

Traffic without Borders

Planning the Logistics and Transport in an Enlarged Europe

Prof. Dr. Reinhart D. Kühne

Summary

As a consequence of the planned EU East Enlargement, a considerable increase in border-crossing freight traffic in Germany can be expected.

The development of the freight structure suggests that this traffic will mainly be handled by road. The deregulation of rail and air traffic introduced in the EU will mean additional major changes, especially for the candidate countries. By evaluating comparable developments that followed the accession of Spain and Portugal to the EU, as well as by making a detailed analysis of the link between economic growth and traffic growth, the prognoses for traffic development can be tested.

Key words: EU-Enlargement, Uniform Telematic Infrastructure, Combined Freight Transport, Transportation Forecast

Title of the section: The situation in Europe
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Chances for growth dynamics and cultural radiance through the enlargement process

Prof. Dr. Reinhart D. Kühne
Deutsches Zentrum für Luft- und Raumfahrt e. V.
German Aerospace Center
Institute for Transport Research
Rutherfordstr. 2
12489 Berlin
Tel: +49 30 670 55-200
Fax: +49 30 670 55-202
e-mail: reinhart.kuehne@dlr.de

The Situation in Europe

The situation in Europe is described extensively in the White Book “European Transport Policy for 2010 - Time to decide,” published by the European Union in 2001. The following table illustrates some of the data.

Country	Network density km per 1000 km ² Railway	Network density km per 1000 km ² Motorway
Comecon Countries total	60.6	2.7
Czech Republic	119.7	6.3
European Union total	46.0	15.8
Belgium	111.7	55.1
Switzerland	121.9	39.8

Table 1: Current density of the transport network in Europe; Source: Eurostat Press Office

	Population in millions	Area 1000 km ²	Length of rail network
EU 15	375.3	3,191	153,640 km
CEC 10	104.8	1,078	65,400 km
Enlargement of EU	27.9%	33.8%	42.6%

Table 2: Data on Eastern European Expansion; Source: Eurostat Press Office

There are great differences between the candidate countries and the rest of the EU not only in traffic density, but also in the share of freight transport (see Table 3). The former Comecon countries have experienced a considerable change since 1989. Until 1989, most transport involved goods of heavy industry that were exported primarily to the Soviet Union, 70% of which was by rail. Since 1989 there has been a complete reorientation. Sixty-five percent of exports go to EU countries, with refined goods and products of the service sector in the forefront. Private hauling firms account for 80% of the exports, the largest share. Between 1989 and 2000, the gross domestic product in the candidate countries grew at first by 20% until 1995, and then by 25% in the next five years. At the same time, the growth in freight transport nearly doubled. Referring to the present EU countries, by the year 2015 a growth of 40% in freight transport can be expected. This involved approximately 370 billion tkm in 1997.

Share of Rail in Freight Transport

EU 15	8%
CEC 10	40%
Czech Republic	58.9% (1999) 60% of it was international transport

Table 3: Current percentages of rail freight transport in Europe; Source: White Paper of EC, 09/2002 & Statistics of CZ

The transport sector of the European Union accounted for an estimated 4% of the gross domestic product of the EU countries and provided employment for more than 6 million people. (see Figure 1)

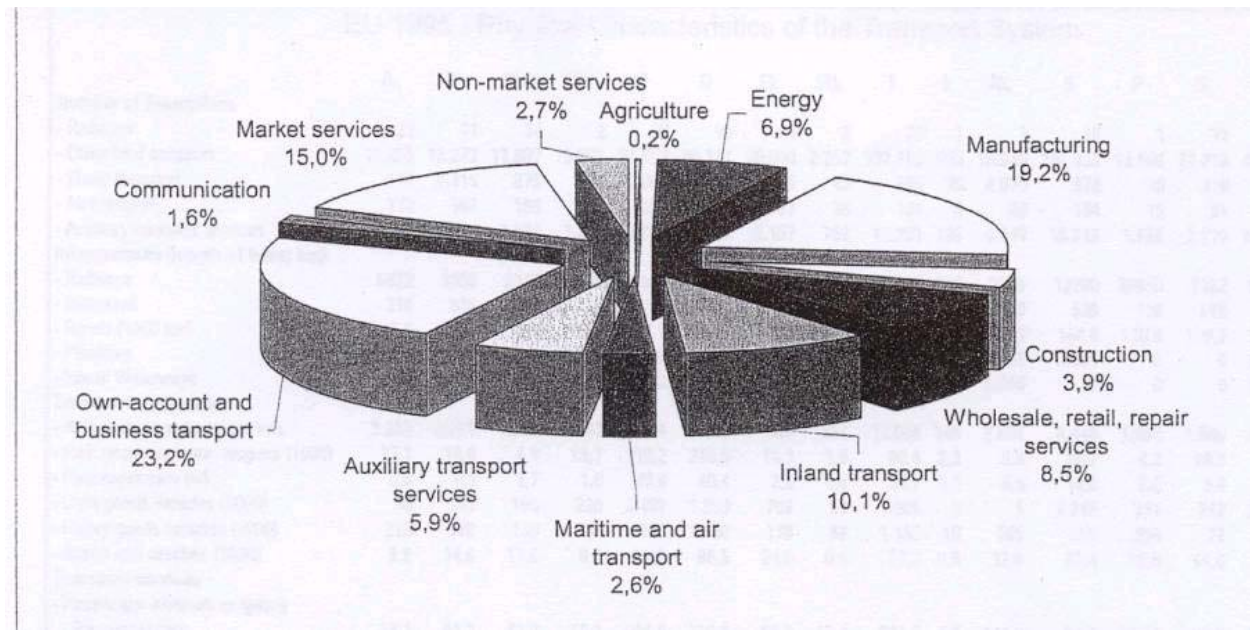


Figure 1: Contribution of transport to the net product in the EU in 1995, divided according to sectors.
Source: Achim Diekmann, The Impact of Transport in the EU Economy

What can we expect?

The general modernization process of industry - independent of the EU East Enlargement - shows trends toward more division of labour and toward specialization in production, as well as specialization according to roles, social classes, and lifestyles. This means that the small, dense, and stably organized networks of traditional societies are becoming looser and less stable. The process of differentiation leads to a change in the transported goods from bulk goods to highly refined products and from heavy goods to light but voluminous goods that have different requirements with respect to transport and logistics, direct delivery, punctuality and functional reliability. The strong link that has been observed between economic growth and transport performance will probably even increase. A de-coupling is not in the foreseeable future. Along with the EU membership of the Eastern European candidate countries, there will also come a complete restructuring of the transport economies within the countries involved. Changes can be expected because of regulation, the breaking up of state monopolies, a different orientation of the transport infrastructure, and the emergence of strong private industry areas, especially that of strongly road-oriented transport firms.

There are basically two methods that can be used when making a prognosis about transport developments in view of the EU enlargement. One of the methods is trend extrapolation, the results of which are shown in Table 4.

These are based on the general guidelines as set down in the White Book, such as:

1. Ensure continuous, ecologically sound mobility
2. Support sustainable space and settlement structures
3. Lessen the demands made on natural landscapes and natural resources
4. Reduce the emissions of noise, poisonous gases and climate gases
5. Strengthen economic development and job security
6. Create fair, comparable competition conditions for all transport carriers

7. Improve traffic safety for the traffic participants as well as the general public
8. Support the integration of spatial and social differentiation as structural-functional goals for society

The changes between 2000 and the years 2002, 2010, and 2015 are summarized here based on an evaluation by Prognos (see source reference). One thing that all the scenarios have in common is a strong link between economic growth and the development of transport. The differences involve assumptions regarding economic growth and the elasticity of the coupling.

Prognosis premises (for the 2015 traffic prognosis)	1996	2015
Population [Mil]	82.0	83.5
Population [Mil] 20 yrs and above	64.3	68.1
Employed [Mil]	34.4	34.5
Gross Net Product D	+2.1% / year	
Economic development in Europe		
- 20 States (mean):	+1.3 to 4.8% / year	
- larger west European states (mean):	+2.4 to 2.7% / year	
German foreign trade with selected European countries (i.e. Far East, USA, etc. not included)	Imports: +3.4% / year (Imports from the EU: +2.5% / year) Exports: +2.9% / year (Exports in EU: +2.3% / year)	

Table. 4. Structural data prognosis for the federal transport regulation as a basis for scenario planning for European Development. Source: New Approaches, Prognoses and Scenarios in Federal Route Planning, Klaus Lohrberg

Uniform Telematic Infrastructure for Business Processes

To improve the logistic processes in an enlarged Europe, further development of the Electronic-Data-Interchange-Standards (EDI) in regard to Internet use is necessary. There are two different approaches: Internet-EDI and Web EDI. With Internet-EDI, transfers go through the usual Internet protocols such as FTP or through e-mail (SMTP, MIME). Web EDI means the partners are linked in their own EDI system with the help of the World Wide Web (WWW) and the accompanying browser. Compared with traditional EDI approaches, this provides an advantage through lower implementation and maintenance costs as well as shorter introductory times. However there seem to be some problems because only one-sided communication is possible through the browser and media breaks can occur when entering data in the web form. Since its adoption in 1998, Extensible Mark-up Language (XML) seems to offer the greatest potential for exchanging structured data via the Internet. Through its implementation, one should be able to solve many compatibility problems that exist among the diverse predominant standards.

The use of the Web for business transactions will continue to expand with the intent of making it easier for suppliers, customers and partners to do business with their firms. In German firms, 80% of all business transactions are still carried out manually and on paper. In some

cases, up to nine assistants from different departments are involved in handling one order, which entails an average cost of 100€.

Plans to deal with sales via the Web (E-Procurement) will be initiated against the background of overall strategies of needs analysis, procurement cost control, and easier price comparisons. Internet portals, shopping systems and E-procurement solutions will have to be standardized for all of Europe.

Some industries will proceed ahead. In the chemical industry, for example, the percentage of long-term procurement contracts is between 80% and 90%. In this case, an automated system of networked partners promises high savings.

Combined Transport

Focusing more intensively on combined transport seems to be a way of dealing with the growing freight traffic in the enlarged Europe.

At the present time, the use of combined transport between Western and Eastern Europe does not fulfil the expectations of a competitive alternative to road freight transport. A few selective solutions are an exception to this, for example the rail connections “Eastwind” between Germany and Russia and “Westwind” in the opposite direction, as well as train connections in seaport hinterland traffic between the German North Sea ports and Eastern European countries. On the whole though, combined transport lacks new technologies for the exchange of data and to support the logistics of an adequate terminal infrastructure as well as the proper equipment. In order to transport containers, semi-trailers and swap bodies, one also needs wagons for high-speed trains, high performance road vehicles, and loading units with spreaders. Figure 2 shows a modern loading device to load containers from the side, something which even smaller combined transport terminals could be able to use efficiently.



Figure 2: Side loading of containers in combined transport, Source: Firm brochure Pallfinger Bermüller GmbH

Problem areas of the railway in international transport that could hinder a combined transport include:

- The necessity of changing locomotives at the border
- The necessity of changing drivers at the border
- Incomplete information systems on loading procedures and registration of load units

If combined transport is to have a good chance to succeed, four conditions must be met:

1. There must be functioning loading equipment in both the source and target regions
2. Cargo goods need to be suitable for packing into containers which can be transported by a train that is approximately 600m long with 30 wagons and 50-60 loaded containers.
3. Trains should be filled to capacity in both directions, i.e. paired traffic
4. Competitive prices and good quality transport services are needed in order to be able to compete with trucks.

The high concentration of the types of goods into just a few groups and the great distances involved in West-East traffic are factors that favour the development of combined transport. The generally higher preliminary and follow-up costs involved with trucks is a less important factor compared with the great distances of the trains.

Chances for growth dynamics and cultural radiance through the enlargement process



Figure 3 Hotel Europa,
Wenzel Square, Prague

A look at the facade of the Grand Hotel Europa on Wenzel Square in Prague illustrates two things (see Figure 3). Europe is not only a widespread dream in the context of Western Europe, it is just as much so in Eastern Europe. Before the iron curtain fell in 1989 and Eastern European countries could reflect on their role as part of Central Europe as well as part of Europe in a larger sense, this dream had been a forerunner of a new search for identity. The second thing we can learn from the Hotel Europa in Prague is that in spite of the growth of new nation states, the awareness of belonging to Europe can still be seen in many places. At first these traditions have been felt more strongly among the upper classes in Europe. Extending this idea to the middle and lower classes remains reserved to the EU Enlargement. Going back further in history, the Hanseatic League in the 14th century had an important European influence which still lives on as a symbol in the mind. The Hanseatic League linked the merchants and the cities of the North Sea and Baltic Sea in a network of trade relations. Through these connections, the wealth of other European areas was guaranteed. This means of finding identity, created before the Reformation, was in many aspects the first emancipation of the emerging bourgeoisie. When, as is documented for 2000, 60 million Polish air passengers travelled to Western European countries, Germany, the Czech Republic, Slovakia, and the eastern neighbouring countries, this shows that that country is in the midst of a dynamic development toward the West. It shows that especially Germany and Austria benefit from this development. The orientation taking place here is a positive sign for the future integration of this and other Eastern European countries in the European Union and shows the cultural radiance of the enlargement process.