It should be once again underlined that the restructuring of the CEE transport systems offers a unique opportunity to establish more sustainable transport patterns.

²⁹ Amended by directive 97/11/EC on 3 March 1997.

³⁰ Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

³¹ COM (2002) 542, Proposal for a DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Decision No 1692/96/EC on Community guidelines for the development of the trans-European transport network, amended by the European Parliament

³² "Getting the prices Right. A European Scheme for Making Transport Pay its True Costs", T&E 93/6 publication.

³³ Directive 2002/51/EC.

4.3 Decision-making instruments

As a result of the integration process started at Cardiff, the European Environmental Agency developed a set of transport and environment indicators that were gathered under a Transport and Environment Reporting Mechanism report³⁴ updated every year. The indicators included in the report give historical data on transport statistics and analyse the present trends, making a link between the mere figures and the direction that needs to be adopted by the policy makers. The TERM is also an effective tool to monitor and evaluate different policies adopted.

In December 2002 a TERM version covering the candidate countries was published³⁵, containing information on both the overall picture and comparisons with the EU situation. Such an instrument should become one of the main resources in designing the individual transport strategies for the CEE countries.

Other instruments, like those required by the Åarhus Convention, the environmental impact assessment and the strategic impact assessment, along with the cost-benefit analysis can help determine the viability of the projects in social, economic and environmental terms. In all cases however, the full participation of all stakeholders remains a crucial element in the process.

5 Case studies

5.1 The reunification of Germany

What was the situation before re-unification?

In many respects, transport in the former East Germany was already determined by certain characteristics that are now an essential part of any sustainable transport policy. In almost all cities of the former East Germany modal split was dominated by public and non-motorised transport. Similarly, interregional passenger and goods transport relied heavily on railroads. Moreover, a limited car-availability resulted in a lower motorisation rate as well as different forms of car usage, for example higher occupancy rates. This overall situation in the transport sector prior to the fall of the Berlin Wall was widely understood as an asset for the development of sustainable transport policies after the German reunification.

What happened after the reunification?

Significant changes occurred in the urban context. Both modal split and motorisation rate shifted towards West-German standards. In the East-German City of Cottbus, for example, car transport increased its share from 13.5% in 1972 to 46.5% in 1998 while during the same time the distances travelled per day and person doubled from 12 to 24 km. This happened despite the “knowledge transfer” between West and East German local transport planners and their stated consensus to promote environmentally sound modes.

On a national level new plan and programmes were developed and implemented which aimed at improving the existing transport system in the former East Germany. The

³⁴ For the full TERM 2001 report see <http://reports.eea.eu.int/term2001/en>

³⁵ See http://reports.eea.eu.int/environmental_issue_report_2002_24/en/TERM-2002_final.pdf

intention was to establish a transport infrastructure that allows for an accelerated social and economic cohesion in the reunited Germany. The result, though, was simply a massive road-building scheme for both motorways and trunk roads. The common feature of such schemes was that they often ignored the “endogenous potentials” in East Germany, for example a rail-based transport system. As a consequence, the economic growth that those roads promised never occurred. In fact the exact opposite is often the case: road infrastructure has reinforced spatial disparities and caused a further widening of the gap between “rich” West-German and “poor” East German regions.

Why did this happen?

The adaptation of West German mobility patterns by East German cities is due to a variety of causes. Most important in this context are the urban development schemes that transformed the cities of the “Neue Länder” into the kind of auto-friendly settlements with urban ring roads and out-of-town shopping malls that were known from the West. This was enabled and propelled by an “export” of West German planning laws into the former Eastern Germany – again without any consideration of the specific situation in the East. Simultaneously, the life-styles of East German households increasingly came to match those of their West German counterparts, featuring highly auto-oriented travel and consumption patterns.

Beyond the city boundaries transport continued its unsustainable development path. The plan that fuelled such unsustainable development was a revised national transport infrastructure scheme (“Bundesverkehrswegeplan”), determining 17 infrastructure projects (“Verkehrsprojekte Deutsche Einheit”) to improve the accessibility of the new Länder. Not only were these projects extremely costly, but in many cases of severe negative consequences for the environment. However, in order to assure their immediate implementation, new legislation was introduced. Known as the “acceleration law” (“Verkehrswegeplanungsbeschleunigungsgesetz”), the new legislation allowed for a speed-up of the planning and implementation process, mainly by reducing the possibilities for public participation.

What are the challenges for the present candidate countries?

There are a number of lessons to be learned from the unsustainable growth politics that governed transport development after the re-unification in Germany. The most important lesson is that roads do not bring wealth. The “blossoming landscapes” promised by former Chancellor Helmut Kohl never arrived. Although absolute accessibility of East German cities and regions has increased, their relative accessibility in comparison to other West German has hardly changed. More important though, the improved accessibility of certain peripheral regions in East Germany, may very well have undesired and contradictory effects and merely reinforce the dominance of already existing economic centres.

Concerning modal split, it is important to notice that an official equal allocation between different modes of transport will not do the job of shifting transport to more sustainable modes. As the case of East Germany has shown, local and regional governments are keen to utilise any sort of fund or financial source – in addition to those dedicated transport infrastructure projects only – in order to extend the road network. This bias towards road building renders any attempt to improve the attractiveness of railroads almost obsolete – since trains become more attractive only in absolute terms, but not in relation to the attraction an ever growing road network offers.

Hence, the main lesson to be learned from the German case is to strictly reduce the possibilities for road building in order to build on the endogenous potentials in the CEEs. Superimposing a Western transport regime on the accession countries is highly unlikely to

deliver the benefits hoped for and will significantly worsen the environmental performance of European transport. What is needed is a sensitive and sensible planning process that allows for a slow and sustainable cohesion rather than a hastened and reckless export of doubtful EU transport policies. However, if such policies, like for instance the Trans-European Transport Networks, are already being superimposed on these countries, then the very least thing to do is to ensure environmentally friendly guidelines for their implementation. Consequently, planning instruments like the SEA or EIA play an essential role in such ecologically sound planning. They ought to be tightened and their influence should be improved – rather than reduced as in the case of the German “acceleration law”.

5.2 The railway sector

Unbalanced investments in road infrastructure compared to railways

Since the 1980s, overall public institutions’ investments in transport infrastructure have shifted somewhat in favour of road transport within the European Union. The majority of all investments, around two-thirds, are now poured into road building, rail infrastructure receiving only about a quarter of all investment. Also, the decisions on investments are taken predominantly to solve so-called bottlenecks, or congested spots in the network. Integrated cost-benefit and environmental impact studies are only occasionally used, and even then usually too late; and such studies tend to have too little influence on the final decisions.

The European Commission would like to steer investment increasingly towards intermodality, rail and inland waterways, and for that the TEN Guidelines priority projects involve predominantly rail and intermodal corridors. According to the TEN Directive, of the €400 billion made available until 2010, 60% is for investment in the rail network and 30% for road infrastructure. In reality, infrastructure projects currently being financed by the Commission and international investment banks do not reflect this aspiration.

The lion’s share of resources invested in rail is used to fund high-speed networks, which are reserved for passenger transport. Rail freight transport receives less investment than rail transport generally. The up-grade of existing links and the traditional rail network is often neglected, as it is not eligible to European funds. This is also true for the rail network in CEE countries. These networks often lag far behind the standard of rail networks within the EU. An up-grade of the existing rail network in CEE is required in order to fulfil its role as a part of a future Trans-European Rail network. The emphasis on new rail links in CEE does not help to maintain the comparably high market share of railways. Without appropriate investments in the existing rail infrastructure both conventional passenger and freight services are increasingly suffering from bad conditions.

Effects of such unbalanced investments

Because of the differences in investment mentioned above, the transport modes have developed differently. The motorway network in the EU has grown by 70% since 1980, while the conventional rail and inland waterway networks have contracted by 9% over the same period. However, the high-speed rail network has expanded significantly over the last 20 years, increasing three fold in length between 1990 and 1999 alone, to nearly 2700km.

This has resulted in a certain distortion in competition between transport modes, with particular relevance to goods transport: while road haulage has been able to profit

unreservedly from the extension of the road network, investments in rail have been largely limited to passenger travel, and have therefore been meaningless for rail freight transport.

Furthermore, this predominant investment in new high-speed links and neglecting investment in traditional rail links hampers the whole rail system. Conventional rail services and basic freight services are faced with even worse conditions in CEE, which puts the entire rail system at a disadvantage, not because of the network size, but rather because of its poor quality. The example of the rail link between Linz in Austria and Budejovice in the Czech Republic is illustrative for the situation of traditional railways in CEEC. For the 120 kilometres between the two cities the voyage, it takes almost three hours, just as long as it took a horse carriage in 1832. There are no direct trains; they must be changed at the border. The effects of such poor rail services are obvious. Passenger and rail transport have been reduced tremendously after 1990, however the market share of railways is still higher in CEEC (e.g. 60 % of freight transport in Slovenia) compared to the European Union. However, railways still have a strategic advantage, as the rail density is much higher than in the EU (ex. 918 km per 1 million inhabitants in the Czech Republic compared to 406 km per 1 million inhabitants within the EU).

What policy is needed to improve railways in CEEC?

The international funds available for transport infrastructure should be consistently used for improving for improving the state of railways, thus helping the efforts to achieve sustainable development.

Investments in new (high-speed) links, which are usually designed to the needs of the transport system and the economy of the EU, will not ensure a modern rail system in CEEC and will not prevent the ongoing decline in rail share. The existing rail infrastructure in accession countries needs an integrated up-grade. Only as a part of a modern existing railway system, the planned new links are really valuable. The European Union has to make available the funds for transport infrastructure in accession countries also to up-grade the existing rail infrastructure.

5.3 Vasco da Gama Bridge in Lisbon

The Vasco da Gama Bridge is a good example for how cohesion funds can be manipulated in order to construct a new road inside a city, by disguising it as a project within the TEN's framework.

What was the situation 5 years ago?

Lisbon is the centre of a large metropolitan area divided by the river Tagus. In the 60's, a bridge ensured the connection by car. At that time there were no public transport connections via the bridge and the area was becoming more and more congested due to increasing traffic volumes. The old bridge was also servicing the North-South connection, which gradually attracted more traffic into the city.

Why another bridge?

A new bridge appeared to many as a solution to solve the congestion problems, and once the opportunity for funding appeared, it was put into practice despite the opposition from civil society. The chosen site was an Ecological Protected Zone and, until then, a zone free of urban pressure.

In order to obtain the EU funds the Portuguese government used justifications, local and global, which were easy catches at the Brussels negotiation tables, like the fact that the new bridge would be part of the link to the freeway to Spain and that was important to establish the North South connection, while freeing the deep Metropolitan area from the crossing traffic. Also one of the arguments was releasing the traffic pressure from the old bridge.

However, these arguments could be easily contested, because the existing freeway that went through the old bridge already provided the connection with Spain. Another North South axis crossed the river at a point further east, and it had been greatly improved with a new motorway and a new inland bridge some years before.

What happened after the second bridge was constructed?

The construction of the bridge brought about changes in the traffic patterns in the area, modifying the space occupation and inducing permanent traffic congestions.

It was predicted that the capacity of the new bridge to attract traffic was completely independent from the use dynamic of the old bridge. In fact the old bridge traffic steadily rose by five per cent per year, at a pace that is fully determined by its regional dynamic. On the contrary the traffic on the Vasco da Gama is completely determined by capacity induction. At present, after only 4 years, this phenomenon is so strong that the current traffic already attained the 2010 predicted levels. Thus one can conclude that this bridge was financed by the EU based on a clear distortion of the TENs philosophy (debatable as they are).

What should the Candidate Countries avoid?

Despite the complex reasoning, the EU simply provided funds to a suburban connection with an great number of impacts in areas such as environment, spatial use and health. But despite the growing awareness of the negative impacts such projects bring, the pattern continues to be repeated in the Candidate Countries – for example Estonia has now put a by-pass of the link to the Tallinn port on the table. The connection will be made via a suburb of the city and has high chances of repeating the flawed spatial-planning reasoning from Lisbon.

6 Recommendations

1. **EIA and SEA procedures should involve all stakeholders and include an assessment of the zero-alternative.** Public access to information related to project development is both a requirement of the international agreements and a means to ensure all aspects are covered prior to the final decision to start a project.
2. **The present candidate countries should avoid concentrating the development efforts on one transport mode.** Most often road transport attracts all attention and projects in other fields are delayed or receive less resources. While certain road projects should be carried out in order to maintain the present infrastructure, the more sustainable transport modes should be encouraged to become more competitive.
3. **Transport strategies should be drawn both in an integrated way and for each mode,** so as to allow a parallel development for all types of transport. **The order of investment** is a crucial element in the development of the present accession countries' transport system. As road projects tend to progress faster than rail or public transport projects, additional transport demand will go directly to roads, increasing at the same time the need for new links and connections in this sector.
4. **Disproportionate investment between regions should also be avoided.** High-capacity projects between already developed economic and social centres will only increase the gaps between regions and draw important resources from the peripheral areas. Also, transport investments should be coordinated with land-use and spatial development strategies.
5. **Sustainable transport can be achieved only if a mix of policies are implemented,** including pricing, transport demand management, technical standards. Even safe investments in infrastructure will gradually be outgrown if they are not balanced by policies to control traffic levels and establish targets for the environmental performance.
6. **Only real priority projects should be included in the national development plans,** and these are not necessarily the ones included in the TINA report. Projects should be assessed in terms of the value they add for the local economy, rather than according to the place within a pan-European network that serves primarily the international trade community.
7. **They should adopt a consistent pricing policy for all modes of transport,** covering the external costs and differentiated according to pollution levels, damage to the infrastructure, etc. Such policies stay at the base of levelling the field between different modes of transport.
8. **Implementation of nature conservation initiatives** (like for example Natura 2000 network) **should be stepped up** in order to avoid further deterioration. At the same time the Environmental Impact Assessment of the projects should take into account possible candidates for future Natura 2000 sites.
9. **EU achievements in terms of technical standards regulations should be immediately transposed** in the Candidate countries, to avoid further pollution of the environment due to permissive regulations and lack of monitoring. Leaded fuel should be phased out in the shortest possible time.

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About this paper

Europe is about to enlarge to 10 more countries in Central and Eastern Europe. This change is going to affect both the present Member States and the future ones: the transport systems in these two parts of Europe have had for a long time different patterns of development. The East built railroads where the West built motorways. This pattern is now being reversed, without a comprehensive discussion about the final outcomes. Do we want more roads? Do we want more railways? Should they be high-speed trains or traditional tracks suitable for freight?

Do we want more transport? Or do we want better transport?

This publication is not going to answer these questions, but is mapping out some of the problems that exist in the present Member States, while trying to warn about possible bad developments in the candidate countries. It tries to give some examples and make some recommendations, without in any way exhausting the subject.

About T&E

The European Federation for Transport and Environment (T&E) is Europe's principal non-governmental organisation campaigning on a Europe-wide level for an environmentally responsible approach to transport.

The Federation was founded in 1989 as a European umbrella for organisations working in this field. At present T&E has 41 member organisations covering 21 countries. The members are mostly national organisations, including public transport users' groups, environmental organisations and the European environmental transport associations ('Verkehrsclubs'). These organisations in all have several million individual members. Several transnational organisations are associated members.

T&E closely monitors developments in European transport policy and submits responses on all major papers and proposals from the European Commission. T&E frequently publishes reports on important issues in the field of transport and the environment, and also carries out research projects.

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