

GOVERNMENT OF ROMANIA DEPARTMENT FOR INFRASTRUCTURE PROJECTS AND FOREIGN INVESTMENT

## **BRIDGE ACROSS THE DANUBE, BRAILA - GALATI**

# - Concession Project Sheet -

## **1. PROJECT NAME**

Bridge across the Danube, Braila - Galati

## 2. ECONOMIC AND FINANCIAL INFORMATION

## 2.1. Internal rate of return (IRR) according to the Feasibility Study

20.8% (worst case scenario)

## 2.2. Project Costs

**2.2.1.** Solution with 2 lanes (bridge + access roads to the west and east areas)

Lei 639.49 million (EUR 150.9 million; exchange rate: 1 Euro = 4.2379 Lei (annual average 2011 - NBR), VAT not included, according to the Feasibility Study 2011. The amount represents the construction costs + technical planning (EUR 11.5 million) + construction inspection (EUR 4.9 million) + land acquisition (EUR 4.7 million). The following costs will be added to this amount:

Funding costs + Operation and maintenance costs + Reasonable profit for the concessionaire

2.2.2. Solution with 4 lanes (bridge + access roads to the west and east areas)

Lei 925.13 million (EUR 218.3 million; exchange rate: 1 Euro = 4.2379 Lei (annual average 2011 - NBR), VAT not included, according to the Feasibility Study 2011. The amount represents design costs + construction costs + technical planning (EUR 16.6 million) + construction inspection (EUR 7.1 million) + land acquisition (EUR 5.9 million).

The following costs will be added to this amount: Funding costs + Operation and maintenance costs + Reasonable profit for the concessionaire

## 3. DURATION OF CONCESSION AGREEMENT

30 years, of which:

- 3 years design + construction
- 27 years operation and maintenance

In establishing this duration, significant aspects were taken into account, such as: value of the investment, level of involvement of the private sector and period required to ensure adequate return on capital employed.

## 4. ESTIMATED IMPLEMENTATION PERIOD

2015 - 2045

## 5. STARTING DATE OF THE PROCEDURE

2013

## 6. CURRENT STATUS OF THE PROJECT

Feasibility Study updated in 2011.

## 7. PROJECT BENEFICIARY

The Department for Infrastructure Projects and Foreign Investments in association with Compania Nationala de Autostrazi si Drumuri Nationale din Romania *[Romanian National Company of Motorways and National Roads]*.

## 8. BRIEF DESCRIPTION OF THE PROJECT

## Analysis and evaluation of the existing road network

Braila and Galati are connected by a 2-lane road parallel to the Danube and a route through Vădeni.

From the bypass road, national roads spread radially towards northwest and southwest. These are: DN 23 (heading northwest towards Focsani), DN 22 (towards Ramnicu Sarat, west of Tulcea, east of the Danube and DN 22D towards Constanta), DN 2B (heading west towards Buzau) and DN 21 (heading south - towards Silistra).

In the area east of the Danube there are a couple of roads distributing the ferry traffic from Braila (to Constanta) and Galati (to Tulcea).

All roads are 2-lane roads. The road from Braila to Macin has a design speed of approx. 70 kph and is in good condition, but it is not protected against flooding.

The road from Galati is in poor condition, but the design parameters are better and it is protected against flooding.

## Demand in the region - regional benefit

The demand for the construction of the bridge is very high. During periods of flooding ferries do not operate and people can not cross the river to get supplies. The bridge will also improve the quality of life (for residents of the area east to the Danube, to get employed in Braila and Galati) because crossing the Danube by ferry takes up to an hour.

Public regional benefits are achieved on several levels. Local business and labor relations and the exchange of goods can profit by shorter connections and the daily life of the inhabitants of the region will improve in many areas.

In winter, crossing the Danube can only be done between 6 am and 8 pm. During fog, floods and ice, the ferry does not carry passengers or freight.

The bridge would improve road traffic accessibility to Constanta. Constanta is the largest port on the Black Sea within the EU. The bridge would save approximately 1 hour of travel time (using the existing road network), for example, for heavy trucks coming from Constanta to the steel plant in Galati.

Also, the bridge could improve the economic situation in terms of exchange of goods. A bridge would facilitate the exchange of agricultural products, such as transportation of sun flower to oil milling plants and transportation of gravel from Tulcea to the cement plant in Galati.

A bridge would improve the development of tourism, because the Danube Delta is one of the most important tourist destinations in the country and a bridge would shorten travel time. Many commuters travel to the steel plant in Galati (> 4000 workers). The residents of Tulcea County could reduce travel time by up to 2 hours per day.

In conclusion, a new bridge will act as part of the TEN corridor towards Constanta, as a connection towards Tulcea, in order to meet regional requirements for a bridge.

## <u>Route</u>

The project location is downstream from the city of Braila, where the existing road follows National Road (DN) 2B Braila-Galati, passes near the northern area of Brailita district and crossed the Danube at km 165+800 (kilometers measured along the Danube starting in Sulina) and connects to National Road (DN) 22 Braila- Tulcea, north of Jijila. Access to the Big Island of Braila (Insula Mare a Brăilei) was ensured by crossing Macin branch at approx. 3.2 km of Smârdan quay. The following bridge versions were analyzed: road bridge version and combined version (road and rail bridge) for the bridge across the Danube, and road bridge version for crossing Macin branch. To connect the new road system to the existing network towards the main destination, Constanta, and to ensure a smooth traffic, a small bypass for Macin was planned. For geological structure reasons (rocky area south to Măcin) and increased flooding risk south of Macin, the solution was rejected. A better alternative would be to connect the generated traffic with a northern belt north of Macin (with no geo-technical issues or flooding risk).

The main bridge across the Danube was calculated as a suspension bridge and the access bridges to the main bridge will be roads built on piers.

## **Observing conditions for ships**

Clearance conditions necessary for navigation of ships are: 350 m width and 38.5 m height.

### **Design length of roads and bridges**

The main bridge across the Danube was calculated as a suspension bridge and the access bridges to the main bridge will be roads built on piers.

1. The access road to the west area- 4,200 m

- 3,700 m - area subject to flooding

- 2. Access bridge to the west area 550 m
- 3. Main bridge across the Danube -1,550 m
- 4. Access bridge to the east area 50 m
- 5. Access road to the east area 12,050 m towards Tulcea

- 4,050 m towards Macin

## The traffic model for the bridge

Until 2045, the number of vehicles crossing the bridge on both directions is estimated using the model to about 21,000 per day, or about 24,500 PCU per day.

It is expected that traffic volumes on access roads and connecting roads for the year 2035 will not exceed 5,200 vehicles/day on one direction. The highest traffic volumes are on the bridge.

#### 9. PRINCIPLES AND MAIN CHARACTERISTICS OF THE CONCESSION AGREEMENT

#### 9.1. Stages for the award of the concession agreement:

- Preselection of candidates and establishing a shortlist
- receipt of the award documentation based on which the dialogue is to take place;
- the performance of dialogue with the contracting authority;
- receipt of the final award documentation, resulting from the dialogue, based on which the final bids shall be submitted;
- submission of final bids;
- award of the winning bidder;
- potential final discussions on the concession agreement;
- signature of the concession agreement;

At the beginning of the dialogue stage, preselected candidates shall receive the draft of the concession agreement, as well as the technical documentation related to the Project. The concession agreement draft shall take into account the international practice in the field. At the same time, the provisions of the agreement shall comply with the provisions of Romanian

law and shall be subject to dialogue. Also, the technical specifications shall be subject to dialogue.

### 9.2. Role of authorities

The road to be built shall be a public road, part of the national network of motorways. It will be subject to the same legislation to which roads in Romania are subject. The State shall have over it the authority conferred upon by the legislation into force in Romania.

Apart from these aspects, the motorway section covered by the concession agreement will not be part of the national road network managed by CNADNR, but its operation and maintenance will be provided by the concessionaire chosen based on this procedure.

#### 9.3. Contractual obligations of the Project Company

The capacity of concessionaire shall be held by a commercial company with a special purpose (the Project Company) established by the winning individual bidder/consortium, with or without the participation of the Contracting Authority. Details regarding the legal structure for the performance of the project shall be established by the Contracting Authority further to the dialogue stage.

The Project Company established to implement the Project will have full responsibility for the future Bridge across the Danube, Braila - Galati, for the entire concession period.

During the operation and maintenance period, the Project Company shall have clearly defined responsibilities regarding environment protection along the route, as well as the bridge safety and availability.

The Project Company will design, finance and build the bridge before the operation and maintenance period.

The agreement shall also include provisions related to the State's right to impose changes to the Project.

The Project Company shall meet the requirements for designer, contractor, constructor and beneficiary liability in what regards construction quality liability.

#### 9.4. Payment mechanism

The contract shall provide the payment modalities to the Project Company. The Project Company shall be paid for the operation and maintenance period according to a payment mechanism and payments profile defined in the concession agreement.

#### 9.1.1. Background

The payment mechanism governs the manner in which the Contracting Authority pays the concessionaire for the construction, operation and maintenance of the bridge. The principle is

represented by a single annual payment in favour of the concessionaire, provided that such payment is strictly related to the performance of the concessionaire, determined based on pre-defined criteria. The mechanism needs to be designed so as to ensure the project's bankability and to represent an incentive for the Concessionaire, so that the latter meets the project objectives as set by the Contracting Authority.

In developing the payment mechanism it is essential to ensure that the transfer of risks to the concessionaire ensures the project remains bankable. The payment mechanism chosen in a concession agreement needs to be simple, clear, transparent, easily understandable to all parties involved in the achievement of the Concession Agreement objectives.

In designing a payment mechanism, it is important that both the concessionaire and the Contracting Authority fully understand the elements and formulas based on which payments are made, so as to obtain an optimum cost-benefits ratio, in the context of maximum efficiency in the provision of services for the entire duration of the Concession Agreement.

The payment mechanism is still in progress and shall be reviewed during the award procedure.

## 9.1.2. Payments structure

The payment mechanism shall rely o 2 individual elements:

## <u>Availability payment</u>

The availability shall be defined in the terms of the technical requirements of the Contracting Authority for the Project and shall include, among others:

- compliance with the Contracting Authority's requirements regarding design and construction (e.g. geometry, design of suspended structures, etc.);
- compliance with the environment requirements;
- compliance with the traffic security requirements;
- availability of the bridge except during predetermined maintenance periods, based on predetermined adjustment periods depending on the reason and gravity of the lack of availability.

The availability payment is a measure of the road's availability for public transport. Such a measure shall reward the private sector for designing the road at high quality standards, which shall impose reduced maintenance operations, and to ensure that maintenance is scheduled so as to avoid traffic congestions, which result in increased travel times.

The availability payment is related to the performance standards included in the agreement. The payment mechanism in the case of a concession (availability payments) takes into consideration a number of key features as being optimum. Annual (or half-yearly) payments shall be made to the Concessionaire, in exchange of the services provided, in other words the availability of the bridge. The concessionaire shall define in its concession offer the revenues required to cover all costs, therefore the concession shall be based on payments consisting in two cost components:

- Operation and maintenance costs and,
- Funding costs: debt service and return/profitability for the investors.

If the Concessionaire underperforms, penalty points shall be determined in relation to these payments, based on certain availability events, which are clearly defined and measured. These penalty points shall be defined in the following stage (the dialogue stage) and shall be deducted from gross payments.

The Contracting Authority will develop general performance measurement systems that will analyze the performance of the project company regarding the operation and maintenance of the bridge.

Regarding the revenues, the Concessionaire can collect revenues from <u>bridge toll</u> for the bridge, observing certain ceilings / margins set by contract. If revenues from direct taxation are insufficient to cover the construction and operation costs, the Contracting Authority shall allocate availability payments.

#### 9.5. Allocation of risks

The Project complexity requires the rigorous assessment of all events which, over time, may influence one or several stages of the Project.

Any such event may trigger changes in the Project cost, time to completion, break even point of the investment.

The concession includes a correct identification and allocation of risks in relation to the project, between the public and the private sectors, so that value for money is created.

The allocation of risks shall be clearly defined in the concession agreement and shall be subject to dialogue.

The allocation of risks shall ensure that the Project meets the Government requirements for classification as "off-balance-sheet", together with the compliance analysis of EUROSTAT rules

The particularities of concession involve, as a basic principle, the liability of the private sector in all aspects regarding planning, design, construction, operation, maintenance, financing, market evolution, as well as any elements which have an influence over such aspects. Most risks shall be borne by the concessionaire.

The concessionaire shall have limited - or zero - liability for certain types of risks (e.g. unforeseen changes in the legislation affecting the roads industry specifically). This type of risk shall be allocated to the public sector.

## 9.6 Quality assurance

The Project Company shall be obliged to implement and comply with quality norms specific to motorways, including traffic safety, environment protection and health norms.

The state shall be entitled to inspect the compliance with quality standards. Any irregularity shall be correlated, according to a score, to withholdings from the availability payment due to the project company.

The road maintenance shall be performed based on performance criteria.

The Project Company shall be obliged to submit to the contracting authority all information necessary to assess the compliance with the quality requirements in the concession agreement.

## 9.7. Delivery conditions

At the end of the concession period, the motorway shall be delivered to the administration by the contracting authority. The Concession Agreement shall include detailed and clear procedures for delivery, as well as the technical parameters of the road at the time of delivery.

#### 9.8. Disputes

The principles of concession require efficient and constructive cooperation between the public and the private sectors. For this purpose, the concession agreement shall include preventive or immediate disputes settlement provisions, which shall be in addition to the standard rules regarding disputes.

#### 9.9. Break even point of the investment

A concession project involves private funding of the investment. The investment shall be recovered either directly, from taxes charged on end users or on the Contracting Authority, or through availability payments made in accordance with the compliance of performance criteria related to the quality of the services provided, or a mixed payment mechanism may be implemented, by combining the previous two.

The public authority acknowledges the bidder's right to recover its investment and obtain a reasonable profit from the services provided.

The actual modalities and duration of this process shall be included in the concession agreement. They include an assessment of potential sources of revenues and of the costs of the agreement.

## 9.10. Legal regime of the asset

The plots of land required to complete the Project, owned by individuals and/or legal entities, shall be expropriated (according to the legislation into force, currently consisting in Law no. 255/2010 and its implementation norms, approved by Government Resolution no. 53/2011) by care of the Contracting Authority and shall be delivered to the Project Company for the performance of construction works.

The bridge resulted from implementing the Project is public property, and the Project Company has concession right over it.

Upon termination of the concession agreement, the Project Company shall transfer the public asset, free of charge, to the public authority, in good and operating condition and free from any encumbrances or liens.

## **10. PARTICIPATION OF THE PUBLIC PARTNER IN THIS PROJECT**

The public partner shall participate in the project with the land on which the bridge is to be built.

#### **11. ESTIMATED PROJECT SCHEDULE**

A brief estimate of the implementation schedule is related to the following milestones:

- Substantiation Study for the concession decision: third quarter 2013
- Prequalification:
  - Concession note: forth quarter 2013
  - Submission of applications: first quarter of 2014
  - Examination of applications + appointment of preselected applicants + legal period for any challenges: first quarter of 2014
- Dialogue stage: maximum 4 months (third quarter 2014)
- Drafting the final award documentation: max. 15 days (third quarter 2014)
- Drafting and submission of final bids: 3 months (forth quarter 2014)
- Examination of final bids + legal period for any challenges: first quarter of 2015
- Fine tuning to the Concession Agreement + signing of the Concession Agreement: 15 days (first quarter 2015)