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## OPTIMIZATION OF FREIGHT FORWARDING SUPPORT FOR INTERNATIONAL TRANSPORT CORRIDORS

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**Abstract.** With the modern development of the economy and foreign economic relations, a new approach to cargo flows, their distribution and, directly, to the development of transport is required. At the current stage of foreign trade growth, the classic approach of the logistics system in the medium and long term requires a deep and qualitative revision, this is necessary for long-term development, although this approach will still work for the current period and in the near future. Of course, we need to use new technologies to reach goals of optimization all freight forwarding system and international transport corridors. The new projects same as optimization need investments because corridor routes have a different direction vector depending on the profitability of national economies and companies, but their formation is based on a support network of transport and logistics centers in key nodes (points) of consolidation and distribution of cargo flows, and favorable conditions are created for investment projects.

Due to the geographical location of Kazakhstan, the main transport routes connecting the States of the Asian and European continents pass through its territory and cargo transportation in interstate communication of the countries of the near and far abroad. They are carried out by rail and road transport in almost all main directions of the land road network. According to the UN classification, Kazakhstan, along with Russia, Azerbaijan, Georgia, and Turkey, is currently included in the transcontinental countries of interstate land communication. Therefore, it is very important for Kazakhstan to use its transit position to boost the economy and be a full-fledged participant in the global transport system.

**Keywords:** optimization, transit, international transport corridors, freight forwarding, cargo, development, relations.

Nowadays, international transport services cover a large range, which entails the need to form transport routes of international importance, both passenger and cargo. There are many reasons for establishing international transport corridors. First of all, this is an agreement on the development of the entire transport infrastructure of the country, secondly, the transport corridors optimize the transportation process, accompanied by a reduction in the cost of goods delivered, improving the quality, reducing the cost of moving goods, and thirdly, improving the transport accessibility of remote parts of the country.

Practice has shown the significant role of international transport corridors for each individual country. Their significance is determined not only from the point of view of commercial benefits, but also from the point of view of national security. The development of all spheres of state development, namely, primarily economic, as well as military, industrial, demographic, social and food, is connected with the transport component and the mechanisms of its development. The objective need for the formation of international transport corridors for the integration of Eastern and Western countries

of the world economy is explained by the following main reasons:

- The trend towards integration of the world economy and foreign trade, as well as the formation of global markets, including the transport services market. The process of forming integration economic spaces requires the integration of rational transport and communication networks;

- Strengthening the role and importance of the countries of the Asia - Pacific region in the world economy, primarily the countries of East and South-East Asia (China, Japan, South Korea). Export-oriented countries, having a favorable geographical location, use the logistics of the sea corridor through the South seas and the Suez canal to export goods to the markets of the European Union. For example, the delivery time of containers from the ports of South Korea and Japan to Western Europe is 30-35 days. Therefore, these countries are looking for real alternatives to the sea route (for example, rail transport) to reduce the cost and delivery time of goods);

- Untapped opportunities of the Euro-Asian specifics of the economy, in particular the geographical and geopolitical position of Kazakhstan.

Today, it is very important to increase the volume of transit traffic and increase the economic efficiency of domestic carriers and freight forwarders. As foreign experience shows, a qualitative "leap" in the transport sector can be achieved only through the use of new technologies for ensuring transport processes that meet high international standards.

The country's potential in transit transport is far from exhausted. The main advantage of transit corridors passing through the territory of Kazakhstan is a significant reduction in distances. Railway lines connecting Russia and European countries with the countries of the Asia-Pacific region (APR), Central Asia, and the Middle East pass through the territory of the Republic. The railway of Kazakhstan directly borders and interacts with the Railways of Russia, Uzbekistan, Kyrgyzstan, Azerbaijan and

China, which is one of its main advantages in the transport services market.

In short, in the near future, Kazakhstan intends to become a dynamically developing part of the Eurasian transport system, which will require active development of the entire transport infrastructure and effective use of the country's transit capabilities. To do this, it is necessary to take an active position in international organizations, participate in agreements and agreements at various levels necessary for the further development of transit and transport potential.

Summing up the above, we can say with confidence that the task of optimizing the routing of vehicles becomes particularly relevant in this economic situation. The goal of optimizing transportation. Since there are a large number of delivery facilities, it is necessary to optimize transportation routes and respond quickly to all changes. Therefore, it is possible to determine the goal of optimizing transport operations:

- involve new technologies or tools to understand which part of international corridors or transportation route need to be optimized. For example: Anylogic and etc.

- develop an algorithm for optimizing cargo transportation and international corridors, taking into account time Windows and the load capacity of vehicles or stations. To achieve this goal, you need to solve the following main tasks

- formulate a mathematical statement of the transport routing problem with a constraint condition;

- select (develop) optimization criteria;

- develop a modified genetic algorithm for optimizing cargo transportation, taking into account time Windows and vehicle load capacity;

- experimentally test the efficiency of the algorithm.

Based on the study, the main international transport routes are Identified, as well as the main trends and prospects for the development of the world transport system. World trade flows that contribute to the development of new trade and transport flows in the world transport system are studied. We have studied the world experience in the

development of transport and logistics hubs that link transport processes and means for their implementation at the junction of two or more main modes of transport, since transport and logistics hubs are important in the organization of large transit traffic. Through a comprehensive analysis of the state of the transport infrastructure of the Republic of Kazakhstan, its features and potential ability to provide and maintain global cargo flows are identified.

All types of transport represent the country's transport complex: rail, road, pipeline, as well as water and air. Roads and Railways account for the majority of the land network. Kazakhstan's railway system is part of five international transport corridors that provide cargo delivery between Asia and Europe. The role of the Aktau seaport in the implementation of transit through the territory of Kazakhstan is studied. In order to play a significant role in sea transportation in the Caspian sea for a long time, it is necessary to increase the competitiveness of the Kazakh Navy. This is planned to be achieved by creating an International ship registry of the Republic of Kazakhstan to help ship-owners reduce their costs (the register provides for exemption from transport taxes for ships registered in it), and prevent national vessels from flying foreign flags. In addition, the creation of this register will protect foreign trade from sharp fluctuations in the freight market. Construction of three dry cargo terminals, a new 11th berth, and reconstruction of the 12th berth of the Aktau seaport, as well as automation of the production process management system, will expand the port's capacity from 16.8 million tons to 20.5 million tons. 6. Currently, the transport complex of the Republic of Kazakhstan still has a number of problems. First, this concerns the state of infrastructure and transport services, which do not fully meet the global status of transcontinental transport links. Despite the positive changes in the development of each type of transport, the level of development of the transport system of the Republic of Kazakhstan is not sufficient today and does not allow it to fully

act as a Eurasian transcontinental bridge. This is due to the unsatisfactory condition of the vehicle fleet and transport infrastructure facilities, which is manifested in a high share of the transport component in the final product. To effectively realize the country's transit potential, it is necessary to systematically develop all types of transport, especially rail, road and sea. Actually, these are three types of transport that implement the transcontinental bridge in the East – West direction. Kazakhstan's transit attractiveness depends on their functional and technical readiness. To this end, the country has set a course for implementing large-scale projects aimed at building new transport corridors and modernizing the internal transport infrastructure.

**Conclusions:** The transport system in its current state cannot fully meet the needs of the economy, given the vast territory of Kazakhstan and the ambitious plans of the country's Government to form a Eurasian transcontinental bridge in Kazakhstan. The tasks of the upcoming stage of development of the transport industry in Kazakhstan include improving the efficiency of activities, new construction of transport infrastructure, modernization of existing infrastructure, acceleration of goods movement and reduction of transport costs, improving the safety and sustainability of the industry, as well as the availability of transport services for the population.

The main problem is a decrease in the quality of the road surface load-bearing capacity in terms of technical and technological characteristics. The level of axial load of modern vehicles exceeds the capacity of existing roads, while the level and amount of excess payment does not meet the needs of roadbed restoration. The establishment of maximum capacity standards should have an impact on maintaining the level of coverage, and the introduction of additional mechanisms for filling the road Fund will allow the development of road construction and reconstruction of the road network.

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#### ОПТИМИЗАЦИЯ ТРАНСПОРТНО-ЭКСПЕДИЦИОННОГО ОБЕСПЕЧЕНИЯ МЕЖДУНАРОДНЫХ ТРАНСПОРТНЫХ КОРИДОРОВ

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**Аннотация.** С современным развитием экономики и внешнеэкономических связей необходим новый подход к грузопотокам, их распределению и, непосредственно, к развитию транспорта. На современном этапе роста внешней торговли классический подход к логистической системе в среднесрочной и долгосрочной перспективе требует глубокого и качественного пересмотра, это необходимо для долгосрочного развития, хотя такой подход еще будет работать на текущий период и в ближайшем будущем. Конечно, нам необходимо использовать новые технологии для достижения целей оптимизации всей транспортно-экспедиционной системы и международных транспортных коридоров.

Новые проекты так же, как и оптимизация, нуждаются в инвестициях, поскольку коридорные маршруты имеют разный вектор направленности в зависимости от материальной выгоды национальных экономик и компаний, но их формирование основывается на сети транспортно-логистических центров в ключевых локациях консолидации и распределения грузопотоков, а также создаются благоприятные условия для реализации инвестиционных проектов.

Благодаря географическому положению Казахстана через его территорию проходят основные транспортные маршруты, связывающие государства азиатского и европейского континентов, а также грузоперевозки в межгосударственном сообщении стран ближнего и дальнего зарубежья. Они осуществляются железнодорожным и автомобильным транспортом практически по всем основным направлениям наземной дорожной сети. Согласно классификации ООН, Казахстан, наряду с Россией, Азербайджаном, Грузией и Турцией, в настоящее время входит в трансконтинентальные страны межгосударственного сухопутного сообщения. Поэтому для Казахстана очень важно использовать свое транзитное положение для подъема экономики и быть полноценным участником мировой транспортной системы.



**Ключевые слова:** оптимизация, транзит, международные транспортные коридоры, транспортная экспедиция, груз, развитие, отношения.

### ХАЛЫҚАРАЛЫҚ КӨЛІК ДӘЛІЗДЕРІН КӨЛІКТІК-ЭКСПЕДИЦИЯЛЫҚ ҚАМТАМАСЫЗ ЕТУДІ ОҢТАЙЛАНДЫРУ

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**Аңдатпа.** Экономика мен сыртқы экономикалық байланыстардың қазіргі дамуымен жүк ағындарына, оларды бөлуге және тікелей көлікті дамытуға жаңа көзқарас қажет. Сыртқы сауданың өсуінің қазіргі кезеңінде Орта мерзімді және ұзақ мерзімді перспективада логистикалық жүйеге классикалық көзқарас терең және сапалы қайта қарауды қажет етеді, бұл ұзақ мерзімді даму үшін қажет, дегенмен бұл тәсіл қазіргі кезеңде және жақын болашақта жұмыс істейді. Әрине, бізге бүкіл көлік-экспедициялық жүйе мен халықаралық көлік дәліздерін оңтайландыру мақсаттарына қол жеткізу үшін жаңа технологияларды пайдалану қажет.

Жаңа жобалар, оңтайландыру сияқты, инвестицияларды қажет етеді, өйткені дәліздік маршруттар ұлттық экономикалар мен компаниялардың материалдық пайдалылығына байланысты әртүрлі бағыттылыққа ие, бірақ оларды қалыптастыру жүк ағындарын шоғырландыру мен бөлудің негізгі локацияларындағы көлік-логистикалық орталықтар желісіне негізделеді, сондай-ақ инвестициялық жобаларды іске асыру үшін қолайлы жағдайлар жасалады.

Қазақстанның географиялық орналасуының арқасында оның аумағы арқылы Азия және Еуропа континенттерінің мемлекеттерін байланыстыратын негізгі көлік бағыттары, сондай-ақ таяу және алыс шетелдердің мемлекетаралық қатынасындағы жүк тасымалдары өтеді. Олар жер үсті жол желісінің барлық негізгі бағыттары бойынша темір жол және автомобиль көлігімен жүзеге асырылады. БҰҰ жіктемесіне сәйкес, Қазақстан Ресеймен, Әзірбайжанмен, Грузиямен және Түркиямен қатар қазіргі уақытта мемлекетаралық құрлықтық қатынастағы трансконтиненталдық елдерге кіреді. Сондықтан Қазақстан үшін өзінің транзиттік жағдайын экономиканы көтеру үшін пайдалану және әлемдік көлік жүйесінің толыққанды қатысушысы болу өте маңызды.

**Түйінді сөздер:** оңтайландыру, транзит, халықаралық көлік дәліздері, көлік экспедициясы, жүк, даму, қатынастар.

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### DEVELOPMENT OF E-COMMERCE IN THE MARKET OF TRANSPORT AND LOGISTICS SERVICES IN KAZAKHSTAN

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**Abstract.** The COVID-19 coronavirus pandemic has forced almost all the world's transport companies to review the process of organizing the transportation process. Of course, the pandemic in comparison with other factors had a strong impact on the development of the e-commerce market in 2020. The forced closure of regular format stores forced shoppers around the world to intensively resort to the services of web stores, almost all for the first time took online products of daily demand. The analysis of the internal e-commerce market in the Republic of Kazakhstan is made. An analysis of data from analysts at eMarketer of global e-commerce volumes in 2020 showed more than 20 percent growth in Internet sales in a dozen countries such as the Philippines, Malaysia, and Spain, which were severely affected by the coronavirus.