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PUBLIC PRIVATE PARTNERSHIP AT PUBLIC TRANSPORTATION COMPANY IN MACEDONIA

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Abstract

Public private partnership - PPP in Macedonia potentially is desirable instrument but should be approached carefully within a system. The usual model used in Macedonia is concession and less or non private finance initiative. The private finance initiative requires more focus on the value for money research and risk analysis among all and building trust among potential partners as well. This paper illustrates the main elements of the PPP study prepared for the public transportation company JSP Skopje in Macedonia.

Keywords: *public private partnership, value for money, public sector comparator, public services, public transportation.*

I. NEEDS ANALYSES

Needs and goals of the study

Public Transportation Company SKOPJE - Skopje (known as JSP) is a company of public interest for the city of Skopje. The main activity is transport of passengers in the public urban and suburban areas.

According to the needs of JSP, it is necessary to start with:

- Reconstruction and standardization of the bus stops of the network lines in the city of Skopje,
- Establishment of the technical requirements for the implementation of the second phase of the implementation of automatic tracking of vehicles from the public transport and placing electronic information displays, from which passengers will be constantly and accurately informed for the time and dynamic for arriving of the buses at the bus stops, and
- Improving the aesthetic look of the City of Skopje and quality of the transportation services provided by carriers which is the goal of PPP.

The subject of PPP is financing the reconstruction and equipping of the bus stops in the city network of lines in the city of Skopje, by private partner, who will use space on the urban equipment of the bus stops and terminals planned for advertizing, for a certain period of time for its own name and own account (paragraph 3 from the decision of the Board of JSP from 02.04.2010).

In May 2010 an addition was made to the PPP contract to add 80 electronic information displays (hereafter displays) which will need to be placed in bus stops.

The goals of the study for PPP is to assess if the project:

- Is affordable for JSP, taking in consideration budget allocations for the project and possible financial resources from the private partner,
- Transfers the appropriate risk to the private partner, who is the most appropriate for managing those risks,
- Is bringing appropriate value for money - VfM, i.e. it needs to be determined if the PPP for this project will bring VfM, compared with JPS realizing the project.

Contribution of the project for the citizens of the City of Skopje

Outside of the statutory responsibilities for arranging and organizing public transportation, the following contributions would be realized from this project:

- Reconstruction and standardization of bus stops in the city networks of lines of JSP.
- Creation of technical conditions for implementation of the second phase of the project for automatic tracking of the vehicles of JSP.
- Improving the aesthetic look of the City of Skopje.
- Improving the transportation services in the City of Skopje.
- Improving the quality of life for the citizens of the City of Skopje.

Definition of public service and the output and performance indicators for the project

Public services will relate to the exercise of statutory responsibility for regulating and organizing public transport:

Financing of the reconstruction and equipping of the bus stops in the city network of lines in the City of Skopje can be realized by JSP or by private partner through PPP, which will use space from the urban equipment from the bus stops and terminals designed for advertizing for a certain period of time for its own account and name.

Scope of the project ((how this project will achieve the goals, how JSP will participate, how the private partner will participate, and opportunities for PPP)

JSP should set 329 bus stops in the area of the City of Skopje, at the locations where passengers are carried in the city network of lines for transportation.

Performances of the project are referring to the following:¹⁾

- **Commercial revenues**

Space from the urban equipment of the bus stops and displays will be used for commercial advertizing purposes.

In the project of PPP, it is expected that the private partner will fully finance the reconstruction, equipment and installation of the bus stops and 80 displays and for that will use space of the urban equipment from the bus stops and terminals designed for advertising.

- **Costs envisaged**

- ◆ Investment costs,
- ◆ Other investment costs,
- ◆ Maintenance,
- ◆ Other (depreciation, insurance, marketing, public duties),
- ◆ Financial costs.

II. SELECTION OF PPP OPTION

The private partner is expected to implement the bus stops and electronic displays. Besides that, the following will be expected:

- Increased efficiency (decreased costs in the project life cycle) because the private partner will be interested in decreasing the expenses during the realization of the project
- This will increase competitiveness for the bidding through a shorter contract with the public partner,
- Faster implementation of the project: having in mind that the installation of the bus stops is the responsibility of the private partner, the same is motivated to finish the works earlier in order to reduce the risks of prolonging the construction work,
- Creating additional revenues: it is expected that the private partner will generate commercial revenues from third parties, because it is increasing the attractiveness of the project. From the private partner it is expected that part of the revenues will be transferred to the public partner JSP,
- Improved management: by transferring the responsibilities for providing public services to the private partner, the public partner is playing the role of regulator and is focused on activities for planning, regulating and controlling, rather than the everyday providing of services.

These expectations are in fact the frame for setting the criteria for choosing the best private partner for this.

Priorities for JSP and models of PPP

Priorities for JSP with this project are:

- Reconstruction and standardization of the bus stops,
- Providing technical conditions for implementation of the second phase for the project for automatic tracking of the vehicles,
- Installation of electronic information displays,
- Improving the aesthetic look of the City of Skopje,
- Generating private capital,
- Transferring risks to the private partner,
- Encouraging innovation in the private sector.

For achieving the goals and priorities JSP has available the following PPP models:

Leasing

Within these agreements, the private partner is generating its own revenues from the infrastructure which is in public ownership, in exchange for fixed payments of installments towards the public partner and responsibilities to work and manage the infrastructure. The leasing contract is different from the management agreement because it transfers the risks to the private partner, and the ability for the private partner to generate profit is connected with the capacity to reduce operating costs for the same amount of services.

The similarity of this contract with the managerial contract is in that the responsibility for capital improvements and expansion of the infrastructure stay the responsibility of the public partner, with that in some cases the lessee can be involved in capital investment or financing in the improvements and enlargement of the infrastructure.

Usually, leasing arrangements are lasting five to ten years and are very suitable for projects in infrastructure which are generating independent revenues. THIS MODEL OF PPP CAN BE SUITABLE BECAUSE HIGHER EFFICIENCY FROM THE PRIVATE PARTNER CAN BE EXPECTED, AND THE RISKS ARE TRANSFERRED TO THE PRIVATE PARTNER.

Private Finance Initiative - PFI

Within this model, the private partner is responsible for designing and financing the construction of some infrastructure, and for administrating and maintaining the same infrastructure for the public partner, and the same is used for providing public services, mostly for education, health, social protection etc.

Because the private partner has designed and built the infrastructure project it can easily develop a program for maintenance and estimate the costs for the whole period of the contract, and can therefore also have an effect on decreasing the expenses necessary for maintenance of the infrastructure project.

The public partner pays the private partner an aggregate price for: design, construction and maintenance of the infrastructure facilities, for a pre-determined period of time. The advantage for this long-term way of budgeting, which covers the entire life cycle of the project, is perceived in the fact that a large number of subjects in the public sector are spending more money for maintenance of the infrastructure projects than in developing them.

After the duration of the contract, the ownership of the infrastructure facility is, by rule, transferred to the public partner. From design through operating to the delivery of the ownership of the infrastructure facility the agreement may extend to twenty years and more. THIS MODEL OF PPP IS SUITABLE BECAUSE IT EXPECTS THE PRIVATE PARTNER TO DESIGN AND FINANCE THE PROJECT, BUT PAYMENT FROM JSP TO THE PRIVATE PARTNER IS NOT EXPECTED

Concession

The concession model is one of the most famous and practiced models of PPP, which is characterized by the immediate connection between the private partner (concessionaire) and end users of the services. Although the private partner is "under control" of the public partner, it is the one providing and charging for the services to the end users.

In some cases it is possible for the concessionaire to pay a concession fee to the public partner for the concession rights, and in other cases, depending on the concession project, it is possible for the public partner to pay the concessionaire a fee as a settlement of loss for uncharged revenues from the end users.

In the concession model the risks for providing the public services, by the rule, lie with the concessionaire.

The concession model, especially the concession for construction, most of the time is realized through the so-called agreement for "Design-Build-Finance-Operate-Transfer - DBFOT". For the realization of these types of arrangements, most of the time the private partner is establishing a legal entity for special purpose (special purpose vehicle - SPV) in which share can have different entities from the private sector, and the public partner as well. THIS MODEL OF PPP IT IS NOT POSSIBLE, BECAUSE BY THE LAW, IN CONCESSION AGREEMENT CAN BE ENTERED ONLY BY THE CENTRAL AND/OR LOCAL GOVERNMENT.

Taking into consideration the priorities of JSP, the ownership of the infrastructure, the need for capital investment, the need for risk taking by the private partner and the duration of the contract, two models are appropriate for realization of this project through PPP:

- Leasing and
- Private Finance Initiative-PFI

In essence this model is looking for the private partner to design and finance the construction of the bus stops and installation of the displays, and to maintain the same for certain commercial revenues for a pre-defined period of time. After the time of the contract expires, the private partner will transfer the ownership to JSP.

Challenges and threats for the models of PPP for this project

According to the previous discussion, suitable models of PPP for this project are the Leasing and Private Finance Initiative - "Design-Build-Finance-Operate-Transfer - DBFOT"

Leasing

Through this model there is an indirect connection between the private partner and the end users of the public services: the private partner is setting and maintaining the bus stops on behalf and in the interest of the public partner. The risks here are transferred to the private partner, and here it is expected that the private partner will use its ability to generate a profit and at the same time reduce the operational costs for the same amount of services. The ownership of the urban equipment, for the whole period of time, is of JSP.

DBFOT

In DBFOT, the private partner is designing, financing and operating the bus stops without payments by JSP, and at the end of the PPP contract gives the possession and ownership of the bus stops to JSP.

Choosing a model for PPP

PPP model for the project

In this model, before concluding the arrangement the following should be established: indicators for success for the private partner, monitoring guidelines and quality of the reconstruction, and monitoring guidelines and quality of the maintenance in achieving the goals and quality of the public services.²⁾

Transaction costs include administration from JSP for monitoring and evaluation, and from the private partner the development of an internal system and reporting for keeping the quality on the agreed level according to the arrangement.

2) JSP should develop a system of check lists, detailed schemes for maintenance and clear targets. The private and public partner should have quarterly or semi-annual meetings. Also, it should be taken care that the administration of the monitoring and evaluation will not exceed the benefits from these operations.

In the agreed reporting from the private partner and in the meetings between the partners any penalties can be calculated if the quality and goals are not achieved.

The legal formality will be tendering process from JSP for installation and maintenance of bus stops.

Risks: Lack of interest from private partners.

Advantages: JSP doesn't have financial costs. Also, JSP will have lower costs because the design, financing and maintenance are the responsibilities of the private partner.

Weakness: due to lack of experience with PPP, JSP may have higher transactional costs for the procedure.

Leasing

The private partner is responsible for the design, financing, installation and maintenance of the urban equipment.

Through this model JSP must:

- Generate financial resources from the private sector for the installation of the bus stops through a model which is more favorable than the uncertainty of borrowing or issuing bonds,
- Transfer the risks from the reconstruction and quality of the reconstruction and maintenance to the private partner.

Although JSP already has construction calculation for placement of the bus stops, it should ask the private partner to offer alternative solutions/construction calculation if the private partner thinks that will improve the quality and decrease the costs for reconstruction.

The legal status of real estate - the locations of the equipment - remains the property of the city, while the right to use and manage for the period of validity of the contract is moved to the private partner. After the expiration of the contract, management and usage of the equipment and location will be transferred to the JSP without any compensation.

Table 9. Advantages and disadvantages of PPP models

Model	Advantages / disadvantages
Leasing	JSP is the owner of the bus stops for the entire time. The private partner is generating commercial revenues. The private partner is taking the risks of the construction work. JSP is not paying the private partner. There is no need for forming a Special Utility Vehicle. Simple agreement.
DBFOT	JSP is the owner of the bus stops In this case the private partner cannot include depreciation as an expense because the equipment is owned by JSP during the period of the agreement, so it will not mean lower costs for the private partner, and by that a lower tax base for profit tax. More complicated agreement.

Possible option

JSP should go with the tender procedure for design, financing, installation and maintenance of the urban equipment. The private partner may exercise other commercial activity. The period of time could be approximately 10 years.

Although there is already calculation for the placement of the bus stops, there should be room left for the private partner to suggest alternative construction-calculations and design.

Although the City of Skopje already has bus stops, the subject of this agreement is the placing of new bus stops. In that case it is taken that there is no existing infrastructure which will be leased. On the other hand, the arrangement through DBFOT fits more with the nature of the project which asks the private partner to design, finance, install and maintain the new urban equipment. Because of that we suggest PPP the model of DBFOT.

Motivation for the private partner

According to the form, PPP can be contractual PPP or institutional PPP:

- Contractual PPP: the partnership between the public and private sector is based only on contract
- Institutional PPP: the partnership between the public and private sector is based on their participation in mixed legal entity.

The project includes the financing, design, and installation of bus stops and displays, and the management and maintenance of the fixed assets - bus stops and the commercial business opportunities for the private partner. Given the previous discussion for the realization of the project, implementation can be made with a traditional model of public procurement or a PPP model with mobilization of private capital.

III. LEGAL STATUS OF THE REAL ESTATE - BUS STOPS

Legal status of real estate - locations with the equipment remains property of the city, while the right to use and manage it for the period of validity of the contract is transferred to the private partner. After the expiration of the contract, the management and usage of the equipment and location will be transferred to the JSP without any compensation.

Location conditions

Locations of the bus stops are determined with the Report for location of bus stops and urban equipment by streets and direction of installation. Urban equipment includes: bus stop roof, kiosks, benches, trash cans, electronic information displays and other elements. Integral parts of the urban equipment of the bus stops are advertising billboards.³⁾

IV. COST BENEFIT ANALYSIS

Cost benefit analysis is made in accordance with the EU Guidelines: *Guide to Cost-benefit Analysis of Investment Projects for ERDF, Cohesion Fund and ISPA*. The goal is to see if:

1. PPP, through the DBFOT model, is a better option than for the JSP itself to build and operate through borrowing,

Cost benefit analyses is based on the costs and benefits for the defined period of 10 years, which are expressed in monetary units -Euros- and discounted according to weighted average cost of capital (WACC) for Macedonia (see: <http://www.cea.org.mk/>).

The user in this context is JSP, which is responsible for providing public services for the citizens.

Financial analysis of the project includes the analysis of the direct costs and benefits. Economic analysis of the project includes the indirect costs and benefits.

3) Now it is being considered not to take into account the kiosk and ticket window as an integral part of the project.

Table 25. Economic assumptions used in the cost-benefit analysis.

Assumptions	Value
Life cycle of the project (approximate valuation)	10 Years
Financial discount rate -FDR ⁴	8
Economic discount rate - EDR ⁵	8

Financial internal rate of return - FIRR and financial net present value - FNPV, are used to calculate the financial yield. Economic internal rate of return - EIRR and economic net present value - ENPV are used to calculate the economic return. All planned investment costs and costs for operating and maintenance related to the project are used for the calculations. Because calculations are expressed in firm currency (the Euro), inflation is not taken into account.

The life cycle of the project is assumed to be 10 years (2011-2020). One year (2010) is envisaged for the realization of the construction work, tenders procedures, negotiations with the private partner and signing the agreement, and benefits should start in 2011. Indirect taxes (VAT), possible subsidies and transfers are not taken into account.

Appropriate corrections for externalities and risks will not be made because they are very difficult to quantify for this project, and the effects from such possible risks will be analyzed through an analysis of the sensitivity of critical variables.

Costs of investments, costs of operating and maintenance and revenues from the activities if the project is implemented by JSP

Financial analysis

Bearing in mind that JSP is responsible for transporting passengers, in this case there is no income from the public activity. However, JSP may have income from commercial activities as described for the private partner for a possible PPP.

Economic analyses

Indirect benefits could be:

- Increased quality of life for citizens,
- Improved image of JSP.

Indirect costs could be:

- Opportunity cost of usage of the land for another economic purpose.

⁴ Weighted average cost of capital (WACC) for Macedonia is estimated at 7.9 so according to the EU Guide to cost benefit analysis for investment we can use (WACC) for a financial discount rate FDR-for Macedonia for this project, i.e. FDR = 8%

⁵ Economic discount rate according to the EU guide cost benefit analysis for the EU cohesion countries is 5.5% and is higher by 0.5% points compared to the financial discount rate, and for the other EU countries is 3.5%. From here the economic discount rate-EDR, we will adopt EDR = 8%.

Table 27. Indicators for the project when it is implemented by JSP

Indicator	Value
FIRR	+45,49%
FNPV	+3,836,960 Euros
EIRR	+59,08%
ENPV	+5,171,601 Euros

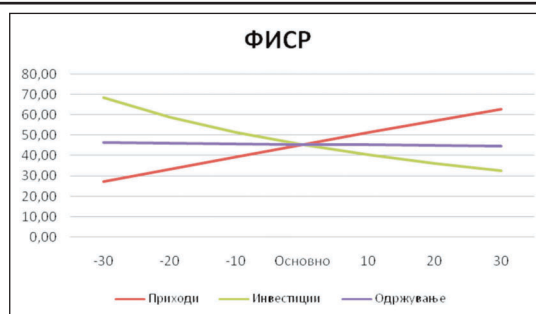
From the table we can see that the project is attractive because FIRR (45,49%) is higher from FDR (8%), and it is also attractive from an economic aspect because EIRR (59,08) is higher from EDR (8%).

From here we can conclude that the project is viable when implemented by JSP through borrowing. The problem is that the creditworthiness of JSP is not examined, and JSP cannot allocate funds from its budget for this project.

Sensitivity analysis

Sensitivity analysis is made on the financial analysis, measuring the influence to the FIRR when there is some certain percentage change in the control variables (only one control variable changes while all others remain the same). The control variables are: revenues, investment costs, maintenance costs and interest rate for credit:

Figure 4. Spider diagram of the sensitivity analysis



From figure 4, we can conclude that critical variables for the project are the amount of the investments and revenues. Ongoing maintenance is not a critical variable because of the low sensitivity for the worthiness of the project as measured through FIRR.

Switching value⁶⁾ for the investments is when they rose by more than 2,6 times, which has a very low probability. Switching value for the commercial revenue is when they will decrease by more than 58%, which also has a very low probability.

Table 28. Sensitivity from the interest rate

Interest rate	10	15	20
FIRR	45.49	41.27	36.94

The project is not sensitive on the conditions for loans, as measured by the interest rate.

6) Switching value is the value of the variable (in our case the amount of investment) in which the project NPV is zero.

From the values of the IRR, we can conclude that the project is viable and attractive for the private partner. The project is sensitive to the amount of investment and commercial revenues, but not at the required maintenance. The project is unlikely to be non-viable because the investment would need to increase by more than 2.6 times or commercial revenues to decrease by more than 58%, to be on the threshold with FIRR of 8% as a discount rate.

Cost of investments, operating costs and maintenance, and revenue from performing the activity if JSP decides to go with DBFOT PPP model

Financial analysis

Here the total envisaged revenues from the commercial activities are taken into account.

Economic analyses

Indirect benefits could be:

- Attracting private capital,
- Experience of JSP in collaboration with private partners in the area of PPP.

Indirect costs could be:

- Higher transactional costs for negotiations,
- Opportunity cost of usage of the land for another economic purpose.

V. PUBLIC SECTOR COMPARATOR - PSC AND ASSESMENT OF THE VALUE FOR MONEY -VfM

With DBFOT and involvement of the private partner, through motivation for profit, the effectiveness of the project is expected to be increased, and a higher awareness for the market developed. This is assumed through the direct commercial effect from the advertizing. Having in mind all risks which have been analyzed until now, the private partner will do everything to protect its own capital and and to use the capital effectively with adequate yields.

In order to evaluate the expected advantage by the private partner, it should be compared objectively with the situation if those assets were managed by the municipality and thus to see whether there is adequate value-for-money - VfM. This assessment helps the Public Sector Comparator - PSC, which is evaluating the costs (capital, operation and maintenance and overhead) adapted for appropriate risks if the funds are managed by the public sector.

PSC assessment should:

- Be illustrated as a net present value with a proper discount factor,
- Be based on similar projects, if possible,
- Be neutral in terms of financial advantage over ownership of the resources by any partner,
- As much as possible realistically assess the value and risks of the materials (if possible).

Assessment of the value for money - VfM

Calculation of the basic PSC

The basic PSC is calculated from the estimated construction calculation and contains.

Table 30. Costs for JSP, if it implements the project by itself or is implemented through PPP

Implement by JSP	Implemented with PPP
Salary (one employed)	
Maintenance	
Insurance	Salary
Financial costs	(surveillance and monitoring - one person)
Costs for tax	

During the period of 10 years it is obvious that JSP will have a lower cost by using PPP.

Table 30. Calculation for the Value for Money - VfM (NPV for 10 years)

	Calculation	NPV
A	Basic PSC	3,325,742
B	PSC adjusted for the risks	3,325,742
C	PPP	40,260
D	Value for money = B - C	3,285,481

The table shows that the total cumulative discounted costs if the project is implemented only by JSP are (3,325,742) higher from the total cumulative discounted costs if JSP entered in PPP (40,260). From here it turns out that PPP through DBFOT gives a good value for money for this project in the amount of 3,285,481.

Obligations for the public and private partner

Public partner:

- Removes the existing bus stops - "mushrooms"
- Owner of the bus stops, electronic information displays and the land
- Provides map for the locations
- Prescribes standards (through the City of Skopje)
- Provides a program for the installations of the bus stops (through the City of Skopje)
- Determines property-legal relations
- Defines dynamics and order of setting stops and electronic information displays
- Implements a procedure for awarding a contract for public-private partnership

Private partner:

- Rights of usage
- Provides power agreement and connection to the electricity network
- Prepares design solution
- Designs, produces, installs, and maintains bus stops and electronic information displays

- Provides appropriate dynamics for the installation of the bus stops and electronic information displays
- Pays PPP compensation to JSP

Criteria for selecting the best bid and award the contract for PPPs will be:

- The duration of the PPP contract (a private partner / supplier who offers a shorter life of the contract will have an advantage)
- Design of the bus stops
- The period of time for installation of the bus stops
- The PPP compensation that the private partner will pay to JSP