Investment in transport infrastructure

Investment in transport infrastructure (road, railways, urban rail, inland waterways, maritime ports and airports) in the EU peaked in 1992 and has since fallen by 3 % per year. The overall modal investment shares have remained almost unchanged since 1980, dominated by road (62 % in 1995) and rail (28 % in 1995). Decisions on transport infrastructure are still made mainly as a response to problems of traffic bottlenecks. This reactive approach favours extension of the road infrastructure. A further decrease of total investment is foreseen in the White Paper on the Common Transport Policy. However, more resources will be given to rail, short sea shipping, and inland waterways.

Figure 1 : Infrastructure investment EU by mode, 1980 to 1986, and shares in 1980 and 1995


Objective
Investment priority for environmentally-friendly transport infrastructures.

Definition
Investment in transport infrastructure by mode.

This fact sheet is linked with #Capacity of infrastructure networks, #Access to the transport services and # Implementation of SEA in the transport sector.

Policy and targets

EU measures, objectives and targets:

Traditionally, EU transport policy has been concerned with providing transport infrastructure and services to support the development of the internal market and ensure the proper functioning of the Community’s transport systems. Transport infrastructure investments are also seen as important in reducing disparities between the regions. Infrastructure investment is claimed to have socio-economic benefits such as job creation and productivity improvement, but the evidence for this is weak and disputed [see fact sheet #Access to the transport services].

Transport investment policies during recent decades have focused on
extending infrastructure, particularly roads, as a response to increasing traffic demand. However, the assumption that investment should keep pace with traffic growth is more and more questioned, in particular since there is evidence that new transport infrastructure (particularly roads) generates demand, and often serves simply to shift congestion problems from one place or point in time to another (ECMT, 1997).

### Common Transport Policy of 1992

In 1992 the CTP introduced certain ‘sustainability’ objectives, such as using existing infrastructure more efficiently and re-directing demand towards modes with spare capacity (and with environmental and safety advantages). The development of an integrated transport system (the TEN), the revitalisation of rail, combined transport and inland waterways should contribute to this.

### White Paper on the Common Transport Policy due 2000

- infrastructure policy should help reach the objective for modal shares;
- new road infrastructure will only be developed in the case of urgent need;
- promoting the use of unused capacity in rail, inland waterways and short sea shipping; rather than developing new infrastructures;
- connecting ports by rail.

Key EU infrastructure strategies, under the umbrella of the CTP, are:

### The TEN Guidelines 1996

Master plans for the multi-modal trans-European transport Network (TEN), first outlined in ‘TEN guidelines (European Commission, 1996)’. The main objective of TEN is to develop a better integrated transport system in the EU, and hence to contribute to growth, competitiveness and employment in Europe, with the additional aim of improving economic and social cohesion by better linking of peripheral regions to EU networks.

### TEN amendment proposal due 2000

In 2000, the Commission issued a proposal to amend the TEN Guidelines in order to support more strongly the new objectives set in the Common Transport Policy, in particular aiming at reversing the current trends of a large increase in road share and decline of more environmentally-friendly modes. The strategy includes elements such as the concentration of infrastructure financing to create quality alternatives to roads. Priorities would be projects to eliminate bottlenecks like cross-border interconnection, freight rail, rail connections to ports and airports, and high speed lines.

### Freight rail

The Commission’s strategy for revitalising the Community's railways includes initiatives such as the launch of ‘freight freeways’ and the Directive on the inter-operability of the trans-European high-speed rail system.

### Combined and intermodal transport

The Commission has also proposed new rules for combined transport and will put forward proposals and actions to develop intermodal transport further.

### TEN Investment plan (European Commission, 1998)

The TEN investment plan (estimated to exceed EUR 400 billion up to 2010) is intended to have a 60 % rail, 30 % motorway and 10 % other split, with rail investment mainly for the high-speed network.

### Financial

This regulation gives the TEN-T a maximum budget for 2000 - 2006. It
Transport Infrastructure Investment

Regulation 1655/1999 (European Commission, 1999) stipulates that 70% should be devoted to rail projects.

National financing Financing from national budgets accounts for the majority of TEN investments. However, EU financial contributions to projects of common interest in the framework of TEN are important stimulants. The Commission is also encouraging Public Private Partnerships in these projects.

Decision-making about investments Finally decisions about investments in TEN infrastructure projects are taken at the national level.

Member States:

Italy (ECF, 2000) In March 2000, the National Transport Commission approved the allocation of subsidies for local cycling policy. Regions can gather project proposals and propose local cycling plans to be funded.

Germany (BVDW, 2000) The German federal government supports cycling through investment measures for infrastructure improvements. Germany has achieved an infrastructure length of about 6 200 km along National Roads between 1981 and 1999. They invested about 2 billion German Marks. The building of cycling roads along National roads is to be continued. About 15 000 km cycling roads were available along National roads in 2000.

United Kingdom (DETR, 2000) In the United Kingdom the 10 Year Plan includes the aim of reducing of road congestion in large urban areas below current (2000) level by 2010 by investing in public urban transport.

Denmark (Danish Ministry of Transport, 1996) The Danish Government has planned and initiated a number of activities to improve conditions for cyclists. A number of projects have been initiated around the country to build by-passes and traffic calming, which improves traffic conditions for light traffic. And every year new bicycle tracks are constructed along the main roads. Cycling facilities and combined bicycle and train transport are continuously being improved.

Findings

Overall investment level Transport infrastructure investment increased steadily (17%) between 1985 and 1992, but fell by around 3% per year from 1993 to 1995. The rise from 1985 to 1992 resulted from a number of major developments, including:

- the British Channel Tunnel;
- high-speed rail programmes in France, Germany and Spain;
- accession of Spain and Portugal to the Community (both countries launching major infrastructure programmes);

The decline from 1993 was for several reasons:

- economic growth slowed after 1990, which affected all investments;
- increasing concern about environmental impacts led to higher costs which in turn led to a switch of expenditure from investment to non-investment projects (ECMT, 1999);
- the completion of some major projects;
• the impact of the Maastricht criteria and the accompanying pressure on deficits and public spending.

Sources of finance
The principal source of financing of most infrastructure projects is national budgets. In the less developed regions, the European Regional Development Fund and the Cohesion Fund, and the European Investment Bank are also major suppliers of resources. The TEN budget line and the European Investment Fund have a marginal but increasingly important participation. To realise the remaining TEN projects, the investment level still need to increase (Mateu Turró, 1999).

Variations across Member States
Investment trends in infrastructure after 1993 varied across the Member States. There was a severe decline in Finland, Germany, Italy and the United Kingdom, but an increase in Belgium, Sweden and Portugal. Belgium’s investment was dominated by construction of the high-speed railway, and Portugal’s by investment projects associated with the universal exhibition in 1998.

Comparing transport investment with GDP and population (in 1995):
• Germany, Portugal, Sweden and Spain had the highest at about 1.3 % of GDP;
• Denmark, Ireland and Austria had the lowest at around 0.5 % of GDP.

Modal shares
Decisions on transport infrastructure are still made mainly as a response to problems of traffic bottlenecks. This reactive approach favours the extension of road infrastructure. In 1995 investment in transport infrastructure (road, rail, inland waterway, airports and maritime ports) was around EUR 60 billion. The modal shares were 62 % roads, 20 % rail, 7.2 % urban rail (urban / suburban railway, metro and tram), 5.5 % airports, 3.7 % maritime and 1.3 % inland waterways. The proportions of road and rail investment have not changed significantly since 1980. Alternative modes are promoted through the Common Transport Policy, but investment in these modes remains at a lower level than for road. However, there are positive signs in cities where cycling and public transport are being encouraged, and the growth of high speed rail for longer distances.

Road
Road investment in 1992 was 40 % higher than in 1987 – thereafter it declined. By 1995 it was just 27 % above the 1987 level. The allocation of investment to different modes reflects the dominance of road demand. In 1997, road transport accounted for more than 80 % of passenger demand and 45 % of freight demand.

Rail
In 1995 rail investment was also about 30 % higher than in 1987, but in the intervening years investment levels were consistently lower than those for road. Much of the rail investment programme was devoted to HSR construction in France, Germany, and Spain.

Ports
Although maritime ports play an important role, investment declined through the 1970s and 1980s. However, investment has grown since 1990, and by 1995 was 39 % higher than in 1987. Nevertheless, investment in ports remains low compared with that in other modes.

Airports
Airport investment shows the highest increase (57 %) between 1987 and 1995, reflecting the rapid growth in air traffic.

EU-level investments
Transport Infrastructure Investment

**TEN funding**

TEN investment has focused on rail and roads (39% and 38% respectively of total investment in 1996/97), with airports taking nearly 16% and seaports and inland waterways only 7%. The TEN road programme is well ahead of the corresponding rail programme. In 1996/97, 55% of total Community TEN funding was for road infrastructure.

The TEN budget for 1995 to 1999 is 1.8 billion (Mateu Turró, 1999). The maximum budget for the TEN-T between 2000 and 2006 is 4.0-4.2 billion euro, of which 70% should be devoted to rail (European Commission, 1999).

See also box 1.

**Cohesion Funds and European Regional Development funds**

The contribution of the Cohesion Funds and European Regional Development funds to transport infrastructure funding is larger than the TEN funding. Both contributions will be stabilised in the coming years (Mayet, R, 2000).

**European Investment Bank**

The European Investment Bank (EIB) is an important financier of transport infrastructure. In 1997, it borrowed EUR 6 879 million for projects in the transport sector alone. Roads and motorways received 43% of the investment, while 28% went to the railway network and 29% to air transport and shipping (Eurostat, 1999).

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**Box 1: Trans European Transport Network (TEN) investments**

The multi-modal TEN plans include the development (by 2010) of the following networks:

- **TEN–roads:** 27 000 km of planned roads (of which around 54% will be upgrades and 46% new roads);
- **TEN–rail:** 10 000 km of new high-speed rail track and 14 000 km of conventional rail to be upgraded to high speed rail;
- **TEN–inland waterways and inland ports:** improvements to 42 sections of inland waterways and to inland ports providing intermodal transhipment points,
- **TEN–maritime ports:** a proposal to integrate intermodal connection points at port’ and terminals for transhipment between different modes (COM (97) 681).
- **TEN–airports:** 30 International Connecting Points, some 60 Community Connecting Points, and 200 Regional airports.
- **TEN–combined transport:** 14 projects. Seven of these involve expansion or upgrading, including notably the Betuwe rail freight line in the Netherlands.
- **The TEN guidelines also provide for investment in telematics infrastructure for traffic management and information services.**

Financing from national budgets accounts for the majority of TEN investments. However, EU financial contributions to projects of common interest in the framework of TEN are important stimulants. Some of the key conclusions of the Commission’s 1998 report on the implementation of the TEN report (relating to 96/97 investments) are:

- Estimated cost to completion in 2010 is more than EUR 400 bn;
- The implementation of the network is far advanced: investments on road, rail and inland waterway projects currently under development amount to EUR 307.4 bn, some two thirds of the total.
Transport Infrastructure Investment

amount envisaged;

- Total investment in 1996-7 amounted to EUR 38.4 bn (with EUR 12.6 bn support from Community funds and the EIB). The distribution was 38 % on roads, 39 % on rail, and 15 % on airports.

- Over the same period, funding of TEN through the Cohesion fund and the European Regional Development Fund was biased towards road: 54 % on road, 39 % on rail, 4 % airports.

- Two thirds of rail investment was devoted to high-speed lines (new lines and upgrading of conventional lines).

Source: Mateu Turró, 1999

Future work

- Infrastructure investment data should include both publicly and privately financed projects. However, investments by local authorities are often excluded from public investment figures, as are some private investment projects. Investment data is therefore not comparable between countries.

- More work is needed at the EU level to ensure standardisation and reliability.

- No reliable data are available on investment in coastal shipping, urban public transport infrastructure or combined transport.

Data

Transport infrastructure investments (inland transport infrastructure, maritime ports, airports)

<table>
<thead>
<tr>
<th>Unit: Euro (constant 1990)</th>
</tr>
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<tbody>
<tr>
<td>EU-15</td>
</tr>
<tr>
<td>B DK D EL E F IRL I L NL A P FIN S UK</td>
</tr>
<tr>
<td>1985 45.418 1.648 569 12.447 389 2.785 8.496 262 7.508 96 1.851 1.855 285 1.042 935 5.251</td>
</tr>
<tr>
<td>1995 60.150 1.717 691 17.741 531 5.931 10.823 443 6.276 112 2.315 0.828 789 1.222 2.413 8.319</td>
</tr>
</tbody>
</table>

% of GDP 1995

| 1.0 % | 0.9 % | 0.5 % | 1.2 % | 0.7 % | 1.2 % | 1.0 % | 0.8 % | 0.6 % | 1.1 % | 0.8 % | 0.5 % | 1.3 % | 1.0 % | 1.3 % | 0.9 % |

Source: ECMT, 1997; ECMT, 1999

Meta data

- TERM Compendium 2001, draft sheets received November 2000, has infrastructure investment data (chapter 4) which are based on an undated ECMT report (Investment in Transport Infrastructure 1985-1995, Volume 1), giving data up to 1995. TERM 2000 itself
refers to an ECMT report from 1999, "Investments in Infrastructure 1985 - 1997". The tables for TERM 2000 show the same data, but have the advantage of being completed by filling in missing data. Therefore the tables from TERM 2000 have been used. File: Transport Infrastructure investments.

- An additional source of information is: DG TREN Pocketbook July 2000. This gives one more year (1996), but only for investment in all modes (thus not mode-specific). This figure was added to the data table using the same ratio between 1996 and 1995 as in DG TREN Pocketbook July 2000.

References


