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**STATUS OF THE PAN-EUROPEAN TRANSPORT  
CORRIDORS AND TRANSPORT AREAS**

**DEVELOPMENTS AND ACTIVITIES IN 2000 AND 2001**

**FINAL REPORT**

Transmitted by TINA and the  
European Commission (EU)

**Note: The report is reproduced as received from TINA and the European Commission (EU).**

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TRANSPORT STRATEGIES



EUROPEAN COMMISSION  
DG ENERGY & TRANSPORT

# STATUS OF THE PAN-EUROPEAN TRANSPORT CORRIDORS AND TRANSPORT AREAS

## DEVELOPMENTS AND ACTIVITIES IN 2000 AND 2001



FINAL REPORT

Vienna, April 2002

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## INTRODUCTION

At the beginning of the 21<sup>st</sup> century, European transport systems are confronted with a serious modal imbalance, which has favoured the development of the most polluting and congested modes of transport. This requires a change of strategy in the Common Transport Policy, which puts users at the centre of the system, guaranteeing their right to efficient, safe, affordable, and environment-friendly transport.

As global freight transport volumes have increased, the external costs of traffic congestion, accidents, air pollution and noise have become more apparent, not only as an issue of concern for the quality of life, but also with respect to their potential for disrupting economic growth and mobility. As a result, one of the major challenges facing the transportation industry is the need to introduce a more efficient, modally integrated service, which utilizes spare capacity in other modes.

During the 1990s, Europe began to suffer from congestion in certain areas and on certain routes. The problem is now beginning to threaten economic competitiveness. Traffic jams cost Europe dear in terms of productivity. Bottlenecks and missing links in the infrastructure fabric; lack of interoperability between modes and systems.

Because of congestion, there is a serious risk that Europe will lose economic competitiveness. Recent studies on the subject showed that the external costs of road traffic congestion alone amount to 0.5% of Community GDP. Traffic forecasts for the next ten years show that, if nothing is done road congestion and the costs attributable to it will increase significantly by 2010.

The transport industry occupies an important position in the Community, accounting for 7 % of its GDP, 7 % of total employment, 40 % of Member States' investment and 30 % of Community energy consumption. Demand, particularly in intra-Community traffic, has grown more or less constantly for the last 20 years, by 2.3 % a year for goods and 3.1 % for passengers.

The European Commission adopted the White Paper "European Transport Policy for 2010: Time to decide" in which users' needs are placed at the heart of the strategy. One of the first measures proposed is to shift the balance between modes of transport by 2010 by revitalizing the railways, promoting maritime and inland waterway transport and linking up the different modes of transport. This approach is also the same as the approach adopted in the Commission's contribution to the Gothenburg European Council which called for a shift of balance between the modes by way of an investment policy in infrastructure geared to the railways, inland waterways, short sea shipping and intermodal operations (COM (2001) 264 final).

To set the scene for a sustainable transport policy that will allow the progress of recent years to continue but with a reduced level of nuisances - emissions, noise etc.

The question is what sort of growth can be absorbed without the roads resulting so congested that delays become the norm and operating costs increase considerable. If we do not intervene, it is likely that the demand for road haulage services would increase by 50% between 1998 and 2010. Therefore it is time to invest more intelligently, to seek transport capacity beyond the road and to set up priorities where weaknesses are in the transport system: in sorting out bottlenecks, in supporting greater use of modes which are today under-utilised.

## EXTENDING THE EUROPEAN UNION TO CENTRAL AND EASTERN EUROPE

Enlargement is an historic opportunity for further European integration. It embraces thirteen candidate countries: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey. Negotiations opened in 1998 with six candidate countries and in 2000 with further six ones. The energy and transport chapters were opened for negotiations in November 1999. With Turkey an analytical examination of the acquis' is being developed.

In the transport sector the candidate countries for accession are in the process of establishing and implementing programme of approximation to the EU transport acquis. The acquis supporting the Common Transport Policy represents about 10% of the total EU acquis and more legislation is in the pipeline.

Apart from the development and upgrading of the transport infrastructure networks, which upon accession will form part of the enlarged Trans-European transport network, the transport issues which need to be addressed as a matter of priority are as follows:

- in road transport, issues relating to the technology, safety and environment legislation, as well as market access, fiscal matters and social legislation;
- in rail transport, the integration of services between EU and CEEC railway companies, as well as improving the latter's organisation and financial situation to operate in market conditions;
- in inland waterway transport, issues concerning fleet capacity;
- in air transport, issues relating to market access and safety and infrastructure organisation; and
- in maritime transport, the enforcement of the maritime safety acquis.

The Commission evaluates annually the progress made in candidate countries in its "Regular Reports on countries' progress towards accession". The transport chapter has been closed provisionally for Cyprus and Malta, for all other candidate countries for accession the transport chapter is still under negotiation.

## THE PAN-EUROPEAN TRANSPORT CORRIDORS AND TRANSPORT AREAS

The Pan-European Transport Network has been developed along with three Pan-European Transport conferences. The set out of the first Pan-European Transport conference in Prague in 1991 was an appropriate concept for transport infrastructure, which became the corridor concept.

At the second Pan-European Transport conference in Crete in 1994, the countries of Western, Central and Eastern Europe identified nine long-distance transport corridors as priorities for infrastructure development.

At the third Pan-European Transport conference in Helsinki in June 1997 a tenth corridor and the Pan-European Transport Areas for maritime basins were added.

These multi-modal Corridors, so called Helsinki Corridors, have a total length of about 48,000 km, of which 25,000 km are rail network and 23,000 km are road network. Airports, sea- and river ports and major terminals serve as nodes between the modes along these long distance interconnections between the Central and Eastern European countries.

The concept of a Pan-European Transport Infrastructure Investment Partnership promotes the establishment of all the necessary components for a future Pan-European Transport Network on the territory of the European Union, in the candidate countries for accession, the New Independent States (NIS) and beyond.

The Pan-European Transport Network consists of the following components:

- The Trans-European Transport Network on the territory of the European Union (TEN);
- The TINA<sup>1</sup> Network, which is composed of the ten Corridors and the additional network components within the candidate countries for accession;
- The ten Pan-European Transport Corridors situated in the candidate countries for accession, in the NIS and beyond;
- The Four Pan-European Transport Areas (PETrAs) covering maritime areas; and
- The Euro-Asian Links, notably TRACECA (Transport Corridor Europe Caucasus Asia).

For most of the Corridors and Areas a Memorandum of Understanding (MoU) has been concluded amongst the participating countries, at the level of Ministers of Transport and with the European Commission.

It is a voluntary commitment between the participants, and has no legal binding character, but indicates the intention of the concluding partners to undertake joint efforts in the development of the Pan-European Transport Network.

These Memoranda of Understanding recommended, among others, to establish a Steering Committee, which promoted and monitored the progress and stimulated the action needed.

#### OVERVIEW OVER THE CORRIDORS:

	Length (in km)
<b>Corridor I:</b> Tallinn – Riga – Kaunas – Warszawa Branch: Riga – Kaliningrad – Gdansk	
Rail	1,655
Road	1,630
<b>Corridor II:</b> Berlin – Warszawa – Minsk – Moskva – Niznij Novgorod	
Rail	2,313
Road	2,200
<b>Corridor III:</b> Dresden – Wrocław – Lviv – Kiev Branch: Berlin – Wrocław	
Rail	1,650
Road	1,700
<b>Corridor IV:</b> Dresden – Praha – Bratislava/Wien – Budapest – Arad Branch: Nürnberg – Praha Branch: Arad – Bucuresti – Constanta Branch: Arad – Sofija – Istanbul Branch: Sofija – Thessaloniki	
Rail	4,340
Road	3,640
<b>Corridor V:</b> Venezia – Trieste/Koper – Ljubljana – Budapest – Uzgorod – Lviv Branch: Rijeka – Zagreb – Budapest Branch: Ploce – Sarajevo – Budapest Branch: Bratislava – Zilina – Uzgorod	
Rail	3,270
Road	2,850
<b>Corridor VI:</b> Gdansk – Grudziadz/Warszawa – Katowice – Zilina	

<sup>1</sup> TINA – Transport Infrastructure Needs Assessment

Branch: Grudziadz – Poznan Branch: Katowice – Ostrava – Breclav/Brno	
Rail	1,800
Road	1,880
<b>Corridor VII: Danube</b>	2,415
<b>Corridor VIII:</b> Durres – Tirana – Skopje – Sofija – Varna/Burgas	
Rail	1,270
Road	960
<b>Corridor IX:</b> Helsinki – St. Petersburg – Pskov/Moskva – Kiev – Ljubasevka – Chisinau – Bucuresti – Alexandroupolis Branch: Klaipeda/Kaliningrad – Vilnius – Minsk – Kiev Branch: Ljubasevka – Odessa	
Rail	6,500
Road	5,820
<b>Corridor X:</b> Salzburg – Ljubljana – Zagreb – Beograd – Nis – Skopje – Veles – Thessaloniki Branch: Graz – Maribor – Zagreb Branch: Budapest – Novi Sad – Beograd Branch: Nis – Sofija Branch: Veles – Florina	
Rail	2,528
Road	2,300

**CO-ORDINATION OFFICE FOR THE RAILWAY CORRIDORS IV AND X AND CORRIDOR VII - DANUBE**

The railway corridors IV and X together with the Danube-waterway-corridor VII have established a co-ordination office in Vienna. The aim of this common appearance is the further development of multimodal nodes along the corridors. Furthermore it is a sign for the co-operation of railways and waterways to cope with traffic patterns of tomorrow, as required within the policy guidelines of the White Paper on a common transport policy of the Union. This initiative aims that "INTERMODALITY" should not only appear in research projects but also become reality.

## **FINANCING INSTRUMENTS** **provided by the European Commission** **for projects along the Corridors**

### **FINANCIAL AID FROM THE TEN-T BUDGET FOR PROJECTS WITHIN THE EU MEMBER STATES**

Regulation 2236/95 adopted by the Council of Ministers lays down general rules for the granting of Community financial aid in the field of Trans-European Networks.

The main terms are as follows:

- The EU may only fund projects identified in the guidelines (and shown on the maps).
- The EU will fund not more than 50% of the cost of preliminary studies (feasibility studies), and 10% of the cost of the work.
- The balance must be met out of public or private sector funds.
- An environmental impact assessment must have been made for each project.
- The project must offer guaranteed financial viability and show an adequate degree of maturity
- The project must be consistent with the Union's other policies, notably as regards the environment, competition and the rules on the award of public contracts
- Each project must be judged on its merits.

This regulation was amended by a new text (Regulation 1655/99) adopted in June 1999 by the Council of Ministers and European Parliament. This covers the period 2000-2006. It introduces a number of new features:

- A multi-annual indicative programme to give greater prominence to the EU funding of projects.
- The introduction of risk capital for the financial aid given by the Union.
- A higher ceiling for Community aid, which may now, from 2003, be up to 20% of the total cost of the project in the case of satellite positioning and navigation systems.
- € 4.6 billion will be earmarked for the Trans-European Networks (including telecommunications and energy networks) between now and 2006; the amount to be spent on Trans-European Transport Networks is still to be decided by the European Parliament. It is likely to be around € 4 to 4.2 billion.
- At least 55% of funds for TEN-Ts will be given to railway projects and not more than 25% to roads.

The Commission may cancel its financing decisions if the project has not got under way within two years.

### **FINANCIAL AID FROM REGIONAL FUNDS**

Transport brings people and economies together, making it possible to create new hubs of development in areas that used to be isolated. It is of paramount importance in enabling all Europeans to benefit from the single market.

The achievement of a quality and sustainable European transport network is therefore closely linked to regional development.

Regional policy provides support for transport in the Member States through:

- the ERDF (European Regional Development Fund), under development strategies prepared by the States and regions: during the previous financing period (1994/1999), around € 15 billion in ERDF funds were spent on developing transport in Europe;

- the Cohesion Fund: from 1994 to 1999, € 8 billion were invested in transport projects in the Union's least developed countries.

In the applicant states, ISPA (Instrument for Structural Policies for Pre-accession) allocates about half its funds (total € 1040 million) for transport projects.

### The European Regional Development Fund

The European Regional Development Fund (ERDF) co-finances multi-annual programmes to assist regional development. Between 2000 and 2006, these programmes will support:

- the development of the most disadvantaged regions (Objective 1);
- the conversion of regions facing structural difficulties (Objective 2);

#### ***Objective 1 - Regions whose development is lagging behind***

These areas include regions whose per capita GDP does not exceed 75% of the Community average, as well as the thinly populated regions of Finland and Sweden (fewer than 8 people per sq.km.) and the outermost regions (French overseas departments, Canary Islands, Azores and Madeira). Some coastal areas of Sweden are also covered (in accordance with Sweden's Act of Accession), along with Northern Ireland and the border counties of Ireland, where there is a special programme for peace and reconciliation (until 2004).

All these regions have a number of economic indicators "in the red":

- low investment levels;
- a higher than average unemployment rate;
- lack of services for people and businesses;
- poor basic infrastructure.

#### ***Objective 2 – Regions undergoing conversion***

The difficulties facing these regions may be of four very different types:

- industrial or service sectors subject to restructuring;
- loss of traditional activities in rural areas;
- declining urban areas;
- difficulties in the fisheries sector.

### INTERREG III

INTERREG III is a Community initiative, which aims to stimulate interregional cooperation in the EU between 2000-06. It is financed under the European Regional Development Fund.

This new phase of the INTERREG initiative is designed to strengthen economic and social cohesion throughout the EU, by fostering the balanced development of the continent through cross-border, transnational and interregional cooperation. Special emphasis has been placed on integrating remote regions and those, which share external borders with the candidate countries.

#### ***Border areas (INTERREG III A)***

All border regions of the Union are eligible under INTERREG III A for support to improve cooperation with their neighbours. The aim is to establish genuine cross-border zones of economic activity and devise joint strategies for spatial development.

#### ***Transnational and interregional cooperation (INTERREG III B and C)***

All local authorities in the Union may take part in transnational and interregional cooperation measures co-financed by INTERREG III B and C. Strand B seeks to improve the spatial planning of large areas while strand C promotes cooperation and experience exchanges among those involved in regional and local development projects. Regions in non-Member States,

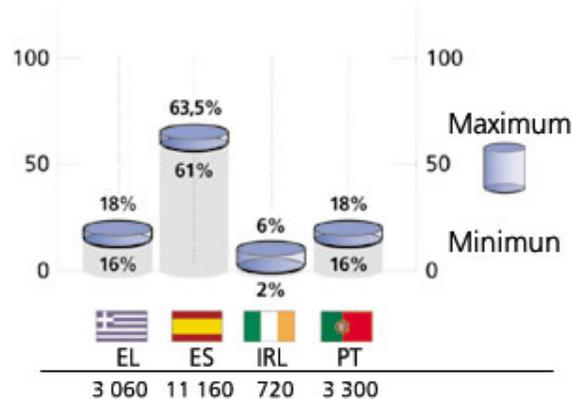
particularly those that have applied for membership, are invited to take part in these cooperation measures by using the Community development assistance, which they are entitled to receive.

### THE COHESION FUND

A special solidarity Fund, the Cohesion Fund, was set up in 1993 to help the four least prosperous Member States: Greece, Portugal, Ireland and Spain. It provides assistance throughout these countries to finance major projects in the fields of the environment and transport.

For the period from 2000 to 2006, the annual budget of the Cohesion Fund will amount to €2.5 billion, or €18 billion over seven years.

#### **Cohesion Fund budget allocations for the 2000 - 2006 period (at 1999 prices)**



In millions of €

### **FINANCIAL INSTRUMENTS TO ASSIST THE CANDIDATE COUNTRIES IN THE PREPARATION FOR ACCESSION**

When it drew up its financial perspectives for 2000-2006 (Agenda 2000), the Union expressed its concern for the situation in the applicant countries, especially those from Central and Eastern Europe. This was reflected in the creation of two new pre-accession Funds, ISPA and SAPARD, and by the setting-up of a reserve of €40 billion for anticipated structural expenditures following accession.

The needs of these countries are enormous in every respect: infrastructure, industry, services, small businesses, agriculture and the environment. To prepare to join the Union, they have drawn up "Accession partnerships" with the Commission, which set out the main problems to be overcome by each country. These strategy documents provide a framework for programming pre-accession aid.

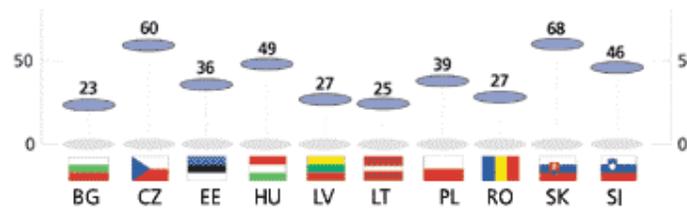
In all, three Community instruments are providing assistance in the ten Central and Eastern European countries (CEECs):

- the oldest of these, the PHARE programme (which began in 1989) is intended to improve institutions, administrations and public bodies to ensure the correct application of Community law and to assist new investments in the social and economic sectors where they are most needed (infrastructure, business, social measures);
- SAPARD (Special Accession Programme for Agriculture and Rural Development) supports the efforts made by the applicant countries to join the Union's Common Agricultural Policy (from 2000). It includes a wide range of measures concerning the adjustment of agricultural structures, the quality of foodstuffs and consumer protection, rural development, the protection of the environment and technical assistance;

- ISPA (Instrument for Structural Policies for pre-Accession) follows the lead of the Cohesion Fund in financing the construction of large projects in environmental protection and transport (from 2000).

Various partnership arrangements and specific pre-accession aid are also provided for Malta, Cyprus and Turkey.

**Per capita GDP of CEECs in comparison to EU levels (1998)** (purchasing power standards)



Pre-accession aid 2000-2006	21 840
PHARE	10 920
SAPARD	3 640
ISPA	7 280

In millions of €

**Pre-accession funds yearly allocations beginning in the year 2000 for negotiating candidate countries** (€ million, at 1999 prices)

Applicant countries	PHARE National programmes	ISPA * Minimum	ISPA * Maximum	SAPARD
Bulgaria	100	83,2	124,8	<b>52,1</b>
Czech Republic	79	57,2	83,2	<b>22,1</b>
Estonia	24	20,8	36,4	<b>12,1</b>
Hungary	96	72,8	104,0	<b>38,1</b>
Latvia	30	36,4	57,2	<b>21,8</b>
Lithuania	42	41,6	62,4	<b>29,8</b>
Poland	398	312,0	384,8	<b>168,7</b>
Romania	242	208,0	270,4	<b>150,6</b>
Slovakia	49	36,4	57,2	<b>18,3</b>
Slovenia	25	10,4	20,8	<b>6,3</b>
<b>Total</b>	<b>1 085</b>	<b>1 040</b>		<b>520</b>

\* In the case of ISPA, the breakdown is given as allocation brackets to encourage beneficiaries to propose high-quality projects and to ensure the flexible management of resources.

Malta & Cyprus

A regulation adopted by the Council in March 2000 allocated 57 million euros of pre-accession aid to Cyprus and 38 million euros for Malta for the period 2000-2004.

**TACIS Programme for projects within the New Independent States (NIS)**

Since 1991, the European Union has been supporting the transition of the New Independent States through the TACIS programme. It provides grant-financed technical assistance to 13 countries of Eastern Europe and Central Asia (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan), and mainly aims at enhancing the transition process in these countries. It is the largest programme of its kind operating in the region, and has launched more than 3.000

projects worth over € 3.290 million since its inception. It operates within the wider context of a deepening and evolving relationship between the EU and NIS, enshrined in Partnership and Co-operation Agreements (PCAs) which commit both sides to a new level of political, economic and cultural dialogue.

A new Regulation, concerning the provision of assistance to the partner states in Eastern Europe and Central Asia, replaces the former legal basis (Council Regulation (EC, EURATOM) No 1279/96, which expired on 31 December 1999). This new Regulation covers the years 2000-2006 (Council Regulation (EC, EURATOM) No 99/2000 of 29 December 1999).

The new regulation is based on an understanding that co-operation is a reciprocal process, encouraging a move from 'demand-driven' to 'dialogue-driven' programming. More flexibility in the way that TACIS is structured will allow potential technical assistance to be mobilised and implemented according to the capacity of each partner country.

The 2000 Regulation concentrates TACIS activities on fewer areas of cooperation:

- Institutional, legal and administrative reform;
- Private sector and economic development;
- Consequences of changes in society, infrastructure networks,
- Environmental protection,
- Rural economy,
- Nuclear safety.

The areas where TACIS funding is used are designed to complement each other, and each national or multi-country programme focuses on no more than three of the above mentioned fields, so that each can be most effective.

The new Regulation also focuses on projects of sufficient scale (projects of at least €2 million in Russia and Ukraine and €1 million in the other partner countries) and supports the objectives of the PCAs.

TACIS funding is allocated through:

- national country programmes: they include indicative programmes, valid 3-4 years, which identify priorities and areas of co-operation as well as annual (for Russia and Ukraine) and biannual (for the other countries) action programmes setting out the projects to be supported and the funding available, within the guidelines defined by the indicative programme.
- regional programmes: Multi-country programmes are used for areas like environmental protection or the promotion of transport networks. *Cross-border* programmes have also been set up to promote the co-operation and the development of links between neighbouring communities in different countries. These regional programmes are based on indicative and action programmes as well.
- small projects programmes: A limited number of small project programmes are used to address very specific tasks, such as advice to governments in particular fields: trade regulation, co-operation in higher education, or encouraging EU investment in the partner countries. Since their objectives are not set with pre-defined beneficiaries in mind, they are organised in a different manner, with specific priorities set each year. See the indicative programme.

#### International Financing Institutions

The international financing institutions (IFIs) have provided grants and loans for transport infrastructure investments since the beginning of the transition process in the countries of Central and Eastern Europe. The three principle sources for capital assistance in the region are

the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and the World Bank.

#### European Investment Bank (EIB)

The EIB is the long-term financing institution of the European Union, an autonomous body set up to finance capital investment furthering European integration by promoting EU policies

The EIB remained a leading provider for finance for the Trans-European Networks in transport, telecommunications and energy transmission. The EIB's pre-accession support covers priority investment in all the candidate countries, in particular those projects that facilitate the adoption of the *acquis communautaire* and strengthen integration with the EU. The financing covers all sectors normally eligible for EIB support, and will focus on environmental protection; the development of transport, telecommunication and energy links; and industrial competitiveness and regional development.

1998 was the first year of implementation of the Pre-Accession Lending Facility, which along with existing financing mandates brought a sharp increase in EIB lending in the applicant countries of Central and Eastern Europe and Cyprus. The Bank's loans are made in direct support of the objectives in the Pre-Accession Partnership Agreements. The investments, which are financed, focus on economic integration, both with the EU and with the region, and on support of the adoption of the EU's rules, regulations and standards (*acquis communautaire*), with particular emphasis on environmental protection.

The Bank is the largest source of loan finance in the region, increasingly operating in co-operation with grant aid from the EU's PHARE programme and with other multilateral financing institutions such as EBRD.

#### European Bank for Reconstruction and Development (EBRD)

The BRD began granting loans to the transport sector in Central and Eastern European countries in 1992. The main purpose of EBRD financing is to facilitate the transition of former centrally planned economies towards market-oriented policies and to promote private and entrepreneurial initiatives.

The objectives are:

- Elimination of transport infrastructure maintenance deficits and building of missing links;
- Improvement of safety, reliability and quality of transport services;
- Increasing the efficiency of the management, improvement of operational activities in transport;
- Creation of an appropriate regulatory framework for private sector involvement into the provision of public services.

EBRD has provided for a wide range of technical co-operation to prepare investments and optimise project effectiveness and transition impact.

### World Bank

The World Bank has assisted the countries of Central and Eastern Europe for preparation of its membership to the European Union not only with loans but also with analytical work. Its loans for the transport sector are now normally accompanied by elaborate reform programmes, which seek to upgrade the performance of the whole sub-sector by the combination of adjustments to policy and gradual strengthening of the institutions concerned with their application. Its loans are often conditioned on implementation of particular policy and institutional steps, which are in line with the EU requirements. The leverage of the Bank, particularly together with the International Monetary Fund (IMF), is very high to force changes and reforms once there is an agreement with the country. At the same time, a number of borrowers are not entirely comfortable with the conditions included in the Bank's projects.

Seven out of the ten EU Accession countries, which are active borrowers of the Bank, have received transport loans since 1990, the large majority of which are still under implementation. Accession prospects further increase the need for investments in transport infrastructure on the one hand and raise the question of the international competitiveness of the transport service providers on the other hand. As the screening of the accession countries is proceeding, it becomes evident that due to the under-developed infrastructure coupled with weak financing capacity, as well as the vulnerability of the under-capitalized service providers transport will be one of the key sensitive sectors.

## TRADE AND TRAFFIC FLOWS

### EU and accession countries

The candidate countries for accession represent 45% of the EU population and 7% of its GDP. GDP per capita varies between 24% of the EU average in Bulgaria and 82% in Cyprus.

The average GDP per capita (in current process) in the European Union is € 21,293, and in the accession countries the average GDP per capita is € 3,916 (without Turkey).

The density of the traffic volume highly depends on demand and supply of the economy and foreign trade relations. The exchanges between the EU and the countries of Central and Eastern Europe have strongly developed since the collapse of the Council for Mutual Economic Aid (COMECON) in 1990. The latter has produced a change in the direction of exchanges with the EU. All countries, except for Slovenia and the Czech Republic, export more to the EU (in % of their total) than they imported in 1999. Some countries depended on the EU for 60 % of their foreign trade.

The structure of the accession countries' external trade in 1999 is shown in the table below.

<b>Structure of the accession countries' external trade in 1999 (%)</b>		
	Exports to EU 15 (% of total value)	Imports from EU 15 (% of total value)
Bulgaria	52.6	48.6
Cyprus	50.7	57.3
Czech Republic	69.2	64.0
Estonia	72.7	65.0
Hungary	76.2	64.4
Latvia	62.5	54.5
Lithuania	50.1	49.7
Malta	48.7	65.4
Poland	70.5	64.9
Romania	65.5	60.4
Slovakia	59.4	51.7
Slovenia	66.0	68.6

Source: Regular Reports on progress towards accession by each candidate country: [Progress Reports 2001](#)

### Transport Trends

Transport volumes in the transition countries increased continuously throughout the 1970s and 1980s. After 1989, this increase was followed by a tremendous decline due to political changes and a dramatic economic recession. In the recent past, strong growth in transport occurred in several areas.

At the same time fundamental changes took place in the transportation modal split: road transport increased while rail and public transport declined or remained more or less stable. As economic growth returns to more of the transition countries this trend is likely to become more pronounced. Future changes in transport volume will depend on economic development and transport policy.

<u>Infrastructure</u>					
	Railway Network in km per 1,000 km <sup>2</sup>		Motorway Network in km per 1,000 km <sup>2</sup>		Inland Waterways (in km)
	<b>1995</b>	<b>1999</b>	<b>1995</b>	<b>1999</b>	<b>1998</b>
Austria	67.6	67.3	19.0	19.5	351
Belgium	110.4	113.8	54.6	55.1	1569
Denmark	54.5	53.9	18.5	20.4	0
Finland	17.4	17.3	1.2	1.5	6245

France	58.1	57.4	16.6	20.0	5732
Germany	116.9	105.1	31.3	32.3	7300
Greece	18.7	17.4	3.2	3.6	6
Ireland	28.4	27.3	1.0	1.6	0
Italy	53.1	53.5	21.2	22.0	1477
Luxembourg	105.8	105.4	47.3	44.2	37
Netherlands	66.0	67.7	53.0	53.9	5046
Portugal	31.0	30.6	7.5	8.7	124
Spain	24.6	24.7	13.9	17.6	70
Sweden	21.7	24.0	2.8	3.3	390
UK	69.6	69.6	13.6	14.2	1153
	<b>1998</b>				
Bulgaria	38.6		2.9		470
Cyprus	0.0		22.7		-
Czech Republic	117.9		6.2		664
Estonia	21.5		1.7		520
Hungary	85.9		4.7		1373
Latvia	37.4		0.0		106
Lithuania	32.0		6.7		369
Malta	0.0		0.0		0
Poland	74.2		0.9		3812
Romania	47.8		0.6		1779
Slovakia	74,8		5.9		172
Slovenia	60.1		12.5		0

Source: EU Energy and Transport in Figures/Statistical pocketbook 2001

Past trends for freight transport show that freight transport by road and pipeline has grown much faster than freight transport by rail and inland waterways. Although rail still accounts for the largest part of the freight transport market, the share of freight transport by rail dropped back from 32.32% in 1990 to 27.71% in 1997; the share of freight transport by road increased from 29.24 % in 1990 to 50.96 % in 1997.

<b>Goods Transport on the territory 1,000 mio tkm 1998</b>				
	Rail	Road	Inland Waterways	Pipelines
Bulgaria	5.2	22.5	0.71	0.2
Cyprus	n.a.			
Czech Republic	16.5	33.9	0.81	2.1
Estonia	7.0	3.8	0	0
Hungary	8.5	12.5	1.56	4.8
Latvia	12.2	3.3	0	6.6
Lithuania	7.8	4.2	0.01	n.a.
Malta	n.a.			
Poland	55.1	69.5	1.10	18.5
Romania	14.7	15.8	4.2	2.3
Slovakia	9.9	4.8	1.53	n.a.
Slovenia	2.6	1.9	n.a.	

Source: EU Energy and Transport in Figures/Statistical pocketbook 2001

### EU and NIS countries

With the collapse of the Soviet Union as a political entity in December 1991, the centrally planned economy broke down. The economic crisis deepened and inter-NIS trade volumes dropped dramatically.

Despite macroeconomic stabilisation, the investment climate in the NIS has not improved significantly. Foreign investment flows to the NIS contrast strongly with those to the accession countries of central and Eastern Europe. Other social conditions, including health, social security, education and poverty, have deteriorated.

By the end of 1996, the European Union has signed bilateral Partnership and Co-operation Agreements with ten NIS, among others Belarus, Georgia, Moldova, Russia and Ukraine. As soon as they enter into force, they will boost existing links and grant NIS products even better access to the European market.

The dynamics of the macroeconomic situation in 1996 of the NIS countries, touched by the transport corridors, are presented in the table below.

<b>Macroeconomic indicators of the NIS countries – Belarus, Georgia, Moldova, Russia and Ukraine - in 1996 (1991 = 100)</b>					
	GDP	Industrial output	Gross agricultural output (all types of firms)	Fixed capital investment (all sources of financing)	Freight traffic volume (excluding pipelines)
Belarus	65	62	79	33	20
Georgia	29	23	111	3 <sup>(1993)</sup>	8 <sup>(1994)</sup>
Moldova	43	46	64	14	10
Russia	61	51	65	30	25
Ukraine	47	52	69	23	21

Source: The Russian Economic Barometer, Vol. VI, no 1/1997, Russian Academy of Sciences, Institute for World Economy and International Relations

### Trade Trends

Trade between the European Union and the NIS has been growing since 1989. EU imports from NIS have grown by more than 33 % since the 1989 level and EU exports to the NIS reacted with a growth rate of over 25 % over the same period. The NIS as a group is running a big trade surplus with the European Union.

The main reason for the trade imbalance between the European Union and the NIS are the European Union's purchases of energy and minerals, mainly from Russia.

The structure of the NIS' external trade in 1995 is presented in the table below.

<b>Structure of the NIS' external trade in 1995 (%)</b>		
	Exports (% of total)	Imports (% of total)
NIS	26.1	37.1
CEEC15	12.6	10.7
EU15	31.8	33.7
USA	4.8	4.5
Japan	4.8	1.7
Rest of the World	19.9	12.3

Source: IMF

Of the NIS, Russia is by far the EU's main trading partner. It accounts for 87 % of total EU imports and 77 % of total EU exports to the NIS in 1995. Ukraine followed with a share of 6 % of EU imports from the NIS accounting for € 1.48 billion. Belarus, Uzbekistan and Kazakhstan took respectively 2.2 %, 2.0 % and 1.4 % of EU imports from the NIS in 1995. On the other

hand, Germany was the main importer from the NIS, accounting for 31.5 %. Italy followed with a share of 20.3 % and France with 12.1 %.

### Traffic Flows

There were no coherent forecasts of traffic in the Central and Eastern European countries. Only national or regional forecasts existed, which are neither co-ordinated nor compatible. The need for detailed future traffic forecasts (based on common sources and assumptions) led the European Commission to launch a specific study "Traffic Forecast on the ten Pan-European Transport Corridors of Helsinki".

## Summary Traffic Forecasts on the Ten Pan-European Transport Corridors of Helsinki

### **Objectives**

The main objective of this project is to achieve a common basis in terms of databases and forecast methods for the 13 PHARE countries and to apply this method to the total multi modal network in the PHARE countries, using the TINA network as a basis. The consultants have added to this the objective to link this common basis with databases and methods used on behalf of studies currently executed on behalf of DGVII of the Commission, including a common basis of splitting up countries into regions comparable with the NUTS-2 level. Another additional objective relates to the dissemination of the results: the databases, the methods and the forecasts.

In order to achieve these results a consortium of institutes has been formed, consisting of NEA (NL) as the leader, IWW (D) and INRETS (F) as western partners and furthermore consisting of one institute per PHARE country: CDV (Czech Republic), CELU (Latvia), DISCOUNT (Bulgaria), FIDA (Lithuania), IN-PUMA (FYRoM), IPSA (Bosnia and Herzegovina), ITS (Albania), INCERTRANS (Romania), KTI (Hungary), OBET (Poland), Prometni (Slovenia), TTU (Estonia) and VUD (Slovak Republic).

### **Method of work**

The first step in the project was to create a base year database for passenger and freight flows, containing the dimensions mode, region of origin, region of destination, type of goods (freight), and purpose of trip (passenger). Moreover a network including secondary links has been developed. As much of this detailed information is not directly available, and as several sources for different types of information were identified, much attention has been given to the methodological approach. Basis of this approach is the top-down structure: estimations of unknown details are done by subdividing data from the higher level. By this the method can be seen as a framework: in case additional data is available the database can be updated without affecting the higher levels. Two seminars in 1998 were organised to develop this approach with the participation of all (16) institutes involved.

### **The scenarios**

Based on the base year databases forecasts were made based on scenario's being build using following dimensions:

- economic growth (low, moderate, high);
- infrastructure development (existing infrastructure, gradual development, full TINA network);
- speed of harmonisation transport markets.

The moderate economic scenario for the years 2000-2015 is similar to the development in the TINA moderate scenario in its interim report. However the recent developments and forecasts up to the year 2000 have been updated due to the latest available sources, resulting in a slower development in the period between the base year and 2000.

The moderate economic scenario has been modelled in several combinations with infrastructure development and harmonisation levels of the transport market:

- The existing network in combination with a relative slow integration in the transport market (Scenario B);
- A partly completed network due to financing possibilities (as seen by the consultant) in combination with moderate integration (Scenario C).

The complete TINA-network updated to western standards and relatively high integration of the transport markets (Scenario D).

For sensitivity analyses in freight transport a variant has been tested to scenario B containing the present modal split as in the basis year (per type of goods per relation), so showing only the effect of economic development (scenario B1).

In relation to scenario D a variant containing for freight transport western European modal-split functions has been elaborated as sensitivity analyses (scenario D1).

The low economic scenario has been elaborated in combination with the existing infrastructure and a relatively low degree of integration of the transport market (scenario A). The high economic scenario has been combined with the completed infrastructure development and a high degree of market integration (scenario E).

The consultant's advice to use the forecasts of scenario B as the reference scenario for developing infrastructure plans as part of the realisation of the network as described in the TINA report. For the estimations of variances to the full completed network in the further future scenario D can be used as being the reference for the completed infrastructure.

### The models and tools

The forecasting techniques used contain growth models, partly based on developments of transport times and costs and partly based on the effect of harmonisation of the transports markets within Europe. Before applying the assignment phase the tons of freight transport and the number of passengers are translated into number of vehicles (road) and trains (rail).

During a seminar in spring 1999 the database, the scenarios as well as the first results have been evaluated, again under participation of all institutes involved.

Databases, for base year and forecasting years, networks, tools for applying variants to the scenario's and calculating sensibilities here and presentation tools have been put into a toolbox by country, made available to the participating institutes and to the PHARE and TINA secretariat.

### The results

- Freight transport

The main results by scenario are given in table S.1 and S.2.

**Table S.1: Total transport (tons \*1000); base year 1996, forecasts 2015**

Scenario	Domestic transport				Export					Import						
	road	rail	inl. ww.	total	rest	road	rail	inl. ww.	sea	total	rest	road	rail	inl. ww.	sea	total
Base year	1973253	341502	10151	2324908	2543	59592	79205	3696	60972	206007	42118	41815	91633	3270	54726	233562
Scenario A	2891251	350976	11191	3253420	5216	140703	127960	8784	111106	393768	70647	121457	137370	5527	85005	420006
Scenario B	3281011	372383	13027	3666423	6569	165137	146198	10450	126214	454567	78753	147412	163556	6292	96491	492504
Scenario C	3376344	277050	13027	3666423	6569	192984	118350	10450	126214	454567	78753	176000	134968	6292	96491	492504
Scenario D	3399556	253838	13027	3666423	6569	195986	115348	10450	126214	454567	78753	179621	131347	6292	96491	492504
Scenario E	3713647	251037	13761	3978447	8035	218298	130123	12840	141701	510998	90139	204806	144492	7199	106214	552851
Scenario B1	3188364	465030	13027	3666423	6569	136604	174730	10450	126214	454567	78753	117260	193708	6292	96491	492504
Scenario D1	3411576	242267	12578	3666423	6569	210825	98486	12477	126210	454567	78753	204377	107384	5499	96376	492389

**Table S.2: Modal-split total transport (%); base year 1996, forecasts 2015**

Scenario	Domestic transport				Export					Import						
	road	rail	inl. ww.	total	rest	road	rail	inl. ww.	sea	total	rest	road	rail	inl. ww.	sea	total
Base year	84,9	14,7	0,4	100,0	1,2	28,9	38,4	1,8	29,6	100,0	18,0	17,9	39,2	1,4	23,4	100,0
Scenario A	88,9	10,8	0,3	100,0	1,3	35,7	32,5	2,2	28,2	100,0	16,8	28,9	32,7	1,3	20,2	100,0
Scenario B	89,5	10,2	0,4	100,0	1,4	36,3	32,2	2,3	27,8	100,0	16,0	29,9	33,2	1,3	19,6	100,0
Scenario C	92,1	7,6	0,4	100,0	1,4	42,5	26,0	2,3	27,8	100,0	16,0	35,7	27,4	1,3	19,6	100,0
Scenario D	92,7	6,9	0,4	100,0	1,4	43,1	25,4	2,3	27,8	100,0	16,0	36,5	26,7	1,3	19,6	100,0
Scenario E	93,3	6,3	0,3	100,0	1,6	42,7	25,5	2,5	27,7	100,0	16,3	37,0	26,1	1,3	19,2	100,0
Scenario B1	87,0	12,7	0,4	100,0	1,4	30,1	38,4	2,3	27,8	100,0	16,0	23,8	39,3	1,3	19,6	100,0
Scenario D1	93,0	6,6	0,3	100,0	1,4	46,4	21,7	2,7	27,8	100,0	16,0	41,5	21,8	1,1	19,6	100,0

- Passenger transport

The main developments per scenario are presented in table S.3

**Table S.3: Total passenger traffic between the defined traffic zones base year (1995) and forecast 2015 per scenario (million passenger trips)**

Scenario	million passenger trips			Change to base year 1995 (= 100)		
	domestic	international*	total	domestic	international*	total
Base year	2319.097	396,384	2715,481	100	100	100
Scenario A	2913.648	630,397	3544,045	126	159	131
Scenario B	3120.527	697,623	3818,150	135	176	141
Scenario C	3229.316	734,159	3963,475	139	185	146
Scenario D	3287.934	757,267	4045,201	142	191	149
Scenario E	3376.373	848,200	4224,573	146	214	156

International traffic (indices 159 to 214, dependent on the scenario) is growing considerable faster than domestic (indexes 126 to 146). With regard to modal split the development of the railway sector is lower compared to the growth of the road sector; however in most countries a modest growth of railway trips still exist. In international traffic rail traffic will grow in all cases. The growth of road transport here is, dependent on the country and the scenario, between 60% and 300%.

### The use for the assignment on the TINA network

The best expertise available has been collected to make a model based assignment procedure possible. In the case of roads the partner institutes have delivered data on link flows, and this information has been extended by the UN counting data for the year 1995. This means that the possibility to calibrate the model on the base of observed link flows was relatively good. As a consequence the modelled link flows do not deviate largely from the observed flows, while in some cases outliers could not be avoided because the matrix information did not correspond with the reported link flows. Therefore, on the average, the road traffic forecast could start from a satisfying base line level.

The traffic forecast for road traffic varies widely with different scenario assumptions. There is a wide range for socio-economic growths and infrastructure supply, which directly reflects in different network loads. Therefore the question whether particular motorways in corridors are financially viable or not heavily depends on the choice of a scenario. Note that in the scenario computations no assumption has been made with respect to road pricing. As soon as road pricing is introduced for motorways to help to finance by own market revenues a traffic diversion and a reduction of induced traffic can be expected such that the high traffic volumes of optimistic scenarios might diminish.

In the case of railways the possibilities to construct a sound base for computer-edit assignment procedures was not as good. The information given by the partner institutes was not complete and there was not possibility to check this data on the base of an international survey. Furthermore, link flow data in railway networks are much more difficult to be reproduced by model computations compared with road networks. This is caused by the various possibilities for the railway companies to design trip tables, routes and railway lines on the existing networks. This can lead to very different OD-related supply side conditions. Nevertheless the model representations seem reasonable and in particular the results with respect to the different scenarios are looking remarkably. They say in general that railways will not profit from the growth of income levels and they will also not profit from infrastructure extensions as long as these extensions are spread over all modes. Only if railways receive a bonus from the state as for instance in form of investment or operation subsidies, they can strengthen their market position. Although the average railway patronage is not developing dynamically there are high growth rates alongside heavily congested corridors. This means that a core business of railways in long distance passenger traffic will lie in this market segment. This holds in particular for international traffic where the traffic growths are much higher than the average.

### Follow-up

The consultants see the results of this project as a first step in introducing standards in databases and forecast methods in central Europe. These standards are linked to the standards developed in Western Europe, since the project execution has been linked to a similar DGVII project in Western Europe.

The consultant's advice to use the forecasts of scenario B as the reference scenario for developing infrastructure plans as part of the realisation of the network as described in the TINA report. For the estimations of variances to the full completed network in the further future scenario D can be used as being the reference for the completed infrastructure.

The results only keep their value once the system will be maintained. Once it has been declared, as a standard institutional arrangements have to be made to ensure its use in relevant projects and regular updating. One source of updating is the inclusion of the results of new statistical systems in counties were the statistical systems are not yet fitted for a system of market oriented transport. Especially in the road freight statistical systems improvements are needed. Furthermore a learning process of working with this type of models has started and will result in improved capabilities within the participating institutes.

Institutional arrangements to be made include:

- co-ordinating the participating institutes;
- organising the process of improving and further work;
- organising access to the data and tools;
- keeping the standards on application.

It is the opinion of the consultant that there is, once the follow-up has been organised the value of the project for the coming TINA work will exceed the value of the present results.

For the short time a training programme is recommended. The type of work in this project do require extensive knowledge and experience at the participating institutes. It is proposed to organise a programme to develop this knowledge further. Areas of development are:

- data collection;
- statistical systems;
- estimating missing data;
- transport flows modelling;
- scenario description;
- macro-economic modelling;
- the use of geographical systems;
- the use of the toolbox.

For projects financed through TACIS the study "Update of the Border Crossing Study" (May 2001) provides information on the traffic flows along the Pan-European Transport Corridors.

The following tables show the cross-border traffic at the border stations between the candidate countries for accession and the TACIS beneficiary countries:

#### Road Border Crossings (in year 2000)

Corridor	Border Station	Number of Vehicles/day	Number of Trucks
Corridor I (via Kaliningrad)	Kybartai/Cherneshevsky	802	121
	Gronowo/Mamonovo	2243	68
Corridor II	Terespul/Brest	3009	0
Corridor III	Medyka/Sheghini	997	59
Corridor V	Vysne Nemecke/Uzhorod	986	71
	Zahony/Chop	2102	258
Corridor IX	Medininkai/Kamenny Log	826	267
	Albita/Leushen	443	106

#### Rail Border Crossings (in year 2000)

Corridor	Border Station	Number of passenger trains	Number of freight trains
Corridor I (via Kaliningrad)	Kybartai/Nesterov	3	3
	Braniewo/Mamonovo	1	1
Corridor II	Terespul Centralny/Brest Centralnyi	24	-
Corridor III	Przemysl-	6	15

	Medyka/Mostiska		
Corridor V	Cerna nad Tisou/Chop	4	6
	Zahony/Chop	4	8
Corridor IX	Kena/Gudagois	15	15
	Cristesti-Jijea/Ungen	2	1

## **Status of the Pan-European Transport Corridors**

### **Corridor I**

#### **ALIGNMENT:**

Corridor I is a multi-modal transport link, running in North - South direction. It starts in Helsinki (Finland) and connects Tallinn (Estonia), Riga (Latvia) and Kaunas (Lithuania) with Warszawa (Poland) and Gdansk (Poland). In Kaunas Corridor I crosses the alignment of Corridor IX, which runs in East-West direction in Lithuania.

Corridor I consists of the following three components, which are being developed separately until now:

1. The road Corridor (Via Baltica) runs from Tallinn to the Latvian capital Riga. From Riga the Corridor runs further on to Kaunas (Lithuania) and crosses the Lithuanian/Polish border at Kalvarija/Budzisko and ends in Warszawa.
2. The rail Corridor (Rail Baltica) runs from Tallinn through Tartu (Estonia) to Riga (Latvia). It crosses the Latvian/Lithuanian border at Meitene/Kalviai and continues to Siauliai and Kaunas (Lithuania). The railway crosses the Lithuanian/Polish Border at Mockava/Trakiszki continuing then southwest to Warszawa.
3. The branch IA of Corridor I starts in Riga (Latvia) and then runs via Kaliningrad (Russia) to Gdansk (Poland). The road branch crosses the Lithuanian/Russian border at Panemune/Pagegiai running to Kaliningrad (Russia). After that the road crosses the Russian/Polish border at Grzechotki and ends in Gdansk (Poland).

The rail branch of Corridor IA crosses the Lithuanian/Russian border at Pagegiai/Sovjetsk, goes on to Kaliningrad and to the Russian/Polish border Mamonovo/Braniewo and terminates in Gdansk.

#### **GENERAL DEVELOPMENT:**

The Ministries of Transport of Finland, Poland, Estonia, Latvia, Lithuania and Russia as well as the European Commission signed a Memorandum of Understanding (MoU) on 3 July 1996. In this memorandum the Corridor has been divided into three separate components as mentioned above.

Via Baltica: For the Via Baltica a separate MoU was signed on 1 December 1995 by the Transport Ministers of Finland, Poland, Estonia, Latvia and Lithuania as well as by the European Commission. The MoU set up a "Via Baltica Monitoring Committee", which is composed of Estonia, Finland, Latvia, Lithuania and Poland and with the participation of the European Commission. The Committee is chaired by Sweden, and the secretarial functions are ensured by Finland.

The five-year Via Baltica Investment Programme from 1996-2000 has been completed. In February 2001, the Second Via Baltica Improvement Programme was drawn up by the parties to be implemented in years 2001 – 2006.

Rail Baltica: A Steering Committee, which monitors the railway co-operation is based on a Protocol Agreement signed in June 1997 by the railway companies. The Lithuanian Railways have taken over the chairmanship from UIC. A fourth meeting of the Steering Committee took place in March 1999 in Vilnius. The group has been working to define the physical infrastructure and the corresponding investments required. This work culminated in the production of a "White Paper" in June 1999, a document summarising the data on physical infrastructure and rolling stock and indicating the investments already made and those planned in the future. The "White Paper" also gives details of current traffic volumes and forecasts up to 2010.

Kaliningrad branch, IA: The road/rail connection, Riga – Kaliningrad - Gdansk, has had little development compared to Via Baltica. However, the Ministry of Transport of Russia hosted a first Steering Committee meeting on 5 March 1999 in Kaliningrad to discuss the state of transport infrastructure, problems and perspectives on developing the corridor branch. The next meeting took place in mid-April 2000, again in Kaliningrad. A permanent secretariat under the auspices of the Ministry of Transport of Russia was set up.

At present special attention by the government of Russia was paid to the development of the transport infrastructure of the Kaliningrad district. In January 2001 the external session of the Collegium of the Ministry of Transport of Russia took place in Kaliningrad, furthermore on the meeting of the government of the Russian Federation of 22 March 2001 the social-economic development of the Kaliningrad district was discussed.

The activities on the development of the transport infrastructure and the solutions of related matters are being carried out on the basis of bilateral Russian-Lithuanian and Russian-Polish relations. On a meeting of the first deputy ministers of transport of Russia and Lithuania, took place on 19 – 22 March 2001, the co-operation within all modes of transport including the regulation of rail transport tariffs have been discussed.

The Oblast's closeness to European countries, its ice-free seaports and the international transport corridor branches IA (Via Baltica) and IXD (Via Hanseatica) connecting the oblast to Baltic and EU States make this region important for Russia's foreign policy and overseas trade.

Since the region is an enclave, exporting more than 70% of its manufactured goods and importing up to 90% of raw materials and components, the role of transport has substantially increased. For this reason, one the main purposes of developing the special economic zone in Kaliningrad Oblast is to create a major transport terminal for Russia on the Baltic.

The Russian Federation's policy with regard to Kaliningrad Oblast's transport system takes into account its special geopolitical and economic situation and its importance in the context of Russia's economic and defence interests.

Since the collapse of the Soviet Union in 1991 the need to cross the territory of foreign countries - Lithuania and Belarus - for movements to and from Kaliningrad Oblast has naturally complicated the transport process. Transport without crossing borders with other countries was possible only by sea. Goods and passenger traffic volumes to and from Kaliningrad Oblast were therefore declining up to the year 2000.

Things began to improve in 2000 due to persistent work with the federal centre. The conditions have been created for improving Kaliningrad's competitiveness as a transport hub (the tariff conditions for the carriage of goods on Russia's railways have been improved, customs formalities and inspections have been simplified, new production capacities have come on stream, etc.).

The following are the freight traffic data for Kaliningrad Oblast's transport system in 2001:

- 10.8 million tonnes were processed by rail transport;
- 5.8 million tonnes went through the Oblast's port complex;
- 1.2 million tonnes were carried by road;
- an insignificant amount went by air.

In 1996 the Federal Law "On the special economic zone in Kaliningrad Oblast" was adopted with a view to aligning the economic conditions for the development of the oblast with those of the other regions of the Russian Federation.

As a result of the implementation of this Law, in 1999 goods to the value of more than \$ 270 million (€ 312.43<sup>2</sup> million) were produced and sent to Russia, amounting to more than 70% of the total industrial production of the oblast, and in 2000 more than \$ 430 million (€ 497.57<sup>2</sup> million) or more than 80% of the oblast's total output.

More than 1800 organisations with foreign capital, branches and representative offices of foreign firms are registered in the region. Investors from more than 50 countries have been involved in setting up organisations.

In 1993-2000 the volume of accumulated foreign investment was \$ 62 million (€ 71.74<sup>2</sup> million), more than 65% of which was direct investment. In 2000, \$ 19.1 million (€ 22.1<sup>2</sup> million) worth of foreign investments went into the economy of the oblast.

In December 2001 two special federal programmes were adopted by the Government of the Russian Federation ("Development of Kaliningrad Oblast up to 2010" and "Modernising Russia's Transport System"), in which considerable funds are earmarked for developing Kaliningrad Oblast's transport system.

The first programme devotes RUB 14.7 billion (€ 547.8<sup>3</sup> million) to the transport system, and the second around RUB 8.0 billion (€ 298.12<sup>3</sup> million).

The expected result of the programme measures is the development of Kaliningrad oblast as a major transport hub for Russia through the modernisation of its transport infrastructure.

Technical features of Corridor I:

Concerned countries	Finland, Estonia, Latvia, Lithuania, Poland, Russia
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	1,655 km
Roads	1,630 km
Inland waterways	n.a.
Number of Airports	6
Number of Sea- and Riverports	11
Alignment:	Helsinki – Tallinn – Riga – Kaunas - Warszawa
Railway	Tallinn – Tapa – Tartu – Valga/Valka – Riga – Jelgava – Meitene/Kalviai – Siauliai – Kaunas – Mockava/Trakiszki – Bialystok – Warszawa
Road	Tallinn – Ikla/Ainazi – Riga – Grenstale/Salociai – Panevezys – Kaunas – Kalvarija/Budzisko – Bialystok – Warszawa Branch to Kaliningrad - Gdansk
Railway	Siauliai – Pagegiai/Sovjetsk – Kaliningrad – Mamonovo/Braniewo – Elblag – Gdansk
Road	Riga – Meitene/Kalviai – Siauliai – Panemune/Pagegiai – Kaliningrad – Grzechotki – Elblag – Gdansk

Remark: The shown figures for seaports and riverports refer to the TINA countries.

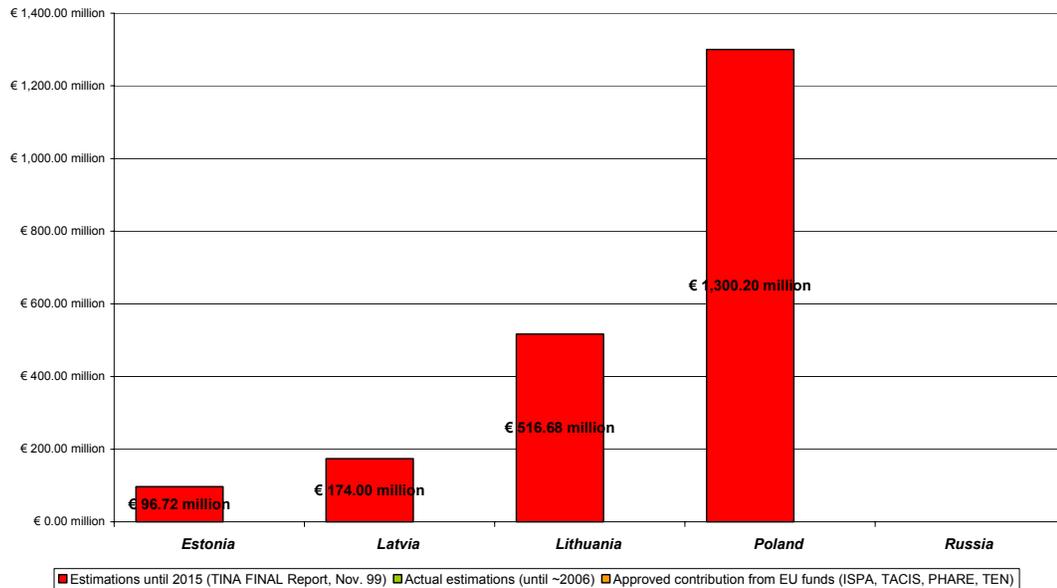
<sup>2</sup> Exchange rate: € 1 = \$ 0,8642 (source: European Commission – DG Budget InforEuro, February 2002)

<sup>3</sup> Exchange rate: € 1 = RUB 26.8348 (source: European Commission – DG Budget InforEuro, February 2002)

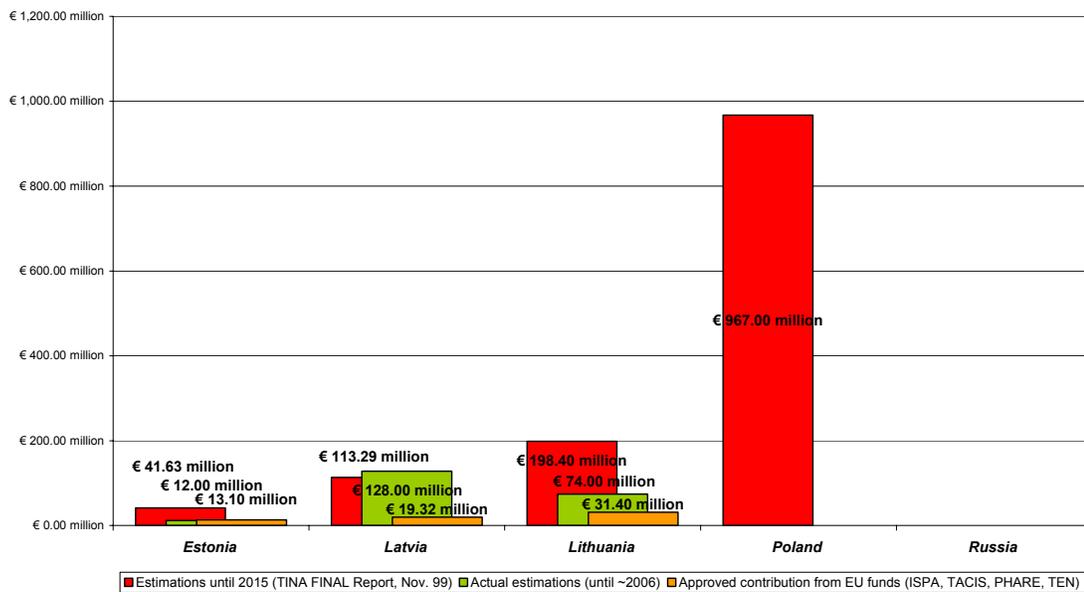
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor I have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor I for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investments along Rail Corridor I**



**Costs for infrastructure investments along Road Corridor I**



## **DEVELOPMENTS ALONG THE CORRIDOR**

### RAIL BALTICA

Discussions have recently been launched on how to consolidate the railway market share of existing traffic, which is and will remain at modest level for another few years. It is necessary to seek short- and medium term improvements in areas other than infrastructure; these investments include improvements at border stations.

### VIA BALTICA

The five-year Via Baltica Investment Programme from 1996-2000 covered investments of about € 214 million. Under this programme the following have been achieved:

- 110 km of new roads have been built and 333 km of existing roads have been rehabilitated or resurfaced, corresponding to nearly half the total length of Via Baltica;
- 28 bridges and viaducts have been constructed, repaired or strengthened;
- all countries have initiated specific traffic safety programmes;
- signing of Via Baltica as E 67 has been arranged;
- roadside services have been developed along the route by the private sector.

EU PHARE has assisted in constructing and equipping new facilities for the Baltic States and Polish customs and other border authorities at all border stations.

The Second Via Baltica Investment Programme 2001-2006 was published in February 2001. The Programme consisted of projects to an estimated cost of € 553 million. In fact, the first and second programmes merge into a single development process spanning over eleven years (1996-2006).

In 2001, the first steps to implement the Second Programme have been taken. In Lithuania one construction project has been completed in 2001 and in the other countries launching of the Programme is anticipated in 2002.

The main criteria for the programme development phase has been that the final set of projects will be commensurable with the financing capacity of the Via Baltica countries supplemented by the international financing institutions and the ISPA grants.

Traffic. Traffic growth on Via Baltica has changed considerably between 1999 and 2000:

- In 2000, the national traffic count in Poland indicated that traffic on Via Baltica has been higher than earlier anticipated. This is possibly the reason for the jump to 13-14% growth that year.
- In Lithuania there is considerable uncertainty about traffic growth, as new road sections were opened for traffic. In some sections substantial reductions were observed, as the flows were rerouted and divided between two routes (old and new). Nevertheless, in sections not altered, such as near the borders, growth was observed.
- Traffic in Latvia has grown by 2.3% between 1999 and 2000.
- Estonian records show an average traffic growth of 3%.

At the moment, there are partial data available of the 2001 traffic. In general, they show the similar growth trend as in 2000.

Long-distance traffic registered at the border crossings reflects the realisation of the route's concept. Between 1999 and 2000, border traffic has grown as follows:

- Finland-Estonia 54%<sup>4</sup>
- Estonia-Latvia 11%<sup>5</sup>
- Latvia-Lithuania 4%<sup>5</sup>
- Lithuania-Poland 0%<sup>6</sup>

#### Kaliningrad branch, IA:

##### Estonia:

**Rail:** The length of Rail Corridor I within the territory of Estonia is 297 km. The line is double track and electrified from Tallinn to Aegviidu and continues non-electrified and mostly single track to Tapa, Tartu and the Estonian/Latvian border (Valga). It is foreseen to continue reconstruction of sections on the stretch successively until 2006.

**Road:** During this first Via Baltica Investment Programme 1996-2000 road investments have covered the following measures:

- 73 km of road resurfacing;
- 8 major bridges built or rehabilitated;
- improvements of the streets in the City of Tallinn including one major interchange.

The Estonian Ministry of Transport and Communications and the Estonian Road Administration finalised the second Via Baltica Investment Programme and specified details after signing financing agreements with the EIB and NIB as well as the ISPA programme of the European Commission. The largest project of the Estonian part of the Programme:

- rehabilitation of E67 road Tallinn - Pärnu - Ikla;
- extensive reconstruction and construction on E20 (Tallinn - Narva);
- reconstruction of the Pärnu ring road, one congested section on the Narva road some bridges amounting to a total of € 66 million.

##### Latvia:

**Rail:** The Rail Corridor in Latvia runs from the Estonian/Latvian border (Valka) to Riga – Jelgava and the Latvian/Lithuanian border (Meitene). The length of the partly double track and partly single-track line is 248 km. It is envisaged for upgrading and reconstruction until 2015.

**Road:** At the end of 2000, the following investments have been completed:

- 146 km of road rehabilitated or resurfaced (of which 20 km will be completed in 2001);
- 8 bridges strengthened and rehabilitated;
- a road safety programme including municipal highway improvements is underway;
- construction of one level roundabout in Kekava;

<sup>4</sup> Between 1999 and 2000, vehicular traffic on ferries between Helsinki and Tallinn took a considerable jump due to a very high increase (72%) in the numbers of passenger cars despite stable passenger flows at little over 6 million. Truck traffic increased also appreciably, by 23%. It represents now about 30% of the total motor vehicle traffic of 368 000.

<sup>5</sup> Reported traffic volumes vary considerably on both sides of the border. Therefore, the lower growth figure is shown here.

<sup>6</sup> According to the Polish statistics, the year 2000 volume of cross-border traffic at Budzisko/Kalvarija remained the same (732 000 vehicles) as in 1999. This is totally due to a 16% reduction in passenger cars, since truck traffic grew 11% amounting to 473 000 heavy vehicles. Trucks represent now 65% of border traffic.

- a comprehensive road winter service with 6 road weather stations maintenance equipment and wet salt technologies introduced.

Latvia has the most extensive investment plans under the Second Via Baltica Programme. In 2001, the Latvian national programme has been implemented as planned and projects completed and opened for traffic:

- including the improvement of the 8.2 km section Gauja-Lilaste to the north of Riga;
- reconstruction of the Gauja River bridge.

Several projects of the Latvian programme are in the preparation stage, which are aimed at improving road safety and road strength. The programmed works on the Riga Airport access road will start soon. A public hearing on the important Saulkarsti bypass some 40 km north of Riga has been carried out.

The current estimate of expenditures on Via Baltica amounts to € 128 million, up from € 100 million of the original estimate. Programme financing for 2002 is secured with ISPA grants.

The Corridor branch to Gdansk starts in Riga and runs to the Latvian/Lithuanian border (Kalviai). Its length is 89 km. From Riga to Dalbe the road category is a four-lane expressway, from there it continues as two lane national road to the border. The road will be upgraded to higher traffic safety standards until 2007 and the road pavement will be rehabilitated until 2015.

#### Lithuania:

**Rail:** The length of Corridor I within the territory of Lithuania is 333 km. The gauge of the railway line is 1520 mm over the total length except for the section Sestokai – Polish border (21.8 km) with the gauge of 1435 mm.

Track relaying in Siauliai – Gaiziunai and Palemonas – Kazlu Ruda sections belonging to both Corridors I and IX, was performed. 10.3 km of the track will be relayed using the loan from the EIB given in 1999. In total, 155 km of track were renewed during 1993-1998 using loans from the IFIs.

With the increase of international traffic on Corridor I the gauge difference between Lithuania and Poland becomes more problematic. The MoU regarding the operational testing of the device was signed in 1998 by the Ministers and Railway managers from Germany, Poland, Finland and Lithuania. The pilot automatic gauge change device was installed at Mockava station in September 1999 and operational tests are being made.

The length of the Corridor branch to Gdansk in Lithuania is 148 km. Its starting point is Radviliskis (near Siauliai), where it separates from the main branch, and continues to the Lithuanian/Russian border (Panemune/Pagegiai). The line is single track and non-electrified. It will be modernised and upgraded between 2001 and 2008.

**Road:** At completion of the first Investment Programme, the achievements will be the following:

- 71 km of new road constructed;
- 103 km of road reconstructed or strengthened;
- 5 bridges and 7 viaducts constructed;
- new measures for traffic safety implemented;
- 10 km of pedestrian and bicycle paths constructed;
- 7.5 km of metal crash barriers installed;

- 11 intersections reconstructed.

The implementation of the Second Via Baltica Investment Programme was commenced in Lithuania already in 2000.

- the first 10.9 km long section of Marijampolė-Kalvarija bypass belonging to the Second Investment Programme was completed in November 2001;
- the second 11.6 km section of the same bypass is under construction and will be completed in October 2002.

The cost of the whole project will be € 14.9 million, which includes a PHARE grant of € 5 million. The remaining projects of the Second Investment Programme will be carried out in two stages ending in 2003, as originally programmed. The works consist of construction of four grade-separated intersections and the second carriageway for the Kaunas western bypass. Tendering of the first part has already been carried out and contracts are expected to be signed in 2002.

Corridor branch to Gdansk has a length of 186 km and runs from the Lithuanian/Latvian border (Kalviai) to Siauliai and to the Lithuanian/Russian border (Panemune/Pagegiai). The two lane national road will be upgraded and bypasses will be newly constructed.

#### Poland:

**Rail:** The Rail Baltica in Poland runs from the Polish/Lithuanian border (Mockava) to Bialystok and terminates in Warszawa. Its length is 340 km. The line is single-track up to Bialystok and continues double track and electrified to Warszawa. A second track will be added on the sections missing until 2010 and the total line will be upgraded to a speed of 160 km/h.

The length of Corridor branch to Gdansk in Poland is 141 km. It runs from the Polish/Russian border (Braniewo) to Elblag and Gdansk. The partly single and partly double track line will be upgraded to a speed of 120 km/h respectively 160 km/h until 2015 and a second track will be added where lacking.

**Road:** During the period 1996 - 2000 of the Via Baltica Investment Programme the following investments have been completed:

- 39 km of new road constructed or existing roads reconstructed;
- 11 km of road rehabilitated or resurfaced;

For the period 2000 - 2006 following investments are foreseen within the Second Via Baltica Investment Programme:

- the Ostrow Mazowiecka bypass project has started on Route 8 (Via Baltica) about 90 km northeast from Warszawa. The bypass belongs to the World Bank road loan programme of Poland;
- Until 2010 – completion of the expressway between Radzymin and Bialystok with a length of 134 km.
- the repair of road bridges between Elblag and the state border to Russia has begun.

Problems are being sorted out concerning the environment, land ownership and financing, including the ISPA assistance.

In 2001 the Polish road budget has been reduced. Nevertheless, there is an increasing pressure to build and improve roads in Poland. Among others, the accession to the EU will require increasing the allowable axle loads to 11.5 tons. Road strengthening must be carried out throughout Poland, including Via Baltica.

Corridor branch to Gdansk runs from the Polish/Russian border (Grzechotki) to Elblag and further to Gdansk. The two lane national road has a length of 114 km. It will be reconstructed into an expressway after 2005 on the section Grzechotki – Elblag. Between 2002 and 2004 the strengthening of pavement on the section Jazowa (Elblag) – Gdansk is being completed. The project is being co-financed with ISPA funds.

Russia:

**Rail:** The railway section from the Russian/Lithuanian border (Pagegiai) to Kaliningrad is single track on 58 km and double track on 90 km. From Kaliningrad to the Russian/Polish border (Branewo) it is double track with both the European standard gauge and the Russian broad gauge.

Within the rail section on the territory of Kaliningrad district (Sovjetsk - Tshernjachovsk - Kaliningrad - Mamonovo) the modernisation works of the rail station Tshernjachovsk, where the central switch control has been electrified, and the reconstruction of the fuel station of the locomotive depot in Kaliningrad has been carried on.

**Road:** The length of the Corridor branch to Gdansk in Russia is 164 km. The road section shall be upgraded to the technical standards of road category I according to the Programme "Streets of Russia". At present modernisation works of road communications on the route of Via Hanseatica are being carried out on the territory of Kaliningrad district.

In accordance with an Order of the Government of the Russian Federation, the project to renovate the Kaliningrad-Elblag motorway and build the "Mamonovo-2 - Grzechotki" (Russia - Poland) border crossing has been resumed.

For Kaliningrad Oblast the construction of the "Mamonovo-2 - Grzechotki" combined infrastructure crossing will create the conditions for resolving problems in constructing the "Kaliningrad-Elblag" motorway and building the "Mamonovo-2 - Grzechotki" border crossing.

At the moment Poland is modernising the Polish section of the Corridor "Riga - Kaliningrad - Gdansk" in stages and carrying out the preparatory work for the construction of the border crossing while keeping it open to traffic, including unlimited lorry traffic.

The Russian section of the "Dorozhnoye - State frontier" motorway forms part of the special-purpose federal programme "Russia's Roads in the 21<sup>st</sup> Century" with total funding amounting to RUB 305 million (€ 11.37<sup>7</sup> million). The motorway will not be able to operate without the "Mamonovo-2" crossing point being built and equipped. The solution to the problem of carrying out the project is the Russian State Technical Commission's (RSTC) inclusion of "Mamonovo-2" crossing point in the exploratory programme for 2002, since the essential design work may take over a year and be completed in 2003. It is also absolutely essential to find a solution to the problem of planning and constructing it in combination with the Polish scheme.

**Port:** For Russia, the Baltic States and their northern neighbours Finland and Sweden, maritime transport is as important now as it has ever been. After the break-up of the USSR and the redistribution of the Baltic market area, Russia found itself

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<sup>7</sup> Exchange rate: € 1 = RUB 26.8348 (source: European Commission – DG Budget InforEuro, February 2002)

deprived of the ports of the former Baltic soviet republics. The only ice-free ports Russia still has on the Baltic Sea are the Kaliningrad port complex.

The importance of the Kaliningrad port complex to Russia is chiefly due to its proximity to the main ports of Western and Northern Europe, about 1,100 kilometres closer than the ports of the Gulf of Finland. But since Kaliningrad is an exclave of Russia, its ports lose out to the St Petersburg port complex by being further away from the main centres of Russia and Ukraine.

However, Kaliningrad's indisputable advantage lies in year-round navigation and the possibility, through the conversion of its naval bases, of being able to use the ready-made infrastructure of ports like Baltiisk.

Kaliningrad Oblast's port complex consists of:

- the Sea Commercial Port;
- the River Port;
- the State Marine Fish Port;
- the port of Pionerski;
- oil transshipment terminals.

Ships on Baltic Sea runs can put in via the Kaliningrad Ship Canal, with a length of 43 kilometres, a guaranteed depth of 9.0 metres along its entire length and a width of 50 to 80 metres. The maximum acceptable ship lengths are:

- dry-cargo ships: 170 metres;
- tankers: 140 metres.

There are rail and road connections linking the harbour quays with the entire network of transport routes of Russia and other countries.

State control of the safety of maritime navigation in the ports and on the canal, the implementation of the rules and requirements of international conventions, tariff policy, maintenance of the quays and canal in good working order and their modernisation and development is exercised by the Maritime Administration of the Port of Kaliningrad and the Maritime Administration of Kaliningrad State Marine Fish Port.

The maritime navigation safety system uses radio direction-finding for ships, modern navigation equipment on the Ship Canal, and experienced and qualified State Port Inspection officers and pilots.

In February 1999 Global Maritime Distress and Safety System (GMDSS) equipment was put into service. A rescue coordination centre was set up for carrying out search and rescue operations in Russia's area of responsibility and the south-eastern part of the Baltic Sea.

The total design capacity of Kaliningrad Oblast's port complex is around 16.4 million tonnes of cargo per year, although capacity utilisation at the moment is only 40%.

At the time when the port of Kaliningrad was closed to foreign vessels and was not receiving the necessary State investments for its development, the ports of the former Baltic union republics were being intensively and purposefully developed by means of State investments and had secured the most lucrative segments of the transport services market.

The port of Klaipeda, for example, was developed for the transshipment of heavy metals and petroleum products, and a rail ferry connection to Germany was set

up; the port of Ventspils was the largest oil port and bulk fertiliser complex; Riga was the main port for containers and coal transshipment, and the port of Muuga for grain, refrigerated cargoes and oil products.

In the last few years the situation has changed. Today the ports and terminals are investing in fixed capital from internal funds and attracted investment.

In 1991 the port was opened to foreign vessels and privatised. In its market relations radically new approaches were called for as well as decisions to attract cargo flows into the port complex.

In this period efforts were focused on renovation and creating new port capacities, developing liner shipping, setting up joint ventures and companies providing a high level of service in all spheres of maritime business, specialisation of the ports in the new types of cargo and maximum flexibility according to market demands.

In a relatively short space of time, the following have been constructed in the ports:

- a complex for receiving ro-ro ships and ferries;
- a passenger pavilion;
- a liquid cargo terminal;
- new covered warehouses;
- the first phase of a container terminal;
- a modern terminal for the transshipment of mineral fertilisers in bulk;
- refrigerated terminals;
- a bulk mineral fertiliser transshipment complex;
- 2 packaging complexes for bulk mineral fertilisers;
- a refrigerator which can store up to 10 000 tonnes at any one time.

At the end of 2001 an oil terminal with a design capacity of more than 1.5 million tonnes of oil per year was brought into service.

In accordance with the special federal programmes adopted by the Russian Government at the end of 2001, the following are planned for execution by 2010:

- setting up of a rail, truck and car sea ferry crossing between Baltiisk and Ust-Luga;
- construction of a deep-water port at Baltiisk;
- continuation of construction of the container terminal in the commercial port;
- renovation of the Kaliningrad Ship Canal.

## CORRIDOR II

### ALIGNMENT:

Corridor II is a multi-modal East–West link connecting Berlin - Warszawa - Minsk - Moskva and Niznij Novgorod. It is composed of railway and road connection running parallel linking above cities. The distance from Berlin to Niznij Novgorod is 2,313 km by rail and 2,260 km by road.

The extension of Corridor II from Moskva to Niznij Novgorod was decided upon at the Helsinki Conference in 1997. The extension gives the Corridor access to the inland waterways in Russia, along the Volga River to the Caspian Sea and via the Volga/Don Canal to the Sea of Azov and the Black Sea.

General development:

The Memorandum of Understanding (MoU) on the development of the Corridor was signed on 23 January 1995 by the Ministers of Transport of Germany, Poland, Belarus, Russia and the Railway Minister of Russia as well as the European Commission. The Steering Committee chairmanship is rotating in bi-annually intervals and was co-chaired by the Directorate General for Transport of the European Commission, who monitored the development of the Corridor.

At the third Steering Committee meeting of Corridor II, which took place in Niznij Novgorod in February 1998, it was decided to prepare an addendum to the Memorandum of Understanding on Corridor II, to include the extension of the Corridor to Niznij Novgorod.

At the fifth Steering Committee meeting held in Warszawa on 12 July 2000 following decisions were taken:

- The amended text of the MoU, which extends the Corridor to Niznij Novgorod was approved by all of the parties and initialled by the heads of the delegations;
- Some amendments to the Rules of Procedure were introduced;
- It was decided to shift the chairmanship (initially to the Russian Party) at the next Steering Committee meeting;
- The idea of establishing a Secretariat was supported but without any concrete proposal;
- Further development of the Public-Private-Partnership (PPP) railway initiative was discussed. However, no concrete ideas were suggested, so no specific decision was taken on this issue. Until now there is no clear position with concrete proposals in the light of the results of Step 1 (see below).

Since the fifth Steering Committee meeting the following development has taken place:

- The addendum to the MoU of Corridor II was signed in Sankt Petersburg on 12 September 2000 by the Ministers or their representatives of all involved countries and transmitted to the European Commission for signature to Loyola de Palacio, Commissioner for Energy and Transport and Vice-President of the European Commission;
- The Russian Party confirmed its willingness to take on the chairmanship of the Steering Committee and to arrange the next meeting in the first half of 2001 in Niznij Novgorod;
- The representative of IRU in Moskva expressed his readiness to establish and finance in co-operation with the new chairman, a permanent Secretariat in Moskva.

The sixth Steering Committee meeting was held in Niznij Novgorod on 20/21 June 2001. The following decisions were taken:

- With the participation of the Russian Vice-Minister for Transport, M. Kazantsev, the economic situation of the region of Niznij Novgorod and the east-region was also discussed as well as the connection of the Corridor II with Asian links;
- elimination of bottlenecks along the whole network and not only for the oriental branch;
- Re-establishment of work of a customs working group;
- Establishment of the Trans European Network Information System to include and harmonise the national transport planning of the members as a multi-modal data basis;
- One of the results was the decision to build a technical secretariat for the Steering Committee, financed by Germany. The representative of the German Ministry of Transport confirmed the engagement of the former Head of the IRU-Delegation in Moskva, Mr. Hans-Jochen Starke. There were no objections from the EU, Poland, Belarus and Russia opposing the selection.
- The Russian Ministry of Transport confirmed that the Presidency of the Steering Committee would be transferred to Germany with effect of 1 January 2002.
- At the next Steering Committee meeting in 2002 under the chairmanship of Germany co-chaired by the Russian Federation the official shifting of the chairmanship should be decided.

#### Road Secretariat Initiative – “Non-physical barriers to road transport”

The acting road secretary of Corridor II, the IRU Head of the CIS Delegation in his position as Secretary of the IRU CIS Liaison Committee generated the support of the IRU member associations of the CIS to research the situation of professional road transport in the CIS in the context of barriers, obstructions, delays and illegal activities. The compiled report – also covering Corridor II – was disseminated to all national governments of the CIS, the CIS supranational organisations (CIS-Economic Council), which decided to present the suggestions and conclusions of the report to the Presidential Summit of the CIS. A decision was taken ordering the Ministers of Transport of the CIS to prepare jointly a legal framework and actions with the aim to eliminate all identified “non-physical barriers to road transport”. With the exception of barriers created by governmental bodies outside the influence of the Ministers of Transport (Customs Authorities, Border Police, Road Police etc) – barriers were eliminated within the CIS by the adoption of general European rules (Dangerous Goods Transport; oversized and overweight transports, etc), procedures (documentation and controlling), limitations (gross-weight, axle weight, dimensions, etc).

The specific activities partly also stimulated the revision or elimination of charges (road-user-charges; regional and local fees; bribes etc), border-controlling procedures (one-stop-borders).

#### PPP Initiative Rail Corridor II:

The round table of EU and Russian industry organised in May 1998 decided to form a special Public-Private Task Force, which shall ensure the involvement of the public and the private sector when developing the railway corridor.

To overcome the key weaknesses of international rail transport and with the objective of considerably increasing the transport volume, the PPP-Initiative was developed. It is intended to establish two multi-national rail operating companies (one for passenger transport and another for freight) in charge of introducing door-to-door cross border transport services along the Corridor. With the creation of “one-stop shops”, monitored by one single infrastructure manager, an optimal timetable management and use of the infrastructure capacity can be achieved. The

proposed initiative furthermore foresees Public-Private Partnership financing and a managerial structure supported by the industry.

The partners of this initiative are the four railway operating companies (DB AG, PKP, BCh, RZhd), the four signatory countries of the MoU, Germany, Poland, Belarus and Russia, the railway supply industries and international financial institutions. The initiative has the support of the European Commission.

The new initiative will contain the following elements:

- Set up multinational railway operating companies for freight and passenger transport to assure full and integrated customer service across all frontiers (along the lines of the Thalys and Eurostar services);
- Include the four railway operators of the corridor, qualified private industry and financial institutions in the partnership;
- Identify commercialised and competent partners for the operation of freight terminals, stations and other service facilities;
- Apply PPP-structures with new methods of financing the necessary investments in infrastructure and operation;
- Introduce industrial methods to achieve fast and cost efficient solutions.

The work for improvement has two major components:

- Market and customer oriented operation accompanied by simplification of administrative procedures, in particular at border crossings;
- Upgrading of infrastructure (mainly at bottlenecks) and train control systems, purchase or lease of attractive and customer-oriented rolling stock and installation of computerised information and train control systems.

The first component has priority, since only an increased traffic volume will allow the financing of investments. The PPP-Initiative will build on the valuable work done so far by several international bodies related to Corridor II, but has the final objective of giving the project a full market orientated approach and thus a more dynamic dimension.

The initiative shall be realised in three steps: In a first step, an ad hoc Working Group composed of representatives of the partners cited above have developed and agreed on the concept of the PPP initiative. The concept and next steps are outlined in the "Report Step 1" finalised in April 1999. The process of formal approval of Step 1 by all partners has nearly been completed and should have been through in the year 2000. In the meantime valuable preparatory work has been done for Step 2, including the definition of a work programme and the preparation of the list of potential members for the Task Force, the integration of the PPP Initiative into a TACIS study on "Improvement of Traffic Flows on TEN Corridors II and IX" and the set-up of a Workshop on "Management of a Commercialised Railway" for all members of the Working Group.

In Step 2, a Task Force composed of permanent and temporary members will bring the initiative within one year to its implementing stage. Investigating all legal, financial, organisational and structural problems and taking account of all relevant information, the Task Force will create the basis for the two multi-national companies and set up the necessary business plans. In parallel new partners can join the initiative, particularly from industry and finance, and an advisory board shall give financial and know-how support to the Task Force. The Task Force should complete its work within one year and present the results at a big meeting bringing together all partners involved so far, but also potentially new partners.

After approval by all partners, and having united all conditions, the two multi-national companies can be formed and the PPP Initiative implemented.

**TECHNICAL FEATURES OF THE CORRIDOR II:**

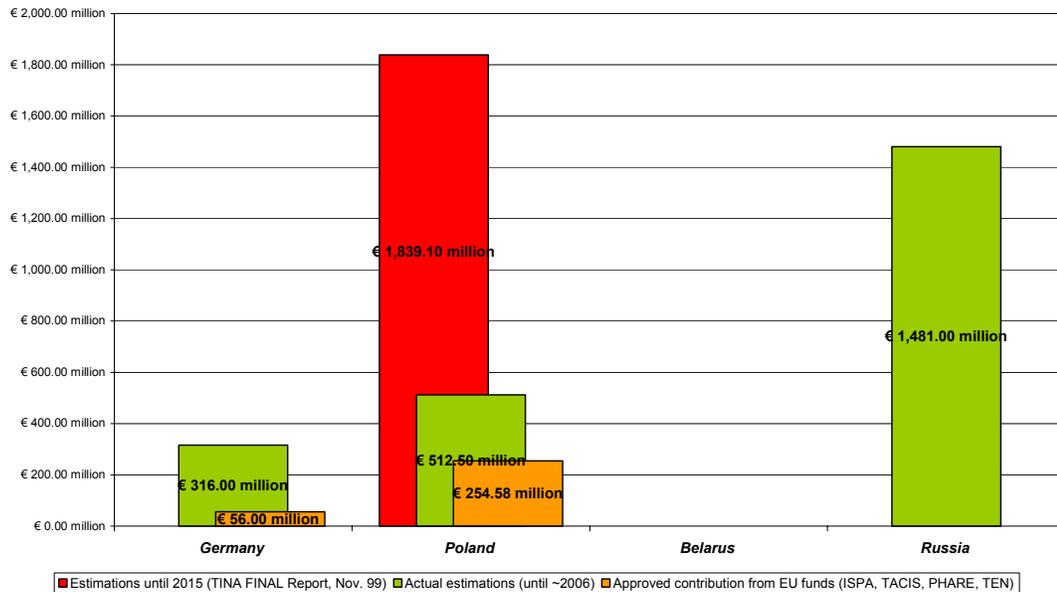
Concerned countries	Germany, Poland, Belarus, Russian Federation
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	2,313 km
Roads	2,200 km
Inland waterways	n.a.
Number of Airports	3
Number of Sea- and Riverports	2 (in Russia)
Alignment:	<b>Berlin – Warszawa – Minsk – Moskva – Niznij Novgorod</b>
Railway	Berlin – <i>Frankfurt/Oder/Kunowice</i> – Poznan – Lowicz – Warszawa – Lukow – <i>Terespol/Brest</i> – Baranavicy – Minsk – Orsa – <i>Krasnoye</i> – Smolensk – Moskva – Niznij Novgorod
Road	Berlin – <i>Frankfurt/Oder/Swiecko</i> – Poznan – Warszawa – <i>Terespol/Brest</i> – Baranavicy – Minsk – Orsa – <i>Krasnoye</i> – Smolensk – Moskva – Niznij Novgorod

Remark: The shown figures for seaports and riverports refer to the TINA countries.

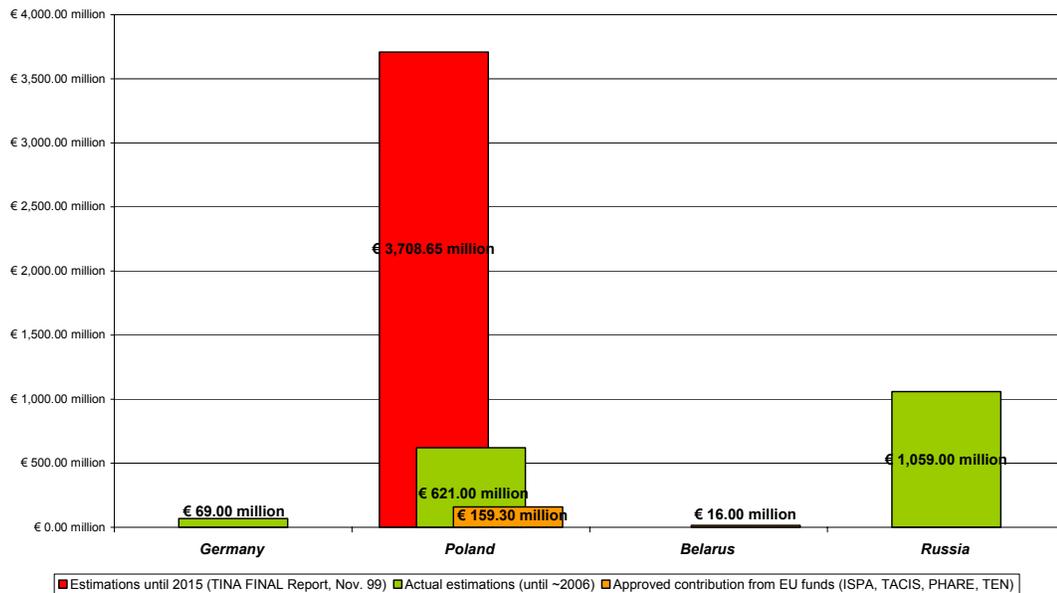
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor II have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor II for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investements along Rail Corridor II**



**Costs for infrastructure investements along Road Corridor II**



## DEVELOPMENTS ALONG THE CORRIDOR

### Germany:

**Rail:** Upgrading works to enable a speed of 160 km/h on the German section from Berlin to Frankfurt/Oder (85 km) have started in 1997. A section of 55 km to Frankfurt/Oder will be upgraded and completion is not expected before 2005. The more complicated sections of 30 km from Berlin-Ostbahnhof will follow at a later stage. The total costs for upgrading the German section is about € 316 million, of which € 56 million have been allocated from the European Fund for Regional Development – EFRD.

When actualising the Federal Railway Infrastructure Act the German Bundestag identified the improvement of the German/Polish railway border as a “trans-national project”. Therefore an agreement with Poland was necessary before this line could be upgraded. Poland submitted a draft agreement in June 1999. The findings of an updated transport study commissioned by the joint German /Polish Working Group were presented in October 2000.

**Road:** The length of the road link from the centre of Berlin to the German-Polish border at Frankfurt/Oder is about 118 km. The widening of the 24 km motorway section from the Berlin southern outskirts to the "Spreeau" junction of motorways A10 and A12 from four to six lanes is completed to approximately 50 %. 44 km of the following 58 km of motorway A12 from "Spreeau" junction to the Polish border has been widened to four lanes with a cross section of 29.5 m.

Further 7 km of the motorway A12 between "Spreeau" junction and the Polish border are under construction at present. Until 2005/2006, further 41 km of carriageways are to be widened to four lanes with a cross-section of 29.5 m, the hard shoulders having the same structure as the carriageway. Total investments will be around € 69 million. 92 km of the 118 km total German section from the centre of Berlin to the Polish border will then have been improved.

According to traffic forecasts the number of vehicles within 24 hours will increase from 24,000 (heavy goods vehicles account to one third) in 1998 to 40,000 - 50,000 in 2010.

### Poland:

**Rail:** On the majority of the section from the Polish/German border (Kunovice) to Warszawa, with a length of 473 km the works for upgrading the line to allow a speed of 160 km/h for passenger trains have been finished in 2000.

The following measures are projected for improving of Railway Corridor II (from West to East):

- The section from Kunovice to Rzepin with a length of 25 km will be modernised until 2004 for the total costs of € 30 million. The contribution of ISPA will amount to € 18 million;
- Modernisation of E-20 rail interchange to Poznan is foreseen to complete from 2002 to 2005 for the total cost of € 70 million;
- Between Warszawa and Minsk Mazowieski (38 km) improvement works are underway and they will be completed until 2002;
- Eastward of Warszawa the modernisation of E-20 railway line's section from Minsk Mazowieski to Siedlce (length: 52 km) for the total cost of € 124.5 million (including ISPA contribution of € 84 million) is planned from 2002 to 2005;

- The section from Siedlce to Terespol (121 km) is planned to be modernised from 2003 until 2006 for the total cost of € 288 million (including an expected contribution from the EU of € 135 million);
- A modernisation of by-pass for freight traffic south of Warszawa from Lowicz via Skerniewice to Lukow (182 km) is in planning stage. The construction works will not begin before 2005;
- Apart of these projects the border crossing Malaszewicze - Terespol is being modernised. The only source of financing will be the state budget.

Road: The following measures are in the pipeline for improving Road Corridor II (from West to East):

- The construction of the section from Swiecko to Nowy Tomysl (length: 105 km) will be completed from 2006 to 2010;
- The section from Nowy Tomysl to Poznan (length: 50.5 km) will be constructed from 2002 to 2005;
- The section of Poznan by-pass (length: 13.3 km) is in advanced stage of construction, it will be ready in 2003. It is co-financed from PHARE ZZ 9722 for the cost of € 45 million, the total cost is € 174 million;
- The section from Poznan to Wrzesnia (length: 37.5 km) will be constructed from 2002 to 2005 for the total cost of € 260 million;
- The section from Wrzesnia to Konin with a length of 49.2 km already exists;
- the section Konin - Strykow (107 km) will be completed from 2004 to 2010;
- the section from Strykow to Brwinow (Warszawa) with a length of 80 km will be completed from 2005 to 2010;
- the section of the Warszawa by-pass of the A2 motorway, as well as the section from Warszawa to Siedlce (90 km) will be completed from 2005 to 2010;
- the section Siedlce – Terespol (100 km) will be completed from 2010 to 2015;
- The project of strengthening the road surface to the axle load of 115 kN on road No. 50, section Sochaczew - Grojec (great Warszawa by-pass) with a length of 62 km, will be completed between 2002 and 2004 for the total cost of € 25 million (including an ISPA contribution of € 18.6 million);
- From 2003 until 2006 it is planned to add the second lane of road section from Zakret to Minsk Mazowiecki (length: 37 km) for the total cost of € 85 million (including EU fund of € 60 million) as well as to strengthen the road surface to the axle load of 115 kN in the section from Grojec to Minsk Mazowiecki (67 km) for the total cost of € 27 million and from Minsk Mazowiecki to Terespol (140 km) for the total cost of € 50 million (including expected EU fund of € 35.7 million).

Belarus:

Rail: The rail link in Belarus is 610 km long and extends from the Belarussian/Polish border (Malaszewicze/Brest) through Minsk to the Belarussian/Russian border (Krasnoye). Upgrading works on the Belarussian section of rail Corridor II are not expected to be finished before 2005.

Road: The road link in Belarus is 604 km long and extends from the Belarussian/Polish border (Brest) through Minsk to the Belarussian/Russian border (Krasnoye). The M1/E30 has 4 lanes and 158 bridges. Upgrading and reconstruction works are completed.

Russia:

- Rail: The railway line from the Russian/Belarussian border to Moscow (489 km) is electrified high-capacity double-track and allows a maximum speed of 120 km/h for passenger trains and 80 km/h for freight trains. The project of railway modernisation will provide for a maximum speed of 160 km/h, and an average of 110 km/h. The railway line from Moskva to Niznij Novgorod (439 km) is electrified and double-track and allows a maximum speed of 140 km/h for passenger trains and 80 km/h for freight trains. A feasibility study was performed with regard to the opening of high-speed passenger traffic on the Moskva-Niznij Novgorod route with a maximum speed of 160 km/h.
- Road: The road link in Russia is 860 km long and extends from the Belarussian/Russian border (Krasnoye) through Moskva to Niznij Novgorod. The number of lanes varies from 2-6. The road quality eroded to bad surface conditions and a patchwork of repair sections is installed.

## **CORRIDOR III**

### **GENERAL DEVELOPMENT:**

On 3 October 1996 the Ministers of Transport signed the Memorandum of Understanding (MoU) for the development of the Corridor III.

The first Steering Committee meeting took place on 2 December 1996, in Brussels. Two working groups were set up. One of them is the working group for railways chaired by the Polish Railways (PKP), and the other is the working group on border crossings and custom administration. The railway sub-group has met three times: last time in Ukraine in May 1998. No activity of the sub-group on border crossing, including customs administration has been taken place.

The Second Steering Committee Meeting was held on 9 September 1999, in Lviv. Following conclusions have been taken up:

- Work should be concentrated on the technical and administrative problems, amongst other customs, related to border crossings (road and rail / freight and passengers);
- Infrastructure at border crossings should be given priority, as well as freight logistics;
- All further development of this important multi-modal corridor will depend on the preparedness of the parties to find solutions to the border crossing problems concentrated on the Polish/Ukrainian border;
- The major concern is increasing speed to reduce transport time. Rolling stock should be stepwise renewed with priority changed from heavy load capacity to speed. Actually the travel time by train from Kraków to Lviv takes 8 hours. After modernisation of the infrastructure with cruising speed up to 160 km/h - 2,5 hours;
- Priority should be given to three basic sections: infrastructure development, freight transport including rolling stock and market prospect in cargo together with DB Cargo;
- After the meeting in Lviv the chairmanship was handed over for the Polish Party, therefore the next Steering Committee meeting will be organised in Poland.

The Third Steering Committee Meeting was held on 8/9 April 2002 in Wroclaw. Following decisions have been taken up:

- Shifting the chairmanship of Corridor III from the Polish party to the German party;
- Establishment of a permanent secretariat by the German party;
- Adoption of the Rules of procedure for the secretariat;
- Including to the annual working plan of the Steering Committee the issue of facilitation on the railway border crossings, taking into consideration legal aspects of border crossings procedures.

**TECHNICAL FEATURES OF CORRIDOR III:**

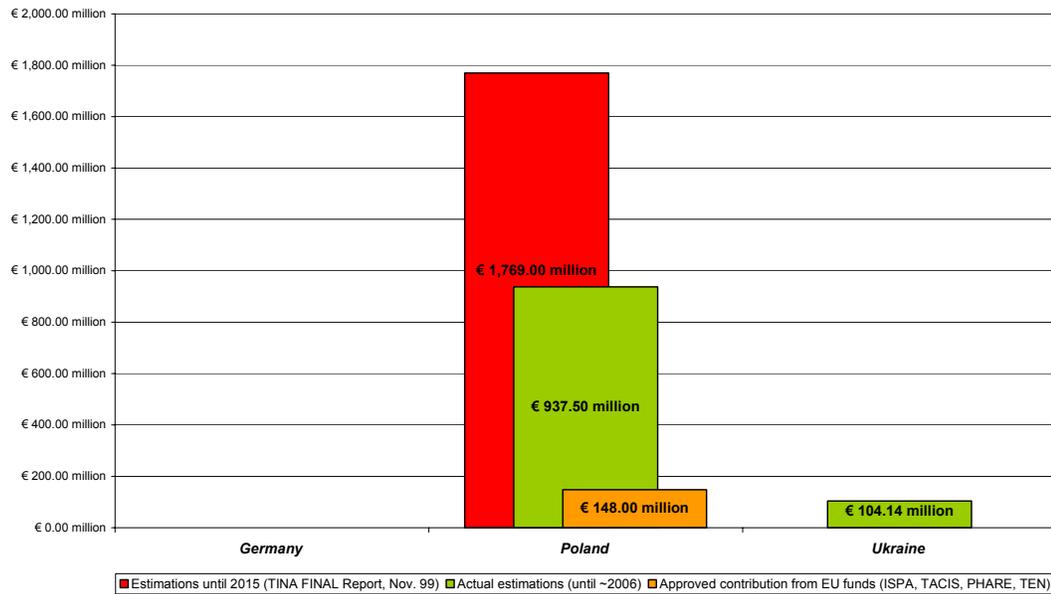
Concerned countries	Germany, Poland, Ukraine
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	1,650 km
Roads	1,700 km
Inland waterways	n.a.
Number of Airports	4
Number of Sea- and Riverports	9
Alignment:	Dresden – Wrocław – Lviv - Kiev
Railway	Dresden – <i>Görlitz/Zgorzelec</i> – Legnica – Wrocław – Opole – Katowice – Krakow – Tarnow – Rzeszow – <i>Medyka/Mostiska</i> – Lviv – Ternopol – Grechany – Vinnitsa – Kiev
Road	Dresden – Zgorzelec – Legnica – Wrocław – Opole – Gliwice – Katowice – Krakow – Tarnow – Rzeszow – <i>Medyka/Sheghini</i> – Lviv – Rivne – Zhytomyr – Kiev Branch from Berlin <i>Berlin – Cottbus - Forst/Olszyna – Legnica</i>

Remark: The shown figures for seaports and riverports refer to the TINA countries.

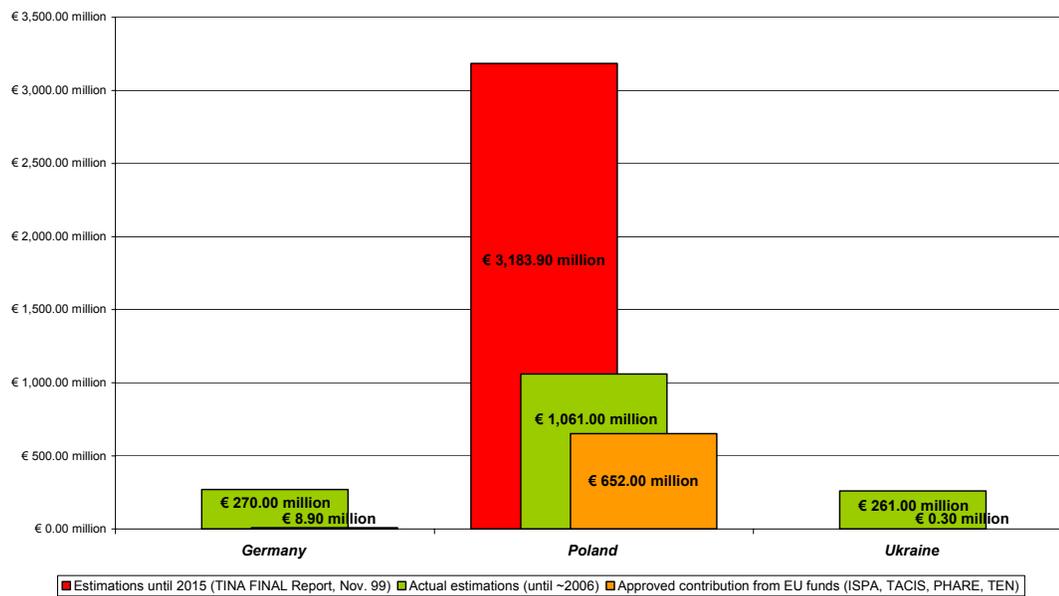
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor III have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor III for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

Costs for infrastructure investments along Rail Corridor III



Costs for infrastructure investments along Road Corridor III



## DEVELOPMENTS ALONG THE CORRIDOR

### Germany:

**Rail:** The German section of Corridor III from Dresden to the German/Polish border (Görlitz) has a length of 102 km. It is double-track, non-electrified, with a maximum line speed of 120 km/h. Construction works to a speed 160 km/h in passenger traffic and 120 km/h in freight traffic as well as works to remove the speed restrictions that still exist on certain sections will be continued until 2006.

Road: The northern branch of the road corridor with 127 km starts at Berlin and runs via Cottbus to the German/Polish border (Forst). The first section (part of A13 Berlin – Dresden) stretches from Berlin to the motorway triangle Spreewald (63 km); from there the second part (A15) stretches via Cottbus to the German/Polish border (64 km). The A13 will be reconstructed and upgraded to a four-lane motorway with hard shoulders until 2003. The A15 in the direction from Forst to the A13 has already been reconstructed; the other direction will be reconstructed until 2005. The EU has provided € 8.9 million from the TEN budget.

The southern branch stretches from Dresden to the German/Polish border (Görlitz) and has a length of 97 km. The four-lane motorway with hard shoulders and the tunnel “Königshainer Berge” was opened for traffic in March 1999.

Poland:

Rail: The Polish section of Corridor III is the E-30 line running from the German/Polish border (Zgorzelec) via Wrocław, Katowice, Krakow, Przemysl to the Polish/Ukrainian border (Medyka). Its length is 832 km and the speed varies between 120 km/h and 80 km/h. The whole line shall be upgraded to a speed of 160 km/h in passenger traffic and 120 km/h in freight traffic.

- Until 2004 the railway cross border Węglińiec-Horka and Zgorzelec-Görlitz will be modernised for the total cost of € 14 million, incl. € 10 million from the PHARE CBC programme;
- Until 2004 it is planned to modernise of the section Zgorzelec - Węglińiec - Legnica for the total cost of € 186 million, incl. € 100 million of EU funds;
- Until 2004 the section from Legnica - Wrocław to Opole will be modernised for the total cost of € 355.5 million, incl. € 38 million from the PHARE PL 9908 programme;
- From 2003 until 2006 it is planned to modernise the line E-30 in the section Opole - Kędzierzyn - Katowice - Kraków for the total cost of € 382 million, incl. € 273 million expected EU funds.

The line has two branches:

- 1) E-30: Opole - Kędzierzyn - Gliwice - Katowice - Kraków, the total cost of modernisation is € 154 million;
  - 2) C-E-30: Opole - Pyskowice - Gliwice-Łabędy, the total cost of modernisation is € 61 million.
- The section from Kraków to Medyka will be modernised until 2015.

Road: The A4 motorway is in the most advanced stage of construction of all motorways in Poland. The state of construction of A4 motorway is as follows (section by section, from West to East):

- The branch from the Polish/German border at Olszyna to Krzyżowa with a length of 62 km is a two-lane road, which will be newly constructed as a four-lane toll motorway with a speed of 120 km/h. The construction works are planned to be completed in 2005;
- The branch from the Polish/German border in Zgorzelec to Krzyżowa with a length of 50 km will be constructed from 2003 until 2006 for the total cost of € 285 million, incl. € 121 million of EU funds;
- Section Krzyżowa - Wrocław has a length of 104 km, it will be constructed from 2002 until 2005 for the total cost of € 374 million, incl. € 222 million of EU funds;

- Section Wrocław - Nogawczyce, with a length of 127 km, construction works began in 1997 and they finished in 2001. Since 2001 this section of the motorway is in operation.
- Section Nogawczyce - Kleszczów with a length of 20 km is being modernised until 2005 for the total cost of € 20 million financed by the PHARE 9908.02 programme;
- Section Kleszczów - Gliwice (Sośnica) with a length of 20 km is being modernised until 2005 for the total cost of € 120 million, incl. € 84 million from the ISPA funds;
- Section Gliwice - Katowice with a length of 30 km, is planned to be in operation in 2004 with total cost of construction of € 35 million financed from the PHARE ZZ9722 programme;
- Section Katowice - Kraków has a length of 63 km. It is an existing toll motorway section since 2000.
- Section Kraków southern by-pass with a length of 6 km is being constructed until 2003 for the total cost of € 20 million from the PHARE 9807.01 programme;
- Section Kraków – Tarnów - Rzeszow is planned to be in operation in 2010;
- In the section of road No. 4 between Kraków and Rzeszów with an overall length of 110 km the projects on strengthening the pavement are planned to realise until 2006 for the total cost of € 142 million, incl. € 104 million of EU funds. The construction of motorway between Kraków, Rzeszów and Korczowa/Krakovec (Ukrainian border) will be completed from 2010 to 2015.

#### Ukraine:

**Rail:** The Ukrainian section of Corridor III with a length of 600 km runs from the Polish/Ukrainian border (Mostiska II) via Lviv – Krasne – Ternopol – Zhmerinka – Kasatin to Kiev. The line is double-track, electrified. In the framework of the “Ukraine Railway Development Project” the railway infrastructure on the line shall be reconstructed and modernised to international standards. The expected project cost will exceed \$ 90 million (about € 104<sup>8</sup> million) and the European Bank for Reconstruction and Development (EBRD) has offered a loan.

A particular problem is the gauge change at the Polish/Ukrainian border (Medyka/Mostiska). The Lviv Railways propose to construct a new track with European gauge (1435 mm) on the section Mostiska II - Lviv (84 km). This may save passenger coaches three to four hours of waiting time at the border. The means of finance for the project are still subject of negotiations.

**Road:** Road Corridor III in the Ukraine passes from the Polish/Ukrainian border (Shegini) via Lviv, Rivne, Zhytomyr to Kiev. The total length is 612 km, of which 308 km are category Ib roads with four lanes and 304 km are category II roads with two lanes. The existing condition of the road does not satisfy European standards on the whole length of the road. Reconstruction to category I is planned on sections, which currently have category II, rehabilitation and repair works will ensure suitability for modern traffic requirements. On the section from Shegini to Lviv and on the future motorway section from Korczowa/Krakovec (Polish border) to Lviv it is planned to construct bypasses of towns, and the alternative route - motorway - shall be used charging tolls.

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<sup>8</sup> Exchange rate: € 1 = \$ 0,8642 (source: European Commission – DG Budget InforEuro, February 2002)

## **CORRIDOR IV**

### **ALIGNMENT:**

Corridor IV is a multi-modal Northwest - Southeast transport link running from Dresden/Nürnberg (Germany), via Praha (Czech Republic), Wien (Austria)/Bratislava (Slovakia), Budapest (Hungary) to Romania. In Romania Corridor IV divides into two branches. The northern branch runs from Arad via Bucuresti to Constanta at the Black Sea, while the southern branch from Arad via Craiova to Sofija (Bulgaria) and divides again, with one branch running further to Thessaloniki (Greece) and the other to Istanbul (Turkey).

### **GENERAL DEVELOPMENT:**

The Memorandum of Understanding (MoU) for the development of Corridor IV has been signed by the Ministers of Transport in May 1999 after two Steering Committee meetings. At the third Steering Committee meeting, which was held in Praha on 30 June 1999, a permanent secretariat under German chairmanship was established. It will assist the Steering Committee in setting up a working programme for the development of the Corridor.

The chairmanship of the Steering Committee is being held by Germany, the vice-chairmanship by Turkey. This mandate lasts for two years and must be approved by the Steering Committee in case of extension or change. The seat of the chairman is vacant at the moment and the Steering Committee will make a new selection in May 2002. At the moment the Steering Committee is chaired by a representative chairman.

A Steering Committee for railways has been established and is chaired by the German Railways (DB AG). The MoU between the ten railway companies operating currently inside the area was signed in January 1997. It aims at co-operation on the development of the Corridor. It focuses on harmonisation of infrastructure and of administrative procedures. To facilitate the work the Steering Committee for railways has been fused with the Steering Committee for the overall Corridor.

Within the framework of the tasks of the Steering Committee, which at present is being chaired by the German representative, areas of action for further development of the Corridor planning have been defined and action initiated. The compilation of a so-called corridor cataster has been initiated. This contains all the relevant information about the present state of the infrastructure of the Corridor. It allows conclusions to be made about the urgency of further constructions in the individual sections of the corridor and gives suggestions as to the priority, amount and timing of financing. Whereas the cataster of the rail infrastructure of the Corridor is just about to be completed, the data and the methods of determining the data on road infrastructure is subject of discussions of the Steering Committee.

The Steering Committee further concerns itself with the situation at the borders where the Corridor runs and is particularly active in reducing the time needed for border controls and formalities. The Committee has taken up contacts with the Directorate General for Taxation and Customs of the European Union and will be presenting suggestions for a reduction of the time taken for border clearance formalities. In this task it will consider the experienced views of those who are practically involved in the trade and will in conjunction with a working circle of forwarders and loaders work out relevant suggestions.

The extensive work of the Steering Committee is laid down in the "Action Programme of the Steering Committee for the Pan-European Traffic Corridor IV".

**TECHNICAL FEATURES OF THE CORRIDOR IV:**

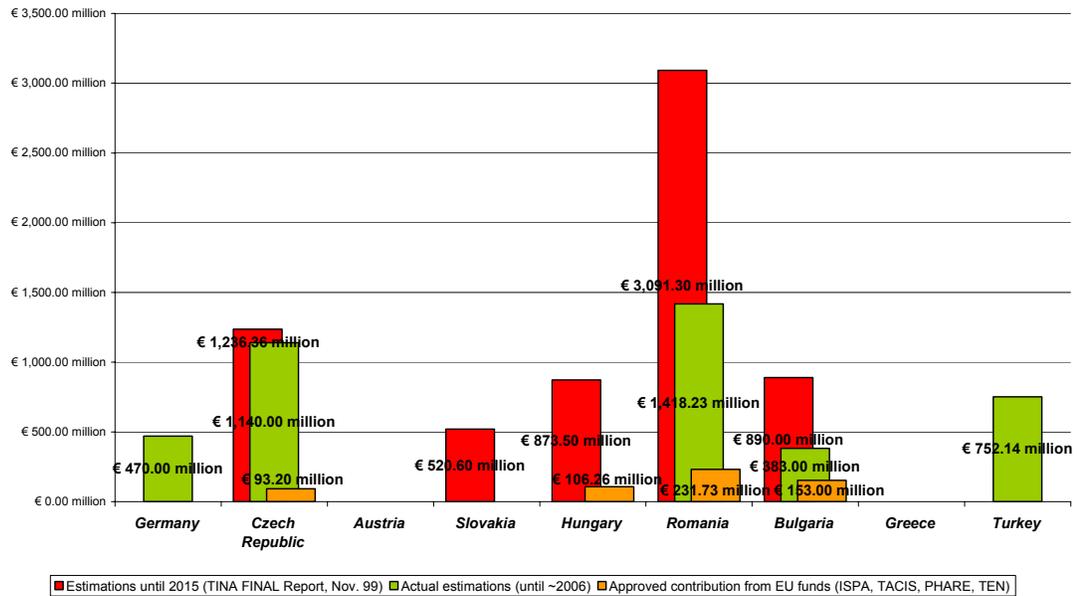
Concerned countries	Austria, Bulgaria, Czech Republic, Germany, Greece, Hungary, Romania, Slovakia, Turkey
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	4,340 km
Roads	3,640 km
Inland waterways	n.a.
Number of Airports	10
Number of Sea- and Riverports	8
Alignment:	Dresden–Praha–Bratislava/Wien–Budapest – Arad
Railway	Dresden – Bad <i>Schandau/Decin</i> – Praha – Ceska Trebova – Brno - <i>Breclav/Kuty</i> – Bratislava - <i>Rajka/Hegyeshalom</i> - Győr Breclav/Hohenau – Wien Bratislava – Wien Wien – Nickelsdorf/Hegyeshalom – Győr – Budapest (second alignment: Bratislava – <i>Sturovo/Szob</i> – Budapest) – Szolnok – <i>Lököshaza/Curtici</i> – Arad
Road	Dresden – <i>Zinnwald/Cinovec</i> – Praha – Brno – <i>Lanzhot/Brodske</i> – Bratislava – <i>Cunovo/Rajka</i> – Hegyeshalom – Győr Brno – <i>Mikulov/Drasenhofen</i> – Wien Bratislava – Wien Wien – <i>Nickelsdorf/Hegyeshalom</i> – Győr – Budapest – Kecskemet - Szeged – <i>Nagylak/Nadlac</i> – Timisoara Branch from Nürnberg
Railway	Nürnberg – <i>Schirnding/Cheb</i> – Plzen – Praha
Road	Nürnberg – <i>Waidhaus/Rozvadov</i> – Plzen – Praha Branch to Constanta
Railway	Arad – Alba Iulia – Brasov – Ploiesti – Bucuresti – Constanta
Road	Timisoara – Sibiu – Pitesti – Bucuresti – Constanta Branch to Istanbul
Railway	Arad – Timisoara – Craiova – <i>Calafat/Vidin</i> – Sofija – Plovdiv – <i>Svilengrad/Kap. Andreevo</i> – Edirne – Istanbul
Road	Timisoara – Craiova – <i>Calafat/Vidin</i> – Sofija – Plovdiv – <i>Svilengrad/Kap. Andreevo</i> – Edirne – Istanbul Branch to Thessaloniki
Railway	Sofija – <i>Kulata/Promahonas</i> –Thessaloniki
Road	Sofija – <i>Kulata/Promahonas</i> – Thessaloniki

Remark: The shown figures for seaports and riverports refer to the TINA countries.

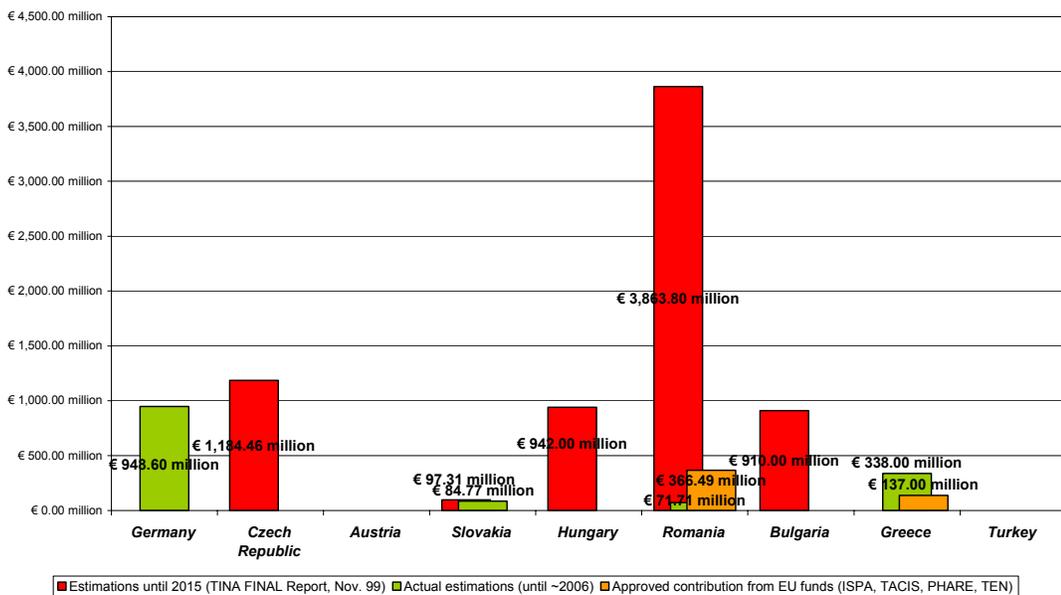
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor IV have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor IV for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investements along Rail Corridor IV**



**Costs for infrastructure investements along Road Corridor IV**



## **DEVELOPMENTS ALONG THE CORRIDOR**

### Germany:

**Rail:** The Rail Corridor has two starting points in Germany. One branch runs from Dresden to the German/Czech border (Bad Schandau) and has a length of 51 km. At present the line is double-track, electrified and allows a maximum speed of 120 km/h.

In the national extension and development planning the stretch Dresden - Bad Schandau - border is included within "Trans-Country Project". This means that the extension of the stretch is based on an agreement with the Czech Republic. In particular the agreement for the German section foresees:

- The expansion of the stretch Dresden - Bad Schandau - border, for speeds of 160 km/h;
- The installation along the whole stretch with equipment which can cope with the requirements of vehicles with tilting technology.

At the moment the superstructure is being strengthened for the use of trains with tilting technology. Such construction work has been going on between Dresden and Pirna since 1996. Investment for the whole section amount to € 180 million; up to now € 73 million have been spent. When the planned electrically powered multiple-system-vehicles with tilt-technology being manufactured in the Czech Republic are taken into use (planned for 2004), the travel time will be significantly reduced and the comfort of travelling will be increased. The journey time Berlin - Dresden - Praha will be reduced from 4 3/4 hours to 3 hours, journey time Praha - Wien will be reduced from 5 hours to 3 1/2 hours. Originally, the development of the infrastructure was to be done till 2002. According to the plans of the Deutsche Bundesbahn (Federal German Railways) the development and expansion will go on up to the year 2007. In the long run, partial stretches will even allow trains to travel at speeds of up to 200 km/h.

The other branch runs from Nürnberg to the German/Czech border (Schirnding) and has a length of 140 km.

The stretch Nürnberg - Marktredwitz - Schirnding - border is also contained in the national development plan as a "Trans-country Project". This means that in order to determine the standard of the further development the agreement with the neighbour Czech Republic and as far as the stretch Marktredwitz - border is concerned, the necessity of further development and extension are necessary. The agreement for this envisages especially for the German section:

- Electrification of the stretch Nürnberg – border;
- Extension of the stretch Marktredwitz - border when vehicles with tilting technology are put into operation;
- The step-by-step reduction of the travelling time between Nürnberg and Praha by almost 2 hours to just 3 hours 20 minutes.

The railways concerned signed a memorandum in 1999 for the upgrading of the stretch Marktredwitz - Praha for trains with tilt technology latest till the year 2004. Investment for the German section will be about € 290 million. This in combination with shortened checks at the border will reduce travelling time between Nürnberg and Praha to 3 3/4 hours. The electrification of the stretch Nürnberg -Eger will take place over a longer period of time and therefore in the meantime trains with diesel power and tilt technology will be used. The construction of the tracks is proving to be partly difficult and this is particularly

true of the stretch between Nürnberg and Hof. The work on the electrification of the stretch Nürnberg - Hof - Reichenbach will presumably begin at the earliest in 2003. However, a middle or long-term realization is more probable.

Road:

The Road Corridor starts in Dresden and runs to the German/Czech border (Zinnwald). The stretch is a two-lane road and has a length of 44 km. It will be replaced by a newly built motorway Dresden - Praha. The construction works for the motorway have started in 1998 in Dresden. On 12 September 2000 the German and Czech Transport Ministers signed a contract for constructing a border bridge. The costs of the motorway will be about € 560 million. The first sections were taken into operation in October. In the following a 9 km section, work on two tunnels and a bridge over a valley began in 2000. This will probably be taken into commission in 2003. It is envisaged that the following stretch up to Pirna will be finished in 2005. This is in accordance with the target which foresees that with completion of D8 on the Czech side, traffic on the German side can simultaneously start flowing.

As far as the financing is concerned, plans were discussed within the framework of a feasibility study whether possibilities of a private financing of the southern partial-stretch from Pirna till the border exist. The expert report which has been coordinated with the Czech Republic has been ready since April 1999. The report gives a clear opinion that the Federal Autobahn A17 is not suitable for private financing.

On the basis of its high infrastructural importance, all of the A17 with the exception of the stretch which is under construction, has been taken up in the project list of the EFRE-Federal Programme. Depending on the permission of this grand project by the European Union about half of the amount out of these structure funds would be available. The other half is to be financed out of the Federal budget.

On the Federal road B170 the reconstruction of the border crossing Altenberg - Cinovec as a common project was taken into commission in 2000. This border crossing will improve and accelerate border processing procedures till the opening of motorway A17.

The other branch of the corridor runs from Nürnberg to the German/Czech border (Waidhaus) and has a length of 130 km. The four-lane motorway section Nürnberg – Amberg (60 km) was completed in 1991. Construction of the section Amberg – Waidhaus (54 km) started in 1995; costs will be about € 390 million.

The planning for motorway A6 Nürnberg - border has for the larger part already been completed. The bypass Waidhaus was commissioned for traffic in November 1997 at the same time as the new common border processing facility on Czech territory. The stretch which follows, namely Pleystein till Waidhaus was commissioned for traffic two years later. The stretch which by-passes Wernberg/Köblitz has been under construction since June 1998. The sector Kaltenbaum - Lohinar has been under construction since May 2001. Both stretches are to be completed latest by 2004. For the stretch Weppenhof - Kaltenbaum efforts are to be made for beginning construction in 2002 and completing the work in 2005. The remaining gap Amber 1 Ost - Pfreimd is to be completed up to the year 2009.

Regarding the financing, € 61.36 million have already been utilised till the end of 2000, and for the completion of the ongoing sections in the coming years, an amount of € 140.61 million is required. The sections which still have to be

initiated require an additional volume of € 186.62 million; of these around € 153.39 million alone will be required for the stretch Amberg - Pfreimd. In order to accelerate the project, a joint grant of € 6.5 million will be made available by the European Union from their budget "Trans-European Networks" as well as additional project-bound funds from the Federal Republic.

#### Czech Republic:

**Rail:** The Rail Corridor has two branches in the Czech Republic. The main branch runs from the German/Czech border (Decin) to Praha and further via Ceska Trebova and Brno to the border station Breclav. Its length is 476 km. From Breclav the corridor continues to Wien and to Bratislava.

The branch from Nürnberg runs from the German/Czech border (Cheb) via Plzen to Praha. It has a length of 228 km.

Modernization of railway lines on Corridor IV has been running in the Czech Republic since 1994. The principal parameters are:

- to increase speed limit up to 160 km/h;
- to harmonize loading gauge with the UIC GC requirements;
- to fulfil the D4-classification for section bad (i.e. 22.5 tonnes/axis).

Along with achieving the above parameters the modernization shall enable tilting trains to operate on these lines.

The modernisation project and the financing model were approved by the Czech Government. Altogether 385 km of lines (big railway stations and nodes have been extended from the project due to enormous investment costs) out of the total 457 km shall be modernized. The outstanding stations and nodes shall be modernised through an individual investment programme. In order to co-ordinate technical aspects and timing of the modernization steps intergovernmental agreements were signed among the neighbouring countries (Agreement on cooperation for future development of the Berlin – Praha - Wien railway link made by the Ministry of Transport and Communications of the Czech Republic, the Federal Ministry of Transport of Germany and the Federal Ministry of Public Economy and Transport of Austria; Agreement on cooperation by preparing and implementing modernization of railway lines concluded among the Ministry of Transport and Communications of the Czech Republic and the Ministry of Transport, Posts and Telecommunications of the Slovak Republic).

The project implementation itself is proceeding gradually, section by section. The goal is to complete the modernization till the end of 2002. Currently modernization of 271 km of lines and stations has been completed. Implementation is still ongoing on 60 km of lines and on the remaining 57 km the modernization is under preparation.

The amount of CZK 28 billion (€ 876.75<sup>9</sup> million) has already been spent. Out of that sum the amount of CZK 23.6 billion (€ 739<sup>9</sup> million) has been spent on the completed sections.

Total investment costs represent CZK 36.5 billion (€ 1.14<sup>9</sup> billion). The financing proceeds in the combined way: 40.5 % from the state budget (CZK 14.8 billion), 50 % from the state guaranteed credits (CZK 18.3 billion), 5 % from non

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<sup>9</sup> Exchange rate: € 1 = CZK 31.936 (source: European Commission – DG Budget InforEuro, February 2002)

guaranteed credits (CZK 1.8 billion) and 4.5 % (CZK 1.6 billion; € 50.1<sup>9</sup> million) from the means of PHARE programme

Two sections under preparation (Zabori nad labem – Prelouc Usti nad Orlici - Ceska Trebova) will be co-financed from ISPA means (contribution in the amount of 50 % of the costs for those two sections, i.e. € 29.4 and € 16.3 million represents exceeding of the total investment costs for the whole project of the Corridor modernization). The preparation of the above mentioned sections shows some delay and the completion is foreseen beyond the planned year 2002.

Modernization of the Czech part of the branch Nürnberg - Praha is supposed to be implemented in the period 2004-2010.

Road: The road corridor branch from the Czech/German border (Cinovec) to Praha has a length of 93 km. The currently existing two-lane national road sections on the stretch will be replaced by a newly constructed four-lane motorway until 2005 the highway D8. The motorway is only in part in operation in the sections Praha - Nova Ves, Doksany - Lovosice - Rehlovice - Trmice, i.e. 36.5 km. The section Nova Ves - Doksany (16.4 km) was put into operation in June 2001.

After completion of the administrative procedures it is assumed that those the two remaining sections (total length 39.7 km), Lovosice - Rehlovice and Trmice – state border will be put into operation in 2005 in compliance with the international agreement concluded on the construction of the border bridge and approved by the parliament.

The road section from Praha to Breclav is 317 km long and is a four-lane motorway.

The branch in the direction Praha - Plzen - Nürnberg is already completed on the Czech territory, the only exception creates the by-pass of Plzen, which construction, after settling of some environmental problems, has already begun.

For both motorway branches on the Czech territory it is necessary to accomplish also the by-pass of Praha. This construction has been gradually in progress.

#### Austria:

In preparation of the new Austrian general transport plan which aims to improve the country's transport links to its southeast European neighbours, a regional conference was held with transport ministers from Austria, Poland, the Czech Republic, Hungary, Slovakia and Slovenia to discuss cross-border expansion plans. Requests were also put forward for the development of the Pan-European Transport Corridor IV.

Rail: The Corridor provides three rail connections to Wien, which are electrified and provide good conventional standard. The link from the Austrian/Czech border (Breclav) via Hohenau to Wien is double-track and has a length of 88 km and will be upgraded to a speed of 160 km/h. At present, maximum speed on this route is 120 km/h. The track is not a problem but railway intersections have to be made safer, the conversion of several stations is necessary and modern safety technology has to be installed.

In addition to the existing line Wien - Marchegg/Devinska Nova Ves - Bratislava hl. st. (mostly single-track, not electrified), operations started in 1998/1999 on a new 21 km link from Parndorf (at the main line Wien – Budapest) via Kittsee (border) to Bratislava–Petrzalka. The majority of trains operate along this route. Individual trains continue to Bratislava Central Station but need half an hour longer. There are no passenger train services operating beyond Wien or Bratislava (e. g. Bratislava -Munich or Wien - Kosice). There are currently few

connections between Wien-Südbahnhof - Marchegg - Bratislava Main Station. This section, which is not electrified, is used primarily for freight transport.

The link from Wien to the Austrian/Hungarian border (Hegyeshalom/Nickelsdorf) is 70 km double-track, and has been upgraded to a speed of 140 km/h in 1998 making the travel time from Wien to Budapest 2 hours 25 minutes.

Road: There are several road links, which are part of corridor IV. The link to Budapest is the existing A4 motorway (length 70 km).

On the connection Wien - Bratislava a four-lane high quality road link (B 307) from the A4 to the new Austrian/Slovakian border crossing Jarovce/Kittsee (opened in 2000) near Bratislava is in the planning stage. The plans are relatively well advanced, construction of the B307 Wien - Bratislava will commence soon. This link branches off the A4 motorway in the Bruck/Leitha - Parndorf region and runs in a north-easterly direction to the border crossing Kittsee - Jarovce. Completion is scheduled for 2006.

With regard to road traffic, the Steering Committee agreed at a meeting on 7/8 June 2001 in Bratislava to include the link Brno – Wien via Drasenhofen (border station) with a length of 71 km in Corridor IV. This section is currently a two-lane state road, which is planned to become part of motorway A5. This new motorway will also be included in the new proposal of the European Commission on the revision of the TEN-T guidelines.

#### Slovakia:

Rail: The Rail Corridor runs from the Czech/Slovakian border (Breclav) via Kutly to Bratislava and continues via Galanta, Nove Zamky to the Slovakian/Hungarian border (Sturovo). A parallel line runs from Bratislava to the Slovakian/Hungarian border at Rusovce. The total length of both alignments is 252 km. The whole corridor is in operation as double-track electrified line (operational speed 120 km/h), only part from Bratislava to Cunovo and the border is single-track electrified. Since the Rail Corridor IV is in relatively good condition a general modernisation of this Corridor is not being considered at the moment, only small reconstruction on the tunnel in Bratislava railway station. Same upgrade of the line is planned after 2004 with the aim to reach the speed 160 km/h.

Road: The total length of the Road Corridor in Slovakia is 83 km. Of these 80 km are in operation and of these 71 km in full breadth and 9 km in half profile. The estimation is that starting with the year 2003 the road will be useable in full breadth. About 3 km of road are in the planning stage (motorway D2 Lamacska Cesta - Stare Grunty). The construction period for this project is September 2001 – 2004 (Financing: Loan from JBIC. Total costs: SKK 3.59 billion (€ 84.77<sup>10</sup> million); construction costs: SKK 3.06 billion (€ 72.26<sup>10</sup> million)

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<sup>10</sup> Exchange rate: € 1 = SKK 42.35 (source: European Commission – DG Budget InfoEuro, February 2002)

Hungary:

Rail: The Bratislava - Budapest section of the Rail Corridor contains two alternative railway lines:

- Bratislava - Sturovo/Szob (border) - Budapest
- Bratislava – Hegyeshalom/Rajka (border) - Budapest

The railway line runs from the Slovakian/Hungarian border (Sturovo/Szob) to Budapest (64 km). The rehabilitation to obtain the original design speed of 100 km/h or 120 km/h has gone on from 1998 till completion in 2002. Financing is from the State Budget to the value of the national contribution, equal to PHARE support.

The parallel railway line from the Slovakian/Hungarian border (Rajka) to Hegyeshalom – Budapest has a length of 191 km. As the first phase the upgraded section between Hegyeshalom and Tata opened in July 1997 partly for the speed of 160 km/h. To implement the second phase of upgrading i.e. the increase of permissible speed partly to 140 km/h to Budapest and to settle the ECTS all along the line by 2005 the Hungarian Government has presented an official application for ISPA grant for the year 2001 to the European Commission.

Near to the city of Győr a Ro-Ro terminal constructed with PHARE support has been taken into operation in June 2000 as a part of the new port on the Danube, which will also have a railway connection.

The section crossing Budapest is the most critical part of the corridor. Four kilometres of double-track between the stations Budapest-Kelenföld and Budapest-Ferencváros renewed the last time in 1970 is a part of a complex reconstruction plan which has been started in 1999 and will be completed by 2002. The reconstruction of the four kilometre long section of Budapest-Keleti - Budapest-Ferencváros was completed between 1996 and 1998 with the investment cost of HUF 2.8 billion (€ 11.5<sup>11</sup> million). Preparation of the reconstruction of the section Budapest-Ferencváros - Budapest-Kelenföld is in progress.

The connection with a length of 9 kilometres (2 km double-track) from Budapest-Ferencváros to the new Budapest Intermodal Logistic Centre will be renewed with the construction of the substructure of the second track in 7 kilometres. The project will be ready until May 2002 when the new centre with a starting capacity of 100 000 TEU/year is put into operation. This project is partly financed by PHARE sources.

From Budapest the Corridor continues via Újszász to Szolnok (100 km) and further via Szajol to the Hungarian/Romanian border at Lökösháza (125 km). The rehabilitation of the section Budapest – Újszász - Szolnok was started in 1999 and it will be completed in 2002 restoring the original design speed of 120 km/h. Permanent speed restrictions of 20 and 60 km/h being introduced on certain sections will be removed after the rehabilitation. The project is partly financed by an EIB loan.

Preparatory work of the Nyugati Station - Cegléd - Szolnok - Lökösháza railway line began in 2001 along the section between Vecses and Cegléd. Speed will be raised as a result of track renewal and reconstruction.

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<sup>11</sup> Exchange rate: € 1 = HUF 243.49 (source: European Commission – DG Budget InforEuro, February 2002)

Where the geometry of the track and other conditions allow, the speed limit will be raised from 100 to 120 km/h and to 140 km/h along the section between Albertirsa and Cegled. Simultaneously with track reconstruction, subways and platforms enhancing the safety and comfort of passengers will be built along this line section at Vecses, Üllő, Monor, Pilis, Cegledbercel-Cserő and Cegled stations.

A company of limited liability was formed in 1996 to develop a logistic centre at station Szolnok based on the existing container terminal.

The rehabilitation of the section Szolnok - Lököshaza (border) for its design speed of 120 km/h (partly for 140 km/h) and the completion of the still missing second track on three sections with a length of 53 km will be executed after 2002. Reconstruction of this section is a subject of future ISPA Projects. The remaining 11 km long section between the border stations (Lököshäza (MAV) - Curtici (CRF)) is still a single-track railway, which is a bottleneck for international traffic; but the railways entered into a contract to include the second track into their development plans.

The concept of constructing a new railway bridge in Szeged was raised in conjunction with the plan to establish the Szeged - Timisoara railway connection.

Road:

The road section of the Road Corridor from the Slovakian/Hungarian border at Rajka to Budapest and further to the Hungarian/Romanian border (Nagylak) has a length of 398 km. Corridor IV includes the following Hungarian Motorway sections have been completed (total 296 km) and are in operation:

- M1 motorway (between the M0 and the Austrian border): 156km
- M15 expressway (between the M1 and the Slovak border): 14 km
- M0 expressway (around Budapest) between M1 and M5: 29 km, and
- M0 - Kiskunfelegyhaza junction of M5 motorway: 97 km.

No additional developments are expected to be made regarding the M1 motorway and the M15 expressway, their maintenance and operation is continuous at a high level. A government resolution has been adopted to upgrade the south sector of M0 into a 2x 3-lane motorway. Design is in progress and implementation is expected to start in 2 – 3 years.

The eastern sector of M0 along the section between road No. 51 and the M3 motorway is being designed. Implementation is expected to start in 2002.

The preparations for the establishment of the Kiskunfelegyhaza - Rösztke (Yugoslavian border) section (from the total missing 60 km, 44 km is the part of the Corridor IV) of the M5 motorway are in progress. The negotiations between the Concession Company and the Ministry started in 1999. The concession contract schedules the deadline for the completion of the entire construction of the M5 motorway for the end of 2003.

The Corridor IV shall follow the track of the planned M43 motorway between Szeged junction of the M5 motorway to the border crossing to Romania (58 km long) with 2x1-lane expressway in the first stage. The planning of M43 is in progress; the first stage of the construction is the Szeged bypass, which is 19 km long.

In accordance with the decisions taken pursuant to the meeting of the Heads of Government of Hungary and Romania in October 1997, a delegation of Romanian and Hungarian experts defined the layout of the Budapest-Bucuresti motorway in December 1997 in Cluj Napoca. The meeting of the experts stated

that the development of the track Budapest – Polgar – Debrecen – Oradea - Cluj-Napoca - Bucuresti is included in the public road development concept of both countries, the implementation of which can take place in accordance with the evolution of the traffic along those lines.

In this regard the Hungarian government decided to accelerate the realisation of the M3 motorway which has been completed between M0 and Fűzesabony: 103 km and the connecting establishments. The sections will open according to the following timetable: Polgar: (M3) 2002, Miskolc (M30) 2002, Nyiregyhza (M3) 2005, Debrecen (M35) 2005.

Aviation: The aggregate capacity of Terminals 2A and 2B of Budapest airport is 5.5 million passengers per year which is expected to be exhausted by 2003 - 2003. The handling of transit passengers should be managed in a way different from the existing practice with no change in level. The terminal should meet the Schengen expectations and be capable of handling external and internal Schengen passengers separately. The users of the building are expected to be MAALEV Rt. and its airline partners.

A new urban road network should be built and the building should be linked to the existing road network and the section of main road Nr.4 bypassing Vecses. It is also necessary to develop a new passenger front of appropriate capacity with standing places near the building (passenger bridge) and far from the building. The gross basic area of the planned building is approximately 50,000 m<sup>2</sup> with at least 12 standing places with passenger bridges and 4 - 6 ones far from the building. Departing passengers will be received by about 50 ticket counters. The sorting of the luggage of departing and transit passengers should be automated. The terminal should be linked appropriately to the then existing fast train station and the car park to be built at the road front.

The expected first cost of the terminal is HUF 60 billion (€ 246.42<sup>12</sup> million). The smaller part of it can be funded from budgetary resources and the larger part from private capital.

Inland waterways:

The study concerning the logistic review of Csepel Freeport was elaborated in 2001. Based on the freight turnover forecast of the catchment area of the port, it is planned to develop logistic reloading and warehousing activities, inland waterways container loading and Ro-Ro carriage. Developments are necessary to improve the internal infrastructure and railway links and reconstruct the existing infrastructure of the port.

Romania:

In Romania Corridor IV divides into two branches. The northern branch runs from Arad via Bucuresti to Constanta on the Black Sea, the Southern branch from Arad via Craiova to Sofija (Bulgaria) and divides there again. At present there is a ferry for cars and passengers across the Danube at the Romanian and Bulgarian border (Vidin/Calafat). A bridge is under discussion. Access infrastructure is to be built by each country on its respective territory.

Rail: From the Hungarian/Romanian border (Lököshaza) the Rail Corridor continues to Arad, where it divides into two branches.

The northern branch of corridor IV runs to the port of Constanta at the Black Sea via Brasov and Bucuresti. It has a length of 880 km. The railway line will be

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<sup>12</sup> Exchange rate: € 1 = HUF 243.49 (source: European Commission – DG Budget InforEuro, February 2002)

upgraded according to AGC and AGTC standards to a design speed of 160 km/h for passenger services and 120 km/h for freight trains. Construction works will be completed between 2008-2010. The travelling time will be reduced by 3 hours.

The works for the rehabilitation of the rail section Brasov - Bucuresti started in 2001 and are foreseen to be completed by 2003, with financing from EIB (€ 200 million) and CFR SA. The civil works tender were finalized for rail section Bucuresti - Campina and the works started in May 2001.

Negotiations with JBIC for the financing of the Bucuresti - Constanta section are in progress. A Memorandum between the government of Romania and the government of Japan was signed in March 2001 for the financing of the rehabilitation of the sections Bucuresti North – Bucuresti Baneasa and Fetesti - Constanta (\$ 257.4 million; € 297.85<sup>13</sup> million). The project will be finalized in 2006.

For the section Bucuresti Baneasa - Fetesti, an ISPA Application Form for the total budget of € 231.73 million has been approved by the ISPA Management Committee in Bruxelles in July 2000. The Financing Memorandum was signed in December 2000 and work will commence in 2001.

A feasibility study for the border crossing section Curtici – Arad – Deva - Simeria has been approved (estimated value: \$ 595 million; € 688.5<sup>14</sup> million) and has been sent to EIB and the European Commission in order to obtain financing.

A rail ferry service to the port of Poti in Georgia has been introduced in March 1999 making use of the TRACECA connection.

The southern branch continues to the Romanian/Bulgarian border (Vidin/Calafat) via Timisoara and Craiova. It has a length of 400 km. A feasibility study has proposed to upgrade the line to a speed of 160 km/h for passenger services and 120 km/h for freight trains. Construction works will not commence before 2010-2015. There is a ferry-boat link for rail transport over the Danube, which has been stopped due to lack of transport.

A new bridge is to be built and should be constructed with financing exclusively from the Bulgarian part. Access infrastructure is to be built by each country on its respective territory.

Romania undertook steps towards the realization of this objective: the "Agreement between the government of Romania and the Republic of Bulgaria on the technical, financial, legal and organizational issues related to the construction of a new crossborder combined (road and rail) bridge between the two countries over the Danube River" has been ratified through Law 91/2001 and identifying financing is one of the priorities of the government. Following the Law 91/2001, Railway Infrastructure Company ordered a feasibility study and a tender documentation for the "Rehabilitation and modernization of the railway section 113 Craiova - Calafat".

Road: The length of the Road Corridor on the existing roads from the Hungarian/Romanian border (Nadlac) to Bucuresti is 663 km. The Nadlac border crossing point was modernised, providing eight traffic lanes per carriageway, a parking area for goods-vehicles and 4.1 km of rehabilitated access road. The corresponding works on the Hungarian side have started. The existing roads

<sup>13</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

<sup>14</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

between Nadlac, Arad and Timisoara, as well as between Deva - Sebes and Sibiu - Pitesti have been rehabilitated until 1998.

The rehabilitation works will continue between Timisoara - Lugoj and Sebes-Sibiu until 2002. The construction of a new motorway from Nadlac – Timisoara – Lugoj – Deva (210 km) is foreseen as a priority.

The rehabilitation and upgrading works of the existing four-lane motorway from Pitesti to Bucuresti have started in 1998 and were completed in October 2000.

Between Bucuresti and Constanta, the motorway section Fetesti – Cernavoda of 17 km across the Danube river is in operation since 1998. The motorway construction started in 1991 and interrupted in 1993 on the Bucuresti – Fetesti section (134 km) and was resumed in 2000, based on the financing agreement concluded by the Romanian government with EIB in November 1999.

The civil works for the first and second sections (Bucuresti – Fundulea and Fundulea – Lehliu) have been tendered. An ISPA application form for a total budget of € 71.71 million for the section Drajna – Fetesti - Cernavoda has been approved by the ISPA Management Committee in June 2000. The Technical Project is estimated to be finalized by May 2002. The works will commence in 2002 and will be completed by the end of 2004. The motorway construction on the section Cernavoda - Constanta (50 km) is to be built not before 2004.

The Bucuresti South motorway ring section of 46 km linking the motorways from Bucuresti to Pitesti, Constanta and Giurgiu is planned to be constructed. A feasibility study has been made for this section.

At Lugoj the southern branch continues to the Romanian/Bulgarian border (Calafat). The length of the two lane national road is 379 km. The existing road will be rehabilitated until 2005. The construction of a motorway on this section will be taken into account after 2015.

The works on the Timisoara and Craiova by-passes started in 2001 with JBIC financing. A feasibility study for the section Craiova - Calafat has been made. A grant financing is looking for in order to construct the accesses to the future bridge over the Danube River, on Calafat.

The section Lugoj-Craiova is on stage:

- The feasibility study and detailed design for the section Craiova-Drobeta Turnu Severin are made;
- The technical assistance for the revision of the feasibility study and detailed design for the section Drobeta Tirnu Severin-Lugoj has been contracted in July 2001 and is to be finalised in July 2002;
- An ISPA Application Form for the section Craiova-Drobeta Turnu Severin has been submitted for approval to the ISPA Management Committee in September 2000. The ISPA Application Form for the section Drobeta Turnu Severin-Lugoj has been submitted for approval to the ISPA Management Committee in September 2001.

Bulgaria:

The project for building a second Danube bridge between Bulgaria and Romania along the route of the Pan-European Transport Corridor IV at Vidin-Calafat is a significant transport planning event. It has started, following the agreement between the Romanian Minister of Transport Basescu and the Bulgarian Finance Minister Radev, in the presence of the Special Co-ordinator of the Stability Pact for South Eastern Europe, Mr. Bodo Hombach and the European Commissioner Mr. Günter Verheugen, reached in Brussels on 7 February 2000. After an expert group from the two countries had agreed on the exact location of the bridge, an agreement on the technical, financial and organizational aspects of the construction of the bridge was signed in Bucuresti.

## Political support &amp; Project preparation

- On 28 September 2000, the National Assembly of the Republic of Bulgaria ratified the Agreement of 5 June 2000 on the technical, financial, legal and organizational issues related to the construction of a new cross-border combined (rail and road) bridge signed by the Foreign Ministers of Bulgaria and Romania, and on 15 January 2001, it was ratified by the Parliament of Romania. The Agreement entered into force on 6 April 2001.
- On 13 June 2001 in Vidin, Minister of Transport and Communications of Republic of Bulgaria and Minister of Public Works, Transport and Housing of Romania opened the establishment meeting of the Joint Bulgarian-Romanian Committee for coordination of activities on design and implementation of the site. The meeting was attended by representatives of EC, EIB, Special Coordinator of the Stability Pact and of the donor countries Germany and France.
- On 30 July and 3 August 2001 meetings were held by Mr. Plamen Petrov, Bulgarian Minister of Transport and Communications, respectively with the Special Coordinator of the Stability Pact, Mr. Bodo Hombach, and with the Ambassador of Romania to Sofia, Mr. Konstantin-Mihail Grigorie, at which the priority of the project and the commitment to its timely implementation was mutually confirmed.

## Project Implementation

- By a decision of the Council of Ministers of the Republic of Bulgaria a Project Steering Committee has been established as a decision making body, headed by the Minister of Transport and Communications, and including high level officials from the Ministry of Finance, Ministry of Foreign Affairs, Ministry of Home Affairs, Ministry of Environment and Water, Ministry of Regional Development and Public Works; Ministry of Labour and Social Policy, the Council of Ministers' Investments & Concessions Department the Bulgarian State Railways National Company, the Roads Executive Agency, the Regional Government of Vidin, and the Municipality of Vidin, as well as the National Coordinator of the Stability Pact.
- Since July 2000 a Project Implementation and Management Unit (PIMU) has been established as an executive body authorized and responsible for the coordination, management and execution of day-to-day activities in respect of the project preparation and implementation, as well as partnering with the Romanian authorities within the Joint Committee.
- Financed by KfW (Kreditanstalt für Wiederaufbau), Germany, a preliminary study was completed by the German company RRI - Rhein-Ruhr Ingenieur Gesellschaft for geotechnical, hydrotechnical and cadastral surveys, which confirmed the optimal location of the bridge at km 796 and provided the required topographic and geological data for the preliminary design of the bridge.
- Financed by KfW a preliminary study on the Environmental Impact Assessment was completed by the company ERM Lahmeyer. The Final Report was submitted and a procedure for public consultations has been started both in Bulgaria and in Romania.

- Financed by AFD (French Agency for Development), a preliminary study on Economic, Financial and Technical analyses was completed by the French company BCEOM for the reassessment of the project cost and rate of return.
- Financed by AFD a study is under implementation by the Bulgarian company "National Centre for Territorial Development" EAD, jointly with the Romanian company "Urbanprojekt" for updating of the Territory Settlement Plans of the towns of Vidin and Calafat in the area of the new bridge; the study is to be completed by the end of 2002.
- Financed by PHARE since January 2001 an International Consultant from the British company GIBB has been assisting the PIMU mainly in the elaboration of Terms of Reference for International Engineering and Management Consultant for the Bridge Design and Tender Documentation and in preparation and submission of ISPA Application Forms.
- Programmes have been elaborated by the rail and road authorities in Bulgaria for the measures to be undertaken aimed at eliminating bottlenecks along the access infrastructure before the new bridge commissioning, as well as for the phased upgrading of the corridor infrastructure in medium term perspective.
- At the meeting of the Joint Bulgarian-Romanian Committee on 13 June 2001 the Joint Working Groups were established for the preparation of the required bilateral agreements in support of the project implementation.

#### Further Steps to be undertaken

- Endorsement of the final version of the Terms of Reference for "International Engineering and Management Consultant for the Bridge Design and Tender Documentation" by all interested parties (Romania, EIB, EU-ISPA, AFD, and KfW) and starting the pre-qualification procedure;
- Signing of the Financial Memorandum for the ISPA grant of € 4.998 million and issuing of the invitation to tender for "International Engineering and Management Consultant for the Bridge Design and Tender Documentation";
- Public consultations according to the Bulgarian and Romanian legislation for approval of the Preliminary Environmental Impact Assessment Report;
- Project Appraisal Mission involving AFD and KfW and negotiating Financial Agreements with AFD and KfW for co-financing of the bridge construction works;
- Ratification of the EIB Financial Contract for the € 50 million credit with a view to finalise the financial plan of the project in 2002;
- Awarding a Pre-Feasibility Studies for Upgrading Sofija - Vidin access infrastructure to the new bridge.

#### Project finance

The project is included in the Quick Start List of Regional Infrastructure Projects of the Stability Pact. The Government of Bulgaria undertakes to secure the financing for the preliminary design of the site, including the Environmental Impact Assessment; the technical design and construction of the bridge itself, as well as of the adjoining infrastructure on the Bulgarian territory, while the Government of Romania undertakes to secure the financing for the technical design and construction of the adjoining infrastructure on the Romanian territory.

The Government of Bulgaria agreed with EIB in its position of main project coordinator within the Stability Pact credits up to € 70 million in support of the bridge construction. A Finance Contract was signed with EIB on 8 December 2000, for a credit of € 50 million as a first tranche.

Further to the Regional Funding Conference of the Stability Pact the following donors are already committed to the project support:

- the French Government which has already signed a Financing Agreement with the Bulgarian Government for € 500,000 grant for preliminary studies, and has proposed to the Bulgarian Government a grant of € 5 million for financing the construction works;
- the German Government which has already extended € 470,000 grant for preliminary studies, and is ready to consider up to € 20 million assistance as a combination of a grant and soft loan in support of financing the construction works;
- the European Union through ISPA which approved on 16 July 2001 € 4.998 million contribution to the project design and tender management, and would be prepared to consider an application by the Bulgarian Government for € 70 - 80 million funding of the bridge construction works.

The Ministry of Transport and Communications is already benefiting from a € 200,000 PHARE financed consultancy assistance in preparation of the Terms of Reference for the bridge design. Within the State Budget funds have been envisaged for financing by the Bulgarian Government study, design and project management activities at the amount of € 3.9 million and for construction activities at the amount of € 17 million.

**Rail:** The Rail Corridor from the Bulgarian/Romanian border (Vidin) to Mezdra – Sofija has a length of 264 km. The line speed is 60-80 km/h. In Sofija the line divides into two branches, one goes to Istanbul and the other to Thessaloniki.

The connection to Turkey via Plovdiv, Dimitrovgrad and Svilengrad to the border at Kaptain Andreevo has a length of 320 km.

The project is to upgrade and electrify 142 km of the single-track railway line Plovdiv - Krumovo - Dimitrovgrad - Svilengrad – Greek/Turkish border to a track standard of 160 km/h and 22.5 tons axle load.

The project consists of the construction, installation and commissioning of the following major components:

- Section Krumovo - Dimitrovgrad (65.3 km);
- Section Dimitrovgrad - Svilengrad (76.4 km);
- Centralised Train Control (CTC), Automatic Train Control (ATC) and electrification of the section Krumovo - Dimitrovgrad (65.3 km);
- Centralised Train Control (CTC), Automatic Train Control (ATC) and electrification of the section Dimitrovgrad – Svilengrad/border (76.4 km).

**Project Implementation Progress:**

- A tender for designer was carried out and two contracts with the English consultancy company “Parsons Brinckerhoff” were signed;
- The final variant of the track was chosen and the detailed design, considered at a Council of Experts in NC BDZ, was approved;
- The report for the Environmental Impact Assessment (EIA) passed the public consultation procedure and was approved by the MRDPW with Resolution N 49 -12/2001.

**Prospects for 2002:**

- Completing of the tender documents and starting the tender procedure for supervision;
- Signing of the second contract with EIB for a € 70 million loan;

- Submitting of request on the part of BDZ to the Ministry of Regional Development and Public Works for issuing of design and work permits for a linear project of national and international importance.

Estimated amount of funds to be utilized in 2002 – BGN 146 million (€ 74.65<sup>15</sup> million) including BGN 63 million from the EIB loan (€ 32.21<sup>15</sup> million).

Project Management:

The Project is managed by a Steering Committee chaired by a Deputy Minister of Transport and including representatives of other organizations and an observer from the Delegation of the European Commission.

Costs, Financing:

- The total cost of the project are € 340 million;
- Signed loan contracts - an agreement with the EIB was reached for granting a loan of € 150 million. The first Financial Contract with the EIB for a loan of € 80 million was signed;
- Other sources of co-financing of the project:
  - ISPA Programme of the EU - an Application Form for financing of € 154 million was submitted;
  - Bulgarian co-financing - amounting to € 36 million.

The connection to Greece from Sofija via Radomir, Dupnitsa to the border at Kulata has a length of 210 km. The line will be reconstructed and electrified.

The section Dupnitsa - Kulata (131 km) is situated on the route between Sofija and the Greek border (Promahonas). The construction of the project is carried out by the joint venture between Glavbol-garstroj - Bulgaria and ADTranz - Germany. Eight European and twenty-four Bulgarian companies deliver the specialized equipment for the project. The project supervisor is the German Company DE-Consult in collaboration with Louis Berger - France, SystraFrance, Trademco – Greece and the Transport Construction Company - Bulgaria. The supervision contract is for the amount of € 5 million.

The construction started in July 1999. The first section Dupnitsa - Simitli station (50 km) was put into operation in February 2001. The overall project completion is planned for February 2002.

The project is financed under the PHARE - CBC (Cross-border Cooperation) Programme Bulgaria - Greece. The overall cost is € 38 million.

The further improvement of the section with telecommunication and signalling systems is envisaged after completion of the project. This will allow meeting the requirements for launching an inter-city service between Sofija and Athens.

Road:

The length of the road corridor from the Bulgarian/Romanian border (Vidin) to Sofija is 235 km. It is a two-lane road, which will be rehabilitated until 2005. The length of the section from Sofija to the Bulgarian/Romanian border (Kapitan Andreevo) is 278 km. The branch to the Bulgarian/Greek border splits in Sofija and has a length of 201 km.

260 km motorways and 1<sup>st</sup> class roads on the route of Corridor IV on the Bulgarian territory have been rehabilitated under the Transit Roads I and II rehabilitation programmes. Another 150 km will be rehabilitated by Transit

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<sup>15</sup> Exchange rate: € 1 = BGN 1.95583 (source: European Commission – DG Budget InforEuro, February 2002)

roads III rehabilitation programme while financing of € 30 million by ISPA has been approved by the ISPA Management Committee in July 2000.

The rehabilitation of Road 1-1 (E-79) between Dupnitsa and Kulata (87 km) and the designing of the Ljulin and Struma motorways between Sofija and Kulata under the Cross-Border Cooperation (CBC) programme with Greece are in progress. The rehabilitation of another 95 km on Corridor IV is envisaged under the same programme. Bulgaria is applying for ISPA financing for the Ljulin motorway (15 km) and sections (85 km) of the Struma motorway.

28 km new construction of the Maritza and Trakia motorways, financed by IA Roads (former GRA) own funds is under way. The completion of the Maritza motorway is envisaged through concession under the Agreement for Cooperation in the Fields of Energy and Infrastructure between the Governments of the Republic of Bulgaria and the Republic of Turkey, signed at the end of 1998.

#### Airport:

The preliminary technical description of the project of a new passenger terminal building and related facilities for the airport of Sofija are the following:

Capacity: 2.5 million passengers per annum (2,000 in peak hour with C level of Service in accordance with IATA's definition)  
 Floor area: 50,000 m<sup>2</sup>  
 New aprons: 150,000 m<sup>2</sup>  
 Access road and parking garage: 50,000 m<sup>2</sup>.  
 New runway system and related works: 45 x 3 6000 m  
 Extension of the existing runway and resurfacing  
 Extra taxiways: 100,000 m<sup>2</sup>

Implementation Progress of the project is:

- New passenger terminal building and related facilities Lot B 1 - a pre-qualification tender procedure for the selection of main contractor for the construction was carried out and co-ordinated with EIB and the Delegation of the European Commission in Sofija. The detailed design and tender documents for the construction expect approval respectively by National Council of Experts in the Ministry of Regional Development and Public Works and by the Delegation of the European Commission in Sofija.
- New runway system and related works Lot B2 - the detailed design and the tender documents for the construction are submitted. The detailed design is approved by the Council of Expert in Sofija Airport and the Supreme Council of Experts in the Ministry of Regional Development and Public Works and the Ministry of Transport and Communications. The tender documents are submitted for co-ordination and approval to the Kuwait Fund. A tender procedure was carried out and the selected consultant for project management and supervision during construction was co-ordinated and approved by the Kuwait Fund. A pre-qualification procedure for selection of contractor was conducted and there is an approved short list.

Prospects for 2002:

- Start of the construction of Lot B 1 and Lot B2.

Estimated amount of funds to be utilized in 2002 - € 86.7 million including € 26.5 million from tranches of the EIB loan.

**Project Management:**

The project is managed by a Steering Committee chaired by a Deputy Minister of transport. The directorate in MTC, responsible for the implementation of the project, is "Transport Policy" assisted by a specially appointed Project Implementation and Management Unit located in Sofija Airport, responsible for the day-to-day implementation of the project.

**Costs, Financing:**

Total cost of the Project: € 210 million.

**Signed loan contracts:**

- In 1997 a contract with EIB was signed for € 60 million loan for the construction of a passenger terminal;
- In 1998 a loan agreement with the Kuwait Fund for Arab Economic Development was signed amounting to KWD 12.3 million (€ 46.17<sup>16</sup> million) for the construction of a new runway system.

**Other sources of co-financing of the project:**

- ISPA Programme - signed Financing Memorandum in July 2000 for € 50 million grant;
- PHARE Programme - € 7.6 million for technical assistance;
- PSO grant - € 1 million for technical assistance;
- Bulgarian co-financing - € 46 million.

**Greece:**

**Rail:**

The section of Corridor IV on Greek territory between Kulata - Promahonas (GR) - Thessaloniki is 144 km long. It is a single-track electrified line, which complies with the standards AGC/AGTC. The gauge is according to the UIC standards, with the only restriction of the running speed over the bridges of the Strimonas and Gallikos rivers. The maximum axle load is 20 tons, while the maximum speed could reach the level of 120 km/h.

In the area of Kastanoussa there is a 10 km-long section with a maximum gradient of 21 %, which restricts traction capacity of long trains. Because of this characteristic 800 metre-long freight trains require double control or a limitation of their lengths.

There are no branch lines apart from the connections with industrial units.

Projects are in progress for the improvement of the alignment and superstructures, which will allow maximum speeds of up to 150 km/h, elimination of gauge restrictions through the construction of new bridges over the Strimonas and Gallikos rivers, as well as the installation of remote control and signalling systems (no ETCS) and the electrification of the line will be finished by 2006.

**Road:**

The Greek Section of the Corridor, i.e. Thessaloniki - Promahonas is part of the P.A.THE. (Patra – Athens – Thessaloniki - Evzoni) axis. The section has a total length of 104 km and consists of three main subsections: Thessaloniki - Derveni, Derveni - Lefkonas and Lefkonas - Promahonas.

There is a national strategy for the completion of Pan-European Corridor IV in Greek area. The target is to complete all designs for the motorway by the end of

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<sup>16</sup> Exchange rate: € 1 = KWD 0.266433 (source: European Commission – DG Budget InforEuro, February 2002)

2002 and to focus on our efforts for the funding of the section to the borders, in order first to complete the construction of Lefkonas - Promahonas motorway, which is 38 km long, and at the same time to schedule the funding for the construction of the rest Part of the corridor.

Thessaloniki (Interchange I/C K4) - Derveni, 8 km

It should be noted that the section Thessaloniki - Derveni is part of the Egnatia motorway and more specifically, part of the section by-passing the city of Thessaloniki (external Ring Road of Thessaloniki). The total length of this section is 8 km and will be constructed as a 6-lane motorway.

2.5 km out of this length has already been constructed while the remaining 5.5 km is under construction (4.3 km are due to be finished by the end of the year 2002 and the remaining 1.2 km (interchange I/C K 4) to be completed by the end of the year 2003.

As far as the financing is concerned (€ 138 million in total), € 36 million have been spent until the year 2000 (Cohesion Fund) and € 101 million will be allocated after the year 2000.

Derveni - Lefkonas, 58 km

Sections of a total length of 7 km of the sub-section Derveni - Lefkonas (64 km after completion) have already been constructed as a four-lane motorway. At this section of 7 km, there are slope stability problems because of the landslides. Alternative solutions were examined, but since the construction cost was very high, it was decided to proceed with the same alignment and only to stabilize the unstable areas of landslides. The maximum speed in this section is 70 km/h.

Technical and environmental studies for the rest of this section (51 km) are being completed. New alignment is planned for 16 km, and widening is foreseen for the rest. Planning is expected to be completed by the beginning of 2002.

For the improvement of Riziana - Lefkonas 1<sup>st</sup> subsection (7 km), € 13 million will be spent by the 3<sup>rd</sup> R. O. P. of Central Macedonia.

The total cost of construction is estimated at € 200 million.

Lefkonas - Promahonas, 38 km

The sub-section Lefkonas - Promahonas has a total length of 38 km and is being upgraded to a 4-lane motorway.

- 6 km (Lefkonas I/C - K. Cliristos I/C) are under design and will be ready for construction in the second half of 2001;
- 11 km (Lefkonas I/C - Palaiokastros - Sidirokastros I/C) were completed in 2000;
- 9 km (Sidirokastros I/C - Petritsi I/C) are under design and will be ready for construction in the 2<sup>nd</sup> half of 2001;
- 2.5 km up to the border of Promahonas and Petritsi I/C (2 km) are under construction and expected to be completed by the end of 2003. The rest (7.5 km) are under design and will be ready for construction in the 2<sup>nd</sup> half of 2001.

€ 6 million were paid up to the end of 1994 (Delors 1 Package – mainly INTERREG I), € 26 million were paid by the end of 2000 (INTERREG II) and € 17 million will be paid after the year 2000 (3<sup>rd</sup> R.O.P. of Central Macedonia).

Regarding the Promahonas border crossing, technical and financial issues for the implementation of a second bridge next to the existing one have been elaborated by both the Greek and the Bulgarian sides in the framework of PHARE/C.B.C. and INTERREG II. The procurement (international bid), as well as the financing have been fully undertaken by the Greek side. The relevant cost is estimated at € 1 million.

Port: The port traffic steadily increases during the last ten years, reaching in 2000, 15,500,000 tons of freight cargo (7,500,000 tons of dry freight and 8,000,000 tons of liquid cargoes). The Container Terminal handled 230,000 TEUs, while the Passenger Terminal served 250,000 travellers. According to the Authority's Operational Plan (2000 - 2005) a big programme of investments is scheduled for the modernization and expansion of the port.

The projects will also provide the port with a new direct access (west gate) to the national and international road and rail network, connecting it with both Trans European Transport Network (Egnatia Highway, P.A.T.H.E) and Pan European Transport Corridors IV and X.

The feasibility study and the master plan of a logistics and distribution centre development in the west side of the Port, those to the Container Terminal (Pier 6 basis), are now being prepared.

The investment programme has a volume of € 3.2 million in 2000, € 50.7 million in 2001 -2005. It is supported by the European Union with € 24.6 million in 2001 - 2005.

#### Turkey:

Rail: The rail connection of corridor IV from the Turkish/Bulgarian border (Kapikule) to Edirne and Istanbul (Sirkeci) has a length of 305 km. The total length is electrified, whereas 277 km are single-track. Most of the section will be reconstructed and a second track will be constructed on the stretch Halkali - Ispartakule (11 km). Construction works will be completed in 2003.

The Bosphorus project foresees a 13.3 km tunnel connection between the European and Asian part of Istanbul for rail mode. The construction works are scheduled for four years. The project is now put to tender. The costs are estimated at \$ 650 million (€ 752.14<sup>17</sup> million) and should be financed with credits from the International Financing Institutions.

Road: From the Turkish/Bulgarian border to Istanbul a motorway (228 km) is in use.

Port: One of the strategic ports of Turkey, Haydarpasa Port with 2651 ships/year and 354,000 TEUs annual handling capacity is located on Corridor IV in Istanbul. Modernising and rehabilitation of Haydarpasa Port has been going on. A loan from EIB a total of € 36 million has already been obtained to support the capacity expansion of TCDD's container ports (Izmir, Haydarpasa Port and Mersin) and a major portion of this loan is used for Haydarpasa Port. Haydarpasa Port is operated by TCDD and has a connection to railway network. This port has a great potential for combined transport since it has been registered as an international port and container terminal by the AGTC.

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<sup>17</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

## CORRIDOR V

### **ALIGNMENT:**

Corridor V is a multi-modal transport link running from South-West in Slovenia towards North-East in the Ukraine. The main line of Corridor V links Venezia (Italy) and Trieste (Italy) via Ljubljana (Slovenia) and Budapest (Hungary) with Lviv (Ukraine). In addition to this line there are three branches to ports on the Adriatic Sea, and one branch to connect Corridor V with Corridor IV in Bratislava.

In Italy the Corridor is linked to the ports of Venezia and Trieste, in Slovenia one branch links the Port of Koper with Corridor V in Divaca. In Budapest (Hungary) the Corridor splits into two branches, both of them running southwards to the Adriatic Sea. One branch goes to Rijeka in Croatia, the other branch runs via Sarajevo (Bosnia-Herzegovina) to the Croatian port of Ploce.

On the Railway Corridor there was a missing link between Slovenia and Hungary. The concerned countries have built a direct rail connection between to be operated starting from May 2001.

### **GENERAL DEVELOPMENT:**

A Memorandum of Understanding (MoU) was signed on 16 December 1996, by all parties except Croatia, because no agreement on the Rijeka – Trieste link was achieved. However, the Commission signed the MoU in June 1997. The Italian Ministry of Transport chairs the Steering Committee, which held its first meeting on 19 January 1998. The second Steering Committee meeting was held in Rome on 13 July 1999.

The draft addendum to the MoU concerning the branch 3, approved by the Third Pan-European Conference of Helsinki, has been submitted to the Steering Committee and to the Commission.

The railway working group is chaired by the Slovakian railways and is divided into three sub-groups to deal with the different branches. A co-operation agreement was signed by all involved railways except for Croatia in April 1998. Later in 2001 the agreement was signed by the Croatian Railways, too. It is appended by an action plan, which focuses primarily on infrastructure.

The ports and inland terminals play a major role for the development of Corridor V. Intermodal transport and logistics are a key issue. The corridor is endowed with the four main Adriatic ports – Venezia, Trieste, Koper and Rijeka. Trieste handles the largest turnover, followed by Rijeka and Koper. Besides, the port of Ploce and the land port Zahony also form part of the corridor. Ploce was affected severely by the Yugoslavian war. Zahony is considered the biggest transshipment land port in Europe.

The PHARE Multi Country Transport Programme has signed in October 1998 a contract for a feasibility study on the development of Corridor V and its branches, which has been finalised in 2000.

Belarus proposes to add a branch from Lviv to Minsk to Corridor V. There has been no justification of its necessity yet.

**TECHNICAL FEATURES OF CORRIDOR V:**

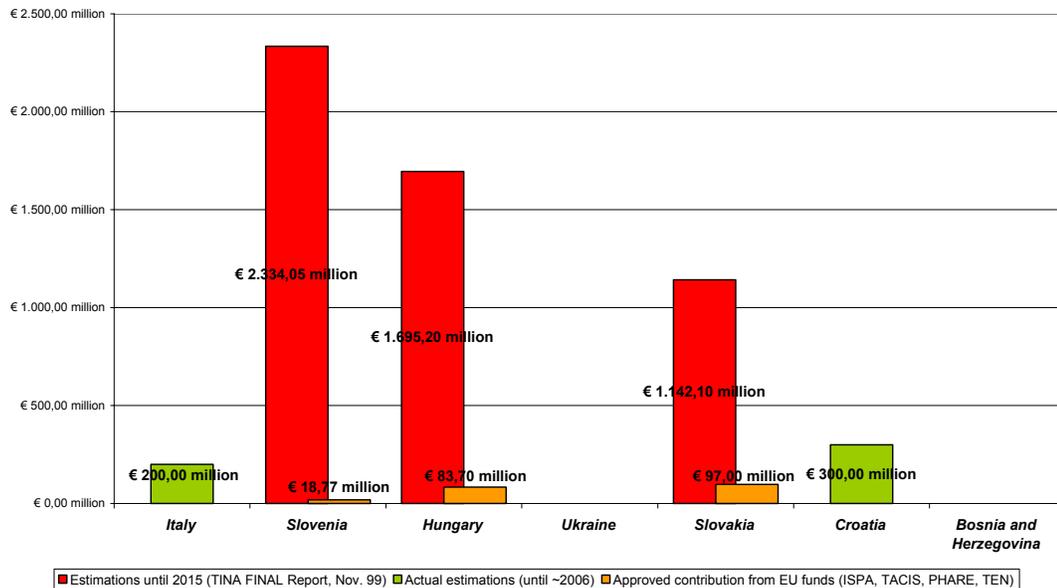
Concerned countries	Bosnia Herzegovina, Croatia, Italy, Hungary, Ukraine, Slovakia, Slovenia
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	3,270 km
Roads	2,850 km
Inland waterways	n.a.
Number of Airports	5
Number of Sea- and Riverports	3
Alignment:	Venezia – Trieste/Koper – Ljubljana – Budapest – Uzgorod – Lviv
Railway	Venezia – Trieste – <i>Sezana</i> – Divaca – Ljubljana – Zidani Most – Pragersko – <i>Hodos</i> – Zalalövö – Szekesfehervar – Budapest – Miskolc – Nyiregyhaza – <i>Zahony/Cop</i> – Lviv
Road	Venezia – Trieste – <i>Fernetici</i> – Divaca – Ljubljana – Maribor – Pince – Becsehely – Budapest – Nyiregyhaza – <i>Zahony</i> – Uzgorod – Lviv Branch from Koper
Railway	Koper – Divaca
Road	Koper – Divaca Branch from Rijeka
Railway	Rijeka – Zagreb – <i>Gyekenyes</i> – Dombovar – Budapest
Road	Rijeka – Zagreb – Becsehely Branch from Ploce
Railway	Ploce – <i>Gabela</i> – Mostar – Sarajevo – <i>Bos. Samac</i> – Osijek – <i>Magyarboly</i> – Pecs – Dombovar
Road	Ploce – <i>Dracevo</i> – Mostar – Sarajevo – <i>Orasje</i> – Osijek – <i>Udvar</i> – Budapest Branch from Bratislava
Railway	Bratislava – Zilina – Kosice – <i>Cop</i>
Road	Bratislava – Zilina – Kosice – <i>Zahor</i> – Uzgorod

Remark: The shown figures for seaports and riverports refer to the TINA countries.

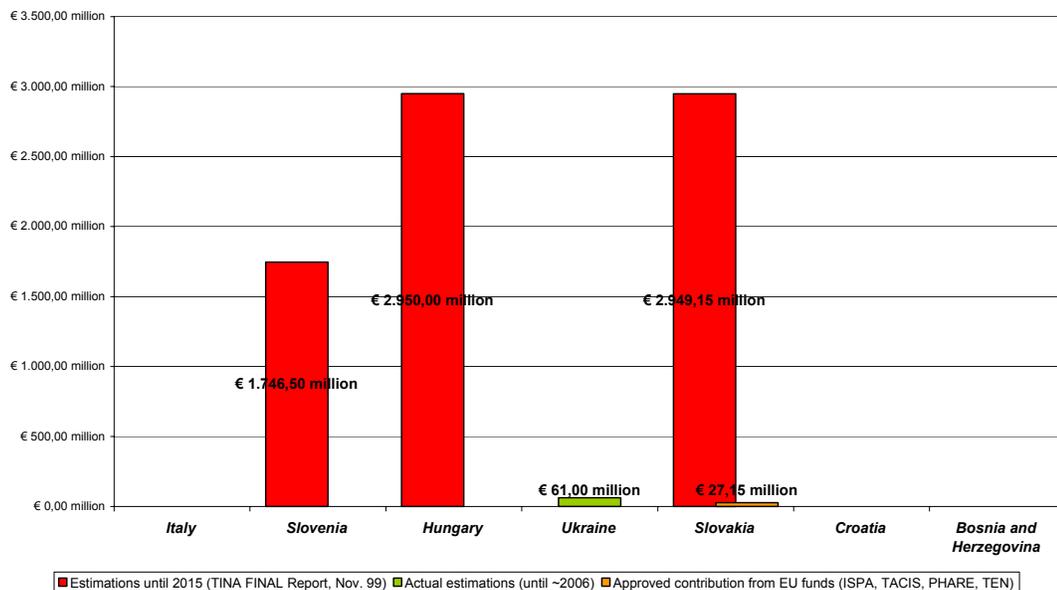
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor V have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor V for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investements along Rail Corridor V**



**Costs for infrastructure investements along Road Corridor V**



## **DEVELOPMENTS ALONG THE CORRIDOR**

### Italy:

- Rail:** The Italian section from Venezia to the Italian/Slovenian border (Villa Opicina) is a double track line with a length of 177 km. Along the line is increasing its operations the Cervignano marshalling yard and intermodal freight terminal. Between Monfalcone and Trieste three tunnels were enlarged to assure the gabarit C from Venezia to the Italian/Slovenian border. Since the end of 2000, a new line between Treviso and Portogruaro permits to by-pass the Venezia bottleneck. An additional double track high-speed line is included in the TEN (priority project 6) outline plan. A feasibility study for the new line between Venezia and Trieste is presently conducted: its final layout towards the border is subject to the choice of the line towards Ljubljana (Corridor V). An intergovernmental agreement concerning the layout from Trieste to Ljubljana was signed (23/02/2001).
- Road:** The Italian section from Venice to the Italian/Slovenian border (Fernetici) is a fully operational motorway with a length of 150 km.

### Slovenia:

- Rail:** The line from the Italian/Slovenian border (Villa Opicina/Sezana) to Divaca - Ljubljana - Zidani Most - Murska Sobota will be rehabilitated and equipped with new signalling facilities until 2005. A new line was constructed between Murska Sobota and the Slovenian/Hungarian border, with Hodos as a common border station. The line was put into operation in 2001.
- The branch from Divaca to Koper was equipped with new signalling facilities. Project planning for the construction of a new track is being made.
- Road:** The main corridor extends from the Italian/Slovenian border (Fernetici) through Divaca – Ljubljana – Vransko – Maribor to the Slovenian/Hungarian border (Pince). Its length is 372 km. From the Italian border to Ljubljana and from Vransko to Maribor the corridor is a four-lane motorway. On the other sections a motorway is under construction.
- The branch to Koper separates in Divaca. Its length is 40 km. A four-lane motorway on the total section should be completed in 2004.

### Hungary:

- Rail:** The main railway line in Hungary runs from the Hungarian/Slovenian border (Hodos) - Zalalovo – Boba – Szekesfehervar – Budapest and further to Hatvan – Miskolc to the Hungarian/Ukrainian border (Zahony). Its length is 628 km. From Hodos to Zalalovo a new line was put in operation in 2001. The electrification of the single-track line from Zalalovo to Budapest is under construction. The section from Budapest to Zahony is double track and electrified, in large parts a speed of 120 km/h is allowed. A feasibility study will determine where reconstruction is necessary.
- In addition two branches to the Adriatic ports separate from the main branch in Hungary. One branch separates in Budapest and continues through Dombovar to the Hungarian/Croatian border (Gyekenyes) and further to Rijeka. Its length in Hungary is 261 km. A feasibility study is under way to rehabilitate the track. Completion is scheduled for 2007. The branch to Ploce separates in Dombovar

and runs to the Hungarian/Croatian border (Magyarboly). Its length is 107 km. Reconstruction of the track is in planning stage and will be completed in 2005.

Road: The road extends 588 km from the Hungarian/Slovenian border (Tornyiszentmiklos) to Becsehely – Zamardi – Balatonliga – Szekesfehervar to Budapest and further through Nyiregyhaza to the Hungarian/Ukrainian border (Zahony). It is proposed for motorway construction on its entire length. Priority is given to sections from the Slovenian border to Budapest and from Fuzesabony to Polgar. Other sections will be developed thereafter.

The branch to Rijeka has only a small section of 7 km in Hungary. The section is to be constructed as half profile motorway until 2004.

The branch to Ploce separates in Budapest and continues through Szekszard – Mohacs to the Hungarian/Croatian border (Udvar). Its length is 189 km. There are two possible development routes for an expressway; one passes through the city of Pecs west of the present corridor and the other lies close to the existing road. The alternative routes are currently being studied.

#### Ukraine:

Rail: The railway line runs from the Hungarian/Ukrainian border (Chop) further to Batewo and Lviv. The 264.2 km line is double track and electrified, except for the 1.8 km tunnel at the Beskyd – Skotarskoe section, which is single track. At Chop the branch to the Slovakian/Hungarian border and further to Bratislava separates.

Road: The road corridor runs from the Hungarian/Ukrainian border (Chop) through Uzgorod and continues further to Mukachevo and Lviv. Its total length is 312 km. The 250 km road stretch from Mukachevo to Lviv should be rehabilitated with an EBRD loan. No time schedule has been identified. A direct route option between Mukachevo and the Hungarian border, thus avoiding Uzhgorod, is under discussion. All the sections currently are a single carriageway trunk road.

#### Slovakia:

Rail: The rail corridor branch from Bratislava through Zilina – Kosice to the Slovakian/Ukrainian border (Cop) has a length of 545 km. It is a conventional double track, electrified line, which will be upgraded to speeds between 120-160 km/h in consecutive stages.

Road: The road corridor branch from Bratislava through Ladce – Zilina – Poprad - Presov – to the Slovakian/Hungarian border (Vysne Nemecke) has a length of 546 km. The total length will be constructed as a motorway. From Bratislava to Ladce the motorway is in operation, and with the exception of three short sections the road continues as two-lane trunk road to the border. A PHARE funded diversion has been completed to ease traffic congestion at the border town Vysne Nemecke.

#### Croatia:

Rail: The rail corridor branch from Rijeka runs through Zagreb to the Croatian/Hungarian border (Gyekenese). The line is single track except for the section Zagreb – Dugo Selo.

The second corridor V branch through Croatia runs from the Croatian/Hungarian border (Magyarboly) through Osijek to the Croatian/Bosnia Herzegovina border (Bosanski Samac) and reenters Croatia at Gabela and terminates in Ploce. The railway line is single track and will be modernised.

Road: The road corridor branch from Rijeka runs through Karlovac and Zagreb to the Croatian/Hungarian border (Letenye). Its length is 284 km. The route is either already motorway standard (Rijeka – Kupkac; Karlovac – Zagreb) or is planned to be a motorway.

The second corridor V branch through Croatia runs from the Croatian/Hungarian border (Udvar) through Osijek to the Croatian/Bosnia Herzegovina border (Bosanski Samac) and reenters Croatia at Dracevo and terminates in Ploce. The total length of the two-lane trunk road is 141 km. Preliminary studies for the construction of an expressway are undertaken.

Bosnia Herzegovina:

Rail: The rail corridor branch from the Croatian/Bosnia Herzegovina border (Bosanski Samac) runs through Zenica – Sarajevo – Mostar to the Croatian/Bosnia Herzegovina border (Gabela). The line section Sarajevo – Zenica – Doboj has been renewed in 1998. On the section from Doboj to the state border the bridge over the river Sava is under reconstruction.

Road: The road corridor branch from the Croatian/Bosnia Herzegovina border (Bosanski Samac) to the Croatian/Bosnia Herzegovina border (Dracevo) has a length of 435 km. It is a two-lane trunk road. Reconstruction of the section north of Sarajevo is under way and should be completed in 2003. The section Sarajevo – Metkovic (border) is a long term project. It will be constructed as a motorway if the funds are available.

## CORRIDOR VI

### **ALIGNMENT:**

Corridor VI is a multi-modal transport link running from North to South, connecting the Polish Baltic Sea ports of Gdynia and Gdańsk with Slovakia and the Czech Republic. It is composed of railway lines with a length of 1800 km and roads with a length of 1,880 km, including the following sections:

#### Poland

The main rail line runs from Gdynia/Gdańsk in two branches, one via Warszawa, Katowice to the border crossing of Zebrzydowice at the Czech border, the second via Bydgoszcz to Katowice and further to the border crossing of Zwardoń at the Slovakian border. At Tczew, approximately 30 km south of Gdańsk, the majority passenger traffic passes through Warszawa and further to Katowice, whereas the majority of freight traffic runs via Bydgoszcz south to Katowice (so called "Coal trunk line").

The main road part of the Corridor is also composed of two branches. One branch connects Gdańsk with Grudziądz and with Corridor II in Poznań. From Grudziądz southwards it runs through Łódź, Częstochowa, Katowice to the following border crossings: Zwardoń at the Slovakian border, Cieszyn and Gorzyczki (reserved for the future motorway A-1/D-47) at the Czech border.

The second branch of the road Corridor VI runs from Gdańsk via Warszawa and it connects with the first branch at Piotrków Trybunalski.

Corridor VI has a length of 1,559 km railways and 1,447 km of roads in Poland.

#### Slovakia

Corridor VI is composed of road and rail running parallel from the border crossing with Poland at Skalite via Cadca to Zilina, where it connects with Corridor V.

The length of the railway line in Slovakian section is 51 km, the road has a length of 64 km.

#### Czech Republic

Rail Corridor VI in Czech Republic has a length of 202 km. It runs from the border crossing with Poland at Petrovice u Karvine, passes through Ostrava, Prerov with an end in Breclav, where it connects with rail Corridor IV.

Road Corridor VI starts at the border crossings with Poland at Cesky Tesin and Vernovice (future motorway border crossing), runs through Ostrava to Brno where it connects with road Corridor IV.

The total length of the Czech section of road Corridor VI is 253 km.

### **GENERAL DEVELOPMENT:**

The Memorandum of Understanding (MoU) on the development of the Corridor VI was signed on 14 October 1999 in Bratislava by the Secretaries of State responsible for transport sector. In June 2000 the MoU has been signed by Loyola de Palacio, Commissioner for Energy and Transport and Vice-President of the European Commission.

Two MoUs for the development of the railway corridor, one between Austrian Railways (ÖBB), Czech Railways (CD) and Polish Railways (PKP), the other between ÖBB, Slovakian Railways (ZRS) and PKP have been signed in May 1998 under the auspices of UIC.

PKP is chairing the Steering Committee for railways. The last meeting was held in Vienna on 6/7 October 1998. The Steering Committee for railways continues its work in sub-groups. These are: freight traffic, passenger traffic and infrastructure.

Every year in November the conference on transport in Corridor VI takes place in Ostrava (Czech Republic). It is organised under the auspices of the European Commission and Czech Minister of Transport. The basic subject of the Conference - "Trans-European Multimodal Transit Corridor VI - significance, preparation and implementation of the project" underlines and promotes this Corridor in Europe as the most preferable North - South transport Corridor in the Central Europe thanks to passing through the Moravian Gate.

In 2001 the Fifth annual Conference took place on 21/22 November with participation of the Minister of Transport of the Czech Republic, Vice Minister of Transport of Poland, and representatives of Slovakia, Austria, Germany, as well as the European Commission and International Road Federation, i.e. all parties of the MoU and other parties interested in development of Corridor VI. Among others the issue of preparation of Polish - Czech Agreement on the place of direct link of the motorway was discussed.

#### TECHNICAL FEATURES OF CORRIDOR VI:

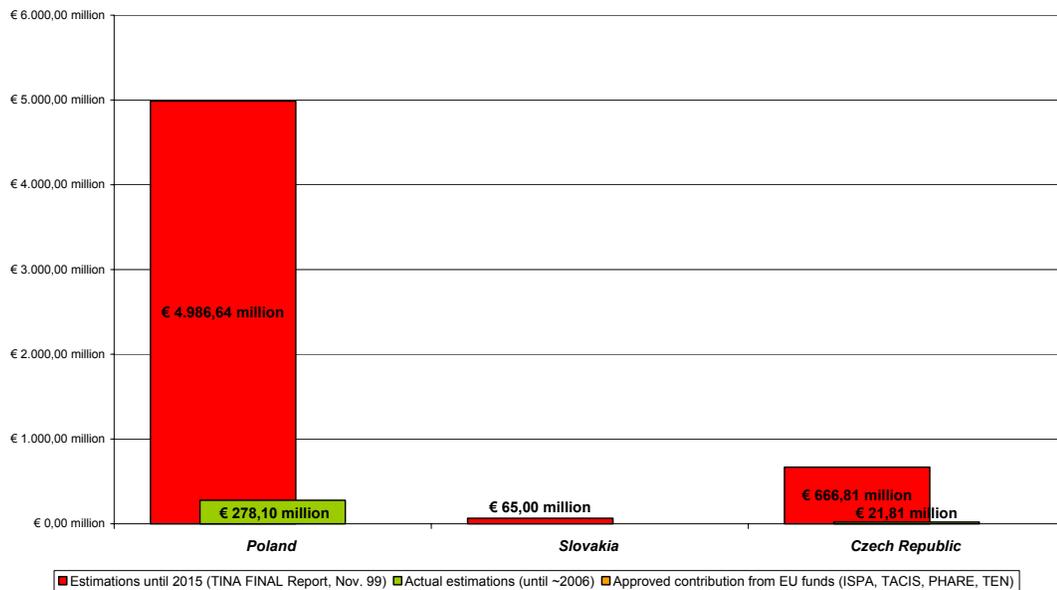
Concerned countries	Czech Republic, Poland, Slovakia
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	1,800 km
Roads	1,880 km
Inland waterways	n.a.
Number of Airports	6
Number of Sea- and Riverports	5
Alignment:	Gdansk – Grudziadz/Warszawa – Katowice – Zilina
Railway	Gdynia – Gdansk – Tczew – Warszawa – Psary – Katowice – Bielsko Biala – Zwardon/Cadca – Zilina Second line for freight traffic: Tzew – Torun – Gliwice – Katowice
Road	Gdansk – Grudziadz – Torun – Wloclawek –Lodz – Piotrkow Tryb. – Czetsochowa – Katowice – Bielsko Biala – Zwardon/Skalite – Zilina Second alignment via Warszawa: Gdansk - Elblag – Warszawa – Piotrkow Tryb. Branch to Poznan
Road	Grudziadz – Bydgoszcz – Poznan Branch to Breclav/Brno
Railway	Bielsko Biala – Zebrzydowice/Petrovice u Karvine – Ostrava – Breclav
Road	Czestochowa – Katowice – Gorzyczki – Ostrava – Brno

Remark: The shown figures for seaports and riverports refer to the TINA countries.

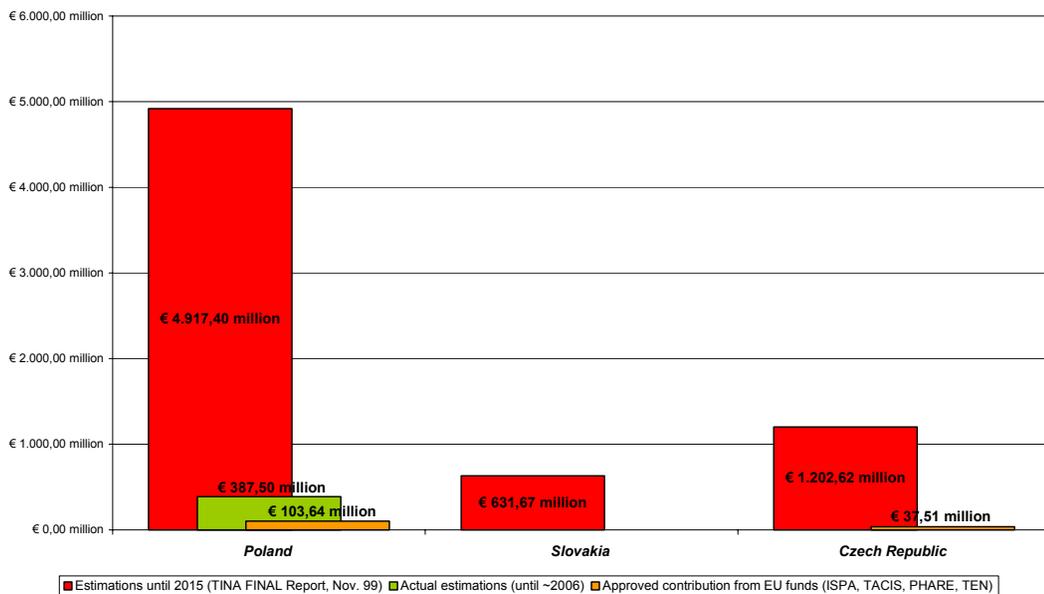
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor VI have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor VI for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investments along Rail Corridor VI**



**Costs for infrastructure investments along Road Corridor VI**



## DEVELOPMENTS ALONG THE CORRIDOR

### Poland:

**Rail:** There are two parallel lines for the Rail Corridor in Poland. The electrified line from Gdynia through Gdańsk - Tczew - Malbork - Warszawa - Grodzisk Mazowiecki - Psary to Katowice is the main line used for passenger traffic. It continues through Pszczyna - Bielsko-Biała to the Polish/Slovakian border at Zwardoń. Except for the section Bielsko-Biała - Zwardoń this line is double-track. At present the maximum line speeds are 100 - 120 km/h. The maximum speed of 160 km/h can be reached in the section called "Central trunk line" from Grodzisk Mazowiecki to Zawiercie (256 km). Second line so-called "Coal trunk line" for freight traffic lies Tczew - Inowrocław - Zduńska Wola - Tarnowskie Góry. Overall length of these two parallel lines is 1,526 km.

Until 2000 the first stage of the projects co-financed from PHARE fund were modernised: border crossings Zebrzydowice / Petrovice u Karvine for the total cost of € 6.3 million and Zwardoń/Skalite for the total cost of € 1.8 million. Next stage of modernisation of this border crossing will be continued until 2003.

Since 2004 it is planned to modernise the E-65 railway line from Warszawa to Gdańsk/ Gdynia (340 km). The first section (Warszawa - Działdowo, 150 km) will be upgraded to a parameters required by AGC/AGTC Agreements with co-financing from ISPA. Total cost of upgrading this section is estimated for € 270 million within the period of 2003 - 2006. Since 2006 the second section from Działdowo to Gdynia with a length of 190 km will be upgraded thanks to co-financing by the EU fund.

Until 2015 it is planned to construct a new line from Psary - Trzebinia to Bielsko-Biała to prolong the "Central trunk line".

**Road:** The Road Corridor in Poland has two parallel lines:

- Gdańsk - Tczew - Grudziądz - Toruń - Łódź - Katowice - Bielsko-Biała - Cieszyn;
- Gdańsk - Warszawa - Katowice - Zwardoń.

The section of the A1 motorway from Gdańsk to Toruń (141 km) is planned to be constructed until 2006; the section from Toruń to Stryków - until 2010; the section from Stryków to Tuszyn - until 2010; the section from Piotrków Trybunalski through Gliwice to Gorzyczki at the Czech border - until 2008.

- A small section of A1 motorway from Piotrków Trybunalski to Tuszyn already exists. From Piotrków Trybunalski to Częstochowa an existing expressway will be upgraded into a first stage motorway (dual carriageway without interchanges).
- The road section of Corridor VI from Katowice to Bielsko-Biała (55 km) already exists as an expressway. Further southward to Zwardoń at the Slovakian border (49 km) the existing road No. S94 is being upgraded into expressway until 2006. This project will be continued with ISPA co-financing. The total cost of the project will amount to € 97 million.
- The branch from Bielsko-Biała to Cieszyn (33 km), partly double and one carriage road will be upgraded into an expressway until 2005.
- The other section from Częstochowa - Katowice - Gorzyczki to the Czech border will be constructed as the A1 motorway. However, this section will not be ready before 2008.

- The national road No. 7 from Gdańsk to Warszawa (320 km) will be upgraded and reconstructed to a double carriage expressway until 2015.
- An additional branch of the Corridor separates in Grudziądz - Świecie and terminates in Poznań. Its length is 190 km. The existing road will be reconstructed as an expressway.

The following projects of strengthening of pavement to the axle load to 115 kN /axle were applied to be co-financed from ISPA fund:

- Road No. 7 Gdańsk - Warszawa, section Gdańsk - Jazowa with a length of 42 km for the total cost of € 84.5 million until 2004;
- Road No. 7, section from Płońsk to the limits of warmińsko-mazurskie voivodship with a length of 73 km for the total cost of € 26 million until 2006;
- Road No. 1 Gdańsk - Cieszyn, section from the limits of kujawsko-pomorskie voivodship to Łódź with a length of 36.5 km for the total cost of € 12 million until 2004;
- Road No. 1, section from the limits of kujawsko-pomorskie voivodship to Toruń with a length of 90 km for the total cost of € 30 million until 2004.

Moreover two projects concerning transport infrastructure are situated close to the seaports of Gdańsk and Gdynia. They are:

- Construction of Kwiatkowski route, access to the seaport of Gdynia with a length of 3 km for the total cost of € 47 million planned to be constructed until 2005;
- Construction of Sucharski route, improvement of road access to the port of Gdańsk for the total cost of € 71 million planned to be constructed until 2006.

From PHARE fund in 1990's modernisation works have been running on Tri-City by-pass (PHARE-LSIF for the total cost of € 20 million); on the road section from Żywiec to Zwardoń, as well as at the border crossing and road in Zwardoń close to the Polish / Slovakian border.

#### Slovakia:

##### Rail:

From Cadca to Zilina the line is double-track and electrified. The other section from Skalite to Cadca is single-track and it is being electrified. This section will be electrified until 2001 and the second track will be added until 2006.

Presently in the section Cadca - Skalite the journey speed is 60 km/h, from Skalite through Slovakian/Polish border to Zwardoń - only 50 km/h due to passing the line through difficult mountain area.

In the section from Cadca to Zilina (39.3 km) the journey speed can be reached up to 100 km/h, but with speed limits in 15 points.

The following journey speed will be reached until 2006: Zilina - Cadca - 120 km/h, Cadca - Skalite - 100 km/h, Skalite - Zwardoń - 70 km/h.

The Slovakian authorities do not foresee to realise any project co-financed from ISPA within this Corridor. Investments have been running thanks to financial support of the state budget and PHARE fund.

##### Road:

The Road Corridor from the Polish/Slovakian border (Zwardon) to Hr. Podhradie, where it connects to Corridor V, has a length of 64 km. It is a two-lane national road and will be replaced by a newly constructed motorway until 2015.

The Road Corridor from the Polish/Slovakian border is a two lane national road and will be replaced by a newly constructed motorway until 2015.

Due to the highest traffic in Corridor V, the majority of domestic and all of the pre-accession European funds concerning transport sector, granted for Slovakia will be assigned for modernisation of this Corridor.

Czech Republic:

**Rail:** The railway branch from the Polish/Czech border (Petrovice u Karvine) through Ostrava to Breclav is electrified, double-track line. It will be upgraded to a speed of 160 km/h until 2004.

The following rail project proposals are going to be co-financed from ISPA fund from 2001 until 2003:

- Section Petrovice u Karvine - Ostrava, with a length of 25 km for the total cost of € 5,88 million;
- Section Ostrava - Studenka, with a length of 20 km for the total cost of € 8.37 million;
- Section Otrokovice - Prerov, with a length of 30 km for the total cost of € 7.56 million.

The rest of the line will be upgraded from the state budget.

**Road:** The road branch from the Polish/Czech border (Cesky Tesin) passes through Lipnik and Brno, where it connects to Corridor IV. This section is a two-lane main road respectively four-lane expressway. A new expressway is planned to be constructed from Cesky Tesin to Vyskov until 2006.

The main road Corridor VI beginning from Brno through Ostrava to Vernovice on Polish/Czech border is reserved for motorway D47. The section of this motorway in the vicinity of Ostrava with a length of 11 km is being constructed from 2000. All the Czech section of motorway D47 is planned to be in operation in 2010. In 2001 the Agreement concerning the place of direct link of the Czech motorway D47 with the Polish motorway A1 is planned to be signed by the Ministers of Transport of the Czech Republic and Poland.

## CORRIDOR VII

### ALIGNMENT:

The Danube is the second longest river in Europe and represents the main inland waterway transport Corridor linking Western and Eastern Europe through the Rhine, the Main and the Rhine-Main-Danube canal. It connects the North Sea with the Black Sea crossing the countries of Germany, Austria, Slovakia, Hungary, Croatia, FR Yugoslavia, Romania, Bulgaria, Moldova and the Ukraine. Taking into consideration the results of the 3rd Pan European Transport Conference of Helsinki, June 1997, the Pan-European Transport Corridor VII refers to:

- the Danube inland waterway,
- the Black Sea-Danube Canal,
- the Danube branches Kilia and Sulina,
- the inland waterway links between the Black Sea and the Danube,
- the Danube – Sava canal,
- the Danube – Thissa canal,
- and the relevant port infrastructures situated on these inland waterways.

### GENERAL DEVELOPMENT:

The City of Vienna has been appointed by the European Commission-DG TREN to undertake the management of Corridor VII- the Danube. In this context, the first meeting of a Steering Committee for Corridor VII, consisting of representatives from all the involved countries and the European Commission was held in Vienna on July 7 1998. The Steering Committee started its works, elaborating an action plan with the main objective of promotion of the efficient inland waterway transport along the Danube. The Steering Committee, in line with the practice of the Steering Committees of the other Pan-European Corridors and Areas, started to elaborate a Memorandum of Understanding (MoU) that could put the first base for an international cooperation for the development of the Danube transport.

The Steering Committee had two more meetings on 27 November 1998 and 18 October 1999 in Vienna. During these meetings, the draft final text of the MoU was elaborated. However, the political crisis in FR Yugoslavia postponed the works of the Group, till 25 April 2001, when the 4<sup>th</sup> Steering Committee meeting took place. During this meeting, the parties agreed on the final version of the MoU. The MoU was signed by the Ministers of Transport at a Ministerial Meeting in Rotterdam on 6 September 2001. The European Commission is a signatory of the MoU, and in this respect, the Commissioner of Transport and Energy, and Vice President of the European Commission, Mrs. Loyola de Palacio, signed the MoU on 27 February 2002.

The aim of the MoU is to co-operate in the development of main and ancillary infrastructures regarding Corridor VII including the relevant port infrastructures. This development should include maintenance, reconstruction, rehabilitation, upgrading and new construction, as well as its operation and use with a view to fostering the most efficient and environmentally friendly use of the Corridor. Taking into consideration the existing legal regulations in the interested countries, the fleet operating on the Danube is also a field for co-operation. The co-operation furthermore aims at perceiving and defining the prerequisites and conditions for the most efficient use of funds and know-how provided by public and private sources.

Beside the Steering Committee, three working parties have been established:

- Infrastructure (chaired by Romania);
- Operation (chaired by Austria); and
- Fleet (chaired by Hungary).

#### Infrastructure

The working group on infrastructure deals with the following tasks:

#### **Port infrastructure**

- Evaluation of the existing situation of port infrastructures,
- Necessary measures to develop the harbours technical equipment,
- Evaluation of the present situation of the harbours concerning cargo, capacity etc.,
- Development of necessary equipment when comparing cargo flows and traffic forecast,
- Evaluation of the influence of waterway and port infrastructure conditions on the capacity's utilisation of the Danube,
- Consideration of existing and possible financial sources for ports development,
- Evaluation of harbour activity in the Danube ports (i.e. work organisation).

#### Navigation fairway infrastructure

- Minimum technical requirements for navigation in comparison with the Rhine conditions,
- Bottlenecks identification and evaluation,
- Bottlenecks elimination,
- Navigation rules on the Danube, the Rhine and the Main Danube – Canal.

#### Operation

The working group on operations covers:

- Traffic management and modal split,
- Combined and Intermodal transport development,
- Improvement of fairway conditions, in order to achieve better utilization of vessels' capacity, sufficient reliability, accuracy in timetables, increased safety of navigation,
- Improvement of utilization of the fairway by means of integrated River Information Systems,
- Improvement of transshipment,
- Transport Cost,
- Tariffs,
- Transport logistics,
- Travel times,
- Efficiency and quality of service,
- Administrative obstacles,
- Legislation,
- Environmental analyses,
- Economic analyses.

Two relevant studies are currently being elaborated under the 4<sup>th</sup> and 5<sup>th</sup> Research Framework Programmes of the European Commission:

- INDRIS – Inland Navigation Demonstrator for River Information Services
- ALSO – Advanced Logistics Solution for Danube

In addition, a relevant event for promoting inland waterway transport along Corridor VII is mentioned: In Romania, a VTM (Vessel Traffic Management) system has been implemented on the section Constanta – Czernavoda during

2000. This electronic equipment will help to reduce border-crossing obstacles such as customs procedures, and will have a positive contribution on crew management.

In Austria the Danube River Information System (DORIS) was introduced. This system will make a substantial contribution to the modernisation of the Danube traffic route, which will allow inland navigation to be more safely, more reliably and with less environmental damage. In addition, sovereign functions would be fulfilled more efficiently. With the integration of the vessel travel information system into logistics systems (Supply Chain Management), high rationalisation potential within the operational area of inland navigation can be exploited and high-value good can be transported on water through improved quality of service.

Since the most modern data communications and processing systems will be developed for and used by DORIS, this project also makes an important contribution to Austrian technology policy.

The conception and implementation of the navigation information system DORIS will take place in harmony with European development in the area of waterway management. Co-ordination with the Danube countries and European partners for a system which can be implemented medium-term in the entire Danube area will be an aim of European Union technology projects.

### Fleet

The working group on fleet deals with:

- Data collection on the Danube fleet features: size, structure, used technologies and ship types; comparison with the Rhine and the Dnjepr fleets,
- Evaluation of the interoperability and possibilities of technological co-operation of the Danube fleet with the Rhine and Dnjepr fleets,
- Assessment of the state of the art in the shipbuilding industry, evaluation and possibilities of operating new types of ships and technologies on the Danube,
- Assessment of the development of fleet capacity and Danube traffic, evaluation of the utilisation of fleet capacity,
- On the basis of information concerning potential cargo flows and traffic prognoses, evaluation of adequacy of the Danube fleet in terms of structure and ships characteristics,
- Evaluation of influence of waterway and port infrastructure conditions on the characteristics and capacity's utilisation of the Danube fleet,
- Evaluation of adequacy of the ship repair industry on the Danube,
- Consideration of existing and possible financial schemes in the field of fleet development,
- On the basis of the above-mentioned elements, preparation of proposals on the development of the Danube fleet, as well as waterway, port and ship repair infrastructure.

From February 2001, a technical Secretariat for Corridor VII has been established, with its costs burdening the Vienna management.

Currently, ten countries and the European Commission are full members of the Steering Committee. The ten countries are:

Germany, Austria, Slovakia, Hungary, Croatia, FR Yugoslavia, Romania, Bulgaria, Moldova and the Ukraine. However, in the last meeting of the Steering Committee, held in Vienna on 30 November 2001, it was agreed that three more States would obtain the status of observer of the Group. These States are the Netherlands, the Czech Republic and the Russia.

The Internal Regulation for the full members and the observer countries of the Steering Committee is to be discussed in the next meeting of the Group, to be held in Odessa in June 2002.

In order to obtain its objectives –as described in the MoU- the Steering Committee has accepted certain main provisions for the continuation of its work. The most important of these lines that will guide its future works, are:

- To include interoperability and border crossing questions in the agendas of the future meetings of the Steering Committee and the three Working Parties.
- To take the necessary actions to involve the private sector and other international fora for the Danube into the works of the Steering Committee.
- To cooperate closely with the European Commission (DG REGIO and TREN), and cooperate closely with all sides in order to strengthen future proposals for ISPA financing regarding projects along Corridor VII.

The latest developments regarding the new perspectives of the European Common Transport Policy are described in the last White Paper “European Transport Policy for 2010: Time to decide”, issued in September 2001. The Steering Committee welcomes the main points of this documents, and especially its intentions to support the environmentally friendly modes of transport, such as the inland waterways.

The Group has also a very positive opinion on other statements of the White Paper, which express the guidelines of a policy to support the shifting of traffic from roads to other modes, to support intermodality, and to ensure sustainable mobility for people and goods, creating a coherent global transport system which gives the best possible returns, not only in investment, but in securing safety and other environmental and social priorities as well.

In this context, the new perception of Corridor VII as a multi-modal Corridor, incorporating relevant railway lines along the Danube and all the transshipment nodes, has been also welcome.

The importance of multi-modal transport and the role of the Danube towards multi-modal transport development must be emphasized. Inland waterway transport is, in essence, a multi-modal form where the operation to be carried out is in fact a chain in which each of the links contributes to the end result. More than other modes, inland waterway transport is therefore dependent on a development strategy, which supposes simultaneous removal of the various barriers and coherent development of the entire system. In this context, the Chairs of Corridor VII, Railway Corridor IV and Railway Corridor X have commonly decided to established a common Secretariat in Vienna, at the TINA VIENNA premises, to work together towards the multi-modal development of transport in the Central and South-Eastern Europe. There are many positive synergy effects and many things that can be achieved if the inland waterways combine their potential with the railway; the inland ports along the Danube can be the gates of extended regions to move people and goods westward, northward or southward, using the most efficient, capacity free and environmentally friendly means like railways and inland waterways.

#### **TECHNICAL FEATURES OF THE CORRIDOR VII:**

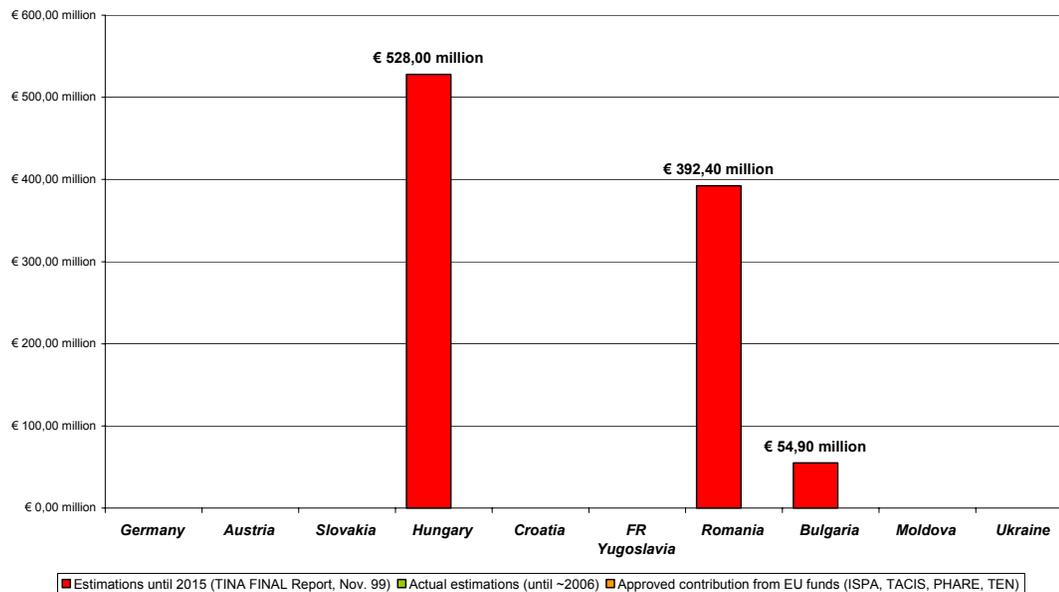
Concerned countries	Austria, Bulgaria, Croatia, Germany, Hungary, Moldavia, Romania, Slovakia, Ukraine, FR Yugoslavia
Transport modes	Inland waterway
Approx. length of the Corridor	2415 km
Number of Sea- and Riverports	44

Remark: The shown figures for seaports and riverports refer to the TINA countries.

## COST ESTIMATIONS PER COUNTRY:

The costs for infrastructure investments for Corridor VII have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the "Status of the Pan-European Transport Corridors and Transport Areas" for 1998 and 1999, updated reports for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

Costs for infrastructure investments along Rail Corridor VII



## DEVELOPMENTS ALONG THE CORRIDOR

Because of increasing environmental problems it is the declared aim of the EU to direct as much traffic as possible to environmentally friendly modes such as inland waterways. As a significant northwest southeast axis, the Danube provides good opportunities for such transport.

In 1992 the Rhine-Main-Danube canal was opened, to link the Danube with the river Main and the commercial waterways of Western Europe. Shortly after the opening cargo volumes grew in spite of existing problems.

Due to the demolition of three bridges at Novi Sad and other damage to chemical and oil installations in spring 1999 the navigation has been interrupted for several months.

The project of the Cleaning of Danube that has been initiated beginning of 2000 by the European Commission, the Danube Commission and within the framework of the Stability Pact is still in progress.

This project has been co-financed (85%) by the European Commission - CARDS programme.

The works started in March 2002. The main objectives of the project are the environmental assessment, the right treatment of the unexploited mines and other explosives, the clearance work referring on the three bridges at Novi-Sad, and the river bed rehabilitation.

Provisional measures to facilitate the navigation have been taken in the meantime. A survey of the river bed defined a temporary route for the traffic; the first step to facilitate the traffic –two openings per week - have been followed by a second step from March 2002, which will provide

a third opening per week. The opening periods mostly focus on freight transport, which currently has an absolute priority versus passenger transport in the Novi Sad region. The main reason is that the security of the passage for passengers is not 100% ensured.

#### Fairway conditions of the river

The river Danube has a length of 2850 km of which 2415 km are used for navigation. Geographically the river Danube is divided into three parts:

- Lower Danube, km 0-931 (length 930 km, difference in elevation 38 m)
- Middle Danube, km 931-1791 (length 860 km, difference in elevation 105 m)
- Upper Danube, km 1791-2415 (length 624 km, difference in elevation 195 m)

The most important parameters for shipping are as follows:

- The available water depth compared to the reference draught (fully loaded inland vessel) of 2.5 m plus keel clearance (Accelerating Pan-European Cooperation Towards a Free and Strong Inland Waterway Transport – declaration adopted by the Rotterdam Conference);
- the available channel width;
- the minimum fairway curvature;
- the available free air draft under bridges and cables;
- other secondary parameters with a potential impact on the navigability of the Danube such as natural conditions (fog, currents, ice, etc.).

The water depth of the fairway is by far the most important parameter hindering the economical use of the river for inland navigation with bottlenecks along the whole river length. Although there are bottlenecks along the whole river length the Upper Danube is the only inland waterway section in Europe without guaranteed water depth. In addition the Upper Danube is the only section where a reliable prognosis of water depth is not possible because of the quickly changing water depth conditions and the long travelling times of more than several days caused by the long distances on the Danube. Due to these circumstances the loading capacity of the ships is only about 50% of their maximum. The responsible bottlenecks are located in Germany, Austria and Hungary.

The second parameter is the width of the fairway where the most important problems are met on the Slovakian and Hungarian territory. The number of places with problems for fairway curvature (curve radius of less than 750m) is very limited.

The air draft (free height under bridges and cables) is critical especially in the vicinity of Budapest where a number of low historical bridges are located. However, similar problems exist in Germany and FR Yugoslavia, and the available air drafts allow most vessels to pass except container vessels stacked with three layers of containers during the high water period.

Natural conditions such as currents, fog and ice proved to be of secondary importance for navigation on the Danube during recent years.

#### Ports

Situated along the Danube, there are 44 main inland ports. The average distance between the ports is 55 km. However, the function of inland ports is not limited to inland shipping. The interlink age of the major water axis with other rail/road corridors is very important to ensure the intermodal inter-connectivity of the overall network. Most of the ports along the Danube have rail connections as well as good road connections, thus making them an attractive mode for combined transport.

The major inland ports connecting

with Corridor IV are: Budapest, Medgidia;

with Corridor V: Bratislava, Budapest, Dunaujvaros, Baja, Mohacs;

with Corridor IX: Oltenita, Giurgu, Rousse and;

with Corridor X: Budapest, Beograd, Novi Sad.

In addition there is the seaport Constanta, lying at the mouth of the Danube-Black Sea Canal, and being a major potential centre for transshipments from Black Sea short-sea shipping to Danube and vice versa.

## **CORRIDOR VIII**

### **ALIGNMENT:**

Corridor VIII is a multi-modal transport link running from East to West in South-Eastern Europe, linking the Pan-European Transport Area Adriatic-Ionian Sea with the Black Sea Pan-European Transport Area. The Corridor starts at the port of Durrës (Albania), runs via Tirana (Albania) and Skopje (FYR Macedonia), further to Sofija (Bulgaria) and to the Bulgarian ports Burgas and Varna at the Black Sea.

The Corridor was not affected by any adjustments at the Helsinki Conference in 1997. However, Corridor X, as agreed upon in Helsinki being a new link from Austria to Greece with several side alignments, as well as Corridor IV, on the section Sofija – Plovdiv, has integrated Corridor VIII into the core links of the Pan-European Transport Corridors. New connections to Italian ports and to the Trans-European Network at Greek borders are being considered by interested countries. In the draft Memorandum of Understanding (MoU) the alignment reads as follows: Bari/Brindisi - Durrës/Vlore – Tirana – Popgradec – Skopje – Sofija – Plovdiv – Burgas – Varna.

### **GENERAL DEVELOPMENT:**

The draft MoU has been elaborated under Italian Presidency. Through the linkage of Corridor VIII to Corridor IV it has been possible to involve the participation of both Greece and Turkey. The signature is pending until a final agreement on the alignment has been achieved.

In the meeting on 7 July 2000 in Rome the interested countries have signed an Agreement Minute by which they accept the MoU text with the exception of art.2 regarding the definition of the Corridor. The Italian Presidency took the engagement for elaborate a compromise proposal in view of a possible agreement.

The proposed alignment of the Corridor according the Italian Chair includes:

- road link Ormenion – Svilengrad – Burgas, linked to Corridors IV and IX;
- Byala/Gorna Oriahovica – Pleva – Sofija, linked to Corridor IV and corridor IX;
- Cafasan – Kapshtice/Kristallopigi at the Albanian/Greek border, providing a connection to the TEN.

Such proposal, comprehensive of all the requests put forward by the involved countries is referred to a multimodal transport link running from East to West in South-Eastern Europe, linking the Pan-European Transport Area Adriatic-Ionian Sea (as indicated in Helsinki Conference) with the Black Sea according the definition of the Corridor alignment.

The compromise proposal elaborated by Italian Presidency takes into account the different proposals put forward by interested countries. Italy will develop further actions in order to check whether dissenting opinions are evolving towards a possible consensus. It is envisaged to sign the MoU before end of 2002.

A railway working group was set up in May 1997 under the chairmanship of the Bulgarian Railways (BDZ). The draft co-operation agreement between the railways still has to be signed. Under the stability pact for south-east Europe there are actual funding possibilities, which could be used for the rail link from Skopje towards Bulgaria.

The railway link is interrupted in two sections between Albania and FYR Macedonia and FYR Macedonia and Bulgaria. Approximately 80 km of rail track have to be built in a mountainous and difficultly accessible region.

**TECHNICAL FEATURES OF THE CORRIDOR VIII:**

Concerned countries	Albania, Bulgaria, FYR of Macedonia
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	1,270 km
Roads	960 km
Inland waterways	n.a.
Number of Airports	4
Number of Sea- and Riverports	2
Alignment: <sup>1)</sup>	Durrës – Tirana – Skopje – Sofija- Varna/Burgas
Railway	Tirana – Durrës – Elbasan – Oukës – (missing link) – Kicevo – Skopje – Kumanovo – (missing link) – Gjuesevo – Sofija – Plovdiv – Stara Zagora – Karnobat – Burgas/Varna
Road	Durrës – Tirana – Elbasan – <i>Struga</i> – Kicevo – Skopje – Kumanovo – <i>Gjuesevo</i> – Sofija – Plovdiv – Stara Zagora – <i>Burgas/Varna</i>

Remark: The shown figures for seaports and riverports refer to the TINA countries.

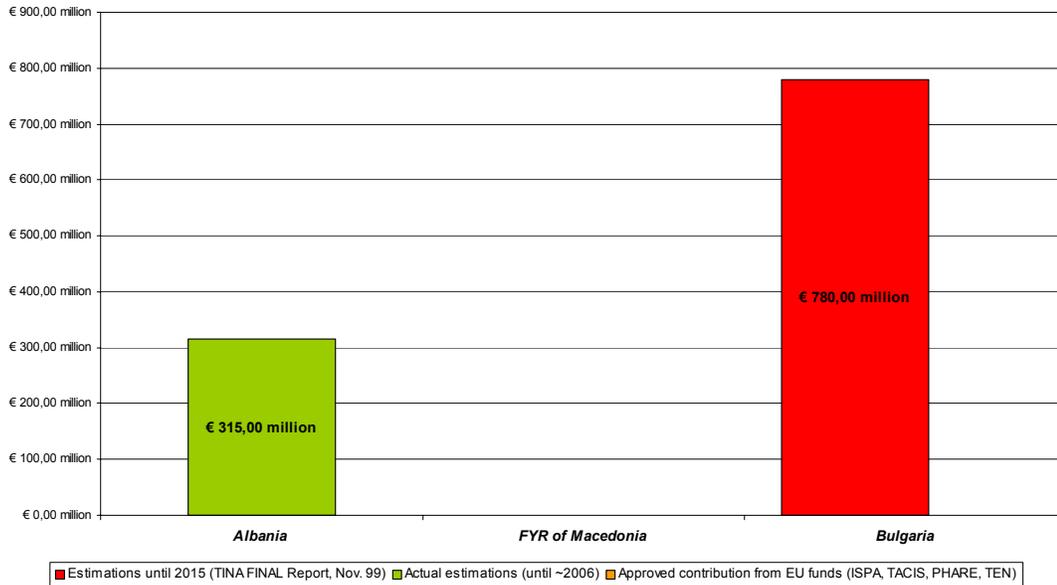
There are a number of transport bottlenecks on the corridor such as missing links on the railways and poor road conditions. Current traffic levels are not high enough to justify major transport infrastructure projects in the near future. It is essential that infrastructure policy in Albania, FYR Macedonia and Bulgaria is co-ordinated. Short- and medium term transport policy should aim to achieve the following objectives:

- Improved maintenance of existing road infrastructure and elimination of corridor bottlenecks, particularly in Albania;
- Development of the port of Durres in terms of capacity and commercial practices;
- Completion of the rail link between FYR Macedonia and Bulgaria;
- Provision of a rail connection between FYR Macedonia and Albania when justified on sound economic grounds.

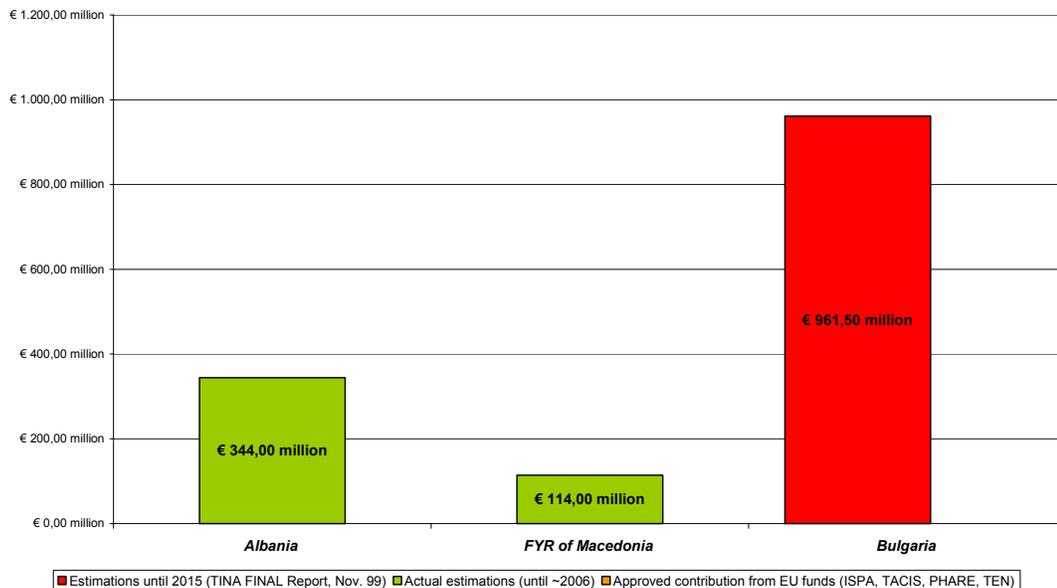
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor VIII have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor VIII for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investments along Rail Corridor VIII**



**Costs for infrastructure investments along Road Corridor VIII**



## **DEVELOPMENTS ALONG THE CORRIDOR**

### Albania:

- Rail:** The rail corridor extends from Tirana to Durres and further to the Albanian/FYR Macedonia border. Mostly consisting of single track line with some double track sections, the average maximum speeds are low, being 30-40 km/h. Track conditions are poor and rails and sleepers are up to 40 years old. Work started on the reconstruction of the line between Durres and Lin (138 km) and should have been completed in 2000.
- Road:** The road corridor runs from Durres to Tirana and further to the Albanian/FYR Macedonia border (Qafe Thane). It has a length of 145 km. The total length will be rehabilitated.

### FYR of Macedonia:

- Rail:** There is no continuous east-west rail link in FYR Macedonia. In particular, the section between Albania and FYR Macedonia, a total distance of 65 km, and the section between FYR Macedonia and Bulgaria, a total distance of 55 km, are missing. The rail section from Beljakovce to the Bulgarian border will be newly constructed, the problem is the lack of financing means.
- Road:** The road corridor runs from the FYR Macedonia/Albanian border (Struga) to Skopje to the FYR Macedonia/Bulgarian border (Devebair). The road section Kumanovo – Devebair is being rehabilitated. The construction of a dual carriageway road on the section Struga – Kicevo is a long-term project.

### Bulgaria:

- Rail:** The rail corridor runs from the Bulgarian/FYR Macedonia border (Gjusevo) to Sofija and continues further to Karnobat, where two separate branches continue to the Black Sea ports Bourgas and Varna. The length from Gjusevo to Karnobat is 565 km, from Karnobat to Bourgas 59 km, and from Karnobat to Varna 158 km. A new electrified railway line to the FYR Macedonia border with a length of 3 km including a 500 m tunnel and the construction of a new rail border station will be constructed until 2015. Reconstruction and upgrading of the line is planned, also electrification of the non-electrified sections and doubling of the line from Plovdiv to Zimnica.
- Road:** The road corridor from the Bulgarian/FYR Macedonia border (Gjusevo) to Sofija continues further to the Black Sea ports Bourgas and Varna. Its total length is 650 km. The corridor is a two lane national road except for the section Sofija – Plovdiv – Orizova. A new motorway will be constructed from Orizova to the Black Sea ports. Construction works should be completed between 2005-2010.

## **CORRIDOR IX**

### **ALIGNMENT:**

Corridor IX is the longest of the ten Pan-European multi-modal Transport Corridors. The Corridor starts in Helsinki (Finland), runs to St. Petersburg (Russia), where it splits into two branches, one running to Moskva (Russia), the second to Pskov (Russia). Both branches come together again in Kiev (Ukraine). In Ljubashevka/Rozdilna (Ukraine) the Corridor splits again. One branch runs down to Odessa (Ukraine) on the Black Sea, whereas the main line continues southwards to Chisinau (Moldova), further to Bucuresti (Romania), Dimitrovgrad (Bulgaria) and ends at the Aegean Sea in the Greek port of Alexandroupolis.

Besides the above-mentioned branches there are two additional links. Both links start at the Baltic Sea; one in Kaliningrad (Russia), the second in Klaipeda (Lithuania). In Kaunas (Lithuania) both branches meet and continue via Vilnius (Lithuania) to Minsk (Belarus), where Corridor IX crosses the Corridor II route and continues further to Kiev (Ukraine).

### **GENERAL DEVELOPMENT:**

The Memorandum of Understanding (MoU) for the whole Corridor IX, including the Addendum bringing Greece into the MoU was signed in March 1995. The first meeting of the Steering Committee took place in Alexandroupolis (Greece) in June 1996, under the chairmanship of the European Commission. A second meeting of the Steering Committee took place in Brussels in December 1996.

Three Sub-Committees were set up for the Corridor to facilitate the monitoring of the Corridor:

- Sub-Committee Northern Section (Helsinki – St. Petersburg – Moscow) jointly chaired by Finland and Russia
- Sub-Committee Middle Section (St. Petersburg – Vitebsk – Gomel – Kiev; and Branch A: Ljubashovka/Rozdilna – Odessa; and Branch B: Kiev – Gomel – Minsk – Kaunas – Klaipeda/Kaliningrad) chaired by Lithuania, and
- Sub-Committee Southern Section (Ljubashovka/Rozdilna – Chisinau – Bucuresti – Dimitrovgrad – Alexandroupolis) chaired by Romania.

A Working Party for the whole Railway Corridor IX has been established since 1996 under the chairmanship of Hellenic Railways.

The monitoring of the Corridor has so far been subject to the constraints related to the separation between PHARE and TACIS areas. Under the TACIS programme a study "Improvement of Traffic Flows on Corridors II and IX" was made. The objective was to make an assessment of the corridors, and to prepare transport demand forecast and rail and road feasibility documentation in a bankable format for funding.

Under the PHARE programme a study "Development of Railway and Combined Transport to link the Southern Part of Corridor IX with Poland" has been concluded in December 1999.

**TECHNICAL FEATURES OF THE CORRIDOR IX:**

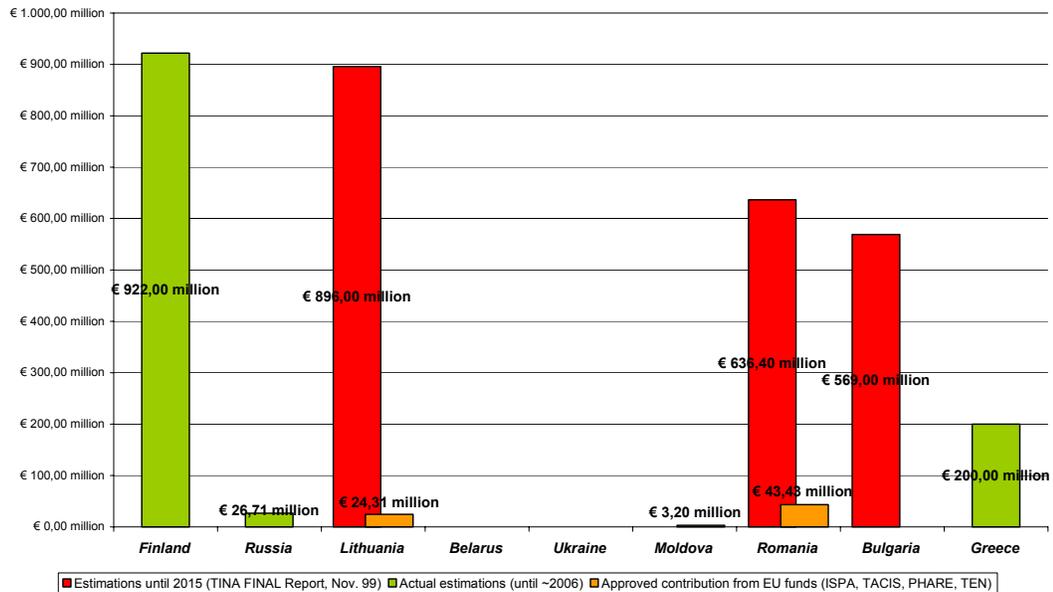
Concerned countries	Belarus, Bulgaria, Finland, Lithuania, Moldova, Romania, Russia, Ukraine
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	6,500 km
Roads	5,820 km
Inland waterways	n.a.
Number of Airports	4
Number of Sea- and Riverports	2
Alignment:	Helsinki – St. Petersburg – Pskov/Moskva – Kiev – Ljubasevka – Chisinau – Bucuresti – Dimitrovgrad – Alexandroupolis
Railway	Helsinki – <i>Vainikkala/Buslovskaya</i> – St. Petersburg – Tver – Moskva – Obninsk – Kaluga – Brjansk – <i>Seredyna-Buda</i> - Konotop – Kiev Second line between St. Petersburg and Kiev: St. Petersburg – <i>Lobok/Ezjarysca</i> – Vicebsk – Orsa – Mahileu – Zlobin – Homel – <i>Kraucouka/Dobryjanka</i> – Cernihiv – Kiev – Vinnyjca – Rozdilna – <i>Kucurham/Pervomaise</i> – Tiraspol – Chisinau – <i>Ungheni</i> – Iasi – Bacau – Focsani – Buzau – Ploiesti – Bucuresti – Giurgiu/Ruse – Stara Zagora – <i>Svilengrad/Ormenio</i> – Alexandroupolis
Road	Helsinki – <i>Vaalimaa/Torfyjanovka</i> – St. Petersburg – Tver – Moskva – Tula – Orel – <i>Sopyc</i> - Kiev Second line between St. Petersburg and Kiev: St. Petersburg – Pskov – <i>Lobok/Ezjarysca</i> - Vicebsk – Orsa – Mahileu - Homel – <i>Novaja Huta</i> - Cernihiv – Kiev – Bila Cerkva – Ljubasevka – <i>Huljanka/Dubau</i> - Chisinau – <i>Albita</i> – Buzau – Focsani - Bucuresti – <i>Giurgiu/Ruse</i> – Stara Zagora – Haskovo – <i>Svilengrad/Ormenio</i> – Alexandroupolis alternative alignment: Haskovo – <i>Makaza</i> – Alexandroupolis) Branch from Klaipeda
Railway	Klaipeda – Siauliai – Vilnius – <i>Kena</i> – Minsk – Babrujsk – Zlobin
Road	Klaipeda – Kaunas – Vilinius – <i>Medininkai</i> – Minsk – Babrujsk - Homel Branch from Kaliningrad
Railway	Kaliningrad – <i>Mamonovo/Kybartai</i> – Kaunas – Vilnius
Road	Kaliningrad – <i>Mamonovo/Kybartai</i> – Kaunas Branch to Odessa
Railway	Rozdilna – Odessa
Road	Ljubasevka – Odessa

Remark: The shown figures for seaports and riverports refer to the TINA countries.

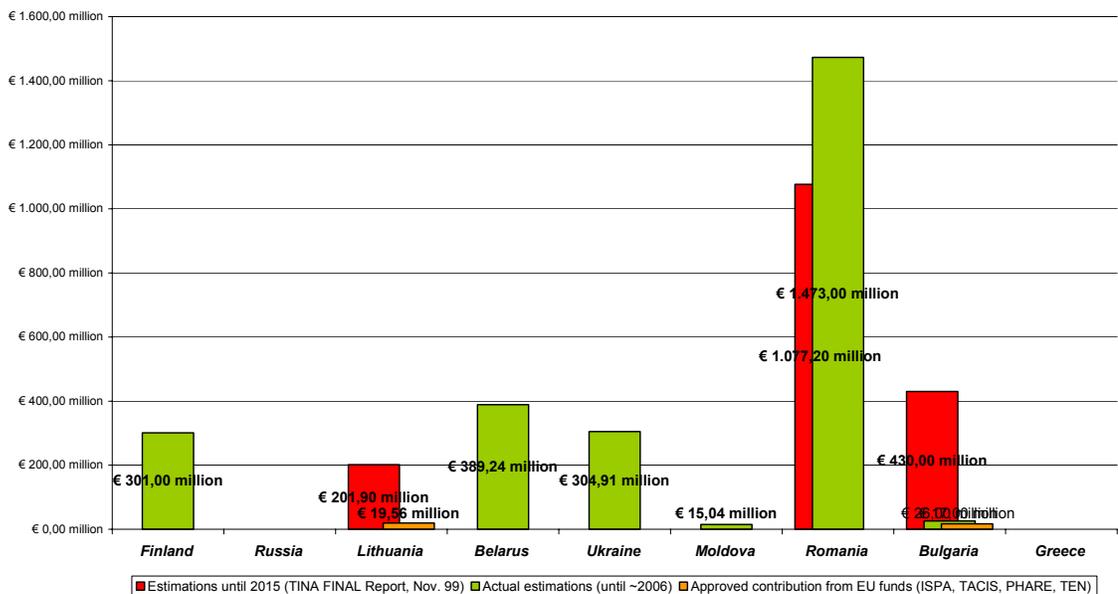
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor IX have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor IX for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investments along Rail Corridor IX**



**Costs for infrastructure investments along Road Corridor IX**



## **DEVELOPMENTS ALONG THE CORRIDOR**

### Corridor IX – Northern Section

The Steering Committee of Corridor IX Northern Section is composed of the representatives of the Finnish Ministry of Transport and Communications, the Russian Ministries of Transport and Railway Transport, and the Directorate General for Energy and Transport. Between Russia and Finland there are also other meeting venues such as the Transport Committee under the Finnish-Russian Commission for Economic Cooperation, where the cross-border transport issues are routinely discussed. However, practical Corridor cooperation takes largely place independently in each sector (road, railway and customs), where long-standing frameworks for cooperation at several levels have been established over the years.

The latest Steering Committee meeting was held in Helsinki on 2 October 2001.

Traffic: In Finland the corridor road traffic ranges now between 4,800 – 25,000 vehicles per day in rural sections outside Helsinki. The share of heavy traffic ranges between 10-17%. In Russia the volumes are between 6,400 – 22,000 vehicles per day in rural areas, but can be much higher in urban areas of Moscow and St. Petersburg.

Traffic at the border crossings represents the most indisputable Corridor IX traffic. In 2000, over 6 000 motor vehicles carrying 10,800 persons per day crossed the Finnish-Russian border using one of the three border crossings of the Corridor. At the same time, nearly 1,000 trucks crossed the border daily. These trucks transport 3.6 million tons of freight annually.

Four passenger trains run daily between Helsinki and St. Petersburg and two night trains between Helsinki and Moscow. They carried 200 000 passengers in 2000. On average 30-40 freight trains cross the border moving 800 - 1,000 freight wagons in both directions every day. The trains carry about 11 million tons of freight between the two countries every year.

Air travel between Helsinki and St. Petersburg and Moscow is busy with about 200,000 annual passengers.

At the border the Corridor traffic is highly segregated. About 75% of all freight tons are on railways and 90% of passengers use roads.

During the past five years (1995-2000) the growth of cross-border traffic has been the strongest in road transport. Total number of motor vehicles crossing the border has grown nearly 13% per year on average and passengers 7% per year. On the other hand railway traffic, and freight transport in general, has been more stable.

### Finland:

Investments in roads and railways as well as border crossings have continued and are ensured by the long-term commitment of the Finnish government to the project. The improvement works will continue throughout this decade and both road and railway infrastructure will be largely upgraded by 2010. In the past years, there have been considerable construction and reconstruction activity underway in the Finnish section of the Corridor:

**Rail:** Between Helsinki and the Russian border, practically all the railway lines will be improved or reconstructed so that the maximum speeds by 2010 will be 200 km/h on the main lines and 120 km/h on the lines to the seaports. The remaining part of the programme will be carried out until 2010.

Border facilities at Vainikkala have constantly been upgraded and operational changes of border procedures introduced, such as passport checking in moving passenger trains. A new border station in Imatra was opened for traffic in autumn 1998.

The next major project will be the construction of a new railway Kerava – Lahti shortening the travel distance to Eastern Finland and St. Petersburg. Completion time is 2006 at a cost of € 350 million.

- Road: 122 km of the road (67% of the length) has been rebuilt as a motorway by the end of 2001. According to the current road construction programme in Finland the entire road will be constructed to a motorway standard in the future.
- Continuation of motorway construction east of Helsinki (next section: Porvoo – Koskenkylä) and construction of a new by-pass road in Hamina are considered as next priority projects.
- Customs: The Tedim Custom project continued between the Finnish and Northwest Russian Customs Administrations. After the adoption of the system it will be possible to transfer waybills for trade electronically between Finland and the North-West Customs of Russia. A similar project is underway for rail transport.

#### Russia:

The priority projects of Russia on the Corridor IX Northern Section are: construction of the St. Petersburg ring road, completion of the Vyborg road by-pass; upgrading the Vyborg - Svetogorsk road and improving the railway infrastructure between the Finnish border and St. Petersburg. The past improvements include among others the following:

- Rail: The Ministry of Railway transport has upgraded the Moskva – St. Petersburg mainline. An improvement programme of the railway line was launched in 1996 comprising the reconstruction of the permanent way, repair of structures, upgrading the traction power system, modernisation of the train control system and rolling stock maintenance facilities.

- Road: Since 1994, investments on Corridor IX Northern Section roads have been extensive on account of the first World Bank road loan, and a separate bridge loan granted to Russia in 1996.
- On the M10 (Scandinavia road and Russia road) several sections have been strengthened and rehabilitated. Nine bridges have been repaired. The road programme is almost complete and the bridge programme is half way to completion. The construction of the Vyborg bypass was launched in autumn 1998 as an independent project. The first of the planned three sections has now been completed.

In June 2001 the Government of Russia approved the national road improvement programme "Russian Roads in the XXI Century". According to this programme the "Rossia Road" (Moskva – St. Petersburg) will be rebuilt as a category I road (4-8 lanes) for a length of nearly 500 km. On "Scandinavia Road" (St. Petersburg – Finnish border) further upgrading will be carried out and the missing sections of the Vyborg bypass will be completed as a category I-III road. The St. Petersburg Ring Road will be constructed as a category I road in two stages (2002-2003 and 2004-2008).

Russia has proposed the extension of Corridor IX to Astrakhan (Caspian Sea) and Novorossisk (Black Sea). "Caspian Road" (M6) will be rebuilt as a 4-lane facility at Tambovin and Volgograd and generally upgraded over a 515 km section. The M4 road to the Black Sea ("Don Road") has been developed quite fast in recent years. In 2000, a 103 km motorway section was opened to traffic near Moskva. By the year 2010, "Don Road" will be constructed as a category I road (motorway) for a length of 441 km.

Customs: The new road border station of Torfjanovka was opened in 1997, followed by the construction of a border station in Saimenski. A new border station in Svetogorsk is being built with TACIS assistance allowing its opening as an international border crossing in 2002. A new railway border station has been built in Buslovskaya.

#### Finnish-Russian joint projects:

There are a number of joint projects underway between various Finnish and Russian authorities aimed at improving the capacity and conditions of road and rail transport in the Corridor. Several projects have been assisted by the European Union through the TACIS programme. The joint projects include the following:

- A feasibility study for relocating the road crossing at the Finnish/Russian border in Nuijamaa/Saimenski.
- On the Vyborg - Svetogorsk road, which is in dire need of improvement, the Finnish Road Administration has helped the Leningrad Road Committee in the evaluation of improvement needs.
- A road safety programme, funded by TACIS, includes the establishment of a weather information system to improve the planning of winter maintenance. Experts from the Finnish Road Administration have been called upon to assist in the project.
- The high-speed train project between Helsinki and St. Petersburg was launched in 1995. Streamlining border formalities and improving rail infrastructure have already cut the travelling time from 6h 30min to 5h 30min. In the future, the new rolling stock and considerable improvements in railway infrastructure will make it possible to further shorten the travelling time. Launching a high-speed train service between Helsinki and St. Petersburg will cut the time down to about 3 hours in 2008. In spring 2001, the task force was asked to investigate, if a faster train connection using conventional trains could be started earlier.
- Building of a second track across the border between the border stations Vainikkala (Finland) and Buslovskaya (Russia) as the capacity of the single-track section is becoming exhausted.

#### Corridor IX – Middle section

The Middle section of Corridor IX (including the trunk line section Kiev - Razdelnaya) girds not only the large territory of land between the Baltic and Black seas, but extends Corridor IX by sea lines from Odessa and Ilychovsk ports in the Ukraine, Klaipeda port in Lithuania and Kaliningrad port in Russia.

Branch A, Razdelnaya – Odessa, has a length of 63 km. It extends the trunk line of Corridor IX towards the Black Sea and connects the line reaching Izmail and Reni ports on the Danube.

Branch B, Kiev – Minsk – Vilnius - Klaipeda, has a length of 1,181 km. It crosses 3 countries: Ukraine (280.6 km), Belarus (488 km) and Lithuania (412.4 km), and Kaišiadorys-Kaunas-Kaliningrad, with a length of 279 km, crosses two states: Lithuania (124 km) and the Kaliningrad region of the Russian Federation (155 km).

Increasing transportation of goods by containers and trailers in the West-East direction and development of combined transport between the Baltic Sea and Black Sea has given rise to the launch of new shuttle trains, Klaipeda/Kaliningrad – Belarus – Moskva/Kiev that will ensure more reliable and modern freight transportation. A shuttle train project Mukran – Klaipeda – Minsk - Moskva, which was initiated in 1996, is presently under finalisation. The transportation time of the train “Baltic Express” (Klaipeda – Minsk - Moskva) from Klaipeda to Moskva and back is 105 hours. It has favourable tariffs of all three countries plus terminals in Klaipeda and Moskva.

In January 1999 a protocol of intentions was signed between s.p.s.c. "Lietuvos Geležinkeliai" and the firm "Trans Poliss" (Ukraine) about co-operation in organising a shuttle train Odessa (Ilychyovsk port) – Klaipeda, and this summer Belarus also expressed its interest in joining the project. In addition, the Russian Railways are trying to organise a container train Kaliningrad - Moskva, going through Vilnius and Minsk. Implementation of shuttle trains and multimodal transportation will revitalise the operation of work and increase transportation volumes.

#### Lithuania:

**Rail:** 60 per cent of the total freight volume within Lithuania passes this Corridor. The average traffic intensity is from 35 (Kuziai – Kretinga) to 105 (Vilnius – Kaisiadorys) trains per day.

435 km of track were renewed before 2002. To achieve the quality of the renewals, heavy-duty track machines and small power tools, meeting the current requirements, were purchased. Despite of the above, there were still 160 km of track necessary to be renewed. The communication line Kaisiadorys – Radviliskis (125 km) was modernised.

Referring to technical standards of railway infrastructure and their interoperability, they are generally in compliance with the AGC requirements, except the main index – speed of trains. The permitted maximum speed for passenger trains is up to 120 km/h, for freight trains it is 90 km/h. The cruising speed is low, in spite of the fact that no gauge change is required on the middle section of Corridor IX, as the entire alignment uses Russian railway gauge (1520 cm). Double-track comprises 75% of the total length of the middle section of the railways; traffic is controlled by automatic block system (half automatic block system is installed in Lithuania and Kaliningrad region on 475 km) and diesel traction is used. In principle the existing infrastructure matches the expected transportation volumes. Currently capacity usage is about 55-60% on the Lithuanian infrastructure.

Border crossings remain one of the major problems in ensuring interoperability. Insufficient development of infrastructure in border stations, incomplete train acceptance and delivery procedures hinder development of international and transit transportation. Currently, infrastructure modernisation activities are being carried out in Kybartai station (border with the Kaliningrad region, Russia). Modernisation activities in Kena station (border with Belarus) have also started.

Kena and Kybartai border stations are the main Lithuanian border crossing stations in the East – West direction. The completion of reconstruction of Kybartai is planned for 2002. The project for the modernisation of Kena, the main border station in the East – West direction, is under implementation.

After finalisation of the 1<sup>st</sup> stage of the project in 2003, the duration of customs clearance procedures for freight trains will decrease by more than two times. From the Belarussian side similar modernisation activities are planned to be started at the border station Gudogai-2.

**Road:** Corridor IXB serves as a major connection between Lithuanian national roads as well as between the TINA network roads. In the period between 1993 and 1998 the traffic volume in Lithuania on these roads increased by approx. 40%. Following the EU requirements, the permitted axle load has increased from 10 to 11.5 tons/axle. Heavy transport is the cause of a rapid deterioration of roads. The present situation is such that it inevitably makes one seek for and apply new technologies of pavement strengthening. The traffic volume on the road Vilnius - Kaunas now exceeds 15 000 (light) vehicles per day. The traffic volume is likely

to increase, and by the year 2005 it can reach 20,000 vehicles per day on all sections.

Two branches of Corridor IX extend in Lithuania.

One branch runs from the port of Klaipeda through Kaunas and Vilnius to the Lithuanian/Belarussian border (Medininkai) and has a length of 340 km. The road category is a four-lane motorway from Klaipeda to Vilnius and a two-lane national road to the border. The improvement works include strengthening of the pavement and reconstruction.

The branch to Kaliningrad runs from the Lithuanian/Russian border (Kybartai) to Kaunas and connects to the other branch in Garliava. Its length is 106 km. The partly two-lane national road and partly four-lane expressway will be reconstructed and bypasses will be built at Kybartai and Vilkaviskis.

**Klaipeda Port:** Klaipeda Seaport is the principal transport junction of IXB corridor linking sea and land roads between the East and the West. 17.236 million tons of cargo was handled in Klaipeda Seaport in 2001, i.e. by 11.1% less than in 2000. If compared with 1999, the result of 2001 is higher by 11.3%. Notwithstanding the general decrease of cargo handling amounts, the tendencies to multimodal transportation in Klaipeda Seaport are increasing considerably.

For the second year in succession transportation of containers through Klaipeda Seaport is increasing. 39,955 TEUs were handled in 2000 and the yearly increase amounted to 39%. 51,135 TEUs were handled in 2001, i.e. by 28% more than in 2000, the main reasons for such increase being the better economical situation in Lithuania and other countries as well as the world-wide expansion of container transportation. In Klaipeda Seaport containers are handled by the Consortium "Klaipeda Terminal" and KLASCO container terminal, which started operating in 1999.

The development of shipping lines significantly influences the increase of container flow. At present Klaipeda Seaport is by feeder lines linked with the principal ports of West Europe: Rotterdam, Bremerhaven, Antwerp, Hamburg and Felixstowe. "Kursiu Line" and "Baltic Container Lines" have been operating for several years. "Teamlines", one of the greatest operators of feeder lines, started its operations in Klaipeda Seaport in 2000. In 2001 the line was opened by "MSC" ("Mediterranean Shipping Company"). Besides, "Maersk Sealand", OOCL, "P&O Nedlloyd" and other global container transportation operators have their representation offices in Klaipeda as well.

Klaipeda Seaport is the second port among other ports on the eastern coast of the Baltic Sea in respect of ro-ro transportation. 106,281 road transport vehicles were handled in 2000 and the yearly increase amounted to 19%. 124,766 road transport vehicles were handled in 2001 (the yearly increase amounted to 17%). The number of handled trailers increased most of all (33%). Economical development in the region and limitations of road transport transit through Poland accounted for such increase. Though in 2001 there were handled 9,969 railway wagons, i. e. slightly more than in 2000, at the end of the year the handling of wagons considerably decreased. Transportation of railway wagons by ferries slowed down due to high railway rates applied by Russia.

In Klaipeda Seaport ro-ro cargo is loaded in the Consortium "Klaipeda Terminal" and KLASCO International Ferry Port, where one more operator, "Baltic Ferry Terminal" UAB, is offering its services as well.

The competition of Baltic ports forces to look for new opportunities for organizations of multimodal transportation. One of such opportunities is to develop relations with Scandinavian countries and those situated on the coast of the Black Sea. For that purpose it is necessary to improve the international transport corridor Baltic – Black Sea.

Belarus:

Belarus has finished the legal basis for international transport on corridors, which has special relevance to Corridor IX. Belarus has concluded bilateral agreements with 29 governments in Europe, Asia and with the CIS, amongst others Lithuania and Ukraine. Belarus intends to conclude a quadrilateral transport infrastructure agreement with Russia, Kazakhstan and Kyrgyzstan and will sign an agreement with Lithuania and Ukraine on transit of Belarussian goods, with reference to the UN Convention of 1965 on "Transit traffic from landlocked countries with no access to the sea ". These agreements will allow attracting more traffic on the North-South alignment of Corridor IX B (Lithuania via Belarus to Ukraine). To achieve this, Belarus wants to:

- Collaborate with the European Commission and IFIs as well as regional transport organisations;
- Improve the national legislation to adapt it to the needs of international transport;
- Establish bi-lateral co-operation on a legal basis for international transport and to integrate Belarus into the international transport network.

Rail: The length of Corridor IX within Belarussia is 490 km, 176 km out of these with electrified traction and 48 km of these single-track. Maximum speed for freight trains 80 km/h and for passenger trains 120 km/h. The Programme on development of the Belarussian Railways (BCh) was approved by the Soviet of Ministers of Belarus on 25 December 1998. The objectives are to establish a more profitable and better performing railway transport system, through respecting international requirements. This will increase the competitiveness of the rail mode and attract more freight, guarantee freight safety and increase the financial return of the transport operator.

On Corridor IX – middle section, the transit freight transport plays a big role and must be given priority. The passenger traffic is declining.

There are three border crossings on Corridor IX (Gudogai, Teriucha, Ezerische) none of them is equipped according to the needs of a state border crossing. The border post with Russia has no border nor customs control. The remaining two crossing points (Lithuania and Ukraine) work according to a simplified scheme for border and customs control, as they are not equipped with all necessary infrastructure.

The Lithuanian, Belarussian and Russian railways have prepared to run a special container train, the "Baltic Express", on Corridor IX between Kaliningrad/Klaipeda – Minsk – Moskva. In the first phase, priority is given to heavy tonnage containers (40 ft). In a second phase, introduction of inland waterway transport is envisaged between Minsk and Kiev. The station Kolyadichi (Minsk South) is equipped to transship 40 ft containers. In order to comply with international standards the corridor will need increased freight carrying capacities and gauge clearance on bridges. Also extension from four to six lanes on certain sections and separation of level crossings through bridges/tunnels must be considered. The costs are evaluated to approximately

BCh, LG and RZhD have agreed on a time schedule for the operation of container trains and on the tariffs. At a meeting on May 19 1999 in Minsk, it was

agreed to launch a test train for a four months' period, starting on 1 September 1999. However, the train has not started running so far.

Road: The length of roads of Corridor IX within Belarus is 501 km; 140 km out of this four-lane road, remaining part is of two lanes. An average traffic flow on Corridor IX increased of 10%-12%.

The route, (M8) via Vitebs and Gomel, has by-passes at Vitebsk, Orsha, Mogilev and Gomel and the quality corresponds to international requirements, apart from six out of 73 bridges having lower freight carrying capacity, and twenty having less gauge clearance.

The middle section to Lithuania and Kaliningrad (M5) has daily traffic intensity between 1,800 and 10,000 units. Repair and maintenance requires annually \$ 6.5 million. In order to comply with international standards the Corridor will need increased freight carrying capacities and gauge clearance on bridges. Also extension from four to six lanes on certain sections and separation of level crossings through bridges/tunnels must be considered. The costs are evaluated to approx. \$ 300 million (€ 347.14<sup>18</sup> million).

In 2001 € 26 million have been spent on the construction of 19 km of the ring road (M9) in Minsk (total length 25 km). Other section of 8 km is being reconstructed and is expected to finish in 2002. The 11.5 t axle load standard is to be implemented.

In recent two years Belarus benefited from the TACIS Programme "Border Crossings". Studies were implemented at important border posts, such as the bottleneck at the Lithuanian/Belarusian border. A new border crossing at Kamenny Log/Medininkai on (M12), upgraded to modern standards and € 8.6 million were invested. Modernisation of border post in Novaja Guta has started. In 2001 the first stage was finished and € 7.5 million were invested.

#### Russia:

Rail: The length of Corridor IX within Kaliningrad Region is 153 km. The average speed for passenger trains is 140 km/h and for freight trains – 100 km/h.

The Kaliningrad Region railways are connected with the network of Lithuania, Belarus and Ukraine to serve the ports of Ukraine, Turkey and Greece.

The competition between ports to attract customers depends on through rates for freight transport. In June 1998 the Russian government established a "Common action plan for Ministries, Departments and transport operators to increase the competitiveness of Kaliningrad port".

The plan includes agreed measures on fixing competitive tariffs and taxes, and on simplifying border and custom procedures. The implementation of this plan has increased the attractiveness of Kaliningrad port considerably.

The Ministry of Railways also pays much attention to the development of container transport to the benefit of ecology and safety, contributing to the competition with other transport modes. In Chernyakhovsk a container terminal is in operation since 1997.

In 2001, a total of \$ 23 million (€ 26.61<sup>18</sup> million) was invested in rail Branch IXB and track reconstruction was completed. In section Kaliningrad – Mamonovo

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<sup>18</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

RUB 2.7 million (€ 0.1<sup>19</sup> million) have been spent for reconstruction of wide gauge railway. Modernisation of signalling and telecommunications (installation of fibre optic cable) were completed on Corridor IX from border station in Kybartai to Kaliningrad.

Road: The Russian Federal Highway Administration will extend, Branch B of Corridor IX, from Talpaki, where Corridor I, branch Riga – Kaliningrad - Gdansk, goes north, to the Lithuanian border, to a four-lane road with two-lane by-passes around built-up areas with a possibility to extend by-passes to a four-lane road. At the border crossing, any extension will need a decision taken in agreement with the Lithuania.

On the 2<sup>nd</sup> branch alternative route, from St. Petersburg via Pskov to the Belarussian border, some repair works have been completed. In 2000 construction of a by-pass at Pskov will start, as well as reconstruction on sections of low quality.

Corridor branch 9D "Kiev - Minsk - Vilnius - Kaliningrad" follows the main motorway in the region, federal highway "Kaliningrad - Chernyakhovsk - Nesterov", as far as the border with the Republic of Lithuania, a distance of 152 km from the "Chernyshevskoye" international motor vehicle border crossing point.

At the same time a 53-kilometre section is combined with corridor branch 1A.

The route provides an outlet for freight flows into the central and eastern regions of the country and links the international border crossing between Russia and Lithuania with the regional centre, the ports and roads to the border with Poland.

For reasons of economic efficiency the construction and renovation of sections of the "Kaliningrad - Chernyakhovsk - Nesterov" federal highway as far as the border with the Republic of Lithuania, totalling 77 km in length, have been included in the special federal programme "Russia's Roads in the 21st Century". It is planned to complete the construction of a bypass around the town of Gvardeisk, to renovate the main section and build bypasses around the town of Chernyakhovsk and the village of Chernyshevskoye on the south side beyond the outskirts of the population centres. For 2002, RUB 138 million (€ 5.14<sup>20</sup> million) have been earmarked for the construction of the Gvardeisk bypass.

The RSTC's draft Combined Capital Investment Plan for 2002 provides for an adjustment in the feasibility study for this project whereby the capacity becomes 1500 vehicles per day with completion in 2002 and the total funding is RUB 1.53 million (€ 0.06<sup>20</sup> million).

In accordance with the 2001-2005 joint special-purpose programme for constructing and equipping motor vehicle crossing points at the external borders of the Member States of the Customs Union it is intended to provide construction funding amounting to \$ 4.8 million (€ 5.55<sup>21</sup> million).

In addition the EU has decided to allocate € 8 million to a project for modernising the "Chernyshevskoye" crossing point.

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<sup>19</sup> Exchange rate: € 1 = RUB 26.8348 (source: European Commission – DG Budget InforEuro, February 2002)

<sup>20</sup> Exchange rate: € 1 = RUB 26.8348 (source: European Commission – DG Budget InforEuro, February 2002)

<sup>21</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

Russia and Lithuania have accepted the need to develop the infrastructure of the operative crossing points in accordance with the "mirror" principle with a view to providing equal throughput capacity.

Ukraine:

**Rail:** The length of Corridor IX within Ukraine is 871 km, 722 km out of these are double-track and 789 km out of these are electrified. An automatic signalling system is installed in whole length of Corridor IX.

A new agreement on a supplementary corridor, the Baltic - Black Sea link, was concluded between Poland and the Ukraine, to promote the shortest transport link between the ports of Gdansk and Odessa. This link, using part of Corridor III, joins Corridor IX – middle section in Kazatin.

This alignment shall be seen in the context of the ferry link between Ilyichevsk (Ukraine) and Poti (Georgia), which, together with the ferry link between Baku (Azerbaijan) and Turkmenbashi (Turkmenistan), on the TRACECA Corridor, establishes the shortest connection between Europe, the Caucasian Republics and the Middle East.

The technical standard of the international transport corridors in the Ukraine corresponds to the high level of international requirements, except speed. UZ intends to increase the quality of international transit transports by introduction of new technology and the changing of transport procedures. The objective is to make UZ competitive to attract more Europe/Asia transport and increase the profit of the railways.

The UZ pays attention to combined, container and piggy bag transport using the advantages of both transport modes. Special train equipment is in its testing phase in international transport, and the frequencies of services as well as the volume transported are increasing.

In order to increase the quantity of heavy tonnage containers from Odessa/Ilyichevsk and to switch them from road to rail transport, a container train "Odessa" (Odessa - Moskva) has been set up. This train has a fixed time schedule. In 1999 fifteen trains were operating.

In 1999 23 container shuttle trains "Czardas" ran between Budapest and Moskva. The planning of a permanent combined transport train from the freight terminal Luhansk Tovarny (approx. 150 km east of Donetsk) to Slavków (12 km east of Katowice on E 40) is under preparation. The alignment in Poland has Russian broad gauge.

**Road:** The length of roads of Corridor IX within Ukraine is 989 km, 374 km out of these four-lane road, 310 km II<sup>nd</sup> category and 304 III<sup>rd</sup> category roads. The entire Ukrainian road network is state-owned, and the construction, repair and maintenance is in the responsibility of the Ministry of Transport and delegated to the State Corporation "Ukravtodor".

The current situation on Corridor IX – middle section does not fully satisfy the European traffic safety standards. Depending on financial possibilities from state or local authorities, the repair and upgrading is divided into urgent and future works. Reconstruction works are estimated to cost \$ 89 million (€ 103<sup>22</sup> million). Immediate repair works are estimated to cost \$ 53 million (€ 61.33<sup>22</sup> million) - up

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<sup>22</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

to year 2005, and additionally another \$ 60.2 million (€ 69.66<sup>22</sup> million) are needed. In total, on Corridor IX in Ukraine, \$ 202.2 million (€ 233.97<sup>22</sup> million) will be needed to invest in reconstruction and repair works.

Service stations are at a low service level. An amount of \$ 61.3 million (€ 70.93<sup>22</sup> million) (non-state credits) is needed.

With the credits from "Road equipment" 379 km of Corridor IX have been repaired. Construction of approach routes to border crossings are in preparation.

In Odessa port an elevated platform for TIR-trucks has been organised, plus a parking area for 170 trucks, combined with a hotel complex and buildings for immigration and customs services. Moreover, a truck exit overpass leading from the port area to the ring road is being built, as well as construction of an access canal and four moorages. In the ports of Ilyichevsk and Yuzhny equipment for loading of mineral fertilisers is being installed.

### Corridor IX – Southern Section

The southern section of corridor IX extends from Ljubashevka (road)/Rozdilnya (rail) via Chisinau – Bucuresti – Dimitrovgrad to Alexandroupolis at the Aegean Sea.

#### Moldova:

Rail: The railway line Kuciurgan (Ukraine) – Bender – Chişinau – Ungheni – Cristeşti-Jijia (Romania) is the Moldavian part of the Trans-European Corridor IX with a total length of about 210 km. On the territory of the Republic of Moldova it coincides with E 95 line included in the European Agreement on Main International Railway Lines (AGC), signed by the Republic of Moldova in 1996. Electrification of the line is a priority for the Moldavian Railways.

In accordance with the Memorandum of Understanding on Crete Corridor IX in 1995 the Programme and Scheme for Development and Layout of Railway Transport in the Republic of Moldova were worked out and approved by the Ministry of Transport for the period until 2010.

This Programme envisages the following modernisation works for the Moldavian sector of Corridor IX:

- Electrification of the line Kuciurgan – Bender – Chisinău – Ungheni;
- Construction of artificial installations;
- Track doubling;
- Construction of the technical service centre for signalling, centralisation, blocking and telecommunication installations at Chisinău station;
- Track upgrading of the Bender – Ungheni sector by means of track bed consolidation with lying of reinforced concrete sleepers and heavy long rails.

The above mentioned works aim to ensure rolling stock heightened loads, modern type of traction, train traffic safety, increase in speeds up to 120 km/h, ecological environment improvement. These works necessity was confirmed by Rail Transport Feasibility Study (Ukraine, Russia, Belarusi, Moldova) carried out in the framework of the Programme TACIS in 1996.

Taking into consideration a decrease of freight and passenger railway traffic by 50% for the last 4 years and due to lack of funds in this connection, the works stipulated by the Programme and Scheme for Railway Transport Development and Layout have not been carried out in full volume. Basically the works of current track maintenance have been executed by the force of the Moldavian Railway (CFM). And the works on electrification of the Moldavian sector of

Corridor IX, which were started in 1993, at present are stopped due to lack of funds in our country's state budget.

In general the electrification project for the line Kuciurgan – Bender – Chişinău – Ungheni requires correction. It is caused by the fact that the period of validity of its technical conditions has already expired and the bounds of the Moldavian Railway were changed in 1999 after assignation to Ukraine the railway objects situated on the Ukrainian territory.

At present in the framework of the TACIS Programme the project "Improvement of Traffic Flows on TEN Corridors II and IX" is being carried out.

For the Republic of Moldova the feasibility study elaboration is envisaged for the following railway components:

- Modernisation and rehabilitation of the route Ungheni – Chişinău – Bender – Ukrainian border;
- Modernisation of the railway junction Ungheni at the Moldavian – Romanian border.

It should be mentioned that freight international traffic on the Moldavian railway network has already increased by 30% for 10 months of this year compared with the same period of the previous year. Thus, the conclusions of the GIBB study on the "Development of Railway and Combined Transport Linking the Southern Part of Corridor IX with Poland", concerning negative forecasts for international traffic on the Corridor IX route through Moldova, are not confirmed in this year's reality.

In connection with the tendency towards increase of freight traffic by rail the following works are to be considered priorities for the Moldavian part of Corridor IX:

- completion of new feasibility studies working out for all components of the line Kuciurgan – Bender – Chişinău – Ungheni modernisation;
- railway track upgrading to increase train traffic speeds up to 120 km/h;
- modernisation of the cross border station Ungheni to decrease train delays down to 45 minutes at the Moldavian/Romanian border.

**Road:** The project "The Improvement of Traffic Flows on the Trans-European Corridors II and IX" was initiated within the TACIS Programme for 4 states (Belarus, Moldova, Russia and Ukraine) in 1996, in order to elaborate the prognosis of the transport services demand and the justification studies of road projects for an adequate finance.

The rehabilitation of the road Leuşeni - Chişinău - Dubăsari - the Ukrainian border with a total length 153,2 km is envisaged. The foreseen cost for this project is \$ 13 million (€ 15.04<sup>23</sup> million). The active participation of IFI helped to choose the most attractive and realizable project from the economical and financial point of view for the Moldavian road sector of Corridor IX.

#### Romania:

**Rail:** The Romanian rail network, with a length of 687 km, starts at Ungheni (border to Moldavia) and ends at Giurgiu (border to Bulgaria) following the Pan-European Transport Corridor IX on the route: Ungheni-Iasi-Pascani-Bacau-Focsani-Ploiesti-Bucuresti-Giurgiu.

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<sup>23</sup> Exchange rate: € 1 = \$ 0.8642 (source: European Commission – DG Budget InforEuro, February 2002)

The Romanian Ministry of Public Works, Transport and Housing strategy for railway rehabilitation envisages that feasibility studies should be conducted on all sections of the corridors. Until 2010 the railway components of Corridor IX are planned to be rehabilitated to provide 160 km/h for passenger trains. In the long-term maximum travel speeds of 200 km/h for passenger trains and 120 km/h for freight trains shall be provided.

The following works modernization are executed or are ongoing on the corridor:

- modernization of CED and BLA installations from Ploiesti-South rail station; The work is fully financed by Romanian funds and the aim is to replace the centralization installation with a modern installation based on technical study made by Siemens. The work was completed in the fourth semester of 2001;
- the rehabilitation of the Bucuresti - Ploiesti section, which is financed by EIB and Romanian funds (law 35/1999). The rehabilitation works on the section Bucuresti - Campina started in May 2001 (Ploiesti-West). The work is to be completed in the second semester of 2002
- Modernization of the Giurgiu-North cross border rail station, which is financed by Phare and it was finalized in the first semester of 2001
- Rehabilitation Giurgiu-Russe bridge is carried out together with Bulgaria. The work is financed by Phare funds and is ongoing.

The following feasibility studies are executed or ongoing:

- The development railway and combined transport between Poland and the Southern section of the Corridor IX. This feasibility study is completed and was financed by PHARE funds. The investment costs were evaluated between € 80 - 190 million, depending on the technical project and route;
- For the sections Bucuresti - Giurgiu and Ploiesti-South – Focsani, feasibility studies are foreseen to be realized;
- Ongoing topo-geographical studies are carried out by ISPCF for the section Ploiesti Sud – Focsani;
- For the section Bucuresti - Giurgiu, a pre-feasibility study (including both alternative, through Jilava and Videle) was realized.

Road:

The Romanian road network starts at Albita and ends at Giurgiu following Corridor IX on the route: Albita – Marasesti – Buzau – Bucuresti - Giurgiu.

The existing road from the Moldovaiian/Romanian border (Albita) to Marasesti with two-lanes will be rehabilitated before 2005. The construction of a motorway on the section is foreseen after 2015 (estimated costs: € 686 million).

The existing road from Marasesti – Buzau - Urziceni will be rehabilitated until 2003.

The Urziceni - Bucuresti section (64,5 km) was rehabilitated in 1998.

The construction of a new motorway is foreseen between 2010-2015 from Marasesti to Bucuresti (186 km), including the Bucuresti East motorway ring (estimated costs: € 787 million).

The rehabilitation of the existing road and extending to four-lanes of DN5 Bucuresti – Giurgiu with a length of 47 km is foreseen until 2003. The tendering documentation for works execution was transmitted to the European Commission for approval. The tender will take place in the second semester 2002.

Bulgaria:

**Rail:** Rail corridor IX in Bulgaria has a length of 390 km and runs from the Bulgarian/Romanian border (Ruse) to Stara Zagora – Dimitrovgrad and further to the Bulgarian/Turkish border (Svilengrad) and Bulgarian/Greek border (Ormenio).

The rail infrastructure on this section varies considerably, between double and single track and electrified and non-electrified. It has been upgraded to a speed of 100-160 km/h starting 2001.

**Road:** The road section from the Bulgarian/Romanian border (Ruse) – Veliko Turnovo – Haskovo and further to the Bulgarian/Greek border (Makaza) has a length of 389 km.

The two-lane national road will be constructed as an expressway, with construction works starting in 2005.

The branch to the Bulgarian/Turkish border (Svilengrad) and Bulgarian/Greek border (Ormenio) separates in Haskovo. It is a two-lane national road, which will be constructed as a four-lane motorway, with construction works started in 2000.

Further projects ongoing along the Corridor:

- The Transit Roads Programme of General Road Administration started in 1994 and is in a process of realization, aiming toward rehabilitation of the motorway and I-st class road network in the country.
- Makaza border crossing approach road.  
The project “Construction of approach road from Podcova to BCP Makaza” is financed under Phare CBC Programme. According to Phare FM 2000 between the Bulgarian Government and the European Commission € 17 million are supplied by the European Commission and € 9 million by the Bulgarian Government. The period of construction is 30 months.
- The Conceptual Design for the section Dimitrovgrad - Svilengrad/Greek border was developed. This section is within the route Plovdiv-/Krumovo/-Svilengrad/Turkish/Greek border.  
The project will be financed by state budget funds, ISPA and a loan from the EIB.  
The preliminary plans envisage that in 2002 bidding procedures be launched, following ISPA rules (yellow FIDIC, design and construction, selection of engineering provider).

Greece:

**Rail:** The railway line Ormenio - Alexandroupolis has a total length of 194 km, normal gauge track and allows today a maximum speed of 100 km/h. The permitted axle load on this line is 20 t.

Works for upgrading the railway line aiming at the increase of the railway speed from 100 to 120 km/h, the increase of the permitted axle load from 20 t to 22.5 t, the application of automatic signalling and telecommunication system, as well as the rail link to the port of Alexandroupolis. The above works for the improvement of the railway infrastructure should be completed by the year 2003. The total cost for the above interventions is estimated to € 200 million.

Another study for increase of the railway speed up to 150 km/h by the year 2009 was completed within 1999.

The results of these interventions are expected to reduce travel time from 3h today to 1h 20' by the year 2009, to increase cargo bulk traffic to 200,000 t by

2000, and to attract transit traffic, as well as contribution to the decongestion of cargo traffic currently passing through the Bosphorus channel.

Road: Between the Greek/Bulgarian border and Komotini there is a regional road of about 25 km long and 5 m wide.

Studies are underway for upgrading this section into a 7.5/10.5 m wide road. The road linking Komotini to Alexandroupolis, 65 km long, has a typical width of 12/14 m along the major part of its length. It is envisaged as a future part of Via Egnatia (widening or new alignment, by sections).

The stretch from the Greek/Bulgarian border to Ormenio and Ardanio has a total length of 124 km. Works for the upgrading of this section into a 12/14 m wide expressway are underway. More than half of its length had been completed until 2000.

A 4-lane motorway is under construction for the section Ardanio – Alexandroupolis, 21 km long, which is a part of Via Egnatia.

## **CORRIDOR X**

### **ALIGNMENT:**

The Pan-European Transport Corridor X has been adopted during the third Pan-European Transport Conference held in Helsinki in 1997. This multimodal transport link running from Northwest to Southeast connects Salzburg (Austria) – Ljubljana (Slovenia) – Zagreb (Croatia) – Beograd (FR Yugoslavia) – Nis (FR Yugoslavia) – Skopje (FYR of Macedonia) – Veles (FYR of Macedonia) – Thessaloniki (Greece). The main axis is connected to the following cities or areas via four branches:

- Graz (Austria) – Maribor (Slovenia) – Zagreb (Croatia);
- Budapest (Hungary) – Novi Sad (FR Yugoslavia) – Beograd (FR Yugoslavia);
- Nis (FR Yugoslavia) – Sofija (Bulgaria) and further along Corridor IV to Istanbul; and
- Veles (FYR of Macedonia) – Bitola (FYR of Macedonia) – Florina (Greece) and further via Florina – Kozani (via Egnatia) to Igoumenitsa.

### **GENERAL DEVELOPMENT:**

The Memorandum of Understanding (MoU) for Corridor X was signed by the Ministers of Transport in March 2001 after two constructive Steering Committee meetings.

In the framework of the initiative taken by the Hellenic Ministry of Transport and Communications for the development of the Pan-European Transport Corridor X and after the 2<sup>nd</sup> Meeting of the Pre-Steering Committee, which was held in Thessaloniki on 26 November 1999, the task of the “Technical Secretariat of the Steering Committee for the development of the Pan-European Corridor X” was assigned to the Department of Transportation and Hydraulic Engineering, Faculty of Rural and Surveying Engineering, Aristotle University of Thessaloniki. The Technical Secretariat officially started its’ activities on 1/1/2000, for a period of 4 years and 3 months (during the Greek chairmanship of the Steering Committee – until March 2004).

The effort of the initiative was the signing of a MoU, which was achieved during the Ministerial Meeting of 15 March 2001 in Thessaloniki, a day before the 3<sup>rd</sup> Meeting of the Steering Committee.

The railway companies, under the chairmanship of the Austrian Railways (ÖBB) set up a Corridor Management headquarter in Vienna, but due to the continuous political crisis and the general instability in the Balkans, no remarkable progress has been made since May 1998 after the signing of the “Agreement of the railways participating or interested in the promotion, modernization, restructuring and development of railway traffic on Corridor X” by all involved railways, including DB AG and GySEV.

**TECHNICAL FEATURES OF CORRIDOR X:**

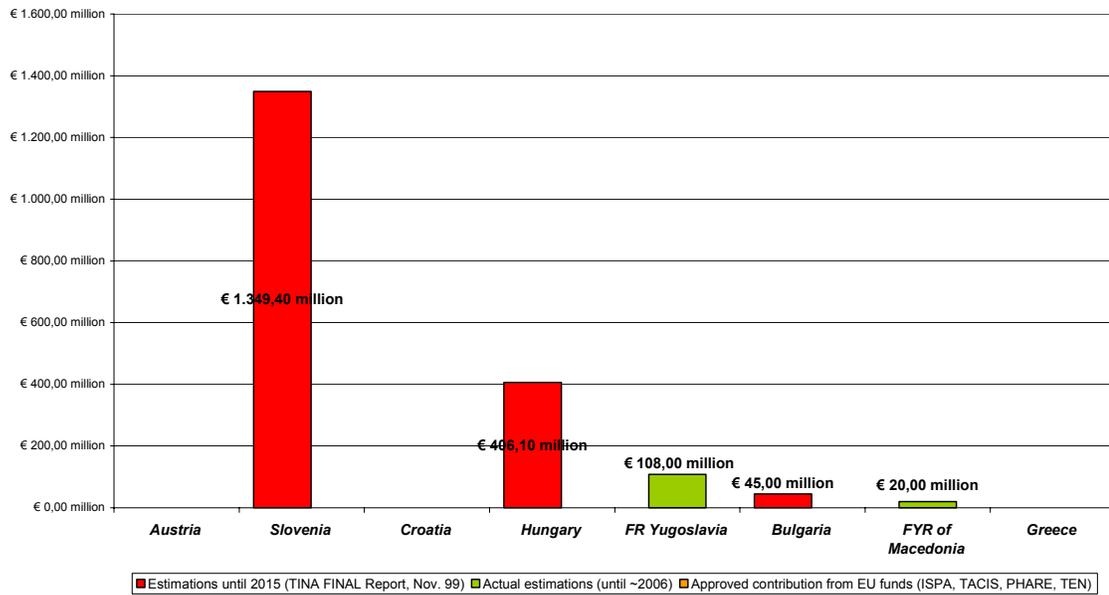
Concerned countries	Austria, Bulgaria, Croatia, FYR of Macedonia, Greece, Hungary, Slovenia, FR Yugoslavia
Transport modes	Railways, roads, aviation, navigation
approx. length of the Corridor	
Railways	2,528 km
Roads	2,300 km
Inland waterways	n.a.
Number of Airports	12
Number of Sea- and Riverports	4
Alignment:	Salzburg - Ljubljana – Zagreb – Beograd – Nis – Skopje – Veles - Thessaloniki
Railway	Salzburg – Villach – <i>Rosenbach/Jesenice</i> – Ljubljana – Zidani Most – <i>Dobova/Savski Marof</i> – Zagreb – <i>Tovarnik</i> – Beograd – Nis – <i>Presevo/Tabanovce</i> - Skopje – Veles – <i>Gevgelija/Idomeni</i> - Thessaloniki
Road	Salzburg – Villach – <i>Karavanke</i> – Ljubljana – <i>Visna Gora/Obrezje</i> – Zagreb – <i>Lipovac/Tovarnik</i> - Beograd – Nis – <i>Sopot/Tabanovce</i> - Skopje – Gradsko – <i>Bogorodica/Idomeni</i> - Thessaloniki Branch from Graz (Branch A)
Railway	Graz – <i>Spielfeld/Sentilj</i> – Maribor – Zidani Most
Road	Graz – <i>Spielfeld/Sentilj</i> – <i>Gruskovje</i> – Zagreb Branch from Budapest (Branch B)
Railway	Budapest – <i>Kelebia</i> – Subotica - Novi Sad – Beograd
Road	Budapest – Kecskemet - Szeged – <i>Röszke</i> – Subotica – Novi Sad – Beograd Branch to Sofija (Istanbul) (Branch C)
Railway	Nis – <i>Dimitrovgrad/Kalotina</i> – Sofija
Road	Nis – <i>Dimtrovgrad/Kalotina</i> – Sofija Branch to Florina (Via Egnatia) (Branch D)
Railway	Veles – <i>Kremenica/Mesonision</i> – Florina
Road	Gradsko – <i>Medzitlija/Mesonision</i> - Florina

Remark: The shown figures for seaports and riverports refer to the TINA countries.

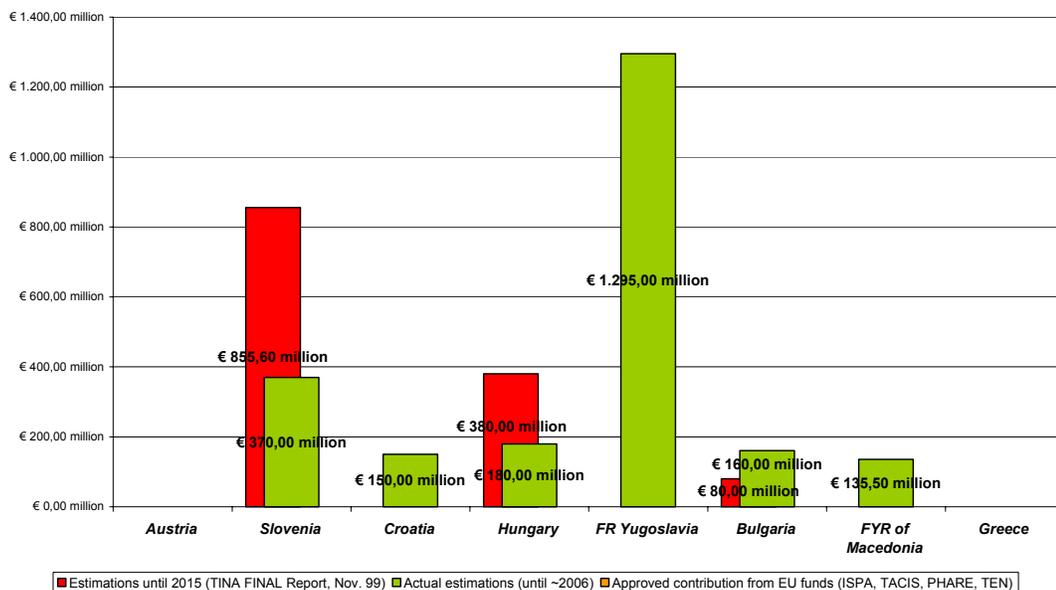
**COST ESTIMATIONS PER COUNTRY:**

The costs for infrastructure investments for Corridor X have been estimated using the results of the TINA Final Report, November 1999, the results of the Reports on the “Status of the Pan-European Transport Corridors and Transport Areas” for 1998 and 1999, updated reports of the Chairman of the Steering Committee of Corridor X for 2000 and 2001 and information from the European Commission (ISPA – project proposals accepted by the Management Committee; TACIS – project from the national programmes and from the CBC-programmes).

**Costs for infrastructure investements along Rail Corridor X**



**Costs for infrastructure investements along Road Corridor X**



After on site visits and expertise of members of the Technical Secretariat for Corridor X, the following sections were considered problematic and their rehabilitation will restore the Corridor:

Main axis

- Bic – Visnja Gora (Slovenia) 75.5 km  
Estimated completion by 2004 (construction of motorway)
- Velika Kopanica – Zupanja (Croatia) 24.15 km  
Construction of motorway in progress
- Zupanja – Lipovac (Croatia) 29.43 km  
Construction not in progress – Expected to be completed by 2005
- Beograd bypass (FR Yugoslavia: Dobanovci – Bujanj Potok) 35.5 km
- Lescovac (FR Yugoslavia) – Kumanovo (FYR of Macedonia) 127.1 km
- Gevgelija – Axios Canyon (FYR of Macedonia) 44.5 km

Branch A

- Maribor – Gruskovje (Slovenia) 38.8 km  
Completion by 2004 (construction of motorway)
- Makelj – Krapina (Croatia) 19.4 km

Branch B

- Kiskunfelegyhaza – Rozske (Hungary) 60 km  
Construction will commence in 2003 (closed motorway)
- Horgos – Batajnica (FR Yugoslavia) 176 km
- Beograd bypass (FR Yugoslavia: Batajnica – Dobanovci) 10 Km

Branch C

- Nis – Kalotina (FR Yugoslavia) 104 km  
Construction of a 98 km motorway will commence in 2003
- Kalotina – Sofija (Bulgaria) 49 km (except Sofija ring-road)

Branch D

- Veles – Prilep – Bitola (FYR of Macedonia) 104.6 km

In the following table the estimation of the investment needed for the rehabilitation of the problematic road sections are presented.

Country	Length (km)	Cost (millions €)
Bulgaria	49	160
Croatia	48.8	150
Hungary	60	180
FYR of Macedonia (without branch D)	51.5	135.5
Slovenia	114.3	370
FR Yugoslavia	445,6	1295
<b>Total</b>	<b>769.2</b>	<b>2290.5</b>

## **DEVELOPMENTS ALONG THE CORRIDOR**

### Austria

**Rail:** The Austrian parts of Corridor X are distinguished in sections of the main axis and sections of branch A. They have a total length of 263 km. The existing railway is 100% electrified and double-track in a length of 200 km.

The Austrian section of the main Corridor X is Salzburg – Villach – Rosenbach (Austrian/Slovenian border), with a length of 217 km, with double tracks at a percentage of 84.3% of its' total length.

The Austrian section of Branch A is Graz – Spielfeld (Austrian/Slovenian border), of 46 km length, with double tracks at a percentage of 36% of its' total length.

Generally, the situation of the rail infrastructure in Austria is considered satisfactory with high levels of maintenance. No studies for further improvement are available.

**Road:** The Austrian Road Corridor X is similar to the rail one with a total length of 232 km.

The section of the main axis is Salzburg – Villach – Karavanke (Austrian/Slovenian border), an 187 km long motorway.

The section of Branch A is Graz – Spielfeld (Austrian/Slovenian border), which is also a motorway, 45 km long.

No further improvement is foreseen; neither is needed, due to the good condition of the existing infrastructure.

### Slovenia

**Rail:** The Slovenian parts of Corridor X are distinguished in sections of the main axis and sections of Branch A. They have a total length of 294 km. The existing railway is 100% electrified and double-track for a length of 214 km.

The Slovenian section of the main Corridor X is Jesenice (Austrian/Slovenian border) – Ljubljana – Zidani Most – Dobova (Slovenian/Croatian border), of 186 km length, with double tracks at a percentage of 65.6% of its' total length.

The Slovenian section of Branch A is (Austrian/Slovenian border) – Sentilji – Maribor – Pragersko – Zidani Most, of 108 km length, with double tracks at a percentage of 84.8% of its' total length.

Generally, the situation of the rail infrastructure in Slovenia is considered satisfactory with high levels of maintenance. Furthermore, a feasibility study is under implementation for the increase of speed of the railway lines Ljubljana – Zidani Most (64 km) and Zidani Most – Maribor (92 km). The Republic of Slovenia (77.5%) and Domestic Bank loans (22.5%) will provide funding for implementation. In addition, capital overhauls of the main lines Ljubljana – Zidani Most and Zidani Most – Maribor will be financed by the Republic of Slovenia (81.9%) and Domestic Bank loans (18.1%).

**Road:** The Slovenian parts of Road Corridor X are also distinguished in sections of the main axis and sections of Branch A. They have a total length of 239 km consisting of multilane motorways (108 km) and highways.

The Slovenian section of the main Corridor X is Jesenice (Austrian/Slovenian border) – Kranj – Ljubljana – Visnja Gora (Slovenian/Croatian border), of 182 km

length, with multilane motorways at a percentage of 47.1% of its' total length. By the year 2004 this section will be consisted by multilane motorways at 100%.

The Slovenian section of Branch A is (Austrian/Slovenian border) – Sentilji – Maribor – Gruskovje (Slovenian/Croatian border), of 57 km length, with multilane motorways at a percentage of 19.6% of its' total length. By the year 2004 this percentage will be 87.4%, since the transformation of 39 km of highways to multilane motorways is expected.

Various studies in Slovenia are under implementation (technical/ environmental impacts/physical planning studies) on sections such as: Vrba – Naklo (Kranj west) - 21 km; Naklo – Ljubljana - 25km; Ljubljana – Bic – 29 km; Bic – Obrezje - 76 km; Pesnica – Maribor – 7 km; Maribor – Ptuj (Hadjina) – 21 km. Main sources of financing are occurred from national institutions as well as the EBRD and the EIB.

### Croatia

Croatia's infrastructure deteriorated significantly as a result of delayed maintenance and upgrading, and sustained war damage. The expanding and changing economy places specific demands on infrastructure development. In accordance with government priorities, the EBRD is working actively – among other sectors – in transportation sector.

**Rail:** The Croatian parts of Corridor X are sections of the main axis with a total length of 434 km. The existing railway is 82.5% electrified and double-track on a length of 233 km. Corridor X link the following cities: Savski Marof (Slovenian/Croatian border) – Zagreb – Novska – Vinkovci – Tovarnik (Croatian/FR Yugoslavian border).

Concerning the planned future development, there are a preliminary and a technical study for construction of a new double railway track connecting Sisak and Kutina (32 km). The construction of second track from Zagreb to Sisak and from Kutina to Novska (total length 76.36km) and the reconstruction of the station of the line have also been studied (preliminary and technical study). The time horizon for the implementation for both studies is 2020, with the participation of national and international financial institutions (EBRD/WB).

There is also a study for the reconstruction of the railway line Zagreb - Beograd for speed 160km/h, which was elaborated by the Yugoslav Railways in 1985, but due to the political situation, nowadays is only adopted by the Yugoslav government.

Generally, the situation of the rail infrastructure in Croatia is considered good with medium levels of maintenance.

**Road:** The Croatian parts of Road Corridor X are sections of the main axis, and of Branch A. They have a total length of 365 km. The existing multilane motorways are 270 km.

The section of the main axis links the following cities: Obrezje (Slovenian/Croatian border) – Zagreb – Novska – Lipovac (Croatian/FR Yugoslavian border). It is 304 km long and it consists of multilane motorways (237 km) and highways.

The section of Branch A links Gruskovje (Slovenian/Croatian border) with Zagreb. It is 61 km long and it consists of multilane motorways (33 km) and highways. By 2005 the transformation of the highway section Krapina – Macelj, 19 km, to a motorway is foreseen.

In addition, technical and environmental impact studies are under way with national funding for the section of Zagreb – Lipovac. More specific, two projects under the Stability Pact to be financed by EIB are in the implementation process, but no amount has been defined yet. The available studies are: NW-SE Corridor, motorway Velika Kopanica – Zupanja (24 km) and NW-SE Corridor, Zupanja – Lipovac (29 km).

A total design study for construction of motorway with national and IFIs funding is under way for the section of Zagreb (Jancomir) – Bregana (13 km).

### Hungary

**Rail:** The Hungarian parts of Corridor X are sections of Branch B with a total length of 156 km. The existing railway is 100% electrified and single-track at a percentage of 95% of the total length. The following cities are linked: Budapest – Kunszenmiklos – Kiskunhalas – Kelebia (Hungarian/FR Yugoslavian border).

Generally, the condition of the rail infrastructure in Hungary is considered poor with low levels of maintenance. For the whole section (Budapest – Ferencvaros station – Kelebia station – state border) feasibility and technical studies are under implementation for the modernization of the line with private sector participation and PHARE involvement. Doubling of the line is foreseen by 2010.

**Road:** The Hungarian section of Road Corridor X is similar to the rail one. It has a total length of 167 km. It consists of multilane motorways at a percentage of 58.1% and main roads. It links the following cities: Budapest – Kecskemet – Kiskunfelegyhaza – Szeged – Roszke (Hungarian/FR Yugoslavian border).

For the section of Kiskunfelegyhaza – Kistelek – Szeged – Roszke (Branch B) technical and environmental impact studies under national and international investment (public/private partnership). A potential future involvement of EBRD has also been decided. By the year 2005 the Hungarian section of Road Corridor X is planned to be consisted 100% of multilane motorways.

### FR Yugoslavia

**Rail:** The Yugoslavian parts of Corridor X are distinguished in sections of the main axis, sections of Branch B and sections of Branch C. They have a total length of 867 km. The existing railway is 88% electrified and double-track in a length of 251 km.

The Yugoslavian section of the main Corridor X is Tovarnik (Croatian/Yugoslavian border) – Sid – Beograd – Nis – Presevo (Yugoslavian/FYR of Macedonian border), of 613 km length, with 100% electrified lines and double tracks at a percentage of 40.3% of its' total length.

The section of Branch B is Subotica (Hungarian/Yugoslavian border) – Novi Sad – Beograd, of 150 km length, with 100% electrified lines and single tracks at a percentage of 97.6% of its' total length.

The section of Branch C is Nis - Dimitrovgrad (Bulgarian/Yugoslavian border), of 104 km length, with diesel single tracks at its' whole length.

Generally, the situation of the rail infrastructure in FR Yugoslavia is considered satisfactory with medium levels of maintenance. For the section Tovarnik – Beograd, 120 km, doubling of track is foreseen by 2010, with financing by the Yugoslavian government, EIB and WB. Also, for the section Subotica – Stara Pazova, 150 km, doubling of track is foreseen by 2010, with financing by the Yugoslavian government, EBRD and WB.

Various Yugoslavian sections of Corridor X have been included in the EIB projects as follows:

<b>EIB Quick-start projects:</b>	Track rehabilitation: HR/YU border - Beograd - € 9 million; Beograd – YU/FYROM border - € 21 million; Beograd - YU/HU border - € 11 million
	Nis - YU/BG border - € 10 million
	Signalling, Telecommunications and power supply rehabilitation: HR/YU border - Beograd - € 2 million; Beograd - YU/FYROM border - € 8 million
	Beograd - YU/HU border - € 4 million; Nis - YU/BG border € 6 million
	Bridge construction: Bridge at Ostruznica (one track, 640 m) - € 17 million
	Rolling stock rehabilitation
<b>EIB Near-term projects:</b>	Bridge construction: Bridge at Zezelj (single track, 467 m) - € 30 million

**Road:** In accordance to the Rail Corridor, the Yugoslavian parts of Road Corridor X are sections of the main axis and Branches B and C, and its' total length is 789 km.

The Yugoslavian section of the main Corridor X is Tovarnik (Croatian/Yugoslavian border) – Beograd – Nis – Sopot (Yugoslavian/FYR of Macedonian border), of 495 km length, with multilane motorways at a percentage of 75.3% of its' total length.

The section of Branch B is Subotica (Hungarian/Yugoslavian border) – Novi Sad – Beograd, of 186 km length, with highways at its' total length.

The section of Branch C is Nis - Dimitrovgrad (Bulgarian/Yugoslavian border), of 109 km length, with highways at most of its' whole length (104 km).

The section Leskovac – Presevo (Yugoslavian/FYR of Macedonian border) of 122 km is covered by feasibility, technical and environmental impact studies with the contribution of public and private sector with funding to be identified by national and international sources.

Similar studies are under way for the parts of Batajnica – Dobanovci (Beograd bypass) - 10 km; Dobanovci – Bubanj Potok – 37 km, which does not exist at present, with the potential involvement of EIB; Hungarian/Yugoslavian border – Beograd - 179km; Nis – Yugoslavian/Bulgarian border – 98 km.

Under the existing situation in Yugoslavia there is a shortage of information due to the previous socio-economic and political climate in the country.

#### Bulgaria

**Rail:** The Bulgarian parts of Corridor X are sections of Branch C with a total length 57 km. The existing railway is 74.1% electrified and single at a percentage of 86% of the total length. The following cities are linked: Kalotina (Bulgarian/FR Yugoslavian border) – Dragoman – Sofija.

Generally, the condition of the rail infrastructure in Bulgaria is considered poor with medium levels of maintenance. For the year 2004 the reconstruction of the line for speed 140-160 km/h is foreseen.

Road: The Bulgarian parts of Road Corridor X are sections of Branch C with a total length of 83 km. The existing infrastructure is consisted of highways (39.6%) and main roads (60.4%). Following cities are connected: Kalotina (Bulgarian/FR Yugoslavian border) – Dragoman – Sofija. No further improvement is foreseen until 2005.

#### FYR of Macedonia

Rail: The FYR of Macedonian parts of Corridor X are distinguished in sections of the main axis and sections of Branch D. They have total length of 362 km. The existing railway is 59.7% electrified and 100% single-track.

The FYR of Macedonian section of the main Corridor X is Tabanovce (FR Yugoslavian/FYR of Macedonian border) – Skopje – Veles – Gevgelija (FYR of Macedonian/Greek border), of 216 km length, with electrified single tracks.

The FYR of Macedonian section of Branch D is Veles – Bitola – Kremenica (FYR of Macedonian/ Greek border), of 146 km length, with diesel single tracks.

Generally, the situation of the rail infrastructure in FYR of Macedonia is considered satisfactory with medium levels of maintenance on the main axis and poor with low levels of maintenance on Branch D. Furthermore, there is a pre-feasibility study for the reconstruction and capital overhaul of the railroad Gevgelija – Skopje – Blace, N-S corridor, rehabilitation of single track railway, on 200 km, with an estimated total cost of € 20 million, to be covered by EIB. For the section Zgropolci – Demir Kapija – Miravci (total length 72 km) there is a feasibility and technical study for upgrading financed by EIB.

Road: The FYR of Macedonian sections of Road Corridor X are distinguished in sections of the main axis and sections of Branch D. They have a total length of 332 km and the length of multilane motorways is 120 km.

The FYR of Macedonian section of the main Corridor X is Tabanovce (FR Yugoslavian/FYR of Macedonian border) – Skopje – Veles – Bogorodica (FYR of Macedonian/Greek border), of 207 km length, with 120 km multilane motorways and highways (42%).

The FYR of Macedonian section of Branch D is the highway Veles – Bitola – Medzitlija (FYR of Macedonian/Greek border), with a length of 125 km.

Joint financing, under the Stability Pact of the section Demir Kapija – Gevgelija (FYR of Macedonian/Greek border) will be made available for improvement of a critical section of the Corridor X N-S route near the border with Greece by the construction of the first 2-lane carriageway of a future motorway (detailed designs available – financed separately by EC PHARE), with extensive use of the existing alignment.

The existing traffic level is low, at about 3,500 AADT, but it is expected to grow substantially once the functions of the main north-south axis are restored.

For the section Bitola – Medzitliza (20 km) the 2-lane reconstruction/rehabilitation is ongoing, financed by EBRD and WB and for the section Veles – Prilep (73 km) the 2-lane reconstruction/rehabilitation is under consideration from EBRD and WB.

Greece

**Rail:** The Greek sections of Corridor X are distinguished in sections of the main axis and sections of Branch D. They have a total length of 96 km. The existing railway is 81.2% electrified and 100% single-track.

The Greek section of the main Corridor X is Idomeni (FYR of Macedonian/Greek border) – Thessaloniki, of 77 km length, with electrified single tracks.

The Greek section of Branch D is Mesonision (FYR of Macedonian/Greek border) – Florina, of 19 km length, with diesel single tracks.

Generally, the situation of the rail infrastructure in Greece is considered poor with low levels of maintenance on both sections and especially on Branch D.

**Road:** The Greek sections of Road Corridor X are distinguished in sections of the main axis and sections of Branch D with a total length of 92 km. It consists of multilane motorways, highways and main roads.

The Greek section of the main Corridor X is Idomeni (FYR of Macedonian/Greek border) – Thessaloniki, of 77 km length, with motorways (45 km) and highways (32 km).

The Greek section of Branch D is the main road Mesonision (FYR of Macedonian/reek border) – Florina, of 15 km length.

## STATUS OF THE PAN-EUROPEAN TRANSPORT AREAS

When considering transport network development for maritime areas it became apparent that the Corridor concept, as identified in Crete in 1994, was not the appropriate form. It was therefore agreed at the third Pan-European Transport Conference in Helsinki in 1997 that four Pan-European Transport Areas (PETrAs) should be defined complementary to the Pan-European Transport Corridors. All of them,

- the Barents Euro-Arctic;
- the Black Sea Basin;
- the Adriatic/Ionian Seas and;
- the Mediterranean Basin;

are adjoining Europe. Three out of four lie on the territory of Phare and/or TACIS beneficiaries, whereas the fourth one, the Mediterranean Basin PETrA, will benefit from MEDA assistance.

### BARENTS-EURO ARCTIC TRANSPORT AREA

The Barents Euro-Arctic PETrA is a multi-modal transport area. The area covers the northern provinces of Sweden, Finland, and Norway, as well as the Northwestern part of the Russian Federation; in particular it comprises the Oblasts of Murmansk and Archangelsk, the Republic of Karelia and the Nenets Autonomous Okrug.

Finland, Norway and Sweden have been very active to promote the signing of a Memorandum of Understanding for the Barents Euro-Arctic area. The four countries concerned at the European Conference of Ministers of Transport in Copenhagen signed the Memorandum of Understanding, which was the first one for a PETrA on 26 May 1998. The European Commission signed in July 1998. The Memorandum of Understanding follows the example of similar Memoranda of Understanding for Pan-European Transport Corridors by setting up a Steering Committee composed of representatives from the parties involved to monitor the work.

In the MoU the Ministers also established a Steering Committee for BEATA co-operation. Norway was the first chairman of the Steering Committee which meeting took place in Oslo on 8 December 1998. Finland assumed the BEATA chairmanship in March 1999, and the third chairmanship was held by Russia started in March 2000. The Finnish Ministry of Transport has established a permanent secretariat in Helsinki to assist the Steering Committee.

The objective is to strengthen the existing international co-operation in areas such as customs co-operation, maintenance and new construction of multi-modal transport infrastructures. The MoU furthermore aims at developing a regional transport network in an area with difficulties of access, particularly due to paucity of road and rail infrastructure combined with long distances and harshness of climate.

#### The Finnish Chairmanship

The Finnish Ministry of Transport and Communications held the chairmanship of the Steering Committee of BEATA between March 1999 and March 2000. Main objectives of the Finnish agenda for the BEATA chairmanship were to implement the first year of the Action Programme, more specifically the following:

1. Creating the framework for co-operation in BEATA.
2. Defining the backbone network for transport in the Barents area.
3. Creation of the BEATA database and collection of network data.

#### The Russian Chairmanship

Under the Russian chairmanship two major events took place:

1. The fourth Steering Committee meeting took place in Murmansk on 24 May 2000. The meeting was particularly useful, as a large number of Russian authorities, local and national, took part in it.
2. Meeting of Ministers of Transport of the members of the Barents Euro-Arctic Council was arranged in connection of the Second Euro-Asian Conference of Transport held in St. Petersburg on 13 September 2000. The Minister of Transport of the Russian Federation, Mr. Frank, and the Secretaries of State of Finland, Norway and Sweden, as well as a number of observers attended the meeting. The meeting provided a good forum for the exchange of information on new developments in each country, and strengthened the political process supporting the BEATA initiative.

In addition, exchange of information has continued between the parties involved in the Barents Euro-Arctic work.

Under the BEATA secretariat further development of the BEATA GIS database has continued. In 2000, the geographic (GIS) database has been brought to the Internet and the data is now freely available to all willing users. The work to identify joint projects that can be promoted through the BEATA framework has started under Swedish leadership.

#### The Swedish Chairmanship

The BEATA chairmanship handed over to Sweden in March 2001.

Under the Swedish chairmanship in 2001 two Steering Committee meetings were held; the first in Haparanda, Sweden, 26 September 2001 and the second in Umeå, Sweden, 6 February 2002.

Exchange of information has continued between the parties involved in the Barents Euro-Arctic work and the following main milestones have been achieved:

- Further development of the BEATA GIS database. In 2001, the geographic (GIS) database has been brought to the Internet and the data is now freely available to all interested users.
- Identification of joint transport projects in Finland, Norway and Sweden that can be promoted through the BEATA framework has been completed under Swedish leadership. Similar work is underway in Northwest Russia.
- Norway has drawn up a report on traffic forecasts in the area using a comparative analysis of existing transport studies. The report provides valuable information and direction for the future work of the Steering Committee.

#### Other developments

There are a number of other developments contributing to the improvement of east-west transport connections in the area. The main joint effort, which was led by the Communications Group of the Barents Regional Council, has been the preparation of the Barents Transport Project and its application to INTERREG IIIB for financing. Unfortunately, the INTERREG Management Committee rejected the application in December due to technical reasons. The Communications Group applied for INTERREG IIIB financing in the next application round in March 2002.

Transport infrastructure improvements impacting more than one country include but are not limited to the following:

1. Testing of the railway gauge changing system at the Finnish – Swedish border (Tornio/Haparanda).
2. The road connection Nickel – Prirechnyi (Russia) has been upgraded by a joint Russian/Norwegian effort.

3. Construction of the Russian border post at Salla (Finland/Russia) has been completed with TACIS assistance. The road to the Salla border is also being upgraded in Russia.
4. Norwegian and Russian authorities have agreed on modernising and moving the Russian border station at Borisoglebsk/Storskog (Norwegian/Russian border). A feasibility study has been prepared.
5. Construction of the new railway Ledmozero – Kotchkoma (Karelia, Russia) has been completed at the end of 2001. Commercial traffic starts in 2002.
6. Co-operation between the northern customs districts of Finland, Norway, Russia and Sweden is bringing results. Among others, better information between the customs officials and the clients through a web service on the BEATA site is now available.

#### Future Work

Due to the new rules of procedure Sweden will continue to hold the BEATA chairmanship also in 2002.

The BEATA steering committee is planned to be given the role as “Advisory Broad” in the planned INTERREG IIB project on transport conditions and needs for improvements in the Barents region.

#### **BLACK SEA TRANSPORT AREA**

The Black Sea Pan-European Transport Area is a link connecting the littoral countries of the Black Sea, with each other, the Central and Eastern European countries through the Pan-European Transport Corridors, the Caucasian Isthmus, towards Central Asia through TRACECA (Transport Corridor Europe Caucasus Asia) and the Mediterranean Pan-European Transport Area.

The Black Sea PETrA comprises the littoral states of the Black Sea for regional co-operation on transport, namely Moldova, Ukraine, the Russian Federation, Georgia, Turkey, Bulgaria, Romania and the Hellenic Republic. A representative from Armenia, Azerbaijan and from the secretariat of the Black Sea Economic Co-operation (BSEC) have been invited to assist in the Steering Committee meetings as observers.

The Commission welcomed Georgia's wish to host a first meeting of Senior Officials in order to prepare a Memorandum of Understanding for the development of the Black Sea Transport Area. The Senior Officials' meeting took place on 23/24 November 1998, in Tbilisi (Georgia) where all the participating countries initialled and signed the Memorandum of Understanding, except the European Commission. Moldova was not present at the meeting. The objective expressed in the Memorandum of Understanding is to further strengthen the existing international co-operation in the development of main and ancillary and environmentally friendly transport infrastructure and services on the Black Sea PETrA.

#### The Turkish Chairmanship

The first Steering Committee meeting on 1 July 1999, in Tbilisi, was devoted to future actions. The objectives and immediate steps were to be laid down in an action programme, which was worked out by TINA VIENNA in close co-operation with the European Commission. The chairmanship of the Steering Committee was entrusted to Turkey.

The Turkish Ministry of Transport and Communications held the chairmanship of the Steering Committee of BS PETrA between July 1999 and June 2000. Under the Turkish chairmanship two Steering Committee meetings were held in Istanbul; the first on 25 November 1999 and the second on 15/16 June 2000.

At the second Steering Committee meeting on 25 November 1999 in Istanbul, the action programme was adopted.

In order to achieve the accepted goals two working groups were set up:

- Working group on harmonisation of administrative and customs procedures, chaired by the Hellenic Republic for the start-up phase, while Romania will take up the chair afterwards
- Working group on infrastructure related to ports and their hinterland connection to corridors, chaired by Turkey.

The working group on harmonisation of administrative and customs procedures set up a work programme consisting of issues related to road, rail, maritime and combined transport, as well as facilitation at border crossings. The first meeting took place in Alexandroupolis on 25/26 May 2000 and the second one in Thessaloniki on 7 November 2001.

Three meetings of the Working Group on Infrastructure Related to Ports and their Hinterland Connection to Corridors of the BS PETrA were held on 3 February 2000, 28 March 2000 and 16 March 2001 in Ankara and in Istanbul.

#### The Romanian Chairmanship

The BS PETrA chairmanship handed over to Romania in April 2001.

Under the Romanian chairmanship two Steering Committee meetings were held in Bucharest; the first on 2/3 April 2001 and the second on 27/28 February 2002.

At the fourth meeting, the Steering Committee discussed the modifications to the draft agenda on the basis of the proposals made by the representative of the European Commission ("Proposal on an enhanced coordination of co-operation between Corridor IX-Southern Section, the Black Sea PETrA and TRACECA and the role of a support office", and "Updating of the Action Programme for the Black Sea PETrA") and by the Greek delegation (draft Protocol on "Harmonization of Institutional Aspects of Transport and Customs Procedures").

The Turkish delegation presented the Report of the Working Group on "Infrastructure related to Ports and their hinterland connections to Corridors", mentioning the area infrastructure (current situation, determination of the main bottlenecks, financing of bankable infrastructure projects), the inventory of the area infrastructures (road, rail, ports), the decision adopted by the Working Group on Infrastructure to create a web-site for BS PETrA (<http://ubak.gov.tr/~petras>) and the completion of maps for each country and a regional map of BS PETrA. Comments on the country maps should be send to Turkey.

The Romanian delegation invited the European Commission to provide the countries with software compatible with the GIS software utilized by the TINA Secretariat to ensure the same layout of the maps.

The representative of the European Commission presented the Commission's "Proposal on an enhanced coordination of co-operation between Corridor IX-Southern Section, the Black Sea PETrA and TRACECA", emphasizing the necessity of a support office in Odessa, having, inter alia, a coordination role of the regional project development. The representative of the European Commission presented also the alignment of land connection encircling the Black Sea, including river and maritime ports, for each Party of the Memorandum of Understanding on the development of the Black Sea PETrA, including country maps, as well as the Action Programme for the Black Sea pan-European Transport Area which, according the MoU, should be revised annually by the Steering Committee.

The Protocol on Harmonization of Institutional Aspects of Transport and Custom Procedures presented by the Greek delegation was approved by the Steering Committee and the procedure of signing was started by use of exchange of letters.

The fifth Steering Committee meeting on the development of the Black Sea Pan-European Transport Area took place in Bucharest on 27/28 February 2002.

There were held discussions on the proposal on an enhanced coordination of co-operation between the Southern Branch of Corridor IX and the Black Sea PETrA with TRACECA and the role of the TRACECA Secretariat in Odessa, as well as discussion on the topic of signing The Protocol on Harmonization of Institutional Aspects of Transport and Custom Procedures.

Ukraine will take over the BS PETrA chairmanship in 2003.

#### Future developments

**Ukraine:** The complex of the measures on development of the rail accesses from the Southern Branch to the main ports of Ukraine - Odessa and Ilyichevsk at the Black Sea, where Corridor №9 is connected with TRACECA, was realized.

**Moldova:** Improvement of Road and Roadside Services on the section Leuseni – Chisinau – Dubasari – Border with Ukraine - Project cost: \$18.2 million

For the rail sections (Cristești-Jijia) – Ungheni – Chișinău – Bender – (Kuciurgan), route infrastructure rehabilitation, upgrading and electrification are foreseen with aim of increasing maximum train speed up to 140 km/h with transition from diesel locomotive traction to electric one (the cost is estimated to \$128 million). For sections Bender – Cimislia – (Carabuteni) – Basarabasca – Taraclia (Bolgrad) – Greceni – Etulia – (Reni) – Giurgiulesti – (Galat) reconstruction and technical re-equipment of railway stations and track facilities are foreseen (the cost of works is estimated to \$ 5.8 million).

**Romania:** A rail ferry service to the port of Poti in Georgia has been introduced in March 1999 making use of the TRACECA connection.

The construction of the Container Terminal On Pier IIs Constanta South Port is ongoing.

Particularly important from economic cooperation point of view in the area, is the Bucuresti-Cernavoda-Constanta motorway, which will be executed by sectors, such as:

- Bucuresti-Fundulea sector (to be finalised in 2003)
- Fundulea-Lehliu sector (to be finalised in 2004)
- Lehliu-Drajna sector (to be finalised 2004)
- Drajna-Fetesti (to be finalised in 2005)
- Fetesti-Cernavoda sector will be rehabilitated (actually 17 km motorway)
- Cernavoda-Constanta will become a 4 lanes national road

Negotiations with JBIC for the financing of Bucharest-Constanta rail section are in progress. A Memorandum between the Government of Romania and the Government of Japan was signed in March 2001 for the financing of the rehabilitation of the sections Bucharest North - Bucharest Baneasa and Fetesti-Constanta (\$ 257.4 million). An ISPA Application Form for the total budget of € 231.73 million has been approved in the ISPA Management Committee in Bruxelles in July 2000. The Financing Memorandum between European Commission and Romania was signed in December 2000 and the works commenced in 2001.

**Greece:** The construction of the new pier in the port of Thessaloniki, as well as all construction work in the new port of Alexandroupoli, is planned to be completed by the year 2005. The new port of Alexandroupoli, is being built next to the existing one and will be open to traffic by early 2006. As far as the Kavala port is concerned, now is explored the possibility of financing the expansion of the port

of the nearby region of Karvali, so as to be suitable for containers also, according to the approved Master Plan of the port of Kavala.

### **ADRIATIC-IONIAN SEAS TRANSPORT AREA**

A draft Memorandum of Understanding has been elaborated under Italian initiative and has already been submitted to the European Commission.

### **MEDITERRANEAN TRANSPORT AREA**

At the Helsinki Conference in June 1997 it was decided to develop the transport infrastructure in the Mediterranean Basin, in what is by far the largest of the four Pan-European Transport Areas.

Following the example of energy and consumer protection, the Euro-Mediterranean Partnership itself set up the Euro-Mediterranean Transport Forum with the participation of the European Union - represented by the President-in-Office of the Council - the Commission, the 12 Mediterranean countries and any of the EU Member States that wish to take part.

The aims of the forum are those relating to transport set out in the work programme annexed to the Barcelona Declaration; the responsibilities and duties of the forum, the role of which is advisory, include drawing up an action programme, monitoring and evaluating the implementation of particular measures, including programmes in progress, such as the RETRAMED, INFRAMED and CORRIMED programmes, or Community-funded or MEDA-funded programmes.

The first meeting of the Euro-Mediterranean transport forum took place at COREPER level on January 1999 in Malta.

Aims like

- free and fair competition must be guaranteed both between ports and between the transport services of the Mediterranean basin. A particularly important contribution to that objective will be made by the liberalisation of cabotage from 1 January 1999 (with the sole exception of the Greek Islands). The progressive liberalisation of shipping and logistical services will make it increasingly necessary to adopt a policy of diversification and specialisation of ports that takes account of their geographical situation and any further infrastructure investments required;
- the lack of appropriate infrastructures in the transport and telecommunications sectors is a major obstacle to development of external and interregional trade, and to cooperation between the countries of the Mediterranean basin;

are guaranteed.

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## **CORRIDOR MAPS**

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