

Economic mechanisms of public-private partnership in transport construction

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Abstract. A whole complex of transport networks is needed for the quality functioning of the entire economic system of the country: railways, highways, river communications, ports, airports, train stations, etc. The Russian transport framework is based on a network of railways as a rule with radial structure. The country's Federal highway network has not yet been formed, even in the form of a radial structure, and chord lines are almost not developed. The creation, development, and operation of transport infrastructure — roads, bridges, tunnels, ports, airports — has historically been considered the exclusive prerogative of the state. However, the situation has changed in recent decades. With the growth of requirements to the quality of infrastructure in the context of economic development, the budget deficit and organizational shortcomings that are objectively inherent in the system of public administration are increasingly affected. However, attempts to apply full privatization in this sector are usually unsuccessful, since private owners act solely in the interests of profit, without caring about maintaining the public orientation of the privatized enterprises. For this reason, the mechanisms of public-private partnership, which is an "intermediate" solution between completely public provision of services and full privatization, are becoming more and more common in the world practice. Public-private partnership reflects the growing trend in the global economy of the counter movement of the state and the private sector and is successfully applied not only in transport, but also in energy supply, water supply, public utilities and other areas.

1. Introduction

According to the length of Railways, Russia moved to third place (85.2 thousand km), passing ahead of China (103.14 thousand km). The United States remains in first place (224.8 thousand km). According to the density of railways and roads per 1000 km² of territory, Russia is far behind in the ranking of the top 25 countries in this indicator: by rail – 23rd place (5 km per 1000 km²); by road – 24th place (46.4 km per 1000 km²).

The problem of transport infrastructure is a bottleneck in the development of the country's economy. Without sufficient transport links between regions and within regions, it is impossible to implement effective management and implement policies that stimulate economic development. In the context of the crisis, the sanctions war, transport construction can become a driver of the country's economic growth. Private capital can and should come to the aid of the state in implementing investment projects for the development of transport infrastructure. With its use, it is possible to design, construct and maintain projects. Cooperation between the state and business is called public-private partnership (PPP).



However, in transport construction, there are no methodological recommendations on the procedure for consideration and selection of investment projects for the development of transport infrastructure based on PPP, and the specifics of calculating economic indicators of the effectiveness of investment projects carried out using PPP mechanisms are not defined.

For the purposes of the study the domestic and foreign scholars in economics and management of transport construction were examined: Akitobi B., Varnavsky V. G., Varnavsky V. G., Efimova L. I., Yuzvovich L.I., Kyrtoke M.P., J. N. Aksenova-Sorokhtei, E. A. Baranovskaya, M. Riekkinen, Khachaturyan A , Klinovskiy A., Musaev E.T. [1-9]. The authors also paid attention to the issues of attracting private investment to finance public projects, including the sphere of transport construction [10-13].

2. Materials and Methods

The authors set the goal of the study an economic substantiation for the use of PPP mechanisms in transport construction. The following directions were used to achieve this goal:

- analysis of the legal framework of PPP in Russia;
- research and generalization of the experience of the development centers of the institute of PPP;
- analysis of transport infrastructure development projects based on PPP;
- improvement of the methodology for evaluating budget efficiency in state co-financing of transport construction investment projects based on PPP;
- research on the possibility of stimulating private businesses to participate in transport construction investment projects based on PPP.

3. Results

Transport is the most important component of the Russian Federation's production infrastructure. Its sustainable and effective functioning is a necessary condition for high economic growth, integrity, national security, and defense, improving quality of life and quality of transport services as well as harmonious integration of Russia into the world economy. One of the effective ways to ensure the development of quality characteristics of the transport industry is to attract private capital to finance and manage facilities, but not through privatization, but on a contractual basis, through the implementation of infrastructure projects of partnership between the state and the private sector. We need methods for developing transport infrastructure development projects, determining the necessary investment resources, developing competitive infrastructure, and attracting non-state investment resources, and developing mechanisms for interaction between the state and the private sector. The main tool for attracting extra-budgetary investments to major infrastructure projects is the institute of PPP.

The importance of PPP mechanisms is especially great for the effective functioning of transport infrastructure using all transport schemes involving several modes of transport. The railway is priority, as it plays an exceptional role in creating conditions for modernization, transition to an innovative path of development and sustainable growth of the national economy, contributes to the creation of conditions for ensuring Russia's leadership in the world economic system [14-15].

This way of developing the transport industry requires the development of major projects on a national scale. With their help, it is possible to improve the quality and increase the volume of the transportation.

The tasks that are set for the state in the development of the transport sector of the economy can be successfully solved through the implementation of infrastructure projects, which require money. As a rule, it is investment resources, usually either from the state or through private financing. Table 1 shows the indicators of investment in fixed assets [16].

Table 1. Investments in fixed assets by the type of economic activity "Transport" for 2016.

	Billion rubles	A percentage of the previous year
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Transport, total	2063.6	103.0
from it by type of activity:		
Railway transport	358.5	97.3
Automobile (bus) passenger transport	18.1	148.2
Urban electric transport	136.4	155.4
Road freight transport	22.2	100.8
Pipeline transportation	663.0	87.1
Sea transport	13.2	370.0
Inland water transport	5.5	187.0
Air and space transport	44.1	69.3

Table 2 contains information on budget financing of the transport sector.

Table 2. Expenses of the consolidated budget of the Russian Federation for transport development, million rubles.

	Consolidated budget	Federal budget	Consolidated budgets of constituent entities of the Russian Federation
2015	664992	304980	208299
2016	693713	296892	161480
2017	825831	283445	400544

Today, the Russian public-private partnership market has 3.601 projects at various stages of implementation with a total volume of attracted total investments of 3.9 billion rubles, of which 2.8 billion rubles are funds of private investors. In 2019, more than 200 large and medium-sized projects were commercially closed, which attracted about 600 billion rubles of total investment, including more than 450 billion rubles of private funds. The state and business establish transport links. In the road sector, the largest was the concessionary agreement for the construction of the bypass Tolyatti with a bridge crossing over the river Volga, signed in October 2019 by the government of the Samara region and the partnership "Obkhod Tolyatti Concession company" (its participants are "Infra-KAP" LLC(75%) and "Avtodor-Toll Roads" LLC (25%, a subsidiary of the state company "Avtodor"). The project is a part of the international transport corridor "Europe –Western China" and is included in the comprehensive plan for the modernization and expansion of the main infrastructure until 2024. The construction cost is estimated at 121 billion rubles: 67 billion rubles is the capital grant made up of Federal budget funds. 54 billion rubles are planned to be raised from non-budgetary sources. In June 2019, "VIS Group" and the Kaliningrad region signed a concession for the construction of a bridge across the Kaliningrad Bay. The preliminary cost of construction of the facility will be about 35 billion rubles, the Group's investment will be about 15 billion rubles of its own and borrowed funds, the remaining part is expected to be attracted in the form of budget financing. In the field of public transport development, Smolny and "Balt Nedvizhservis" LLC launched a concession to create the Kupchino –Shushary – Slavyanka tram network. The volume of private investment in the project will be at least 25.9 billion rubles. In St. Petersburg, there is already a successful practice to create a concession tram "Chizhik" in the Krasnogvardeysky district, which is currently being successfully operated. In the Nizhny Novgorod region, the hangar of the Proletarskoe electric depot was transferred to the concession of "Sberbank Leasing" JSC for servicing and repairing subway cars worth 1.2 billion rubles. Projects in the railway infrastructure started this year in the construction of non-public roads and providing access roads for residents of special economic zones. Thus, at its own expense, JSC "Russian Railways" organizes railway tracks to the station Lyudinovo-1 of the Moscow railway in the Kaluga region (655.1 million rubles) and Tolyatti in the Samara Region (1.1 billion rubles).

An infrastructure project is an object of infrastructure that is implemented at the expense of capital investments of the state and/or major organizations in the form of investment resources.

During the implementation of an infrastructure project, investments are gradually returned with a certain return, but they do not receive proper development, and there is a lack of additional funding for such projects. To solve this problem, it is necessary to attract additional private financing from the funds of private businesses.

Cooperation between the state and private investors will be beneficial for both sides. On the one hand, the state needs funding, as well as the knowledge and experience of the private sector to improve or replace aging infrastructure. On the other hand, investors benefit from such cooperation, because of which they receive stable returns on investment in infrastructure for a long period of time [17].

Figure 1 shows the distribution of the number of public-private partnership projects by infrastructure, and figure 2 shows the volume of investment in 2019.

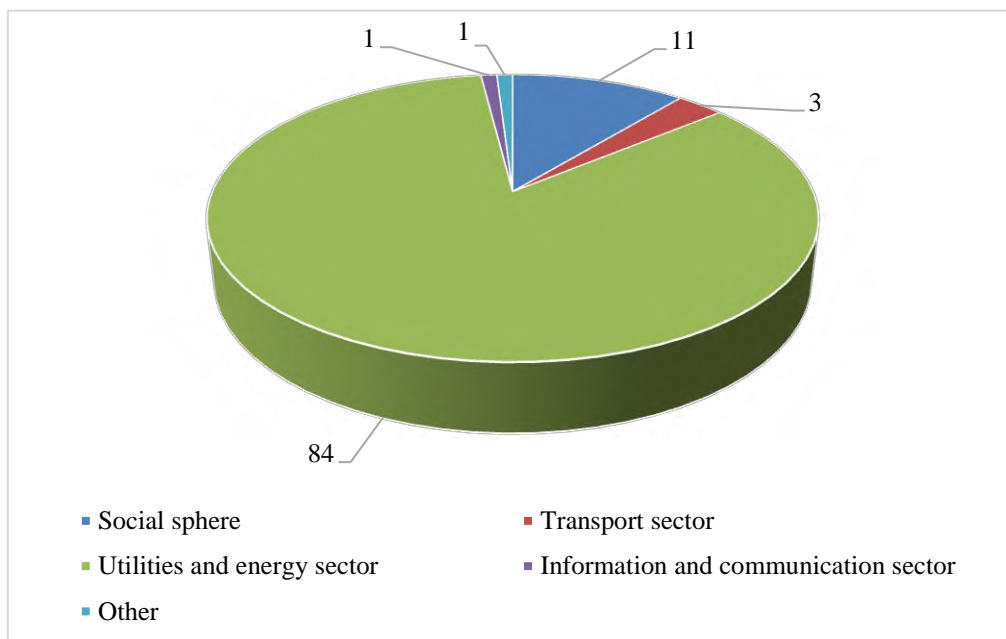


Figure 1. Distribution of the number of public-private partnership projects by infrastructure in 2019, billion rubles.

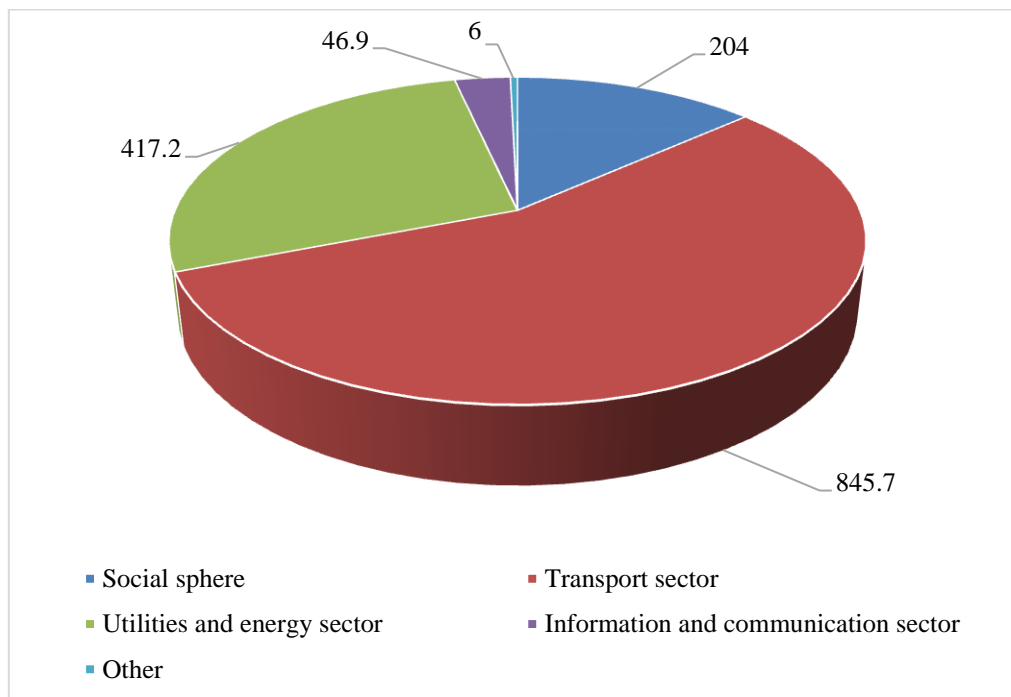


Figure 2. Distribution of public-private partnership investment by infrastructure sectors in 2019.

4. Discussion

Modernization and development of transport infrastructure are vital for our country. Although there is a General lack of investment, the infrastructure component remains one of the most in need of investment.

According to experts, it is necessary to invest about 20-25 billion dollars annually in the transport industry alone. Today, this figure does not exceed 10-12 billion dollars. The infrastructure of all countries of the world requires billions of dollars of investment. The state in all countries assumes the implementation of infrastructure changes with the involvement of the private sector.

In Russia, the issues of maintaining and developing infrastructure are no less acute.

It should be noted that the mechanism of public-private partnership should be attractive to both parties - the state and the private investor - in terms of regulating interaction and mutual benefits.

The implementation of public-private partnership goes through the following stages:

1. Primary coordination of interests of the state and private investor.
2. Fixing priorities in an infrastructure project, which should be strategic in nature, have a long term (at least 5 years) and should not change dramatically during implementation. It should clearly set the time frame for implementation, the amount of funding, and the responsible authorities. It should be supported by several legislative acts.
3. Coordination of interests in choosing the form of public-private partnership in the implementation of an infrastructure project in full compliance with all legislative acts.
4. Implementation of the infrastructure project considering the chosen form of public-private partnership and in accordance with the supported legislative acts.

Such a mechanism for implementing infrastructure projects through the proposed public-private partnership scheme provides the following advantages:

1. Coordination of the interests of the state and private investors, which occurs at the initial stage of forming program documents.
2. The objectives of the infrastructure project are clearly defined.
3. All stages of implementation are clearly stipulated by law.

4. The system is aimed at protecting the interests of the state and private investors in each specific infrastructure project, regardless of the choice of the form of public-private partnership.

The implementation of the proposed public-private partnership scheme will allow solving several priority tasks:

- to increase the efficiency of interaction between the state and private investors;
- to increase the efficiency of using public resources;
- to increase the investment attractiveness of the industry infrastructure of the Russian economy.

5. Conclusions

As a result of the use of public-private partnership, the state gets the opportunity:

- to attract additional private investment in areas that have traditionally been exclusively budget-funded;
- to focus on the administrative functions that are most typical for public authorities, leaving the private partner with the issues of working in the market;
- to attract the best management personnel, equipment, and technologies from the private sector;
- to share costs and risks with a private partner;
- to increase efficiency, reduce project implementation time and improve the quality of end-user services due to the market orientation and experience of the private partner.

Private capital, in turn, receives the following advantages:

- the possibility of entering the sector of public services for which there is a steady demand;
- the participation in projects that would not be attractive for investment without public partnership;
- sharing costs and risks with the state;
- state guarantees of minimum profitability of the project and return of invested funds, as well as partial or full return of invested funds in case of unsuccessful implementation of the project.

The principal feature of public-private partnership is that infrastructure facilities — including newly created ones — are preserved in state ownership and are guaranteed to be used for their public purpose. The state also has full control over the quality, volume of services and prices.

An important point is the optimal distribution of risks between the parties. The main part of technical, production and market risks associated with the project is usually assigned to the private partner, while political, legal, and macroeconomic risks are assumed by the state.

Projects based on public-private partnerships are quite complex in their organization. In addition to a government Agency and a private partner (sometimes there are several of them), banks, insurance companies, regional governments, and international organizations can participate in such projects.

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