

# Structure of the Scientific-Methodical Support of Realization of Infrastructure Concession Projects

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**Abstract:** Article considers the problem of the theoretical and scientific-practical ensure of the realization of the concession projects in the infrastructure sector. Structure of scientific-methodological ensure of realization of the projects of the infrastructure concession and assessment of the criteria of condition of this ensure in the different branches and industries is presented on the basis of systematization of the native and foreign experience. Results of approbation of the offered method which are applicable to the units of housing and utilities infrastructure and road infrastructure in Russia are presented. Realization of method allows to assess the current condition and suggest ways of further development of scientific-methodical support of infrastructure concession projects.

## 1 Introduction

In conditions of growing financial instability and uncertainty in the development of the Russian economy various forms of interaction between government and business obtain particular importance in the course of realization of the important, from the social point of view, projects. Historically concession is one of the forms of partnership between governmental and business sector in such projects in Russia [1, 2].

The process of implementation of the concession activity affects the interests of many actors: state, investors, businesses-structures, financial and credit institutions, insurance companies, investment funds, research institutions and society as a whole. Necessity to consider interests of all stakeholders complicates the procedure of their interaction and creates potential conditions for the occurrence of systemic problems in process of realization of the infrastructure concession projects. In unstable economic situation, not only this reduces the efficiency of a particular project, but also can cause negative macroeconomic and social implications.

It should be noted that in recent years the mechanism of concession in Russia got enough widespread practical use in some areas, but many questions in the scientific and methodological aspects remain unexplored. Further increase in efficiency and widespread in various sectors requires a systematic approach to procedures for the concession activity and general methodological ensure of this mechanism.

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## 2 Methods

Despite the fact that the mechanism of concessions in Russia evolves more than decade at the present stage, it should be recognized that to date it failed to generate the necessary theoretical and methodological basis for development of this institution. For creation of effective system of infrastructure concession, according to the authors, should be formed scientific-methodological support for the basic directions - table 1.

**Table 1.** Scientific and methodological support of infrastructure concession

<b>Direction</b>	<b>Main conceptual questions</b>
Basic scientific support	Clarification of the essence of the categories: concession, grantor, concessionaire, concession agreement (contract); objects of concession, actors of concession, concession project.
Mechanisms of realization of concession projects	Financing of concession projects; possible mechanisms for distribution of incomes between the grantor and concessionaire during realization of the concession project; determination of the lead time of the concession project; state support mechanisms; mechanisms of financing of concession projects; risk-sharing mechanisms of concession projects; feasibility study of concession projects; mechanisms of state expertise and independent examination of concession projects; order of formation and approval of tariffs (prices, fees) for goods (works, services); terms of size of investments, time limits, funding sources and conditions of the concession project; distribution of risks between the parties; activities (work (services) performed (provided) under the terms of the concession contract).
Basic principles for granting concessions	Openness and transparency of the activities of the grantor and concessionaire; ensure of balance of the economic parameters of the project; consideration of rights and legal interests of consumers of goods (work, services) provided by the concessionaire as the result of the project realization; free competition and non-discrimination, equality of all potential concessionaires; competitive selection of concessionaires; non-interference in economic activities of the concessionaire, except for parameters, which were specified in the contract; compliance with the existing legislation by the concessionaire in the sphere of labour protection, environmental protection, ecological and sanitary safety; ensuring the release of products and services on appropriate standards and regulations in the field of quality.
State regulation in the sphere of infrastructure concessions	Powers of the various authorities; state authorities, acting on behalf of the state as the grantor; state authorities, which are authorized for legislative regulation of the practice of the concession; government agency for planning the development of the concession mechanism in various sectors and fields of activity; other regulatory and supervisory state bodies; basic rights and responsibilities of the main participants in the concession mechanism.

Mechanism of the concessionaire selection	Methods of competitive selection of the concessionaire (open competition, closed competition, selection of the concessionaire without holding of the tender procedures); arrangements for competitive selection, recognition that the competition is failed, stages of tender procedures; competition jury; criteria for the selection of winners; tender documentation requirements, requirements for participants of competitions.
Regulatory support of the realization of concession projects	Availability of complete and grasping all of the most important aspects of the realization of the concessions in the field of legal framework infrastructure.
Objects of concession and industries in which concession projects can be realized	Procedure for the selection of the concession objects; identification of priority sectors and spheres of activity for realization of the concession projects, ways of creating of the concession objects; features of operation of the concession objects; ownership of the object of the concession at the various stages of project implementation.
Informational support of the concession mechanism	Information on the main directions of the state policy in the field of concessions; availability of information on the planned tenders, tender documentation, results of tender procedures; information on concession projects, which are on the stage of realization and completed projects; mechanisms for providing information; efficiency and transparency of information.
Special provision of the concession mechanism	Order of change, termination and cancellation of the concession contract; possible actions after the end of the concession agreement; Criteria for inclusion of concession projects in the category of projects of special importance; advisory support for concession projects.

Given structure of scientific and methodological support of the concession mechanism is based on the study and systematization of national [2,3] and foreign experience [6, 7, 8], legislation and scientific developments in the field of concessions. Within the generalization of foreign experience there were considered both countries with rich history and practical experience in realization of such projects of infrastructure concession and countries which relatively recently begun to realize such projects (in particular the experience of the CIS countries was studied). It should be noted that in every country where concession mechanism is applied, it has its own characteristics, which are determined by many factors: historical, political, economic, and cultural peculiarities; circumstances under which the concession mechanism starts to take root; objectives that are set in front of it. In many respects concession institutions, which were formed in developed countries passed a long evolution way of formation, what can't be said about native realities, when the modern stage of development of the concession mechanism is made up only one decade.

### 3 Results

Concessions are applied in different branches of economy and gain its own specific, which is not fully investigated. This is one reason why concession projects are not widespread in a number of fields of activity in Russia. In accordance with the Federal law, objects of concession agreement in Russia might be the next infrastructure [4]: road infrastructure;

railway transport objects; pipeline transportation objects; sea and river ports; river-marine vessels; air transport facilities; facilities for the production, transmission and distribution of electricity and thermal energy; systems of communal infrastructure and other communal facilities

On the basis of the structure of scientific-methodical ensuring, proposed by the authors, its viable to assess formed conditions for realization of concession practice in different industries and occupations. Its proposed to determine the sufficiency of scientific-methodological support of the designed process and appropriate conditions for its realization with expert method on the basis of table 2.

**Table 2.** Graduation of assessments of the condition of scientific-methodological support of infrastructure concession projects in industries and occupations

Value, points	Characteristics of condition of the scientific and methodological support
1	Scientific and methodological support is not sufficiently developed and is an obstacle for the development of the concession mechanism
2	Scientific-methodical maintenance covers essential aspects, but contains serious imperfections
3	Scientific-methodical maintenance is fully developed, but it has some imperfections, which are not critical
4	Scientific-methodical maintenance is fully developed and creates favorable conditions for development of the concession mechanism

On the basis of the proposed approach authors made the expert assessment of the completeness and adequacy of the formed scientific-methodical maintenance for road infrastructure and communal services as priority directions of development of infrastructure concession institute for Russia at the present stage. Results are presented in the table 3.

**Table 3.** Assessment of scientific-methodological support of infrastructure concession for housing and utilities and road infrastructure

Direction	Objects of the road infrastructure	Systems of communal infrastructure and other objects of the communal services
Basic scientific support	3	3
Mechanisms of realization of concession projects	2	3
Basic principles for granting concessions	2	3
State regulation in the sphere of infrastructure concessions	4	4
Mechanism of the concessionaire selection	1	3
Regulatory support of the realization of concession projects	3	3
Objects of concession and industries in which concession projects can be realized	3	3
Informational support of the concession mechanism	1	3
Special provision of the concession mechanism	2	3
<b>Composite indicator of level of the scientific-methodical support based on the arithmetical mean</b>	<b>2.3</b>	<b>3.1</b>

It should be noted that during the assessment it was considered, that there is universal scientific-methodical maintenance relating to the concession Institute and covering all the diversity of infrastructure objects. With that scale of implementation of concession projects in specific fields and economic complexes depends on the specialist maintenance.

On the basis of received data it can be seen that for communal facilities in Russia formed much more favorable conditions for the development of the concession mechanism (the value of the complex index of scientific-methodological maintenance level was 3.1) than for road infrastructure (value of the complex indicator of the scientific-methodical maintenance level amounted 2.3). Particularly it confirmed by the large-scale realization of infrastructural projects concession in the field of Housing and Utility Infrastructure during the last years and the activity, which was developed by the central and local government in this direction. Researches showed that improvement of the concession agreements in the fields of Housing and Utility Infrastructure can be provided at the expense of creation of regional regulatory and procedural basis, which governs the procedure for the provision of communal services and relationships between the actors of this market.

Process of implementation of the concession mechanism passes quite difficult in the road infrastructure.

After adoption of the Russian Federal Law "On Concession Agreements" [4] the first projects based on the of the concession mechanism of the road infrastructure, in general, were unsuccessful. Contracting process was very difficult, there were constant negotiations and finalizations. Currently, texts of the concession agreements are not available in the open access. The same applies to the currently implemented projects of "Western High-speed Diameter" (ZSD) and charging system "Platon". Among the defects of the concession machinery development in the road infrastructure there should be noted the opacity of closed competitions, information on projects, absence of publicly available texts of concession agreements, etc. As a result, researches show that the created current conditions don't allow to realize the sufficient number of projects in the road infrastructure in sufficient quantity. Housing and communal services, on the other hand, showed positive trend in relation to the implementation of the concession mechanism during the recent years. It resulted in both growth in the number of scientific publications, and adoption of regulations on the most important aspects of the realization of concession projects for different types of objects [5]. In particular, it creates base for development of the long-term tariff policy that allows to form the financial-economic model, which is the key element of feasibility study of concession projects on the high-level.

## **4 Discussion**

As a result of the application of the proposed methodological approach there appeared the possibility to assess the current level of development of theoretical and methodological maintenance of infrastructure concession projects realization in different industries and occupations. Assessment of completeness and adequacy of the formed base in respect of road and housing and communal field allowed to identify the imperfections and "narrow" places, that can become the basis of improvement of the procedure of realization projects and assessment of their effectiveness.

## **5 Conclusion**

Realization of the proposed approaches, with consideration of specifics of national economy branches and complexes allows to eliminate the imbalance in the scientific-methodological maintenance of the concession mechanism in the different infrastructure branches. Using the proposed approach, it's possible to assess the existing level of providing the main directions of application of the concession mechanism in Russia: sport objects [9, 10], public transport[11], objects of the social sphere and other important economic complexes.

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