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The transport relationship of the Arctic with the Far East, Siberia and the Urals and the issues of socio-economic development of territories

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Abstracts. The article considers current issues of development of modern Russia. A goal for increasing the volume of cargo transportation along the Northern Sea Route to the level of 80 million tons by 2024 from the current level of 10 million tons was announced within the framework of the national projects system. And in the horizon of 2030, it is planned to increase the transit of goods in the Eastern direction to the volume of 110-120 million tons. This is a huge challenge as it requires complex solutions related to the development and involvement of cargo bases, improving economic relations, building infrastructure in difficult northern conditions, forming an icebreaker and tanker fleet, adjustment maintaining and servicing mechanisms for the Northern Sea Route, as well as stabilizing the demographic situation in the Arctic and ensuring living and working conditions there. The limited time frame for achieving the aim require increased efficiency and coordination of the work of all levels of public administration. Aspects of improving the system of state planning and management, organization of interactions between the state, business and the population are considered. The possible effects of the implementation of transport projects, problems in the development of the Arctic are evaluated.

1. Introduction

A goal for increasing the volume of cargo transportation along the Northern Sea Route to the level of 80 million tons by 2024 from the current level of 10 million tons was announced [25] within the framework of the national projects system [15]. And in the horizon of 2030, it is planned to increase the transit of goods in the Eastern direction to the volume of 110-120 million tons. Most of the development tasks of the Northern Sea Route will be implemented through the National project of the creation of the main infrastructure [18]. This is a huge challenge as it requires complex solutions related to the development and involvement of cargo bases, improving economic relations, building infrastructure in difficult northern conditions, forming an icebreaker and tanker fleet, adjustment maintaining and servicing mechanisms for the Northern Sea Route, as well as stabilizing the demographic situation in the Arctic and ensuring living and working conditions there. In addition, the limited time frame for achieving the aim, the scale and complexity of the solutions require increased efficiency and coordination of the work of all levels of public administration.

2. National project Complex plan of the main infrastructure development

The national project "Comprehensive plan for the modernization and development of trunk infrastructure" (Comprehensive Plan) [18] is designed to expand Russia's competitive capabilities and allow the country to move to a new technological level in conditions of limited resources. In scientific discourse discussion of the Comprehensive Plan developed in three directions:



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2.1. The state creates conditions and forms a request.

The share of this project in the total funding of national projects is 20%, this is not only significant opportunities, but also a great responsibility, within the framework of 9 federal programs included in the National project, a transport framework of the country will be formed allowing the infrastructure to become another growth driver of the entire economy [14]. All Federal programs included in it are ranked according to the degree of importance, based on the methodology developed by the Analytical center under the government of the Russian Federation. It is planned to switch to integrated transport management, which includes the regulation of many parameters such as the request of a train, wait time of the passenger or cargo, possible transport congestions. When implementing the project, the Federal authorities count on support from the region authorities and businesses. For the regions open hearings are organized in various formats, in which key aspects of the Comprehensive Plan are explained, and feedback is collected for timely adjustments. Instruments for interaction and involvement in project implementation are created for business. The structure of the national project itself is adaptive, all federal programs included in it are ranked by degree of importance, based on the methodology developed by the Analytical Center under the Government of the Russian Federation [11]. The federal authorities set themselves the task of maximally attracting private investment in the implementation of a comprehensive plan, the GCP mechanism is used for these purposes, in this aspect it is important that both business structures and authorities work synchronously [6]. In addition, the possibility of allocating subsidies and mitigating taxation in the course of work on individual projects is being considered.

2.2. The opinion of the regions and work with the population.

The most important element in the promotion of a national project is the formation of an understanding among the population of how exactly the implementation of each of the 9 programs will affect them. It requires the development of trusting relations between the authorities and society, taking into account the interests of all parties. Regional authorities should be maximally involved in the process of work on projects implemented on their territory, providing comprehensive support [13]. It is in the interests of the regions to formulate the most transparent rules of work, in order to more easily attract investment and obtain the maximum economic effect from the implementation of the comprehensive plan.

2.3. The willingness of the business to participate in the work.

This aspect divided the audience into two parts. On the one hand, the business has many questions for the authorities, in particular regarding the delay in the final decision on the implementation of certain projects approved earlier, the tasks set in a comprehensive plan are very ambitious, and the implementation period is 6 years does not give time for buildup. The state creates mechanisms designed to support private investors, but they either do not work or are involved in the project implementation process extremely slowly [3]. A tool should be developed for linking all decision-making centers within the state apparatus. Russia has the most advanced legislation in the field of concessions, granite support mechanisms stimulate private inverters to cooperate, gradually replacing public funds with private ones. Business is waiting for a more flexible approach in the field of taxation and tariff policy. The second side claims in the direction of business. According to the presented calculations, there is a shortage of projects (9 times), contractor capacities (14 times), while the lack of tools is only 1.2 times [17]. The state should not work for everyone, it is time for the business community to take responsibility and become involved in active work. An important point is the quality study of the projects proposed for implementation. The implementation of the Comprehensive Plan requires the solution of many problematic issues, in a number of transport sectors there is no necessary regulatory and regulatory legislation, and the training system is extremely weak (for example, in aviation). It is necessary to change the work of the system of competitive selection of contractors, with a departure from determining winners by price, to assessing the quality of work and the prospects for further improvement of the infrastructure facilities themselves. An important element of the work for the Ministry of Transport will be international cooperation, the created backbone infrastructures need to understand what transport flows and in which directions our partners plan to transport, based on this, changes can be made to the work on the implementation of the Comprehensive Plan [29]. Another source of change may be technological progress, which makes adjustments not only in the process of building infrastructure facilities, but also in the logic of their work, technology can significantly affect the needs for creating a certain kind of infrastructure.

3. Effects of transport projects

To solve this complex task, it is necessary to determine what role the state plans to play in the process of achieving this goal and what effects it expects to receive from its achievement. The answer to this question will allow us to build the entire strategy of the country's socio-economic development [4].

At the level of interaction between federal and regional authorities, it is important to agree on plans for the development of transport infrastructure. At the moment, this problem is solved only for the Arkhangelsk region, which is historically inscribed in the transport system of Russia [1].

Arkhangelsk region has excellent approach routes that form the basic conditions on the basis of which the Arctic has developed and will continue to develop. However, such transport coherence remains relevant for other regions of the country. First of all, for the Urals, Siberia, the Far East, where the coastal Arctic territories are much less developed. The meaning of the decisions is that for regions with specific conditions, Federal programs must take these features into account. Implementation of this approach will allow linking transport and logistics and transshipment complexes of Siberia, the Urals and the Far East, which have long been took shape as autonomous elements of the country's economy, with the rest of the Russian transport system. Such linking will ensure the growth of cargo transportation for the whole of Russia. Without the development of Siberia, the Urals, and the Far East, the development of the Arctic itself will be incomplete. Other types of transport are of exceptional importance for involving territories of Siberia, the Urals and the Far East due to the smaller number of permanent transport infrastructure. The key to the integrated development of the Northern Sea Route and the achievement of the development goal of the Arctic lies in the assessment and selection of such transport development projects (with small aviation, railways, inland water transport and measures for their development coming to the fore), which, in addition to reimbursing investments, have potential providing positive effects for the state [9].

Currently, the most developed projects with elaborate positive effects are: 1) Belkomur (White sea – Komi – Ural), a railway that will connect Salekhard – Nadym – NovyUrengoy, with a potential exit from Salekhard to the port of Sabetta (170 km of railways have already been built in this direction) [31]; 2) Northern Latitudinal Railway – the railway connecting Arkhangelsk – Syktyvkar – Solikamsk (Fig. 1.).

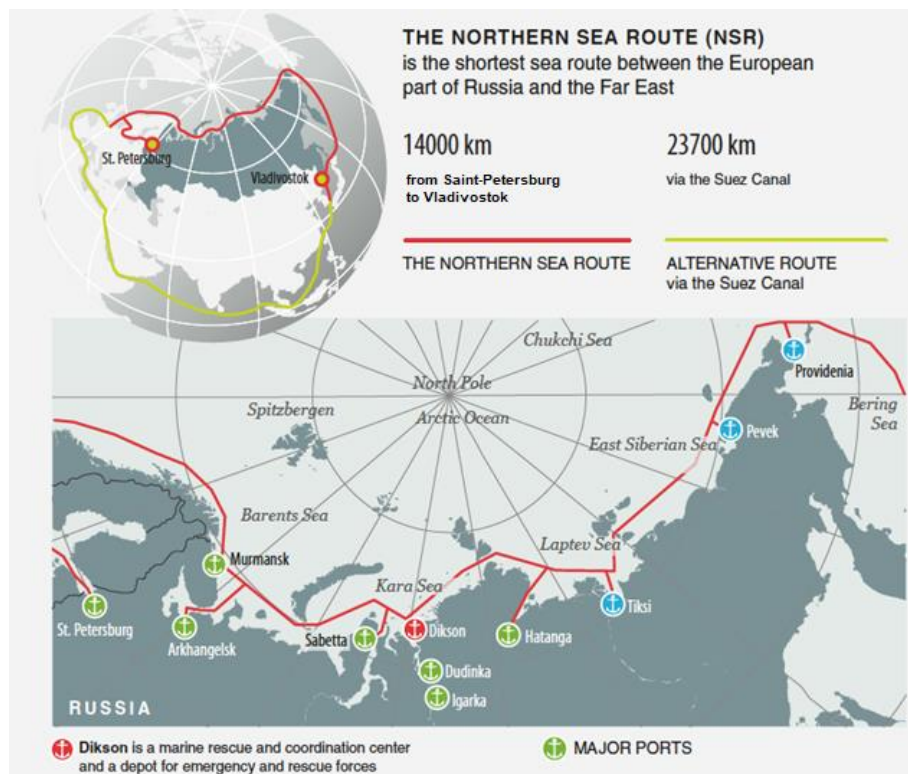


Figure 1. Russia to develop the Northern Sea Route [8]

In particular, Belkomur has all the documentation up to environmental measures and expertise. These projects, combined with access to Murmansk, can reduce the route from the Urals by 130-150 km [19]. The animated effects arising for the state are estimated at about 100 billion rubles. (more than 13 rubles for every 1 invested rubles).

An important role in the Arctic during the summer period is played by inland water transport, which ensures the export of coal, grain, oil resources, as well as the supply of food and fuel for the northern delivery. Dropping out of the management circuit of inland water transport leads to the fact that each year these territories "suffocate" in transport work, since the volume of goods always exceeds the capacity of transport routes, while there is additional potential for increasing the flow of goods for this type of transport [10].

At present, the option of transporting along the Yenisei river to the port of Dixon and further along the Northern Sea Route is convenient and clear option. This is a cheap and efficient route, but there is a huge potential for the growth of the cargo base from 1.5 to 26 million tons [28]. In the Arctic, there are a number of promising deposits that can be developed in the future. These facts should be taken into account today in the process of forming development projects and creating infrastructure, as this will allow to involve these objects in economic activity as quickly and cheaply as possible when it becomes relevant.

The connection of the territories of Siberia, the Urals and the Far East through inland water transport with the Northern Sea Route requires the restoration of routes, the development of port-berth infrastructure, the construction of modern vehicles of various classes (specific river-sea vessels are of particular importance, since most rivers of Siberia and the Far East go to the Northern Sea Route), ensuring safety and maintenance on the rivers. In addition, a huge tourist potential is hidden in inland water transport, which is also not involved now. For a long time, the process of forming the principles of the distribution of powers for the operational management and development of the Northern Sea Route took place [27]. These principles are currently defined and often referred to as the "two keys" principle. As early as 2019, the State Corporation "Rosatom" became the Unified Operator of the Northern Sea Route, was it also entrusted with the authority to directly manage the state Arctic icebreaker fleet and prepare proposals for shaping state policy on the Northern Sea Route, creating ports and other infrastructure facilities? The decision to delegate the authorities to the "Rosatom" State Atomic Energy Corporation was made based on the Corporation's competence in this area. All stakeholders expect that the single operator will be able to provide a comfortable passage along the Northern Sea Route by 2025. The Ministry of transport was empowered to the regulation and supervision authority in the sphere of transport [30].

This principle could be strengthened if supplemented it with a "third key", namely, the authorities and activities of the Ministry for the Far East and the Arctic development, aimed at stimulating the development of territories and creating favorable economic conditions. In fact, the Ministry for the Far East and the Arctic development is responsible for the economic component - the cargo base and the investment projects that form it. The potential cargo base is currently being analyzed. An example of such work is the complex development plan for Kamchatka. Such Ministry's support of regions and companies' projects makes it possible to increase cargo transportation by more effectively way [20].

Another vector that needs to be taken into account in the process of building transport communications in the Arctic is the opportunity for the Northern Sea Route to become a unique transport corridor connecting Europe and Asia. For this reason, it is important to work together with foreign partners on the architecture of the Eurasian transport system by supplementing Russian sections of communications with transport projects of neighboring countries. For example, in the sphere of inland water transport, the Volga – Yangtze transport project can be implemented together with China, which providing access from the Yangtze river to the Northern Sea Route through the reconstructed inland water ways of the Russia.

This will allow attracting cargo that has traditionally was delivered in the East and North-West direction, as well as attracting transit cargo (for example, from Shanghai to Europe) by reducing the transportation time. Moreover, the increasing the intensity of work of the Northern Sea Route due to the development of the reverse route, allows to grow cargo base, the efficiency and economic benefit for all participants of transportation [2].

4. Coordination of business and government efforts to develop the Arctic

The effective and planned development of the Northern Sea Route is the result of a process of constant discussion and consensus on the part of all participants. In 2019, the Public Council for the development of the Northern Sea Route started working within the framework of the St. Petersburg International Economic Forum, which is the platform for operation interaction of all interested parties and decision-makers on the further development of the route [20].

One of the main topics is the investment activity for the development of transport infrastructure in the Arctic of Russian companies. For a long time, there are conditions in which the development of transport infrastructure is carried out through large private companies with minimal financial participation of the state. In the planned investment in Arctic transport amount of 70 billion rubles until 2024, the amount of public investment is about 1 billion rubles, and mainly in the form of state guarantees, rather than direct investment [30]. Concession agreements and the public-private partnership mechanism are a very important solution that allows for effective and successful implementation of these projects and investments in other directions totaling 700 billion rubles. Within the framework of the Public-Private Partnership National Center (Rosinfra) [21] has been implemented information system, which is an assistant in the preparation of concession projects, as it allows Russian and foreign businesses to increase their competence and awareness in working with the Russian public-private partnership system. This instrument makes it possible to ensure the implementation of the investment interest of Russian companies in the Arctic. Also, there is a decision to spread the action of development institutions to attract investment to the entire Arctic zone. These institutions already operate in the Far East and have shown their high efficiency.

In order to obtain extensive positive effects, the most important solution is to coordinate the actions of the state and companies. Business itself goes to the Arctic, but the state can and should provide support. Measures may include correction the port dues and the approving of the free port status [16]. The specifics of the port must be taking into account for approvals of the port dues level. The dues level may differ by more than 3 times due to the longer ice wiring (the Arkhangelsk port). At the same time, business gets more opportunities to reconstruction ports and deliver cargo, which ultimately provides a complex development of the Arctic, through the provision of the population and the development of support zones of the Northern Sea Route (for example, Dudinka, Dixon, Khatanga).

Also, the most important area for private business is the formation and forecasting of the existing cargo base. To do this, it is important for companies operating in the Arctic to understand the state's aims for the further development of the Northern Sea Route [12]. In particular, for Public company NOVATEK this route is the basis for rapid growth of the share in the world market. Therefore, the company invests in exploration work in the fields near the Northern Sea Route, as this will allow to reach the production level of 70 million tons per year of liquefied natural gas and in the future to ensure the growth of Russia's share in the world market up to 20%.

In turn, the attention of the Government and regional authorities should be focused on the formation of a different non-energy nature cargo base. As an example, can be called a forest. The high demand for these products is reflected the fact that even the Arkhangelsk region is able to compete favorably with world producers for the markets of China, supplying up to 3 million tons annually via the Northern Sea Route. The potential for growth in this demand allows the region to implement projects for processing wood also for supplies to Asia.

Another important task for the Government and business is to harmonize the construction of the icebreaking fleet, cargo ships and port infrastructure with the timing of investment projects. The most important feature of infrastructure is that its appearance should be ahead of the implementation of industrial projects [22]. The opposite way of the development of territories is fraught with the fact that transport "suffocates" in cargo work, as mentioned above in relation to the problems of inland water transport. Moreover, the slowdown or lag in the implementation of industrial projects due to the lack of necessary infrastructure leads to the fact that the production investor may decide to abandon further work on the project. In a general sense, this problem is called "unfinished", when it is cheaper to abandon the invested funds and close the project unrealized than to completing it in the conditions of an unfinished infrastructure [24].

The number of vessels operating in the Arctic zone is steadily growing, but the issue of building new vessels is still acute. Therefore, we can say that it is necessary that the Ministry of industry and trade also join in active work to ensure conditions for large-scale commissioning of new types of vessels (for example, gas

transport vessels). This large-scale development is also a condition for switching the Northern Sea Route to year-round operation and obtaining the expected economic effects.

5. Local community

The key issue remains the fact that today, most projects of the Arctic development require improvement and support (not only financial) from the Federal authorities. In this regard, another acute problem associated with the functioning of the territories is a personnel deficit. Often, teams working in the field is not able to solve the tasks to set for them, and this greatly complicates the promotion of projects, as well as reduces their economic efficiency. In many ways, this situation is due to the constant outflow of the population, both in connection with the move to more favorable climatic zones, and in connection with a fairly high mortality rate in the Arctic [7].

One of the acute problems associated with the development of Arctic municipalities is the legislative issue. The Arctic territories are faced with an imperfect normative regulation only in a more acute form. To overcome this situation, it is necessary to involve the municipal authorities in the legislative process, as well as to develop methods and criteria for calculating the financial needs of municipalities and for determining the necessary expenditure of funds to fulfill the commitments of the local budget. Large-scale projects in the Arctic zone create prospects for the development of territories, but the question of the high cost of creating and maintaining infrastructure remains open (the most expensive objects are housing and communal services and road infrastructure). At the same time the Arctic Zone is characterized by a rare problem of empty housing in some regions, which is largely due to the reduction of the Arctic population by more than 1 million people over 30 years. Municipal authorities are making the initiative to remove the excessive burden of the local budget:

- to exempt municipal entities from the payment of contributions for capital repair of empty houses, which has no prospect of settling;
- release the municipal entities from paying for the services of a regional operator for the solid waste removal of empty houses, which has no prospect of settling;
- subsidize the cost of heating of empty houses, which has no prospect of settling from the Federal budget.

In addition, in the Arctic, antimonopoly legislation does not always work, and difficulties arise when working with the 44 Federal Law. Often funding for the planning commitments come from the Federal budget closer to the middle of the year. All competitive procedures take about 3 or 4 month and makes it possible to start commitments realization only in November. Updating the 44 Federal Law in the part regarding Arctic settlements and equating them with rural settlements will greatly facilitate the long-term development of territories.

It is planned to use the experience in the Far East development in relation to the Arctic, in particular to use of the Direct Investment Fund for small and medium-sized businesses. The Ministry of the Far East and the Arctic development understands the need to take into account territorial specifics when conducting state purchases under the 44 Federal Law, as well as the impossibility of regulating social development of the Arctic equally with the other regions of the Russian Federation. Of course, state need to improve the quality of work of regional and municipal teams to working quickly and efficiently [23].

It should be agreed that business in the Arctic sustains Federal commitments from the population by additional payment to employees. While regional and Federal authorities have exhausted the available support instruments because the funds allocated for these purposes withdraw resources from municipal budgets for infrastructure modernization. Creating equal conditions for competition with other regions of Russia contributes to the development of both business and will increase the ability of local authorities to modernize the most important infrastructure facilities. For these purposes, it is possible to use public-private partnerships mechanisms. However, both businesses and local authorities should remember that the key logic of the Ministry's work is that Federal investments go to the private investors.

The national project Comfortable urban environment is of great interest from the Arctic society, but changes in the share of co-financing from 5% to 20% reduces the level of activity of the population, while it should be remembered that people want to live and work in comfortable place. Overcoming existing and emerging problems is associated with the formation of a advanced development territories in the Arctic Zone [5].

In the social sphere an important topic is the development of the health system the most actual are two topics in this sphere:

1. Material and technical support of health care institutions. The solution to this issue may be to reconfigure existing mechanisms of new equipment purchase;
2. Personnel sufficiency of health care system employees. To solve this problem, it is possible to use the mechanisms of the Local doctor (Zemsky doctor) program. Arctic doctor program involves the allocation of start-up money for the device in a new place, as well as the provision of housing, the possibility of targeted training [29].

The transport inaccessibility of the Arctic affects all aspects of the territory's socio-economic development. The main means of transportation in the Arctic Zone is aviation, which causes a number of difficulties related to the development of a small aircraft fleet and the maintenance of flight infrastructure, not to mention the need to maintain an appropriate level of passenger transport security. Along with this, the Arctic has specific abilities to move, for example, with the help of all-terrain vehicles. But legal implementation of such transportation is impossible due to lack of a legislation.

The basis of such legislation together with technical safety parameters need to took measures to reduce the anthropogenic impact on the Arctic. Both business and society take an active part in environmental projects. The involvement of volunteers allows not only to speed up the process of waste collection, but also to conduct educational activities among young people about the development and prospects of the Arctic. It is important because in the Arctic Zone, it is much cheaper to work to prevent accidents than to eliminate their consequences [26].

6. Problems

We should also note a number of problems that, in our opinion, can be a significant obstacle to achieving the aim of developing the Arctic and the Northern Sea Route.

First, the state administration system does not fully define the strategic goals of the Arctic development. In general, we can say that many experts at the Federal level see an independent goal in the increase of transportation along the Northern Sea Route or in the growth of attracting foreign investment, which must be implemented at all costs. On the other hand, these same benchmarks can be perceived as some indicators of positive socio-economic processes in the Arctic. In this case, efforts should be directed to stimulating production, providing high-quality housing and social services, which will lead to an increase in these indicators through indirect links.

Second, the ambiguity of the world community's position to the development of Arctic communications. On the one hand, Russian companies that are interested in the Northern Sea Route, the tributary rivers ways and adjacent railways are now investing independently, expecting minimal state preferences. Thus, they strengthen the state's economic potential in the Arctic. On the other hand, the foreign countries and companies who are assuming profitable use of the opportunities of the Northern Sea Route still require exceptional attractiveness of conditions for investment in the Arctic. Here, the issue of national security and national development priorities comes to the forefront. If foreign investment is an end in itself, then, of course, it is necessary to provide broad preferences, ensure maximum access to information about the Russian Arctic and information and technological compatibility with the foreign partners. On the other hand, if the purpose and meaning of the investment process in the Arctic is to develop our transport capabilities and improve Russian interregional links, it is obvious that foreign investment can be attracted on completely different terms, such as those that ensure Russian national priorities and at the same time allow international partners to benefit from the use of the Northern Sea Route.

Third, there is a lack of coordination of positions and a lack of understanding of how much population does Russia need in the Arctic. Thus, the Plenipotentiary representative of the President in the Siberian Federal district Sergei Menyailo expressed the opinion that the Arctic is not a place of permanent residence of people. On the other hand, director of N.S. Solomenko Institute of the transport problems Russian Academy of Sciences Igor Malygin adhered to the position that it is important to stop the outflow of population from the Arctic, create conditions for attracting the population, and for this it is important to create jobs, develop the level of social and medical services, which can be organized on the principles of mobile medicine, telemedicine, and others [20].

Fourth, the view that the security system of Arctic communications should be based on the principles of absolute openness and in accordance with international standards does not seem entirely justified. If the Russian Federation potentially retains the right to own and dispose of the Northern Sea Route, it is obvious that the entire responsibility for ensuring environmental friendliness and safety in all respects will lie solely with Russia. For this reason, integration into international security systems is not a cornerstone. Moreover, the effort and resources that can be spent on achieving such coherence may become unnecessary costs that can be used more expediently on environmental programs in the Arctic.

In this sense, it seems important to cultivate the topic of the Arctic development aims adopted by the state, and on this basis to describe the logic or outline of the overall development of this territory. The answer to the question of how to solve the problems of population, investment and security in the Arctic, in our opinion, is directly related to the understanding of what national strategic aims the state is trying to achieve in the Arctic.

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