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TRANSPORT CORRIDORS AS A FACTOR OF SOCIO-ECONOMIC DEVELOPMENT OF CROSS-BORDER REGIONS

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Abstract

Social and economic development of the territory is largely determined by the conditions of infrastructure formation. Transport infrastructure allows creating conditions for attracting the population and investment, and thus contributing to the development of the region's territory. The main elements of transport infrastructure include international transport corridors. In modern conditions, transport corridors can significantly accelerate the social and economic development of the region by intensifying economic cooperation between participants in economic relations. Transport corridors create the material basis for production and economic ties between individual regions and become the main factor organizing the international economic space. In the modern world of technology, transport corridors are becoming part of the information space. Information support for the functioning of transport corridors makes it possible to speed up and reduce the cost of moving cargo and passengers. Information systems will create qualitatively new conditions for the social, economic and technological development of regions, attracting investment in the implementation of innovative projects in transport. The development of intelligent transport systems within transport corridors will create conditions for ensuring the standardized and unified use of various technologies for identification, navigation and positioning, video surveillance of vehicles and cargo. Creating conditions for the formation and development of an intelligent transport system within the existing transport corridors will optimize the loading of transport infrastructure and maximize the use of its capacity, thereby creating conditions for the intensification of social and economic development of regions

Keywords: Transport corridors, transport, cross-border regions

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1. Introduction

Currently, transport is not only an industry that transports goods and people, but also an intersectoral system that creates and transforms the conditions for socio-economic development of the region. Transport is the main factor that affects the location and use of the productive forces of the territory. Transport is the material basis of production links between individual regions and becomes the main factor that organizes the international economic space and ensures the geographical division of labor (Anokhin & Fedorov, 2019). It seems to us that transit flows at the present stage are becoming the main factor in the socio-economic unification of regions and States, while creating a single transport system of the state.

At the present stage of regional development, the Government of the Russian Federation pays special attention to the Far East. Namely, the program of state support for a number of profitable industries and projects is being resumed.

The Far Eastern region is a unique macro region of Russia (the area is 6169.3 thousand square kilometers, which is 36.0% of the entire territory of the Russian Federation). The region itself has a rich mineral resource base. Far Eastern ports are a link in Russia's foreign economic relations with the countries of the Pacific area. It should be noted that further development of the Far East and attracting the population to the region is an indisputable task that requires a certain strategic approach. We believe that in this strategic approach, transport corridors are becoming an important factor in the socio-economic development of cross-border regions.

2. Problem Statement

Given the particular role of transport in socio-economic development of our country developed a «Transport strategy of Russia for the period till 2030» which formulates strategic goals of transport development. One of the goals was to develop a modern and efficient intelligent transport system (ITS), which will speed up the movement of goods and reduce transport costs in the economy of our country (Transport strategy of Russia for the period till 2030, 2008).

It is worth noting that the strategic implementation of ITS implementation will create a multiplier effect for the socio-economic development of the regions. The intelligent transport system that is being formed will allow for the standardized and unified use of various technologies for identification, navigation and positioning, and video surveillance of vehicles and cargo. We believe that this goal can be achieved by combining legal, intellectual, technical, financial and administrative means that will ensure the safe, secure, efficient and environmentally friendly movement of passengers and cargo.

When developing a system of transport corridors, it is necessary to include them in a single ITS system, this will allow:

- create information support for the system for collecting, processing and using information about transport routes and information of traffic participants along transport corridors;
- ensure continuous availability of ITS services on the territory of Russia and other States participating in transport corridors;
- implement ITS applications for traffic safety;

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- create a system of information interaction between infrastructure objects, vehicles, relevant services, and traffic participants (Panamareva, 2012).

It is important to create an information system that will allow you to manage the flow of information about road congestion, directions of movement of goods and passengers, and enable users of the transport system to make the right decisions in the changed transport situation.

3. Research Questions

In the scientific literature, the transport corridor is considered as a set of transport communications of various types of transport, providing transportation of goods between different countries (Bardal, 2020).

It should be noted that Quium (2019), Akbar et al. (2020) in their works evaluated the impact of the degree of development of the transport system on the socio-economic situation of territories.

The contribution to the development of spatial development strategies for cross-border regions is considered important by A. G. Granberg, P. A. Minakir, N. V. Zubarevich (as cited in Minakir, 2019), and Leontiev (2016).

Bardal (2019, 2020) considers transport corridors as part of the transport system of the Far East. This system includes various modes of transport operating in different territorial systems with different internal characteristics, as well as communication and interaction between them and other agents of the transport services market and the economy as a whole.

However, it seems to us that these problems are not fully solved and require further scientific understanding and solution.

Consequently, the subject of the study is selected transport corridors as part of the transport system that determines the prospects for socio-economic development of cross-border regions.

4. Purpose of the Study

The purpose of the study was to summarize the experience of developing transport corridors in cross-border territories, and to assess how the development of this infrastructure contributed to the socio-economic development of these regions.

5. Research Methods

The theoretical basis of the research is based on the fundamental provisions of modern economic theory, the works of domestic and foreign scientists on the formation of strategies for the development of international transport corridors in the economy of the state and the region.

During the research, such methods of cognition as methods of formalization and comparison were used.

6. Findings

World experience shows that investment in an intelligent transport system has a longer payback period, but also has a significant multiplier effect on GDP. Therefore, investment in transport infrastructure,

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including information systems, is the main mechanism for launching socio-economic development in developed countries.

At the present stage, transport has a significant impact on the socio-economic development of the country, so the implementation of major information projects, such as GLONASS, allows you to include a larger number of subjects in economic turnover. The share of transport in Russia's GDP is about 9%, and 15-20% in the cost of industrial and agricultural products. Transport in Russia is one of the most important points of economic growth, but in order to fully utilize its potential, it is necessary to:

- creating regulatory and legal conditions for the development and implementation of information systems used in all modes of transport;
- state support of transport corridors in the international economic space, formation of international alliances that are beneficial for us;
- modernization of the information transport infrastructure taking into account the development of international transport corridors and the conditions for implementation of the program of Informatization of transport processes;
- support for investment projects aimed at developing information systems to support transit transport, including international ones (Kirillova, 2018).

The development of the transport corridor system is a long-term process that tends to expand participants, integrate national transport networks into global ones, and develop principles for financing and developing information technologies for working in the transport corridor system (Bardal, 2020).

International transport corridors in Russia include «North–South» and «West-East» (Anokhin & Fedorov, 2019). Transport corridors assume the presence of vehicle checkpoints and quite often they form queues that significantly slow down cargo and passenger traffic, most often the main reason is paper document flow. A possible solution to this problem may be the creation of regional information systems included in a single ITS, which will speed up information processing based on the introduction of electronic document management.

This is especially important for remote sections of transport corridors, for example, the checkpoint in Tashanta village (Altai Republic) on the way of such a corridor as the «Chuysky tract» or in Nizhneleninskoye village (Jewish Autonomous region). It is most appropriate to implement electronic document management systems at these points, which will improve their performance and speed up the process of processing information about cargo and passengers. The Internet allows you to track the length of queues at the border. ITS applications can predict the duration of border crossing by means of electronic identification of vehicle numbers and be transmitted to mobile phones.

The goal of the «East-West» transport corridor is to use the transport infrastructure at full capacity, creating opportunities for the implementation and use of information systems for managing cargo and passenger flows (Anokhin & Fedorov, 2019). Currently, the main load in export and transit traffic falls on the Transsiberian highway, which has a solid base and experience in cargo transportation, with a capacity of up to 100 million tons per year.

The Transsiberian highway is one of the most technologically advanced railway lines in the world. On this highway, an end-to-end dispatching system for container train traffic has been formed, and a reliable transit traffic schedule is functioning. A structure has been formed that provides continuous information

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support along the entire route of container trains, ensuring a high degree of cargo safety. The necessary legal conditions regulated by acts of international law and internal regulations of the Russian Federation are observed. This route can cross the entire continent within two customs spaces – Russia and the European Union (Chizhkov, 2015).

Currently, a significant part of cargo flows in the East-West direction goes by sea, therefore, rail transport is an alternative option. Compared to the sea route, the Transsiberian highway reduces the time of cargo transportation by more than two times.

Transit cargo flows that connect Europe with the States of the Pacific coast go along the Transsiberian corridor from the Republic of Korea, Japan and China and other countries.

Transport is one of the system-forming factors of the economy of Siberia and the Far East. The availability and level of development of transport infrastructure in the development of the region's economy is determined by its favorable economic and geographical position (at the junction of neighboring countries and transcontinental links between the countries of the Asia-Pacific region and Europe).

The Far Eastern region, which is an important part of the transport corridor between Asia and Europe, has 29 seaports and major railway lines, including an important section of the Transsiberian highway, pass through its territory.

Several types of transport interact in seaports, terminal and logistics operations are carried out, customs and control are carried out, etc. In order to improve the efficiency of seaports, it is necessary to create a unified information system that will allow combining information about the movement of vehicles and cargo not only in terms of sea transport, but also to coordinate the work plans of shipping companies with railway and road carriers, with operators of terminal and warehouse services. The information systems of participants in the process of cargo transportation and processing that exist in seaports are Autonomous and do not allow us to effectively solve the problems of ensuring the coordinated supply of rolling stock to terminals, timely removal of goods, etc. Therefore, it is necessary to create a unified system of electronic interaction between all participants in the transportation and processing of goods in the dynamically developing Far Eastern seaports.

The Russian part of the East-West transport corridor is actively implementing information systems that allow monitoring the movement of railway trains along the Transsiberian highway, and inform customers in real time about the location, following the entire route, and arrival of cargo at any point in Russia. The Transsiberian highway service includes a simplified procedure, according to which all containers in a container train follow the same transport document. The Transsiberian highway uses an advanced technology of operation of commercial inspection points (CIP), which are equipped with modern means of monitoring the condition of wagons and containers in trains, as well as monitoring the safety of goods EN route.

7. Conclusion

In this regard, the concept of increasing the investment attractiveness of the Far East and Siberia is seen in the development of information systems based on the creation of international transport corridors, increasing transit and developing transport and industrial hubs. This will increase the mobility of resources (including labor), attract investment resources, develop new natural resources and related industries, and

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improve the quality of life of the region's population. Since transport is the most important element of the territory's investment attractiveness and has the property of a powerful catalyst, it directly and indirectly increases the level of production and commercial activity in all areas of practical activity. This makes it possible to expand the scale of production, develop new territories and include new resources in the turnover, as well as allows you to link production structures and commodity markets (Khalikova & Timofeev, 2018). The implementation of information technologies in the transport sector will have a large-scale positive impact on the economy and social sphere, as well as increase the investment attractiveness of Siberia and the Far East, especially since all the prerequisites exist for this.

Today, the main problems of Siberia and the Far East are remoteness from the center; poorly developed industrial, transport and information infrastructure. There is a need to create transport corridors through the Russian Far East and Siberia as one of the priority directions of socio-economic development. Currently, cargo transportation is mainly delivered by sea, and by turning this flow through transcontinental and Federal (horizontal) corridors, in which Railways and highways play a crucial role, first of all, transport infrastructure will receive a new impetus, as this will result in the interaction of sea vessels, motorists and railway workers.

Development of transport infrastructure and organization of transport corridors will allow realizing the advantage of the region's geopolitical position and export of transport services.

The development of a unified ITS in Russia is aimed at creating a comprehensive system for cargo carriers that can integrate the ITS of road, rail and other modes of transport, and interaction with customs (Kirillova, 2018).

The development of ITS will contribute to the creation of a unified information environment for transport corridors, including:

- management level (information environment of the top level of transport complex management);
- technological level (information environment for technological integration of various types of transport and participants in the transport process, development of intelligent transport systems);
- user level (information environment for transport services and customer information services).

Thus, the formation of the intellectual transport system will contribute to the optimization of the transport infrastructure load and the maximum efficient use of its capacity, thus creating conditions for the intensification of the socio-economic development of the regions.

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