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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

**Working Party on Transport Trends and Economics**

(Seventeenth session, 20-21 September 2004,  
agenda item 7)

**FINANCING SCHEMES OF TRANSPORT INFRASTRUCTURE**

**Transmitted by the Governments of Canada, Croatia, Germany, Lithuania,  
Poland and Romania**

During its sixteenth session, the Working Party agreed to continue discussing various approaches to the financing of transport infrastructure and experiences gained with applying different financing techniques at its further sessions (TRANS/WP.5/34, paras. 27-29). In this context, the secretariat asked member Governments for information on privately financed and successfully concluded transport infrastructure projects in order to identify best practices for the involvement of the private sector in the financing of transport infrastructure projects.

This document contains replies from member Governments presenting the outcome of some important infrastructure projects and experiences gained in their financing.

## **CANADA**

Several years ago, the Department of Transport of Canada, together with Canadian provinces, carried out work on PPP for financing of highways. A series of reports was then produced. The report entitled Public-Private Partnership for Highways: Experience, Structure, Financing, Applicability and Comparative Assessment – Objective One, Final Report (available from the secretariat) might be particularly interesting as it focuses on Canadian and foreign experiences with PPPs. The other two reports – “Context of Private-Public Partnerships for Highways in Canada”, and “Public-Private Partnerships and their role in a Possible National Highway Program” (also available from the secretariat) complete the research prepared for the Council of Deputy Ministers Responsible for Transportation and Highway Safety in 1999.

A number of web addresses below point to relevant research reports sponsored by the CTA Review Panel that might be of interest:

Michel Boucher

Newly Commercialized Transport Infrastructure Providers: Analysis of Principles of Governance, Accountability and Performance

(<http://www.reviewcta-examenltc.gc.ca/CTARReview/CTARReview/english/reports/boucher.pdf>)

David Gillen, Len Henriksson, Bill Morrison

Airport Financing, Costing, Pricing and Performance

(<http://www.reviewcta-examenltc.gc.ca/CTARReview/CTARReview/english/reports/gillen.pdf>)

## **CROATIA**

### **Adriatic Expressway in Istria**

“Bina Istra” is a concession company that constructs, maintains and manages the Adriatic expressway in Istria. The French company “Bouygues” has a 51% share in the ownership of the company and Croatian companies “Hrvatske autoceste” (Croatian Expressways) and “INA” 49%.

The realization of the project is divided into two phases.

1A phase (east branch) - was constructed and opened to traffic on 3 December 1999. According to the concession contract, Grantor designates the amount of the toll, which is being charged in two paying stations: at tunnel «Učka» on the 1A phase (east branch) and at viaduct «Mirna» passage on the 1B phase (west branch).

1B phase - is in the process of construction (west branch). Financing of construction is ensured through the issuance of bonds in the amount of €210 million with an interest rate of 8% with maturity in 2022. Along with bonds, credit was contracted in the amount of €72 million. The financial arrangement consists of refinancing of 1A phase, which is constructed, and of construction of 1B phase. 145 km is in concession, from which 47 km is in the process of construction.

## **Zagreb – Macelj Expressway**

A concession contract was signed in July 2003. The shareholders are “Walterbau” 51% and Republic of Croatia 49%.

Financial construction is in the process of closing. It is expected that work will begin in July 2004.

## **GERMANY**

### **Application of the Operator Model under the Private Sector Funding of Trunk Road Construction Act**

#### Initial situation and current status

The legal preconditions for applying the operator model in the construction of federal trunk roads were established in Germany in September 1994 when the Act on the Construction and Funding of Federal Trunk Roads by the Private Sector came into effect. Under the Act the construction, maintenance, operation and funding of projects may be handed over to the private sector. The private companies are entitled to recoup their costs by levying tolls.

Given the parameters in force at the European level, the operator model is restricted at present to:

- bridges, tunnels, and mountain passes along federal motorways and federal highways;
- multi-lane federal highways with separate carriageways for the two directions of traffic (motorway-like - dual-carriageway - federal highways).

The number of projects (in particular the construction of bridges and tunnels), which can be carried out under the Act, is limited in view of the fact that only certain projects are suitable for private funding on the basis of recouping costs by levying tolls. This can be explained mainly by the location of the projects (e.g. projects within urban areas or as bypasses which are easy to avoid) as well as by the high level of construction costs coupled with a relatively low volume of traffic.

For this reason, it is possible to make provision for State priming assistance of up to 20% of the construction costs in order to ensure the required private sector profitability, provided that the project has been classified as a “first priority project” in the requirement plan at the time it is carried out. In addition, further possibilities of providing assistance are also being examined with a view to further increasing the chances of the project being carried out.

With regard to the eight operator model projects shown in the list below involving a total investment amounting to €2.6 billion, the feasibility has been assessed or is being assessed at present (technical/economic preliminary studies to assess the basic feasibility of carrying out a project).

The concessions have been awarded for the two tunnel projects for which the local authorities in Rostock and Lübeck are responsible. The Warnow tunnel was opened in Rostock on 12 September 2003 after a period of construction of approximately three and a half years. The first toll regulations for this project came into force on 12 June 2003. In the case of the second project – the crossing of the Trave in Lübeck – a tunnel is planned to replace the Herrenbrücke on the B 104. The Federal Government is making a basic sum amounting to the cost of replacing a bascule bridge available (€89 million). The concession agreement was signed in March 1999. Construction has been in progress since 15 October 2001 and is expected to be completed by the middle of 2005.

#### Advantages of the operator model in the construction of federal trunk roads

Construction work can be carried out using the operator model which could not be carried out within the foreseeable future using conventional public funding. It is only by making this form of private funding available that it is possible to provide an additional option in the field of capital investment policy. At the same time, the construction and the financial services sector are given the opportunity to gain experience on the domestic market in the field of the private funding of public transport infrastructure investment which is expanding at international level.

#### Outlook

In view of the overall restricted number of suitable federal trunk road construction projects, the operator model in its present form will only manage to result in a limited easing of the pressure on budgets. Nevertheless, it represents an important step towards more private sector involvement in federal trunk road construction. The extension of the Act on the Construction and Funding of Federal Trunk Roads by the Private Sector to cover the construction of sections of the motorway will not be possible under Community law until distance-related motorway user charges for heavy goods vehicles have been introduced.

### **Projects carried out using the operator model in accordance with the Private Sector Funding of Trunk Road Construction Act (as at May 2004)**

#### **A. Project opened to traffic**

<b>No.</b>	<b>Federal state (Land)*</b>	<b>Project</b>	<b>Length (km)</b>	<b>Construction costs € million</b>	<b>Current status</b>
1	MV	Crossing the Warnow in Rostock (B 103)	4.0	215	Concessionaire: Bouygues; ground-breaking ceremony on 2.12.1999; tunnel opened on 12.09.2003
1 project			4.0	215	

**B. Projects for the construction of which the Federal Government is responsible**

No.	Federal state (Land)	Project	Length (km)	Estimated construction costs (€ m)	Current status
2	BW	A 8: Mühlhausen junction to Hohenstadt junction (new); ascent to the Alb region	8.0	348	Approved by State cabinet on 9.4.2002; completion 2008
3	SH/NI	A 20: Crossing the Elbe north-west of Hamburg	9.0	511	Feasibility study for one option completed; alignment has not yet been established
4	NW	A 52: link from A 40 to A 42 (Essen)	8.7	377	Feasibility study in progress
5	BE	A 100: Neukölln junction to Landsberger Allee junction	8.7	809	Feasibility study close to completion
6	HB	A 281: crossing the Weser	4.4	237	Feasibility study positive; tunnel planned; joint declaration by Federal Government and federal state; completion 2010
7	BY	B 21: Kirchholz tunnel in Bad Reichenhall	3.7	77	Feasibility study close to completion
8	RP	B 50n: bridge across the Moselle valley at Wittlich/Bernkastel	6.1	120	Pre-qualification as part of the tender procedure temporarily suspended on 26.2.2003; completion 2009
	MV	B 96n: crossing the Strelasund to the island of Rügen			Tender procedure abandoned on 29.4.2003, since no suitable offer was submitted
7 projects			48.6	2,479	

**C. Project for the construction of which the local authority is responsible**

9	SH	B 75/B 104: construction of tunnel crossing the Trave in Lübeck (to replace the Herrenbrücke)	0.8	141	Concessionaire: Hochtief/Bilfinger-Berger consortium; work started on 15.10.2001; completion middle of 2005
1 project			0.8	141	

**D. Total**

8 projects (B + C)	49.4	2,620
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\* List of Federal States mentioned above:

BE = Berlin  
 BW = Baden-Württemberg  
 BY = Bavaria  
 HB = Bremen

MV = Mecklenburg-Western Pomerania

NI = Lower Saxony

NW = North-Rhine/Westphalia

RP = Rhineland-Palatinate

SH = Schleswig-Holstein

## LITHUANIA

Public transport infrastructure projects are mainly financed from the national budget, thus Lithuania has not acquired enough experience with privately financed and successfully completed transport infrastructure projects. There are some cases where private financial resources have been used for transport infrastructure projects.

A well-balanced development of infrastructure and superstructure is one of the factors having an influence on seaport transshipment volumes. In order to increase flows of goods and passengers, the Ministry of Transport and Communications and the SE Klaipėda State Seaport Administration collaborate with private companies providing the port services.

For the preparation of the State Seaport investment and development documents, proposals and development plans were communicated to private investors. The following documents have been prepared:

- Strategy of Klaipėda State Seaport activities until the year 2010;
- Programme on development of Klaipėda railway crossings in 2003, the years 2004–2006 and until the year 2015;
- Programme on investments in Klaipėda State Seaport for the years 2002–2005.

For successful implementation of development plans of seaport infrastructure, it is planned to use Klaipėda State Seaport financing and European Union funds. Private companies must also implement their commitments related to the development of seaport superstructure.

## POLAND

### **A2 motorway – part of the Trans-European Network, connecting Warsaw, Łódź and Poznań metropolitan areas with the road transport system of the EU**

The 40-year concession granted to AW S.A. for works and operation on a 255 km long section of the A2 motorway is the first PPP/BOT project in transport infrastructure in Poland.

### Brief historical background

- AWSA – special purpose vehicle established in 1993 – 5 shareholders: Kulczyk Holding, Wielkopolski Bank Kredytowy, WARTA, PZU and IMEX
- September 1993 – Polish Government set up a construction programme of 2,300 km of motorway within the next 15 years
- September 1995 – ABiEA launches a two-stage tender for the A2 Toll Motorway construction
- March 1997 – concession decisions granted
- September 1997 – Initial Concession Agreement signed
- 1997 – 1999 – changes in political environment – impact on financing and construction scheme concept; further negotiations of the agreement,
- October 1999 – signing of Annex No. 2 to the Concession Agreement (with subsequent amendments) – the background for financial closing arrangement
- March 2000 – AWSA mandated Crédit Lyonnais and Commerzbank for financing the project
- May 2000 – EIB jointed to co-finance A-2; project becomes first PPP in Poland
- 30.10.2000 – Financial Close
- 9.11.2000 – EIB Loan drawdown onto EIB Escrow Account
- 23.07.2001 – First Drawdown of Commercial Loans

In spring 2001, the construction work started on the section Nowy Tomyśl - Konin. The entire stretch, with the exception of the Poznań Bypass 13.3 km long, was divided into three sections:

Section I - 47.66 km long (from Września to Konin)

Section II - 37.5 km long (from Krzesiny interchange in Poznań to Września)

Section III - 50.4 km long (from Nowy Tomyśl to Komorniki interchange in Poznań).

The Poznań Bypass was built outside the scope of the concession of Autostrada Wielkopolska S.A. and financed by State and assistance funds (under the supervision of the General Directorate of Public Roads Division).

On 12 September 2003 over 13 km section of the by-pass was included in the scope of operation and maintenance by AWSA without any costs borne by the State Treasury.

On 6 January 2003 I section (47.7 km from Września to Konin) was put into operation as a part of a toll motorway.

On 27 November 2003 II section (37.5 km from Krzesiny to Września) was put into operation as a part of a toll motorway, making a new arterial road connected to the existing road network by means of motorway interchange.

In spring 2002 the construction works on III section (50.4 km from Nowy Tomyśl to Komorniki) commenced and should be completed by the end of 2004.

### Major project parties

- Minister of Infrastructure
- Concessionaire – Autostrada Wielkopolska S.A. (Polish special purpose vehicle, owned indirectly by Polish and international Sponsors throughout Dutch Holdco structure)
- Development Company – A2 Bau Development GmbH (joint-venture company, owned by Strabag AG and NCC International AB) Operating Company – Autostrada Eksploatacja S.A. is the Polish special purpose vehicle owned by: Transroute International S.A. (45%), Kulczyk Holding S.A. (45%), Strabag AG (10%) Independent Engineer – Atkins Ltd.
- European Investment Bank
- Advisers to the Senior Lenders
- Advisers to the Concessionaire.

### Financing

The A2 Project is financed mainly by private capital. The underlying concept was that of the minimized involvement of the State Treasury which was confined to the Government guarantee for the loan granted by the European Investment Bank and the purchase of the Site, a common contribution in infrastructure projects of that kind.

During the term of the concession, Autostrada Wielkopolska S.A. will pay the costs of operation, maintenance and repairs of the motorway.

The benefits for the State Treasury from the A2 Project include the following:

- The State Treasury remains at all times the owner of the land and throughout the concession life bears no costs of operation and maintenance of the motorway;
- throughout the concession life the State Treasury will receive significant revenues from rent of the land leased for the purpose of building the motorway;
- the State Treasury will receive significant revenues from taxes;
- the State Treasury will receive revenues under the profit sharing scheme;
- the grounds adjacent to the motorway will become more attractive. This will be a big incentive to the prospective investors which will enhance economic development in the regions adjacent to the motorway;
- the cost of transportation of people and goods will be reduced;
- the A2 Motorway will provide a convenient transportation link in the strategic road corridor of Poland.

The project funds include, *inter alia*, equity provided by the shareholders of Autostrada Wielkopolska S.A. amounting to €238 million (contributed as the share capital of €115 million and the subordinated debt of €123 million), the long term loan from the European Investment Bank of €275 million and the long term commercial loans from Crédit Lyonnais S.A. and Commerzbank AG totalling €235 million. Under the subordinated loan AWSA obtained proceeds from the "Euro synthetic" bond issue of the par value unprecedented in Poland and a very long maturity. It is noteworthy that the commercial banks' loans belong to the so-called



Senior Loan ranking ahead of any other sources of finance in terms of repayment. The financing is based on the Financial Model prepared by reputable financial advisers, accepted by AWSA and approved by the financial institutions and the Government.

## **ROMANIA**

One of the main objectives of the Governance Programme for the period 2001 – 2004 is the rehabilitation, the modernization and development of the road transport infrastructure (motorways, bridges, etc.) in order to improve the quality for users, to increase their safety, to improve the efficiency of goods transport, to increase the mobility of the population, in parallel with the harmonization of national transport systems with the European Union.

The Government of Romania has selected the Public-Private Partnership financing model instead of or as complementary to the standard financing methods for an infrastructure project, because of the following reasons:

- First, to benefit from the managerial experience of the private companies based on the following principle: maximum benefits at low costs and with high-grade results.
- Second, it is well known that the project management and the overall results are more efficient in the management of private companies.
- Third, the services offered will be of higher quality, where the private companies have an advantage from the modern and more ecological technologies.

The Government prepared in January 2002 the legal framework establishing the basic terms for the development of a Public – Private Partnership. Thus, the legal framework is ensured by: The Romanian Government Ordinance No. 16/2002 concerning the projects of public – private partnership, approved with the subsequent modifications and completions – the Law No. 470/2002, Expeditious Government Ordinance No. 15/2003; the Law No. 293/ 2003, the Government Decision No. 621 for the approval of the Methodological Regulations for the application of the Government Ordinance No. 16/2002.

These normative documents define the stages necessary to prepare and implement a public – private partnership contract:

- Calculation of the project cost and of the comparative cost of reference;
- Preparation and publication of the intention to promote a PPP project in the Official Journal of Romania, part VI;
- Free distribution of the Document attached to the Letter of Intent;
- Receipt of the Letters of Intent from the investors;

- Assessment of the offers and selection of the eligible investors;
- Signature of a project Agreement with each of the selected investors;
- Negotiation of the achievement conditions of the PPP project (economic, financial, technical conditions of the project);
- Set out the hierarchy of the selected investors;
- Receipt and settling of complaints;
- Final negotiation of the project contract, preparation and negotiation of the terms and clauses of the project contract with the best-ranked investor;
- Finalization of the draft contract;
- Approval of the PPP contract by Government Decision;
- Enter into force of the contract;
- Development of the contract;
- Delivery of public assets to the public authority at the end of the period of contract.

The Ministry of Transport, Constructions and Tourism has started nine Public – Private Partnership projects (see table below) in the field of transport, which have reached different stages of implementation or negotiation and for which the private investors have expressed a special interest, proved by the great number of companies in this field that are operating at an international level and have picked up the documentation and handed in letters of intent.

**THE TRANSPORT INFRASTRUCTURE PROJECTS  
CURRENTLY CARRIED OUT AND SET UP AS A PUBLIC-PRIVATE PARTNERSHIP SYSTEM**

<b>Section</b>	<b>Length km</b>	<b>Investor</b>	<b>Investment cost [mil. €]</b>	<b>Remarks</b>
Construction of the Bucharest-Brasov motorway, Section 1 Bucharest – Ploiesti	62	Strabag AG	324	Negotiation of the contract
Construction in stages and exploitation of the Predeal-Brasov (Cristian) section, situated on the alignment of the future motorway between Bucharest and Brasov	21	Joint Venture Ashtrom International International Ltd. - Roichman Bros (Shomron) Infrastructures 1993 Ltd.	181	Negotiation of the contract
Construction in stages and exploitation of the Comarnic-Predeal section, situated on the alignment of the future motorway between Bucharest and Brasov	36	Vinci Construction Grand Projects	330	Negotiation of the contract
Rehabilitation of the national road Focsani - Targu Secuiesc by Ojdula (DN2D)	118	SBI International Holdings NV	170	Negotiation of the contract
Ploiesti Vest city belt (city belt rehabilitation)	12.85	BMD Design and Infrastructure Ltd.	20.5	Completion of the negotiation of the accomplishment conditions for the PPP project
Rehabilitation of the Bucuresti-Pitesti motorway (10+600 km - 106+500 km)	95.90	JV Credinvest International Corporate Finance Ltd. - Alpine Mayreder Bau Gmbh Consortium; JV Stabag AG - Egis Projets - Search Corporation Ltd. Consortium	50	Negotiation of the accomplishment conditions for the PPP project
Rehabilitation of the Bucuresti city belt	17.5	Pantehniki; Aktor SA - Search Corporation Investors Partnership; Credinvest International Corporate Finance Ltd - Alpine Mayreder Bau Gmbh Consortium	29.2	Negotiation of the accomplishment conditions for the PPP project
Construction of a new bridge over Danube at Braila	2.54		318	The Intention Announcement was Published. Distribution of the Attached Document
Construction of Bucharest motorway city belt	107		600	The Intention Announcement was Published. Distribution of the Attached Document