Priority directions of development of transport and logistics infrastructure of Kazakhstan at the present stage

In the article the main directions of further improvement of socio-economic modernization of Kazakhstan are revealed, the role of transport and logistics infrastructure is growing rapidly, taking an international scale and highlighting transport transit as one of the leading functions of the national transport system. In this regard, the priority task for Kazakhstan in the development of the national transport and communication complex is to ensure its competitiveness in the world market of services and, accordingly, to stimulate the growth of transportation of goods through Kazakhstan. 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 government for the long-term development of the economic potential of the Republic. 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, improvement of the safety and sustainability of the industry, as well as the availability of transport services for the population. Kazakhstan is developing international cooperation in the field of transport, thanks to which the country receives new equipment and technologies, introduces international experience. In this direction, it is necessary to establish the main trends in the development of the international market of logistics services. To determine the directions of influence of integration associations as the Eurasian economic Union and the initiatives of the «Silk Road Economic belt» on the development of transport and logistics infrastructure of Kazakhstan.

Keywords: transport and logistics infrastructure, international logistics centers, world market of transport services, transit service.

The active processes of globalization, the growth of the scale and the number of transnational corporations have created the need to introduce global logistics chains and channels into the business system, primarily in the distribution of goods, and determined the formation of an independent market for logistics services. International practice shows that the effective development of transport-related systems at the national level stimulates the accelerated development of related industries and spheres of the economy [1].

For the Republic of Kazakhstan, located at the crossroads of international transport routes, the problem of conformity with the general world tendencies and strengthening of its positions in the market of transport and logistics services as the most important sector of logistics becomes increasingly urgent [2, 3].

In the international market of logistics services, there is a number of characteristic trends in its development [4].

1. The processes of globalization of security companies are actively involved in the process of mergers and acquisitions, and the consolidation of their business. As a result, there is an increase in the positions of companies with a developed logistics network, representing a range of services and a broad geography of the internationalization of business.

The world market of logistic services has been steadily expanding over the past 20 years, offering complex functional solutions from multimodal transport services to distribution centers with sophisticated technologies for picking and pre-sales preparation of commodity flows, management of distribution channels, up to the control of receivables. Expanding the scope of the services provided entails an increase in the scale of the companies and, as a consequence, a reduction in costs.

Examples of the activities of the largest international companies in the market of transport research services confirm the trend of their geographical and assortment diversification in the region of Central and Eastern Europe.

2. The formation of branded logistics networks and international logistics centers (ILC) is another characteristic trend of the logistics services market. The largest corporations to increase the efficiency of logistics functions create such centers.

3. Despite the high degree of effectiveness of intra-company logistics chains, the most important trend in the logistics market is the outsourcing of services, which in foreign practice has been called «contract lo-
gistics». The attraction of services from the outside gives maximum flexibility, since it allows you to get almost immediate access to new markets and offer customers personalized service. According to Cap Gemini Ernst & Young, by 2008, North American companies outsourced an average of 56% of their logistics budgets, and Western Europe and Asia Pacific — 81 and 60% respectively.

Along with the notion of «contract logistics», the term «3PL technology» (Third Party Logistics) was actively used. 3PL technology includes the organization and management of transportation, accounting and inventory management, the preparation of import-export and freight documentation, warehousing, cargo handling, delivery to the end user. The client receives a full complex of all necessary services, which fully meets his logistics needs. The use of such services allows the client to save time and switch the released resources to the main business projects, quickly and adequately respond to changes in consumer preferences, use the experience and resources of direct participants in the supply chain, apply their specific technologies and a number of other advantages.

The key participants in the logistics 3PL outsourcing market are international companies that have grown from express delivery services and have come to countries with economies in transition to serve large production and trade structures.

4. The role of marketing strategies in the competitive struggle of logistics companies in the international market is growing. The marketing strategies of large logistics companies are dominated by the orientation toward creating a positive image of the company and the individual needs of the client, the use of so-called client-oriented marketing (a complex of communication tools aimed at building a client base and meeting the individual needs of customers).

So, in working with clients of the American company DHL, there is a differentiated approach to the needs of customers. The focus is on the use of commodity (diversification of markets, adaptation to local markets and work with target groups) and communication strategies (direct marketing, various types of advertising, public relations). The company analyzes the peculiarities of the environment of local markets, creating a positive and well-recognized image of the firm, examines the level of customer satisfaction when using the company's services.

Thus, the main competitive advantages of companies in the world market of logistics services are determined by the main trends of its development.

The largest supplier of transport services to the world market for many years now is the United States. In 2014, the aggregate market of US transport logistics services amounted to about 1141.9 billion dollars (RBK Research). However, over the past sixteen years, the US has gradually, but invariably, lost its share in the global market for the export of transportation services, while the economic giants such as China and India have entered the arena [5].

The leading positions of these countries in the world market are explained by the active participation of these countries in the world trade and in the international division of labor.

Thus, the world market of transport services is gradually developing. The main mode of transport, participating in international transport, remains sea transport; in the second place is the carriage of goods by rail; automobile and air transportation occupy a small share in the market, but they also play an important role. All the processes taking place on the world market sites, one way or another, are reflected in the domestic market.

First, it is expedient to consider the development of transit container transportations through the territory of Kazakhstan in the context of China's deployment of the multi-purpose project One Belt, One Way, which has both a land (the Economic Silk Way belt project) and a maritime part. «Economic belt of the sea Silk Road of the XXI century») components, with the main focus on the development of a new economic space with the dominant role of China [6].

The potential for container traffic growth in the Euro-Asian direction is very significant, the revenues from sea freight from China to Europe are about $23 billion per year, while expert estimates for transit freight by land routes can attract up to 500 thousand twenty-foot equivalent unit (TEU) per year with potential income up to 4 billion USA dollars [6].

In May 2015, the leaders of Russia and China signed a joint statement on cooperation in combining the construction of the Eurasian Economic Union (EEU) and the economic belt of the Silk Road project (the land component of the project). However, the main volumes of Chinese transit follow through the territory of Kazakhstan, and the configuration of the land route of the «Silk Road» project includes passing around Russia through the territories of Kazakhstan, Azerbaijan, Georgia and Ukraine, or along the route of the TRACECA corridor (China-Kazakhstan-Uzbekistan-Turkmenistan-Azerbaijan-Georgia — Romania) [7].
In this aspect, one could view Kazakhstan as Russia's main competitor for Chinese transit, which, in fact, is not entirely true. Given the geographic gravitation of China's central and southern provinces to the route through Kazakhstan and the use of the transport infrastructure of China at a significant distance, which is cheaper than the Russian one, the priority choice of Kazakhstan is logical.

Priority of transit through Kazakhstan is confirmed by the main direction of the Northern Corridor «Silk Road» through the territories of China, Kazakhstan and Russia with further access to European countries via the Baltic Sea and the Republic of Belarus ports, and the choice of this route as the base for the United Transport and Logistics Company (JSC «UTLC»), established on November 13, 2014 by the railway administrations of Russia, Belarus and Kazakhstan [8].

Thus, the emergence of Kazakhstan as a key player in the EEU area in terms of promoting Chinese transit is in fact a reality that has taken place. And the purposeful policy of the leadership of Kazakhstan allowed to form the transport infrastructure of the country really as a «transit» one. For example, in the structure of income of the national company Kazakhstan Temir Zholy (railways of Kazakhstan) in 2015, 30 % were revenues from international transit [9].

The issue of price competitiveness of the Transsib is topical. Transit Transsiberian services are rendered by a rather large number of companies of different jurisdictions. As a rule, these are subsidiaries and joint companies of national railways of Russia, Belarus, Kazakhstan and Germany (DB Schenker): «RR Logistics» JSC; «Transcontainer» PJSC (operator of specialized platforms); BELINTERTRANS — Transport and Logistics Center; KTZ Express; DB Schenker Rail; «Far East Land Bridge» Ltd (FELB); «UTLC» JSC; Trans-Eurasia Logistics. And large international forwarders, for example, InterRail Holding AG.

Data through rate or the possibility of its self-calculation for a particular transportation, as well as the components of the transit service on the sites of these companies could not be found. The exception is the information of FELB company, from the resulted terms of which follow the approximate delivery time, the procedure for payments for the use of containers and the required documentation for transportation in the message China-Europe (Official site Far East Land Bridge Ltd, 2016). Nevertheless, based on the information of the above-mentioned companies, it was possible in general to create price parameters for transit container transportation by the Trans-Siberian Railway (Table). With comparable conditions, the cost of sea transportation will be 1200–1600 US dollars with delivery time 35–40 days.

<table>
<thead>
<tr>
<th>A country of departure</th>
<th>A country appointments</th>
<th>Route</th>
<th>Cost of delivery, thousand USA dollars</th>
<th>Delivery time, day</th>
</tr>
</thead>
<tbody>
<tr>
<td>China (Chongqing)</td>
<td>through the station Dostyk</td>
<td>5</td>
<td>14</td>
<td></td>
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<tr>
<td>China (Chongqing)</td>
<td>through the station Zabaikalsk</td>
<td>7,5</td>
<td>18</td>
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</tr>
<tr>
<td>China (Chongqing)</td>
<td>Germany (Duisburg)</td>
<td>through the station Naushki (through Mongolia)</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>Japan (Yokohama)</td>
<td>Port Vostochny (Russia)</td>
<td>6,5</td>
<td>25–30</td>
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<tr>
<td>Korea (Pusan)</td>
<td>Port of Dalian (China) — the station Zabaikalsk</td>
<td>6</td>
<td>20–25</td>
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</table>

Note. Source: [10].

Thus, from a price point of view, the Trans-Siberian transit significantly loses the main sea route. However, in this case it is necessary to take into account the following fact: through rate for the example of the multimodal route of Yokohama (Japan) — Duisburg (Germany), only 20 % is attributed to the railway tariff in Russia, about 30 % to sea freight and 28 % to the railway tariff across Europe, which is a fairly wide range for research into the causes of the specified price imbalance and the possibility of its optimization.

In terms of delivery time, Trans-Siberian has significant advantages, but due to various organizational and technological difficulties, they are, rather, a potential nature.

The task of searching for the most effective ways to realize the transport transit potential (TTP) of the republic was set by the country's leadership practically from the first years of gaining independence. A number of important state documents related to the development of transport have been developed and adopted in the regulatory and legal framework. Among them: The Nation Plan — 100 concrete steps to implement the
To create favorable conditions for increasing freight traffic inside the country and cargo turnover in the direction of Iran, China, Russia, the EU countries, projects will be implemented to eliminate «bottlenecks» in the organization of train traffic in the south and the connection of transit nodes in the west.

The multifunctionality of the ferry transport system will allow increasing the turnover with neighboring Caspian states (Iran, Azerbaijan) to provide cargoes necessary for the western region of the country, such as consumer goods, equipment, building materials, etc.

The development of the free economic zone (FEZ) «Khorgos — Eastern Gate» will have a decisive influence on the development of the petrochemical industry and the increase in transit potential, which are the priority tasks of the state programs of industrial and innovative development and development of the transport system infrastructure.

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The construction of the infrastructure of the FEZ «Khorgos-Eastern Gate» will allow it to become a center of consolidation and distribution of Eurasian cargo flows.

The basis for the project of the «New Silk Road» on the territory of Kazakhstan was the Eurasian transcontinental corridor, which President Nursultan Nazarbayev proposed to create, speaking at the Astana Economic Forum in May 2015.

It is proposed to create a new high-speed multimodal transport route «Eurasian transcontinental corridor».

The Eurasian transcontinental corridor will run through the entire country, allow unimpeded transit of goods from Asia to Europe and back.

This corridor will connect the countries among themselves and ensure the security and stability of all states through which the routes pass. The transport artery will give impetus to the development of production in all countries.

As a result of this project, it will be possible to:
• become the central transport and logistics hub in the Eurasian region;
• double the volume of transit between East and West until 2020;
• attract investment in the development of the transport and logistics industry of the country;
• increase the political and economic potential of the republic.

Within the framework of the «New Silk Road» project, it can be pointed out that the direction from China to Europe is a strategic direction of transit traffic.

At the same time, the national transport policy of Kazakhstan, which is an inland country, is currently being built with an emphasis on the development of land transport modes — rail and road.

In the Message of the Head of the State to the people of Kazakhstan Strategy «Kazakhstan — 2050: the new political course of the held state» the task is set to increase the transit traffic twice through Kazakhstan by 2020 and 10 times by 2050.

According to the calculations of the Ministry of Transport and Communications of the Republic of Kazakhstan, presented in the Transport Strategy of the Republic of Kazakhstan until 2020, the volumes of transit by land transport through the territory of the Republic of Kazakhstan will increase to 50 million tons of cargo by 2020.

There are four areas, the changes in which affect the share of rail transport in the structure of world cargo transportation [12]:

1. Increasing competition in the railway services market affects the wider supply of these services, which increases the share of rail transport in freight turnover. The use of «large data» allows railway companies to increase the degree of convenience of services provided and their predictability, which also increases the share of rail traffic. In turn, the reduction in carload shipments in Europe reduces the share of railway freight turnover.
2. Changes in technology have a high degree of influence on the industry and mean a possible expansion of the infrastructure, as well as the creation of a developed transport network, which, in general, should have a positive effect on capacity growth, ease of use of services and predictability of their provision. In the context of environmental friendliness, the effect of the development of technology on the rail transport sector is expected to be negative, due to the increase in the energy efficiency of trucking.

3. Regulatory changes mean an increase in the infrastructure tariff (which will lead to higher costs and prices), a reduction in the traffic flow schedule and a tightening of the noise level from the railway (which means automatic capacity reduction and reduced predictability of service delivery). On another hand, more stringent regulation of truck transport means a potential advantage for the rail transport segment in terms of ease of use.

4. Changes in the behavior of shippers will positively affect the industry in the context of containerization of goods and growth in the demand for «green logistics» — the first means improving convenience for customers, and the second — increasing the degree of environmental friendliness of the service.

The greatest effect and relevance to the structure of transport in Kazakhstan can be made by increasing the energy efficiency of trucks. In the long term, this can lead to a reduction in the costs of motor vehicles, which will lead to an increase in its competitiveness. A deeper analysis shows that truck transport still has a fuel saving potential of 50–65 % due to the use of available technologies. They include:

- measures related to improving the efficiency of diesel fuel use;
- the introduction of hybrid models;
- use of natural gas.

Separately, containerization growth can also be noted, the share of container transportations in trade in goods delivered by the sea is constantly growing under the influence of two factors: the movement to this segment of goods that were previously transported in bulk, as well as the rapid growth of trade in goods that have traditionally been transported in containers. As a result, the overall rate of growth in the share of container cargo grew at a rate of ~ 8 % in the period 1995–2008. Despite the high share of container shipments, in some product groups, the growth potential remains (in particular, for petroleum products and goods such as cork and wood).

Thus, in general, for the cargo transportation system in the next 10 years, the most relevant will be:

- increased competition within the segment, which leads to increased efficiency and turnover, as well as lower prices;
- regulation of road freight transport and, as a result, increase in road charges, which increase the relative attractiveness of railways.

During the specified period, within the framework of the declared measures for reforming the industry, the following were implemented:

- introduction of amendments and additions to international agreements (agreements) and national legislation of the Republic of Kazakhstan on railway transport issues within the Single Economic Space;
- unification of tariffs for cargo transportation by types of messages;
- large-scale investment program for the renewal of rolling stock and the construction and modernization of the railway infrastructure;
- initiation of work on the introduction of a new mechanism for subsidizing the losses of carriers engaged in railway passenger transportation along socially significant inter-oblast reports;
- optimization of the holding structure of JSC «NC KTZ» and the alienation of non-core and profile-supporting assets in a competitive environment;
- development of the railway transport engineering industry.

At the same time, there is a number of unresolved issues:

1) cross-subsidization of passenger transportation due to freight and low-income ones at the expense of high-yield ones;
2) the shortness of the right to carry out passenger transportation, which does not allow to include in the contract between the private carrier and the state, the obligation to purchase own rolling stock, the development of infrastructure;
3) incompleteness of institutional reforms in the industry;
4) preservation of state price regulation of transportation activities.

To date, rail transport is regulated by the state in terms of pricing, service parameters and contractual conditions, which does not meet modern requirements of a diversified market of transport and logistics services.
The target model of the railway industry assumes the organizational separation of the transportation activity from the infrastructure services and the formation of a competitive market of services for the transport of goods by opening the access of independent carriers to the backbone railway network.

However, the integration processes within the framework of the Eurasian Economic Union and the need to harmonize the national legislations of the participating countries led to the postponement of the opening of access to the backbone railway network to private freight carriers to ensure the equal conditions for the functioning of railway transport entities on the market by eliminating state price regulation of transportation activities and 100 % of state subsidies for carriers' losses i.e. organization of railway passenger traffic (communication to break even).

The opening of access to infrastructure without the implementation of these measures puts the National Freight Forwarder in unequal conditions in relation to independent carriers and entails the risk of losing the national freight market, in general.

Currently, for Kazakhstan, which does not have access to the world ocean, but has a significant transit potential, being between world economic centers, the development of container transportation is especially topical.

At the present stage of social and economic modernization of Kazakhstan, the role of the transport-logistics industry is growing rapidly, taking an international scale and allocating transport transit as one of the leading functions of the national transport system. In this regard, the priority task for the republic in the development of the national transport and communications complex is to ensure its competitiveness in the world market of services and, accordingly, to stimulate the growth of transportation of goods through Kazakhstan territory.

JSC «KTZ Express», being a national multimodal operator, bases its strategy on the Strategy 100 % of the founder of JSC «NC KTZ» [13], government programs and initiatives, and also adheres to the international trend of development of the logistics industry.

JSC «KTZ Express» is the national operator of Kazakhstan for transportation of mixed (multimodal) modes of transport. It integrates rail, trucking, sea and air transport, port, airport infrastructure, a network of terminals and warehouses, as well as cargo loading operations at key transport hubs.

The main strategic goals of JSC «KTZ Express» are:

• Creation of a permanent route for transportation by land transport from China to Europe through the territory of Kazakhstan on the principle of «one window» and ensuring competitiveness compared to sea transport between China and Europe, based on a shorter duration of transportation;
• The offer to transport electronic equipment through a transport scheme of mixed modes of transport — rail and air routes;
• Creation of consolidation and distribution centers in Lianyungang (China) and free economic zone Khorgos — Eastern Gate» (Kazakhstan) as a measure of response to the growth of e-commerce and the market for goods on the Internet;
• to become the leading shipping company for maritime transport, operating in the Caspian Sea from the Aktau seaport;
• to become a leading provider of logistics services in Kazakhstan, offering transportation by rail, road, air, transport and mixed (multimodal) modes of transport, cargo warehousing services in cargo hubs (points) throughout the country, as well as shipment of smaller shipments cargo capacity of the car and consignment smaller than the cargo capacity of the truck to the final recipient (last mile transportation), up to the delivery of parcels to the door of customers.

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С.Б. Байбосынов, С.Ш. Акенов, Н.Ш. Касымова
Заманауи кезендеи Казахстаннын колектив-логистикалык инфраструктурдагы дамуынын басымдылықты багыттары

Макалада Казахстандын экономикалык-энергетикалык жаңаретынан өзі жетілдірілдің негізінен багыттары айықта, яғни ылғалды жылының аяқ жағдайында ұлттық қызметтердің жетекші функционалдық қоспаларының қызметтерінің бағыттауышына қол жеткізу үшін артық құрылысуын, ар нында қойылымның орын алады. Сол жағдайда, қызметтердің өзінің қол жеткізу үшін ортақ қызметкерлердің жаттығын, қол жеткізу тұрғындарын әрті болуы мүмкін.

С.Б. Байбосынов, С.Щ. Акенов, Н.Щ. Касымова
Приоритетные направления развития транспортно-логистической инфраструктуры Казахстана на современном этапе

В статье раскрыты основные направления дальнейшего совершенствования социально-экономической модернизации Казахстана, возрастающая роль транспортно-логистической инфраструктуры, которая принимает международный масштаб и выделяет транспортный транзит как одну из ведущих функций национальной транспортной системы. В этой связи приоритетной задачей для Казахстана в области
развития национального транспортно-коммуникационного комплекса является обеспечение его конкурентоспособности на мировом рынке услуг и, соответственно, стимулирование роста перевозок грузов через Казахстан. Транспортная система в ее нынешнем состоянии не может полностью удовлетворить потребности экономики, учитывая огромные территории Казахстана и амбициозные планы правительства по долгосрочному развитию экономического потенциала Республики. Задачи предстоящего этапа развития транспортной отрасли Казахстана включают повышение эффективности деятельности, новое строительство транспортной инфраструктуры, модернизацию существующей инфраструктуры, ускорение товародвижения и снижение транспортных издержек, повышение безопасности и устойчивости отрасли, а также доступности транспортных услуг для населения. Казахстан развивает международное сотрудничество в области транспорта, благодаря которому страна получает новое оборудование и технологии, внедряет международный опыт. В этом направлении необходимо установить основные тенденции развития международного рынка логистических услуг, а также определить направления влияния интеграционных объединений, как Евразийский экономический союз и инициативы «Экономического пояса Шелкового пути» по развитию транспортно-логистической инфраструктуры Казахстана.

Ключевые слова: транспортно-логистическая инфраструктура, международные логистические центры, мировой рынок транспортных услуг, транзитный сервис.

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