INSTRUMENTS FOR ENCOURAGING PUBLIC-PRIVATE PARTNERSHIPS IN TRANSPORT INFRASTRUCTURE PROJECTS

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Abstract: The study presented aims to reveal the potential for expanding and intensifying public-private partnerships (PPPs) in the implementation of transport infrastructure projects. It focuses on the existing instruments for promoting PPPs in transport industry. The article presents an analysis of the European experience and the results from the application of instruments for promoting PPPs in transport industry. It summarizes the experience of the European Investment Bank in using these instruments, which will become increasingly important after the change in the use of structural funds and the allocation of the EU funding for infrastructure projects after 2020. It also conducts a critical analysis of the possible forms of implementing PPPs in transport industry and defines their benefits and the areas of application. The main problems faced by public and private sectors in the implementation of PPPs as a form of financing transport infrastructure projects in the country are also outlined.

Keywords: public-private partnership, investments, transport infrastructure, infrastructure projects.

JEL: R42, R48, O18.

Introduction

Over the last decades, European Union (EU) Member States have been facing the need for substantial investment in infrastructure. A large number of the existing infrastructure in old Member States needs to be modernized while in the newly acceded Member States there are still opportunities for expanding the provision of infrastructure. At the same time, the economic and financial crisis has posed considerable challenges to the provision of funds, needed for investing in these facilities. As a result, it is necessary to mobilize more private sources of investment in order to
construct adequate infrastructure and to meet the increased demand. Since this process is not automatic or smooth, the market failures and the difficulties faced by the public sector in providing services related to the access to relevant social and technical infrastructure should be identified and clearly defined.

Over the last thirty years, various types of financing transport infrastructure construction have been sought and applied in view of its importance for the economic growth, the mobility of labour resources, the supply of transport services and the competitiveness of the European economy as a whole. They include direct public funding as well as private finance initiatives and public-private partnerships (PPPs). The latter are regarded by governments as “an opportunity to implement investment programmes that otherwise would not be achievable by only using budgetary resources within a reasonable period of time.”

The use of transport infrastructure is accompanied by the occurrence of certain market failures such as natural monopoly and externalities. Moreover, a lack of government intervention in the transport infrastructure market results in a lower supply of transport infrastructure capacity and higher access charges as compared to the optimal levels (Perkins, 2013). The entirely public provision of financing for infrastructure by governments often faces a shortage of budget funds in the implementation of major infrastructure projects. Therefore, co-financing by private and budgetary resources is a necessity in this economic sector. While private investments are regulated by governments, there is a risk that the value of private assets may be reduced by setting very low infrastructure charges, for instance. That is precisely why PPP arrangements aim to provide a development framework, ensuring the prevention of similar private investment problems.

The main paradigm of the study is based on the concept that a sustainable economic development, including a sustainable development of transport infrastructure, cannot be achieved without the cooperation between state and private entities. Similar cooperation is a precondition for increasing the competitiveness of the Bulgarian transport industry, both in national and in international markets.

Existing instruments for encouraging PPPs in transport industry within the EU

At the EU level, a number of documents clarify the opportunities for using EU funds in public-private partnerships. Moreover, EU funds can be combined with PPPs in various ways, one of which is co-financing. The European Commission recommends the

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3 EIB Evaluation of PPP Projects Financed by the EIB. Brussels : EIB, 2005.
use of three different groups of instruments for promoting PPPs:

1) Financial engineering instruments, providing the use of private sources of funding;
2) Industry-oriented grants, promoting the launch of projects of pan-European interest;
3) Grants, supporting the cohesion policy of the EU and individual Member States.

The European Commission has defined the opportunities for the use of financial engineering instruments in public-private partnerships in order to provide support for the construction of the most important infrastructure projects and to reduce the lack of public funds in some cases. Financial engineering instruments aim at the private sector and are of interest to the public authorities, involved in the implementation of public-private partnerships. They can be applied when PPP projects are accompanied by difficulties in establishing an acceptable financial scheme. In such cases, some of the clearly defined project risks are taken by the European funds under various EU programmes. An example of applicable financial engineering instruments is the loan guarantee for TEN-T projects (LGTT), expressly designed and administered by the European Investment Bank (EIB) to finance the respective projects. Such projects are jointly financed by the Commission and the EIB. They contribute to the reduction of the risk of lower traffic volumes in the early stages of the project when the revenues from charges, imposed on users of infrastructure facilities, are not stable and may result in limiting the access to private capitals, oriented to competitive assessment of infrastructure charges. By overcoming one of the main obstacles to financing similar projects, EU funds contribute to the provision of the necessary funds, thus ensuring the implementation of the projects. For instance, the construction of the A5 motorway in Germany, the C25 motorway in Spain and the EP4 motorway in Portugal.

In addition to the above mentioned instruments, the EU has identified the lack of enough capital to construct major infrastructure facilities as another obstacle to the implementation of public-private partnerships. Therefore, the Marguerite Fund has gained active support by the Commission which is involved in the formation of the fund’s capital as part of the European Economic Recovery Plan. The Marguerite Fund is designed to encourage investment in infrastructure. It is the first joint initiative of Europe’s leading financial institutions, including the EIB. Moreover, with the support of the Structural Funds, the JESSICA programme and other joint initiatives of the EIB and

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5 EPEC Using EU Funds in PPPs –explaining the how and starting the discussion on the future. Brussels: EPEC, 2011.
6 Loan Guarantee for TEN-T projects.
7 The pan-European Marguerite Fund in support of energy, activities to fight climate change, and infrastructure was established in 2009.
9 The Joint European Support for Sustainable Investment in City Areas is an initiative of the European Commission, developed in cooperation with the European Investment Bank and the Council of Europe Development Bank (CEDB). It supports sustainable urban development and reconstruction through financial engineering mechanisms.
the Commission, loans, capital and guarantees can be provided in order to ensure basic funding for PPPs with local authorities, aiming to reduce credit risk for major creditors. In an environment where relatively small projects attract small private companies having rich experience but insufficient funds, the JESSICA fund can ensure the participation of different subordinated financial sources of capital or bank loans, thus increasing the attractiveness of fixed capital for bank financing. The first PPP expertise centre\textsuperscript{10} using EU funds for the implementation of projects under public-private partnerships has already offered financing schemes within the Latvian and the Greek PPP programmes\textsuperscript{11}.

EU-funded financial engineering instruments aim primarily to provide a medium of circulation, i.e. they do not reach final beneficiaries in the form of grants but should be reimbursed so that later they can be reused by public authorities.

\textbf{Guarantee loans for participation in projects} find application with regard to the opportunities for development and use of PPPs in the construction of the Trans-European Transport Network (TEN-T). This instrument is fully consistent with the aims of the EU transport policy, although it is necessary to develop more instruments based on LGTT in order to increase the number of public-private partnerships in transport industry. Guarantee loans for participation in projects, related to the construction of the TEN-T network, are used in public-private partnerships to introduce tolls on roads and rail projects for evaluating the use of railways and to determine and collect infrastructure charges. Despite the presence of a significant number of projects implemented through the use of LGTT, there are two major obstacles they face:

- PPPs in projects related to servicing the demand for access to transport infrastructure are suitable for the introduction of tolls in road transport, although these projects are not a priority of the budget allocation of the EU funds laid down for the construction of the Trans-European transport infrastructure;

- The trend with PPPs in transport industry is toward the implementation of schemes for the allocation of funds, partly due to the development of public-private partnerships in high-speed railways and partly due to the even distribution of the risk, which can be achieved by preliminary agreed distribution of payments between public and private partners.

Risks related to changes in the demand for access to transport infrastructure consist of two key components that cannot be controlled by the private sector, namely the existence of competing alternative routes and macroeconomic risks. Practically, it is very difficult to transfer them to the private sector.

EU funds aiming to promote investment in TEN-T network are of interest to public authorities involved in the financial planning and the construction of the network. The majority of grants are intended for activities contributing to the construction of priority projects such as trans-border passages, development of environmentally-friendly types of transport, reduction of congestion and introduction of systems for traffic management in the pan-European transport corridors. The opportunities for financing

\textsuperscript{10} European PPP expertise center.
\textsuperscript{11} EPEC Using EU Funds in PPPs –explaining the how and starting the discussion on the future. - Brussels: EPEC, 2011.
the construction of the trans-European transport network are provided to all Member States with the option to participate in joint ventures and public-private partnerships in order to achieve the objectives in this field.

Within the Directorate General for Mobility and Transport, a Trans-European Transport Network Executive Agency (TEN-T Executive Agency) is established, whose functions are to manage the technical and financial implementation of projects under the TEN-T programme. Currently it manages more than 300 projects.

Structural Funds, in turn, provide opportunities for significant funding which is available for PPPs as well. The funding can be provided either as a percentage of the cost of project development without ensuring revenues (e.g. for the construction of non-toll roads) or in the form of varying sums of money, aiming to cover the difference with projects generating revenue from operation (e.g. construction of toll roads). When a project is economically feasible but generates insufficient amount of revenue which cannot cover total costs, it can be financed by European funds. The maximum amount of similar funding is the amount that ensures the project viability. This form is known as ‘funding the gap’. The beneficiary of the funding is a representative of the public sector, who then can redirect it to the private partners in PPPs in compliance with the basic principles of EU funds management and in conformity with the state aid requirements. This instrument does not always lead to a reduction in credit risk for projects, yet without such funding, projects will not be implemented as public-private partnerships.

In most cases, public authorities are interested in combining provided grants with PPPs, because on the one hand co-financing from private sources will be ensured, and on the other hand – off-balance sheet accounting of certain assets will be provided.

European experience and outcomes of the implementation of instruments for promoting PPPs in transport industry

Public-private partnerships are structures that largely rely on private funding sources and are the main candidates for combining EU funds with loans from financial institutions. The review of the possibilities for combining EU funds with PPPs, made by the Public-Private Partnership in Infrastructure Resource Centre, as well as the experience of the real implementation of the defined instruments at European level, lead to the following conclusions:

1) **With regard to financial engineering instruments:**
   - The experience gained with guarantee loans for participation in projects for the construction of trans-European transport network in the EU is positive and can be used for the construction of railway corridors throughout the country;

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12 EPEC Using EU Funds in PPPs – explaining the how and starting the discussion on the future. - Brussels: EPEC, 2011.
The JESSICA instrument expands its scope in financing municipal PPPs. To increase the efficiency of its use, it is necessary to start developing and providing solutions for PPPs for which standardization is possible – e.g. street lighting projects, projects to increase energy efficiency in buildings (e.g. railway stations), and others. However, this instrument should be carefully applied in compliance with the requirements for participation of municipalities in PPPs;

In view of the experience gained, new instruments for the implementation of PPPs can be applied, other than the scope of the Marguerite pan-European Fund, due to their scale and the need to ensure the rate of return, and other than the JESSICA programme, due to their orientation towards rail transport;

It is necessary to study the mechanisms of simultaneous implementation of grants and financial engineering in public-private partnerships.

2) With regard to grants for the construction of trans-European transport network, part of which are the rail transport corridors passing through the territory of Bulgaria:

Issues related to funds and the period of awarding grants for the TEN-T network construction can be handled by filling in the application forms prior to the commercial documentation and by establishing a mechanism allowing grants to be awarded against the obligation that the public sector will make all payments (not only those related to the construction costs of the project).

3) With regard to grants from Structural Funds:

The concept of funding shortages is widely accepted in the EU but experience shows that it hinders the joint application of PPPs and the financing provided by Structural Funds mainly due to the fact that the scale of shortages is not always known in advance. This usually becomes explicit after the project implementation. Therefore, along with the requirements for generating revenue, an attitude exists that PPPs should be excluded from the opportunities for financing infrastructure projects during the new programming period 2014-2020 or that the requirements for financing shortages should be adjusted so as to be neutral in view of PPPs;

Solutions are sought that enable the implementation of grant funding by the EU with PPPs, based on the availability of funds, especially where European funding is needed after the end of the project implementation period. This is a very important measure to stimulate the use of PPPs in the field of social infrastructure and other infrastructure facilities with low revenues in order to benefit from the European funding without changing the principle that ‘failing to provide services, provides no revenues’ and to ensure the benefits of the whole financial model;

The lack of experience or the diminished administrative capacity of the contracting authorities at national, regional or local level is another
major obstacle to the successful joint implementation of PPPs and the financing from Structural Funds. Improving the resource provision of the administrative capacity and the focused technical assistance can contribute to solving this problem. Moreover, we need to plan the next steps in order to apply this instrument successfully during the next operational period.

- National, regional and municipal regulations, as well as administrative processes through which respective authorities interact with each other on the one hand, and with the European Commission on the other, are not always explicit, coordinated and complementary. This is one of the main reasons for the low level of application of mixed forms of funding involving PPPs.

- It is necessary to reconsider the level, frequency and nature of communication with the private sector with respect to the mixed forms of funding infrastructure projects involving PPPs. In parallel, clear requirements should be imposed on the private sector because it is expected to contribute to solving the problems, not just to identifying them. Commitments towards the private sector must be extensive, serious and constant so as to provoke and maintain its interest.

- It is necessary to study the other EU Member States’ experience with the implementation of national funding in PPPs and how they have dealt with the encountered problems.

According to data, given by the European Investment Bank for the period 1990-2014, 203 PPP projects were financed, the total cost of which is over €43,014 bn\(^{14}\).

Of all the projects, 5 were implemented in the Energy sector, 9 – in Water Supply and Sewerage, 5 – in Storage and Treatment of Waste, 1 – in Services, 16 – in Education, 23 – in Healthcare, and 141 projects in the Transport industry (Table 1).

The respective relative shares of the cost of implemented PPP projects by industries show the leading role of Transport industry, with 80% of the total cost of funded PPP projects by industries applying the various instruments of the European Investment Bank intended to promote public-private partnerships (Figure 2).

### Types and specific features of PPPs in transport industry

The nature of public-private partnerships “...finds expression in joint activities, undertaken by public and private entities, related to financing, construction, maintenance, operation or management of public infrastructure facilities. Moreover, it finds expression in joint implementation of major projects with significant investment and technological complexity, as well as in activities related to providing services for the public sector or other activities of public importance where private entities are liable for

\(^{14}\) EPEC. PPP financed by the European Investment Bank from 1990 to 2014. EIB: European PPP Expertise Center, 2015.
Figure 1. Cost of implemented PPP projects, funded by the EIB during the period 1990-2014. 
Source: EPEC, 2015.

Table 1
Implemented PPPs funded by the EIB in the period 1990-2014 by industries

<table>
<thead>
<tr>
<th>Industry</th>
<th>Projects</th>
<th>Cost, bn. Euros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>5</td>
<td>288</td>
</tr>
<tr>
<td>Transport</td>
<td>141</td>
<td>34582</td>
</tr>
<tr>
<td>Education</td>
<td>19</td>
<td>1748</td>
</tr>
<tr>
<td>Healthcare</td>
<td>23</td>
<td>4601</td>
</tr>
<tr>
<td>Storage and Treatment of Waste</td>
<td>5</td>
<td>904</td>
</tr>
<tr>
<td>Water Supply and Sewerage</td>
<td>9</td>
<td>882</td>
</tr>
<tr>
<td>Services</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>203</td>
<td>43014</td>
</tr>
</tbody>
</table>

Source: EPEC, 2014.

Figure 2. Share of PPP projects funded by the EIB in the period 1990-2014 by industries. 
Source: EPEC, 2015.
property damage and run the economic risk in at least three stages of the project life cycle. In addition to this detailed definition of PPPs, it should be noted that in terms of economics, PPPs are regarded as “…cooperation between public authorities and the business community aiming to provide funding, construction, renovation, management and maintenance of infrastructure, as well as services” (EU, 2004).

According to the degree of commitment assumed by public and private sectors, we can distinguish between the following types of PPP agreements:

- **Management and operating agreement** – the public sector provides the infrastructure for management and operation. This type of PPP can be applied when the existing infrastructure is in good condition. An advantage in the implementation of such agreements is that private partners can realize cost-effective management. A disadvantage is the limited investment by the private sector;

- **Design-Bid-Build agreement.** During the first stage, an agreement is concluded with a design company to draw up explicit guidelines for potential costs, materials and equipment, necessary for the implementation of an infrastructure project. Then private contractors are invited to participate in a tender for the above mentioned specifications and their bids are assessed by a public appraiser. Successful tenderers are responsible for the implementation of the construction stage. Once the construction stage is completed, the management and maintenance is undertaken by the public sector. All steps are financed by the public sector;

- **Private Contract Fee Services.** This is a common contract structure whereby the public sector transfers all responsibilities related to the operation and maintenance of public infrastructure to the private sector. There are a number of private companies specializing in providing services for transport infrastructure, mainly related to the maintenance, repair and improvement of operational parameters;

- **Design-Build agreements.** This model is similar to the ‘Design-Bid-Build’ agreements. The difference is that the latter combines the individual components in a single contract. With agreements for design and construction, the public sector owns the infrastructure and is responsible for financing, operation and maintenance as it is with the already discussed model;

- **Build-Operate-Transfer agreements.** The public sector is responsible for funding the infrastructure, while the private sector provides its construction.

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and operation\textsuperscript{19}. This is known as a ‘turn-key’ public-private partnership because after a certain period of time the public sector undertakes the operation of the infrastructure. A decision may be taken to extend the contract with the same entity as an operator or to hold a tender for concluding a contract with a new private partner;

- **Build-Own-Operate agreements.** Most often such contracts are concluded under concession. Infrastructure design, development, financing, construction, operation and maintenance are the sole responsibility of the private sector for the whole period of the concession, which is generally a long term period of time. Public sector participation is limited to establishing the regulatory framework and monitoring over the compliance with contractual relationships\textsuperscript{20}.

- **Build-Own-Operate-Transfer agreements** – they differ from the previous type in that a private company owns the assets created. During the contract period, the company owns and operates the facility; it aims to recoup the invested money and to maintain the facility while seeking ways to maximize the margin of the project\textsuperscript{21}. The specific characteristics of this model make it suitable for use in infrastructure projects related to building motorways, public transit networks and railway lines which are of important public interest, but are not attractive to private investors.

- **Build-Lease-Transfer agreements** – private partners build project facilities and lease them to a public partner. After the expiry of the lease, the ownership of the assets and the responsibility for their operation are transferred to the public partner at a preliminary agreed price. The control over the project is transferred from the contractor to the public partner (the tenant of the constructed facility). For foreign investors, who have evaluated the risk of investment in a particular country, this model offers excellent terms, since project companies can maintain their property rights without taking operational risk. The private sector owns and manages the facility, while the services are provided by the public partner.

- **Design-Build-Finance-Operate agreement.** When concluding a similar PPP agreement, the private sector is responsible for the infrastructure design, construction, financing and operation, while the ownership remains public. There is still some flexibility that can be expressed in the form of funding – capital or in kind\textsuperscript{22}. It is expected that the agreed debt used to finance the transport infrastructure will be recovered by future revenues. This suggests that user charges or debts will be introduced, such as bonds relevant to future

\textsuperscript{19} World Bank. BOT - PPP in infrastructure resource center. World Bank, 2012


\textsuperscript{22} See **Pekka, P.** Innovative Project Delivery Methods for Infrastructure. Helsinki: Finnish Road Enterprise, 2002.
revenues. A modification of this agreement is the Design-Build-Finance-Operate-Transfer agreement;

- Design-Construct-Manage-Finance agreement – private partners are involved in designing, constructing, managing and financing a facility on the basis of preset standards by the public partner. Project cash flows are realized by government payments for the use of the facility. In cases when this model is used for facilities of public ownership, the government retains the ownership rights and may exercise price and quality control. This financial model can be viewed as an instrument to avoid new public debts.

As a whole, the legal concept of PPPs in Bulgaria is defined in three different acts – the Concessions Act, the Public Procurement Act and the Public-Private Partnership Act. This distinction lacks a single ‘classic’ or ‘typical’ PPP agreement. In terms of the conceptual definitions of PPPs (i.e. apart from the definition given in Art. 3, Para.1 of the Public Private Partnership Act), it can be concluded that mainly ‘implicit’ forms of PPPs are applied in the Bulgarian practice. Moreover, there are a number of obstacles to the implementation of such partnerships in relation to the implementation of the PPP Act. The Act was adopted in 2012, subsequently repealed in 2013, and again adopted in the same 2013. Despite the adoption of this Act and the creation of an official register of PPPs, not a single PPP has been negotiated in the country\textsuperscript{23}.

Concessions are also included as a form of PPP in the systematization of some basic forms of public-private partnerships, proposed by the Ministry of Finance of the Republic of Bulgaria in the “Guidelines for the implementation of PPP projects\textsuperscript{24}” (see Table 2 below).

\textit{Table 2}
\textit{Main types of PPPs}

<table>
<thead>
<tr>
<th>Type of PPPs</th>
<th>Main components</th>
<th>Application</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management contract</td>
<td>The public sector provides infrastructure for management and operation</td>
<td>With available infrastructure in good condition</td>
<td>The private party can implement cost-effective management The private party can implement cost-effective operation</td>
<td>Limited investments by the private sector</td>
</tr>
<tr>
<td>Build-Operation-Transfer (BOT)</td>
<td>The public sector designs the project, while the private partner constructs the necessary infrastructure which at the end of the period is transferred to the public sector</td>
<td>Projects with significant technological and operational requirements</td>
<td>The private party can realize cost-effective operation</td>
<td>The private sector lacks the opportunity for innovative construction solutions</td>
</tr>
</tbody>
</table>


### Build-Transfer-Operation (BTO)

Unlike the BOT model, the public sector becomes the owner of the infrastructure from the very beginning of the contract.

Projects with significant technological and operational requirements.

The private party can realize cost-effective operation.

The private sector lacks the opportunity for innovative constructions solutions.

### Build-Own-Operation (BOO)

It differs from the BTO model in that there is no obligation to transfer the ownership of the assets to the public sector; There is a possibility that the public sector acquires the assets by purchasing them at their residual book value at the end of the contract.

When building infrastructure that can be privately owned.

There is no obligation for the acquisition of assets by the public sector.

Limited application, only for infrastructure which can be privately owned.

### Design-Build-Operation-Transfer (DBOT)

The private party is responsible for the design, construction, financing and operation of the infrastructure; The asset ownership is transferred to the public sector at the end of the contract.

Projects with significant technological and operational requirements which enable innovative solutions.

The private party can implement cost-effective solutions throughout the life cycle of the project.

A complex and long tender procedure, careful distribution of risks is needed.

### Concession

Maintenance and operation of existing assets.

With projects not requiring financial support by the public sector.

The private sector provides public services.

A complex and long tender procedure, careful distribution is needed.

**Source:** Ministry of Finance, 2011.

However, a characteristic feature of concessions is that most often they are applied with regard to the maintenance and operation of existing infrastructure facilities. Unlike the typical forms of PPPs, concessions are applicable to the implementation of projects not requiring financial support by the public sector. On the other hand, an important characteristic, similar to those of PPPs, is awarding concessions for facilities and activities where the private sector takes on the task of providing public services – e.g. to provide access to the transport infrastructure.

An important point in clarifying the nature and possibilities of applying public-private partnerships in the construction of transport infrastructure along the trans-European transport network corridors is to define the difference between awarding public procurement contracts, PPP agreements, and concessions. The specific characteristics of the models are presented in Table 3.
Table 3
**Differences between public procurement contracts, PPP agreements and concessions**

<table>
<thead>
<tr>
<th></th>
<th>PUBLIC PROCUREMENT CONTRACT</th>
<th>CONCESSION</th>
<th>PPP AGREEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>Specified input parameters (e.g. constructing public assets)</td>
<td>Specified output parameters (providing public services)</td>
<td>Specified output parameters (providing public services)</td>
</tr>
<tr>
<td><strong>Funding</strong></td>
<td>Public</td>
<td>Usually private</td>
<td>Exclusively private</td>
</tr>
<tr>
<td><strong>Stages of the project (design, finance, construction, operation)</strong></td>
<td>Usually one of the stages</td>
<td>Usually, funding and operation (with elements of construction) or funding and construction</td>
<td>Most/all stages</td>
</tr>
<tr>
<td><strong>Project risks</strong></td>
<td>The public party generally bears most of the risks</td>
<td>The private party generally bears most of the risks</td>
<td>Effective distribution of risks towards the partner most capable of bearing them</td>
</tr>
<tr>
<td><strong>Project duration</strong></td>
<td>Short-/medium-term</td>
<td>Long-term</td>
<td>Long-term</td>
</tr>
<tr>
<td><strong>Necessary efforts and expertise for the public partner</strong></td>
<td>Small to medium (usually limited to the administration)</td>
<td>Medium to large (usually administrative resources and outside experts)</td>
<td>Large (usually administrative resources, PPP sector, outside experts, consultants, etc.)</td>
</tr>
<tr>
<td><strong>Payments made by the public partner or the society</strong></td>
<td>Significant payments at the beginning (e.g. during construction), lower running costs</td>
<td>Limited opportunity for public payments in compliance with the Concessions Act. Payments made by the users of the service</td>
<td>Payments made only when the service is provided. Payments made if the service is available and/or payments made when using the service</td>
</tr>
<tr>
<td><strong>Service Standards</strong></td>
<td>Usually there are no standards for the service provided by the asset</td>
<td>There are standards for the provision of the service</td>
<td>There are standards for the provision of the service</td>
</tr>
</tbody>
</table>

*Source: Ministry of Finance, 2009.*

**Typical public procurement (PC) contracts** primarily focus on the construction of transport infrastructure facilities for the provision of public transport services. Public partners are mainly responsible for the infrastructure planning and design, hence the quality of services. Private partners are in charge of constructing the infrastructure site.

**Public-Private Partnership agreements** focus on output parameters most. Public parties specify the need for a public service while private sector partners are responsible for ensuring the quality of service. Therefore, PPP agreements must negotiate a service not just infrastructure. This approach not only provides access to private sector partners’ knowledge and experience but also attracts long-term private funding.

**Concessions** in turn aim to provide specific output parameters related to the provision of public services such as access to transport infrastructure. Private partners usually bear the majority of risks. The opportunities for public benefits under the Concessions Act are limited, whereby revenues are realized mainly from payments by users of the service, respectively the income from infrastructure charges to users of
transport infrastructure. It should be noted that certain concessions in Bulgaria, implemented by means of the Concessions Act, can also be classified as public-private partnerships, despite the imposed restrictions. In them, however, the opportunities to stimulate the investment process by implementing the instruments for co-financing between the European funds and private financial sources are minimized and cannot really be used.

Opportunities to apply PPPs in transport industry

The growing demand for transport services in relation to the implementation of the EU transport policy objectives makes it necessary to rehabilitate and modernize the outdated infrastructure and to construct the lacking basic infrastructure necessary to meet the transport needs of society and important for the economic development of each country. That is why more and more governments are turning to the implementation of public-private partnerships in order to accelerate the development of transport infrastructure. Thus, the role of the public sector is complemented by the private entrepreneurial approach, and the necessary transport infrastructure is provided through market solutions, ensuring the expansion of the supply of transport services.

The key criterion used to make decisions on the application of PPPs in the implementation of transport infrastructure projects must be the cost effectiveness by presenting the financial cost price compared to the traditional method of providing services which meet public purposes. PPP schemes can be an appropriate method for improving the quality of transport infrastructure and the related services when the state seeks the following:

- innovative approaches to effectively and efficiently promote local economic development based on knowledge transfer, know-how and experience;
- a high level of quality, security and safety;
- financial or expert resources other than budgetary resources and capacity;
- possibilities for implementing projects or providing services in a shorter period of time;
- competition between potential private partners and between local governments and businesses.

Although the term ‘public-private partnership’ has become popular over the last 30 years, the cooperation between public and private sectors in the field of transport has had a long history. Originally, transport infrastructure in most countries was privately owned, but soon it became a common practice for national and local governments to grant subsidies for the construction of transport infrastructure or to provide interest rate guarantees or dividends. Since 1985, public-private partnerships have been implemented


with varying degrees of success in the development of new or the rehabilitation of the existing transport infrastructure. Currently, several different models of PPPs are used. The analysis of 27 PPP projects in the field of transport infrastructure shows that the ‘construction-operation-transfer’ model has been most often used in recent years. This is due to the belief that this model is the easiest for application and provides the best return for governments. However, there is strong evidence that such assumptions are not correct and there are many reasons to take into account the other alternative PPP models for transport infrastructure projects due to the following problematic areas:

- **Government control and asset management** – if governments stop exercising control over the use and development of transport infrastructure, the ‘construction-operation-transfer’ model, which is typical of concessions becomes the most unacceptable one, because it is designed to provide maximum freedom for the private sector from the custody and control of governments. This model may envisage control by public partners, but this will contribute to the complexity of contractual relations.

- **Free access** – the model of concession as a partnership implies that concessionaires focus on operational functions. Proposing concession services to alternative private companies and state enterprises is possible, although it significantly complicates the contractual relationships between public and private partners.

- **Integration with existing or other partner organizations** – when such integration is necessary, the model of concession is not suitable because it aims to ensure maximum operational independence of private partners. Concession agreements can be designed to ensure integration with existing infrastructure companies, which once again results in complicating contractual relationships between partners, especially when the existing operators are also private.

- **Complexity of procedures** – concession agreements are more complex than public procurement contracts and construction-lease-transfer contracts because they cover both infrastructure development and its operation. Therefore, concession agreements need a longer time to be prepared, concluded and implemented.

However, there are opportunities to combine some of the components of public state property concession agreements with PPP arrangements. Similar combinations are used in the construction of light rail for transit. Moreover, governments are responsible for the construction of the railway infrastructure (railways), station buildings and the depots while PPP agreements with private partners are being prepared, negotiated and implemented. Thus, faster implementation of projects is ensured as compared to the application of the classical form of concession.

A negative point in the implementation of models for financing infrastructure projects based on PPPs is reducing competition, which is typical with the implementation

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of a great number of small projects by means of public procurement, but increases the efficiency of implementing them by the conclusion of PPP agreements. On the other hand, companies that bid for participation in public-private partnerships are usually multinational companies, using very little of the resources and the expertise of local companies. The analysis of the Construction Design Alliance of Ontario (CDAO) with respect to one of the biggest transport infrastructure projects for railway construction, implemented in this state, shows that if you put out the awarding of public procurement contracts to a number of small tenders and stations are withdrawn from the main project, about 10 local companies for design and construction could participate, which will lead to increased competition and lower costs for taxpayers\(^{28}\). The result brings up the question of local and national economic benefits of the project and whether concessions, as a comprehensive model for the construction and operation of infrastructure projects under a particular contract, are most suitable for the project. In fact, governments should take these requirements into account when selecting a specific PPP structure.

The introduction of minimum requirements for the participation of local enterprises and personnel training can prevent the occurrence of the relevant issues. Since governments are engaged in PPPs, it is expected that the structures they create will best satisfy both public and private sectors’ demand.

Transportation systems, providing efficient transport services can be a catalyst for countries’ economic growth and development. Their development can stimulate trade, by connecting production centres with regional and international markets, promoting national and cross-border integration of regions, and facilitating the access to labour markets, education and health services\(^{29}\).

Public-private partnerships can provide investment opportunities, operational efficiency and clean technologies. PPP infrastructure projects, ensuring efficient use of transportation network, enable increased efficiency and revenues for the state and private investors, thus contributing to greater attractiveness of investments in PPP schemes.

Concession agreements concluded for transport infrastructure projects in Bulgaria

In relation to the above-discussed specifics and characteristics of the application of the Public Private Partnership Act, contracts for similar partnerships have not been concluded in the country. On the other hand, in recent years concessions have been increasingly used as an effective method for the construction, modernization and maintenance of transport infrastructure in Bulgaria, as well as for increasing its competitiveness, reliability, safety and quality access services. The main objectives of


the strategic documents outline policies and guidelines for accelerated development of transport infrastructure. An integral part of this policy is the policy of granting transport infrastructure facilities for concession\(^{30}\).

For the period 2005-2014, 16 infrastructure concession agreements were implemented and enforced in Bulgaria. Only one of them is an agreement on a railway infrastructure facility (see Table 4).

**Table 4**

*Transport infrastructure facilities in Bulgaria granted for concession*

<table>
<thead>
<tr>
<th>№</th>
<th>Infrastructure facility</th>
<th>Concessionaire</th>
<th>Period of concession</th>
<th>Investment cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Burgas civil airport for public use and Varna civil airport for public use</td>
<td>FRAPORT AG Frankfurt Airport Services Worldwide – Germany and BM Star EOOD, Bulgaria (Fraport Twin Star Airport Management AD)</td>
<td>35 years In force from 10.11.2006</td>
<td>403,149,084 BGN</td>
</tr>
<tr>
<td>2.</td>
<td>Balchik Port Terminal, local territorial area of the Varna public transport port of national significance</td>
<td>Port Balchik AD</td>
<td>25 years In force from 25.05.2006</td>
<td>BGN3,474,800 Fixed amount of the concession payment – 7,065,436 BGN</td>
</tr>
<tr>
<td>3.</td>
<td>Lesport Port Terminal, part of the Varna public transport port of national significance</td>
<td>Port Lesport AD</td>
<td>30 years In force from 30.05.2006</td>
<td>129,010,000 BGN Fixed amount of the concession payment – 35,204,940 BGN</td>
</tr>
<tr>
<td>4.</td>
<td>Port Terminal Burgas East-2 part of the Burgas public transport port of national significance</td>
<td>BMF Port Burgas EAD</td>
<td>35 years In force from 01.01.2012</td>
<td>196,189,816 BGN</td>
</tr>
<tr>
<td>5.</td>
<td>Silistra Ferryboat Terminal – local territorial area of the Ruse public transport port of national significance</td>
<td>Danube Industrial Park AD</td>
<td>35 years In force from 23.02.2006</td>
<td>5,508,986 BGN Fixed amount of the concession payment – 2,675,575 BGN</td>
</tr>
<tr>
<td>6.</td>
<td>Svishtov Port Terminal, part of the Ruse public transport port of national significance</td>
<td>Dredging Fleet Istar AD</td>
<td>31 years In force from 21.04.2007</td>
<td>19,227,000 BGN Fixed amount of the concession payment – 12,550,561 BGN</td>
</tr>
<tr>
<td>7.</td>
<td>Port Terminal Oryahovo, part of the Lom public transport port of national significance</td>
<td>Slanchev Dar AD</td>
<td>25 years In force from 23.06.2008</td>
<td>2,400,000 BGN Fixed amount of the concession payment – 250,000 BGN</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th></th>
<th>Port Terminal</th>
<th>Company</th>
<th>Years</th>
<th>Amount (BGN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Port Terminal Somovit, part of the Ruse public transport port of national significance</td>
<td>Oktopod – COOD</td>
<td>22 years In force from 01.08.2009</td>
<td>6,445,000</td>
</tr>
<tr>
<td>9.</td>
<td>Vidin-North Port Terminal and Ferryboat Complex Vidin, part of the Vidin public transport port of national significance</td>
<td>Bulgarian River Shipping AD</td>
<td>30 years In force from 20.10.2010</td>
<td>16,039,000</td>
</tr>
<tr>
<td>10.</td>
<td>Port Terminal Rosenets, part of the Burgas public transport port of national significance</td>
<td>Lukoil Neftohim Burgas AD</td>
<td>35 years In force from 30.07.2011</td>
<td>86,447,686</td>
</tr>
<tr>
<td>11.</td>
<td>Vidin-South Port Terminal, part of the Vidin public transport port of national significance</td>
<td>TPP Svilosa AD</td>
<td>35 years In force from 06.03.2013</td>
<td>7,087,000</td>
</tr>
<tr>
<td>12.</td>
<td>Port Terminal Burgas West, part of the Burgas public transport port of national significance</td>
<td>BMF Port Burgas EAD</td>
<td>35 years In force from 08.03.2013</td>
<td>34,814,000</td>
</tr>
<tr>
<td>13.</td>
<td>Port Terminal Nikopol, part of the Ruse public transport port of national significance</td>
<td>Bulgarian River Shipping AD</td>
<td>35 years In force from 10.05.2013</td>
<td>22,437,000</td>
</tr>
<tr>
<td>14.</td>
<td>Lom Port Terminal, part of the Lom public transport port of national significance</td>
<td>Port Invest Ltd.</td>
<td>35 years In force from 06.03.2013</td>
<td>57,600</td>
</tr>
<tr>
<td>15.</td>
<td>Port Terminal Nessebar, part of the Burgas public transport port of national significance</td>
<td>Vodmar AD</td>
<td>35 years</td>
<td>2,886,000</td>
</tr>
<tr>
<td>16.</td>
<td>Plovdiv Railway Station</td>
<td>Plovdiv Railway Station EOOD</td>
<td>35 years In force from 12.03.2013</td>
<td>11,200,000</td>
</tr>
</tbody>
</table>

*Source: National Concessions Register.*

Annex 3 of the ‘Strategy for the Development of the Transport Infrastructure of the Republic of Bulgaria through concession mechanisms’ specifies the facilities of national significance with opportunities for concessions in the forthcoming programming period of the operational programme ‘Transport and Transport Infrastructure’. In 2014, preparatory activities for the concession of the following facilities were implemented:

1. Port terminals, separate units of the Varna port for public transport of national significance;
2. Port terminal ‘Ferryboat Terminal Silistra’, part of the Ruse public transport port of national significance;
3. Gorna Oryahovitsa civil airport for public use;
4. Stara Zagora Railway Station.
In 2015, preparatory activities were implemented for awarding concessions of:
1. Port Terminal Burgas East-2 part of the Burgas public transport port of national significance;
2. Port Terminal Silistra (passenger), part of the Ruse public transport port of national significance;
3. Kazanlak Central Railway Station;
4. Ruse Central Railway Station – passenger;
5. Pleven Central Railway Station.
In 2016, preparatory activities were implemented for awarding concessions of:
1. Sofia Civil Airport for Public Use;
2. Plovdiv Civil Airport for Public Use;
3. Ruse-Center Port Terminal, part of the Ruse public transport port of national significance;
4. Tutrakan Port Terminal, part of the public transport port of national significance Ruse;
5. Sofia Central Railway Station;
6. Poduyane Railway Station;
7. Gorna Oryahovitsa Railway Station;
8. Blagoevgrad Central Railway Station, and others.

The overall objective of granting transport infrastructure projects for concession or for management and operation under the conditions of PPPs can be summarized as attracting private investors in the development of transport infrastructure to optimize transport operations and services of public interest and ensuring additional funds through the use of resources, expertise and ‘know-how’ by the private sector against the obligation of the private partner to build and maintain the facility under concession or to manage the service at their own risk. In this regard, it is necessary to accelerate all activities related to the provision of administrative capacity for the development of the European instruments promoting PPPs. Currently, these instruments are not gainfully used by the Ministry of Transport, Information Technology and Communications (MTITC), which has an adverse impact on the development of public-private relationships in the industry. Representatives of MTITC point out that these instruments will be developed in the next programming period for financing transport infrastructure. On the one hand, this means limiting the financial capacity to invest in transport infrastructure, and on the other – it will lead to delayed implementation of the projects, envisaged for realization with financing from the Structural Funds and from the Connecting Europe Facility due to a low level of preparedness of the administrative capacity.

Conclusion

Public-private partnerships are becoming more and more popular in the implementation of transport infrastructure projects in the EU. The development of projects based on the use of various forms of PPPs is necessary to ensure the
maximum public benefit and the best use of their strengths. Defining risks faced by public and private sectors and assessing the level of risk in any project give grounds to make decisions on the degree of involvement of public and private partners, as well as selecting the most effective form of financing.

The various types of public-private partnerships provide alternatives in the implementation of transport infrastructure projects, thus ensuring that each partner can take a certain risk, and achieve optimum benefit to the society at the same time.

The main guidelines that should be taken into account in the preparation and implementation of projects on the construction of major transport corridors through the country under PPPs include the following:
- at the earliest possible stage of planning the transport infrastructure to identify potential risks that could affect the project, to determine their impact on the project as well as the opportunities for control;
- to make a fair transfer of risks from public to private partners, while each partner controls the risk, which they are best able to manage;
- in order to reach the optimal public-private partnership, the purposes of public authorities should be taken into account;
- increased effectiveness of control activities, strict monitoring of the obligations of public and private partners.

In order to comply with the fundamental principle of superiority of society over the individual and/or local interest, it is necessary to combine various financial schemes, mechanisms and funding sources – public and private in the construction of new transport infrastructure. Moreover, the implementation of transport infrastructure projects through PPPs is an opportunity to create conditions for using the experience and financial resources of the private sector in the implementation of innovation for infrastructure development.

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