

PRINCIPLES FOR ASSESSING THE INVESTMENT ATTRACTIVENESS OF INFRASTRUCTURE PROJECTS

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ABSTRACT

To attract private investment in the innovative development of the transport system, the researchers believe, it is necessary to improve the methodological basis for assessing the investment attractiveness of capital projects. The article considers the principles

that, in the opinion of the authors, should be guided in solving the related problems, and first of all those of them that relate to the infrastructure sphere, transparency and formalization of economic results, payback of financial investments from the state and business.

Keywords: economy, innovative project, transport infrastructure, evaluation principle, investment attractiveness.

Background. The decisive vector of development of the national transport system, as envisaged by the innovative scenario in the transport strategy of the Russian Federation, is known to be the increase in speed of transportation. In addition to optimizing logistics chains and business processes, investment projects related to modernization of transport infrastructure are largely aimed at solving this task.

Acceleration of the transportation process will reduce the costs of economic agents, including in the sphere of container transportation, and as a consequence reduce the share of transportation costs in the cost of goods. This share now in the country is on average 15–20 %, whereas abroad, most often – 7–8 % [1], which reduces the competitiveness of

transport services provided within the territory of Russia.

A special role in the strategic plan is given to the use of the possibilities of new non-traditional modes of transport, including string and magnetic levitation, which allows to increase the speed of traffic in multiple ways, unlike the conventional railway, using the well-known wheel-rail technology, which has speed limits from the position of safety and transmission of electric power for traction at speeds in excess of 300 km/h. At the same time, these projects are characterized by a high level of aggregate risk due to their innovativeness (radicality).

Of course, investment risks must be comprehensively calculated by specialists, it is important to have reliable means of analysis and

Table 1

The main ways to achieve the objectives of the stakeholders of the innovative transport infrastructure project

Stakeholder	Main objectives	Main ways to achieve objectives
State	Economic growth, social stability, security, environmental-friendliness	Increase in carrying capacity, increase in transit freight traffic on the territory of the Russian Federation, increase in revenues from export of transport services
Transport enterprises	Growth of transportation volumes, decrease in transaction costs, increase in profit, business cost	Optimization of delivery route, increase in freight capacity, speed of delivery
Clients	Reduction of delivery time, decrease in the cost of transportation	Increase in the speed of delivery, reduction of loading and unloading time, multimodality, reduction of the transport component in the cost of goods
Customs points	Increase in speed and volumes of cargo clearance	Expanding the use of electronic technologies
Transport-logistics centers	Growth of transshipment volumes, maximization of loading, increase in profits	Expansion of the range of services rendered in transport and logistics centers, growth of container traffic, reduction of loading and unloading time
Population	Getting high-quality transport services, improving the environmental situation	Improving the technical characteristics of transport, reducing noise, vibration, etc., improving safety
Public organizations	Increasing the prestige of organizations	Promotion of innovation projects
Investors	Making a profit, increasing the shareholder value of the business	Participating in project management

Table 2

Interrelation of the principles of perspective and compliance in assessing the investment attractiveness of innovative transport infrastructure projects

Interrelation of the principles of perspective and compliance.	Measures	Restrictions
Compliance is present, perspective is absent	a) not to implement the project; b) to implement in case the life cycle of the project is within the time frame of perspective	in case b) – with a positive assessment of its socio-economic efficiency
Compliance is present, perspective e is present	Project implementation	in case of a positive assessment of its socio-economic efficiency
Compliance is absent, perspective is present	a) active dissemination of information about the project, initialization of changes in the priority list; b) transfer of project implementation to a later date	in case of significant socio-economic effect of the project

forecasting, constant improvement of the methodological bases for assessing the investment attractiveness of innovation projects.

As a result of the study of the points of view of various authors in the field of the methodology of investment analysis, management, and transport economics, we summarized the basic principles that have been developed and supplemented with regard to the assessment of the investment attractiveness of innovative transport infrastructure projects [3–8].

Objective. The objective of the authors is to consider principles for assessing the investment attractiveness of infrastructure projects.

Methods. The authors use general scientific methods, comparative analysis, evaluation approach.

Results.

The principle of the existence of a limiting condition focuses on the use, when assessing the investment attractiveness of innovative transport infrastructure projects, the so-called «cutting off» criteria.

For example, if the novelty of the project does not correspond to the international level, and the level of scientific and technical significance – to the pioneer one, the innovative project cannot be considered and should be rejected.

When determining the values of criteria for assessing the international level and the level of scientific and technical importance, one should be guided by world indicators in order to confirm the fact that the project implementation will ensure the competitiveness of the national transport system.

The hierarchy principle presupposes a multi-level system of criteria for assessing the investment attractiveness of innovative transport infrastructure projects.

The principle of balanced evaluation makes it necessary to take into account all relevant criteria.

For example, when being consistent with all economic requirements, but the negative impact on the environment and the possible significant deterioration of the environmental situation – an innovative transport infrastructure project should not be adopted in the presented version and must be sent for revision.

The principle of ensuring long-term stable growth of the investor's (owner, shareholder) welfare – of course, investments in transport capital

projects are distinguished by long payback periods. At the same time, these projects, unlike projects of other industries, are able to generate positive net cash flow for many years from the time of recoupment of investment costs due to the long useful lives of fixed assets, i.e. can bring a stable income for a long time. Moreover, the life cycle of an innovative transport infrastructure project on average much exceeds the life cycle of many other projects (5–7 times), for example, in the consumer sector.

The principle of dynamism of evaluation means the expediency of periodically adjusting the values of the criteria, a possible change in the list of criteria, based on a probable goal adjustment.

The principle of the predominance of the significance of the social and indirect economic effect over the direct economic effect means that in assessing the integrated effect from the implementation of the innovative project of transport infrastructure, the indicators of social and indirect economic effect have the largest share. So, the assessment of only the direct economic effect of such projects does not fully allow us to assess their investment attractiveness.

For example, according to experts, in the project of HSR «Moscow–Kazan» more than 370 000 jobs in various sectors of the economy will be created at the construction stage (120 thousand of them in the regions where the route passes). At the stage of operation, there will be created 5600 jobs directly associated with transportation on HSR and 37000 jobs in related industries. The growth of employment will lead to higher incomes of the population, higher solvency, an increase in potential demand for products of other industries, an increase in the gross regional product and the country's GDP [9].

In this regard, it is advisable to consider transport infrastructure projects as complementary to related projects that represent potential investment opportunities and can provide the investor with a basic income (for example, he invests resources in the HSR project and the hotel complex that will bring the main direct economic effect, but he himself, without a constructed HSR, of course, could not achieve high «occupancy» of the hotel.

The principle of proactivity involves taking into account in the evaluation of innovative transport



infrastructure projects the a priori of advanced development of transport in comparison with other branches of the economy, its role in creating reserves for economic growth.

The principle of convergence of different types of transport is based on the fact that an innovative transport infrastructure project will sometimes require investment in vehicles, facilities at loading / unloading points, which can be viewed as a separate project. In connection with this, it is proposed to evaluate similar projects as economically dependent (complementary).

The principle of taking into account the interests of stakeholders – requirements, expectations of stakeholders, formalized in the form of various indicators, criteria. In this case, it is necessary to ensure the balance of the objectives of the stakeholders. For example, when determining the discount rate of cash flows through the WACC indicator, it is possible to provide for risk premium calculation for different stakeholders of the project.

The main ways to achieve the objectives of stakeholders are presented in Table 1.

The principle of flexibility – the possibility of making changes in the methodology for assessing the investment attractiveness of innovative transport infrastructure projects in connection with the specifics of a specific project.

The principle of differentiation – the use of private modules reflecting various directions of the development of the transport system in the evaluation of the investment attractiveness of transport infrastructure projects.

The principle of the project's perspective – an innovative transport infrastructure project is designed to remain relevant for the long term, to meet the vector of development of scientific and technological progress.

The principle of compliance with national priorities for the development of the industry – an innovative project should fully meet the targets of the country's transport strategy (for example, to provide for the design and construction of railway infrastructure facilities for speeds of over 400 km/h).

It should be noted that there is a relationship between the principles of perspective and compliance (Table 2). So, the project can be subordinated to the state program, but not be relevant in the long term, and can combine both.

The principle of transparency of the evaluation means the presence of an assessment map with the calculation of the integral indicator, as well as the project passport, which contains summary information and evaluation results on various aspects. It is important to ensure transparency in assessing investment attractiveness at all stages of the life cycle of the project. This reduces the probability for the investor to risk, which means that it increases the probability of ultimate success.

The principle of formalizing the results of evaluating investment attractiveness involves the use of certain document-forming forms, templates, project passports.

At the same time, it should be borne in mind that the development of such forms by the expert commission, the definition of the algorithm of the assessment process, make it possible to more confidently implement the principle of transparency.

Conclusion. The principles mentioned in the article form the basis of the author's methodical approach and the content of the economic model for assessing the investment attractiveness of innovative transport infrastructure projects. The advantage of using them is the ability to take into account the interests of all stakeholders, the specific nature of a particular project when assessing its investment attractiveness, and provide a fairly complete picture of the initial data when investors make strategic decisions, taking into account the projected cumulative effect of a large-scale, state-significant program.

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