

Assessment of the potential for the development of Kazakhstan's transport and logistics system in the context of the Eurasian Transcontinental Bridge formation

Evaluación del potencial para el desarrollo del sistema de transporte y logística de Kazajstán en el contexto de la formación del Puente Transcontinental de Eurasia

Altynay KHASSENOVA-KALIYEVA [1](#); Nailya Kapenovna NURLANOVA [2](#); Aida Menlibayevna MYRZAKHMETOVA [3](#)

Recibido: 10/06/2017 • Aprobado: 30/06/2017

Content

[1. Introduction](#)

[2. Results and Discussion](#)

[3. Conclusions](#)

[Bibliographic references](#)

ABSTRACT:

In the context of globalization, no state can successfully develop without integration into the world economy. In the integration of Kazakhstan's economy into the world economy, an important role is played by the transport system. This system performs two important functions: 1) ensures the delivery of local goods to foreign trading partners; 2) brings revenue to the budget in the form of payments for the transportation of goods of other countries through the territory of Kazakhstan. The favorable geographical position of Kazakhstan between Europe and Asia predetermines its significant transport potential in the field of transit traffic and gives an excellent opportunity to act as the Eurasian Transcontinental Bridge, providing Asian countries with a single land transport connection with Europe and Russia. International transport corridors passing through the territory of Kazakhstan are of great importance, since they cover three most important and promising directions in the world economy: 1) China, Japan and South-East Asian countries; 2) Central Asia and

RESUMEN:

En el contexto de la globalización, ningún Estado puede desarrollar con éxito sin integración en la economía mundial. En la integración de la economía de Kazajstán en la economía mundial, el sistema de transporte desempeña un papel importante. Este sistema cumple dos funciones importantes: 1) asegura la entrega de bienes locales a socios comerciales extranjeros; 2) aporta ingresos al presupuesto en forma de pagos por el transporte de mercancías de otros países a través del territorio de Kazajstán. La posición geográfica favorable de Kazajstán entre Europa y Asia predetermina su importante potencial de transporte en el ámbito del tráfico de tránsito y ofrece una excelente oportunidad para actuar como Puente Transcontinental Eurasiático, proporcionando a los países asiáticos una única conexión terrestre con Europa y Rusia. corredores de transporte internacionales que transiten por el territorio de Kazajstán son de gran importancia, ya que abarcan tres direcciones más importantes y prometedoras en la economía mundial: 1) China, Japón y los países del

Transcaucasia, Iran and Turkey; 3) Russia, European and Baltic countries. Taking into account the relevance of the historic Great Silk Road revival in a new format, Kazakhstan needs to make every effort to create an efficient and technologically renovated transport system that will facilitate the accelerated delivery of domestic export goods to the foreign market and the successful implementation of transit potential.

Key words: Central Asia, Eurasian Transcontinental Bridge, TRACECA, transit potential, Trans-Siberian Railway, Trans-Asian Railway, Suez Canal, international transport corridors.

sudeste asiático; 2) Asia Central y Transcaucasia, Irán y Turquía; 3) Rusia, países europeos y bálticos. Teniendo en cuenta la importancia del renacimiento histórico de la Gran Ruta de la Seda en un nuevo formato, Kazajstán necesita hacer todo lo posible para crear un sistema de transporte eficiente y tecnológicamente renovado que facilite la entrega acelerada de los productos de exportación internos al mercado exterior y la implementación exitosa Potencial de tránsito.

Palabras clave: Asia Central, Puente Transcontinental Eurasiático, TRACECA, potencial de tránsito, Ferrocarril Trans-Siberiano, Ferrocarril Transasiático, Canal de Suez, corredores de transporte internacional.

1. Introduction

The processes of globalization, the international division of labor, the intensification of competition and integration processes stimulate the development and improvement of national transport systems and the formation of an international transport services market as well as macro-logical systems. In addition, due to the growth of international economic relations on the Eurasian continent and cargo flows between Europe and East Asia, the idea of creating the Eurasian Transcontinental Bridge becomes more urgent. Solving the issue of the effective implementation of the transcontinental bridge requires, first of all, the definition of the concept of "transcontinental bridge". Currently, there is no single interpretation of this concept. We consider the transcontinental bridge as a transport bridge relating to the connection of continents, between continents or passing through the whole continent, uniting all modes of transport into a single system.

The transcontinental bridge can also be regarded as a set of international transport corridors concentrated in a particular country or a group of countries connecting the continents.

It is the revival of the Great Silk Road that can be considered as a modern transcontinental bridge on the Eurasian space. In recent years, this idea has been widely discussed at a number of international conferences with the participation of representatives of China, Japan, South Korea, Russia, Central and South Asian states, Transcaucasia and the European Economic Community countries. The proposed transcontinental bridge connecting Asia and Europe begins in the port city of Lianyungang in Jiangsu province and in the port city of Rizhao in Shandong province, and ends in the European city of Rotterdam (Netherlands) and Antwerp (Belgium). It represents a huge international railway stretching through Asia and Europe, connecting the Pacific Ocean with the Atlantic, which operates in the mode of unified transit along the route "sea-continent-sea".

The new Silk Road includes a joint project with Kazakhstan – the Economic belt of the Silk Road, as well as a joint project with Indonesia – the construction of the Silk Road on the Sea. Together, all these projects are 'One Belt and One Way', the idea of which is to create and establish links between the countries of Eurasia by creating a trade corridor for the direct delivery of goods from east to west on preferential terms. This economic corridor should connect the Asia-Pacific region in the east with developed European countries in the west.

The concept of 'One Belt and One Way' connects more than 60 countries of Central Asia, Europe and Africa, promoting the development of trade relations between them and China, by improving existing and creating new trade routes, transport and economic corridors.

Six corridors are supposed to be created and developed within the framework of the project 'One Belt and One Way':

- China - Central Asia - Western Asia;
- The Eurasian Land Bridge;
- China - Mongolia - Russia;
- Bangladesh - China - India - Myanmar;
- The Sino-Pakistani Peninsula.

The project 'One Belt and One Way' includes the construction of a high-speed railway from the Pacific to the Atlantic, which gives it the right to act as the Eurasian Transcontinental Bridge. In addition,

the successful implementation of this project is expected due to the construction of roads, ports, bridges and other infrastructure facilities, as well as the conclusion of agreements on free trade zones.

Such Russian authors as Titarenko (2015), Kotlyar (2011) and Popov (2012) believe that the construction of the Eurasian Transcontinental Bridge, in particular, the New Silk Road, which will connect the East Asian coast of China and the EU countries by land, will strengthen the transit positions of the entire Eurasian Union, increase the level of the economic stability of China, and bring all Eurasian countries and peoples closer together.

This statement is also supported by such Russian researchers as Abdykarimova (2011), Syroezhkin (2007) and Ermakov (2007). They agree that the restoration of the Great Silk Road will contribute to the strengthening of the new Eurasian Transcontinental Bridge, opening up new prospects for the development of economic, scientific-technical, cultural and spiritual cooperation between many Eurasian countries and peoples.

As early as the beginning of 2014, Zuokui (2015), one of the influential Chinese scholars, wrote about the existence of three transcontinental bridges on the Eurasian continent, connecting East Asia with Western Europe:

- 1) The Siberian Transcontinental Bridge (Vladivostok-Rotterdam).
- 2) The Second Eurasian Transcontinental Bridge (Lianyungang-Russia-Belarus-Poland-Rotterdam).
- 3) The Third Eurasian Transcontinental Bridge (from Shenzhen to Europe through Myanmar, Bangladesh, India, Pakistan, Iran, Turkey and Bulgaria).

Foreign researchers in their works, devoted to the study of the Eurasian Transcontinental Bridge, did not give a concrete interpretation, but only considered the potential of the transport system as a whole. Lynn (2011) believes that Central Asian countries, being in the center of the Eurasian continent, have the right to act as a transcontinental bridge, using their transit and transport potential. Starr and Cornell (2015) studied the issues of the creation of the Eurasian Transcontinental Bridge, relying on the efficient use of transport corridors, as well as the location of transport hubs in the countries of the region.

Based on scholarly works and existing concepts on the research subject, we define the *Eurasian Transcontinental Bridge* as a set of international transport corridors passing through the Eurasian space, using several modes of transport, which helps establish an unimpeded connection between Europe and Asia.

We have also identified the most important aspect of the transcontinental bridge – the international transport corridor.

The international transport corridor is a network of water and land transport railways with the appropriate infrastructure in a certain direction, including necessary facilities, service points, border crossing points, access roads, cargo and passenger terminals, traffic control equipment, as well as the system of legislative and regulatory acts, organizational-technical measures that effectively ensure the transportation of goods and passengers at a level that meets the requirements of the participating countries of this international transport corridor.

The authors' interpretation of these concepts is clearly shown in Figure 1.

Transcontinental bridge

- The transport bridge, successfully and seamlessly connecting the continents or passing through the whole continent, using several modes of transport.
- The transcontinental bridge can also be regarded as a set of international transport corridors concentrated in a particular country or a group of countries connecting the continents.

Eurasian Transcontinental Bridge

- A set of international transport corridors passing through the Eurasian space, using several modes of transport, which helps establish an unimpeded connection between Europe and Asia.

International transport corridor

- The international transport corridor is a network of water and land transport railways with the appropriate infrastructure in a certain direction, including necessary facilities, service points, border crossing points, access roads, cargo and passenger terminals, traffic control equipment, as well as the system of legislative and regulatory acts, organizational-technical measures that effectively ensure the transportation of goods and passengers at a level that meets the requirements of the participating countries of this international transport corridor.

Figure 1. The authors' interpretation of the main study concepts
Note. Compiled by the authors

2. Results and Discussion

In recent years, the development of the world economy has shown trends that make it possible to forecast the possible growth of the role of Kazakhstan's transport system in mastering the world cargo flows. In particular, the following trends are noted:

- 1) Strengthening of the Asia-Pacific region's position in the world economy and trade.
- 2) Combination of transnational corporations.
- 3) Expansion of the world market of container transportations.
- 4) Intensification of problems with the capacity of seaports.

Forecast estimates of the development of the world economy indicate that the main financial and commodity flows will be concentrated within the triangle formed by the US – Europe – Southeast Asia and China (Prospects for the development of the infrastructure of roads and railways, 2011).

When analyzing the Eurasian trade flows in the Asia-Europe direction, one should take into account the three main cargo-forming centers to determine the load on land transport systems in the Eurasian communication: China and South Korea as the main partners of European countries in the Far East, using and capable of increasing transit traffic, as well as India, whose goods are potentially able to partially enter Europe via north-south routes.

Figure 2 presents data on China's trade with Europe and CIS countries for the main commodity groups.

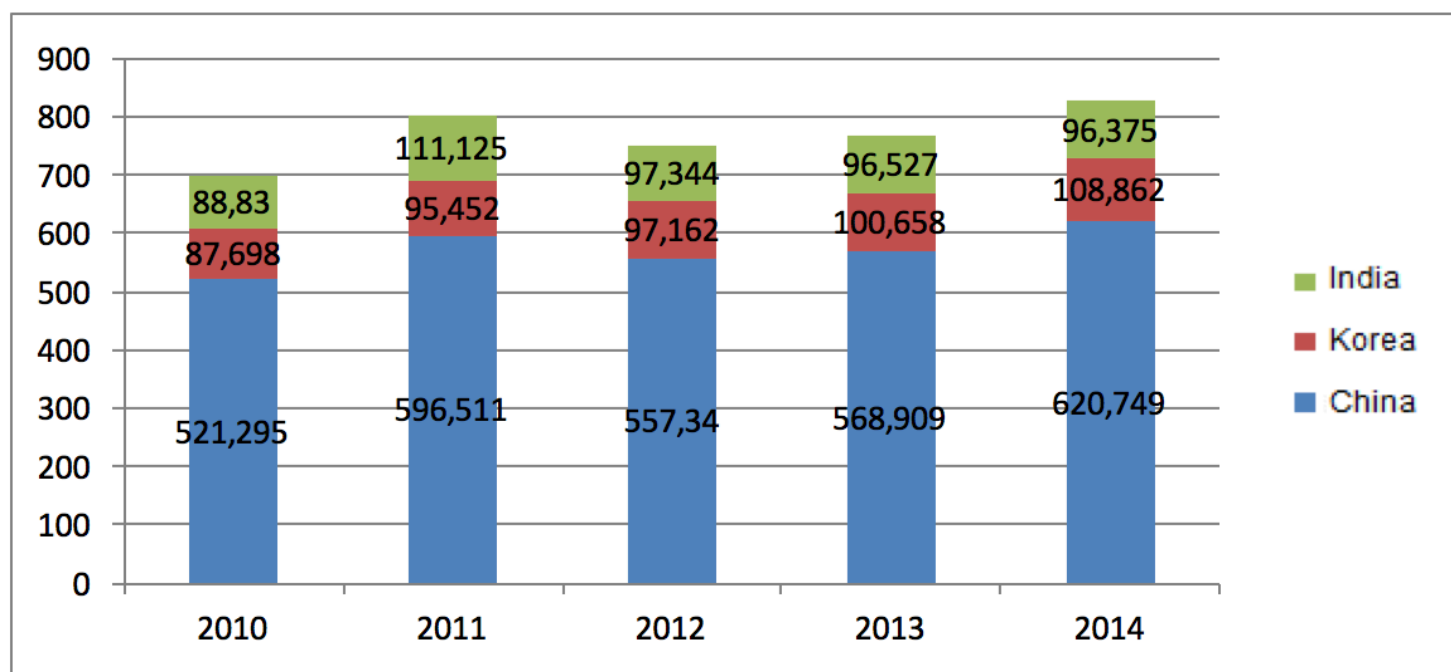


Figure 2. Trade turnover between the EU and China, South Korea and India (billion US dollars)
 Note. Compiled by the authors based on data from (Galat, 2015)

About 99% of all cargo, sent from Southeast Asia to Europe and back, currently goes by sea. Land transport corridors, in this respect, have a narrow specialization. The main products that are transported by transit corridors are, first of all, food or perishable goods, some types of engineering products, as well as goods which are relatively large in value, but small in mass. In this regard, taking into account the problems of passability of the Suez Canal, the demand for land transportation can increase in the coming years.

It is important to emphasize that with accession to the Customs Union, Kazakhstan has the opportunity to compete for the trade flows coming through Russia, which is due to the acquisition of a number of advantages:

First, the customs legislation of Kazakhstan, Belarus, Russia, Kyrgyzstan and Armenia has been unified with regard to the establishment of uniform rules for customs clearance along the entire transit cargo route. Uniform approaches contributed to the improvement of the procedures for customs clearance and control in the transportation of transit goods, including by rail.

Second, the time spent on customs procedures has been significantly reduced through the implementation of preliminary electronic project declaration at border crossing points.

Within the economic belt of the Silk Road, Kazakhstan can participate in the following areas (Cooley, 2012):

- The Northern Corridor of the Trans-Asian Railway: China-Kazakhstan-Russia, Belarus, Poland, Germany/Western Europe (Dostyk-Astana-Petropavlovsk section).
- The Southern Corridor: Southeast Europe - China and Southeast Asia through Turkey, Iran, Central Asian countries and Kazakhstan (Dostyk/Khorgos-Almaty-Shu-Arys-Saryagash section);
- TRACECA: Eastern Europe - Central Asia through the Black Sea, the Caucasus and the Caspian Sea (Dostyk/Khorgos-Almaty-Aktau section);
- North-South: access to the Persian Gulf countries through Iran (Aktau-Bandar Anzali-Bandar Abbas seaport).
- The "Western Europe – Western China" corridor (Khorgos-Almaty-Shymkent-Kyzyl-Orda-Aktobe section)

Corridors make it possible to significantly reduce the distance in the East-West communication and the delivery time of goods.

The route, known as the northern corridor of the Trans-Asian Railway, begins in the South China port of Lianyungang and goes to Europe through the railway networks of China, Kazakhstan, Russia and other CIS countries. The total route length – 11.6 thousand km – is half the length of the sea route (Table 1). Through the Chinese transport network, there is a direct access to the entire group of "Asian tigers" – Japan, Korea, Taiwan, Singapore, and to the whole region of South Asia. Currently, a transit tariff rate is agreed between all the countries participating in the transcontinental railway from

the Chinese ports to Belarusian Brest, which is formed at the level of 14 cents per 1 ton/kilometer for 2-pound containers.

In addition to this through-route, Kazakhstan also provides transit carriers with through-routes in the "north-south" directions as well as TRACECA through the transport networks of adjacent countries of Central Asia and Transcaucasia. The route from the South China ports to the port of Rotterdam in the Netherlands passes through Kazakhstan, the Caspian, Azerbaijan, Georgia to the Black Sea ports of Europe. It reduces the route of cargo transit by 2.5 thousand km in comparison with the Trans-Siberian Railway. The route from the eastern ports of China using the Bandar Abbas – Bandar Anzali - Aktau ports within the North-South corridor can be one of the attractive routes for cargo transportation.

Table 1. Length and delivery time of goods in the Europe-Asia direction (average route speed – 900-950 km/day)

No.	Routes	Length, km	Delivery time, 24 hours	
			without regard to cargo transfer	with regard to cargo transfer
through the Trans-Siberian Railway				
5.	Rotterdam - Lianyungang	13000	17,8	19,8
through the Trans-Asian Railway				
6.	Rotterdam - Lianyungang	11600	14,8	16,8
through the Suez Canal				
7.	Rotterdam - Lianyungang	23000	35,0	35,0
Note. Compiled by the authors based on data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan				

In addition, the stable commercial position of the UAE in the transportation of various goods from the world markets to the Central Asian region and Russia creates conditions for the development of a route for the transportation of goods through the seaport of Aktau. It should be noted that there are a number of factors contributing to a partial reorientation of cargo flows from eastern China to this route, in particular:

1. availability of free economic zones in all transit ports (Dubai - Bandar Abbas - Bandar Anzali - Aktau), contributing to a significant minimization of existing costs;
2. successful recent experience in using the Bandar Abbas - Bandar Anzali - Aktau route for the sustainable transportation of electrical appliances, consumer goods, wheeled vehicles;
3. an interest in the delivery of various cargoes of a number of Chinese largest companies that are developing oil deposits in Western Kazakhstan.

Another significant advantage is the almost completed project of a fiber-optic communication network – the Trans-Asian-European Information Superhighway, which is used to transmit information at a high speed at the shortest distance and in parallel with rail and road routes. In addition, this highway provides the possibility of transferring data on the course of goods, which is an important fact that counts in favor of choosing the Kazakhstan section of the trans-Asian direction of cargo transportation.

The total volume of transit cargo through Kazakhstan amounted to 19.5 million tons in 2016, the

revenue of which amounted to over 1 billion US dollars. At the same time, the majority of transit cargo is transported by rail – 17.9 million tons, the rest is transported by road – 1.5 million tons and by water – 0.1 million tons.

At the same time, it should be noted that rail transit has been reduced by 8 times over the past 25 years, due to the disruption of production ties between the countries of the former USSR (Figure 3). Nevertheless, this shows the huge potential of the industry in the development of transit traffic.

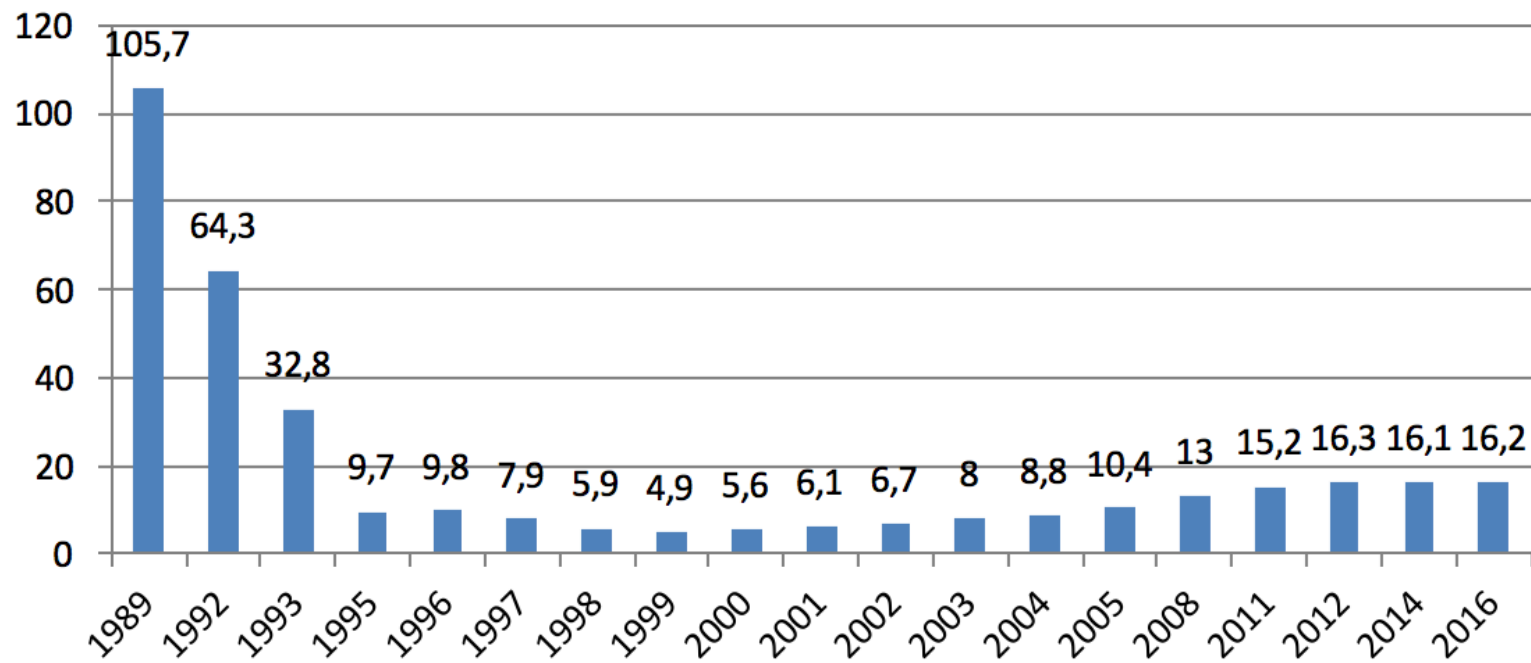


Figure 3. Dynamics of transit cargo flows by rail, million tons
 Note. Compiled by the author based on data from (Development of the national transport system of Kazakhstan, 2008)

The share of transit in the total volume of rail traffic in Kazakhstan is about 8%, while providing 25% of revenues from rail transport in general. In other words, transit traffic is the most profitable on the Kazakhstani railway.

In accordance with the government program for the development of western territories, in the Xinjiang Uygur Autonomous Region, China is developing a trade and economic zone that closely approaches the border of Kazakhstan. Kazakhstan, in its turn, started the construction of a transboundary system, activating the national border across all existing crossing points.

For the period 2005-2016, the volume of cargo transshipment in the Kazakhstan-China direction increased four-fold, and the transit volume amounted to about 4 million tons (Table 2).

In 2016, due to the deterioration of the international economic environment, the volume of cargo transported through border crossing points decreased by 24% as compared to 2015.

Table 2. Volumes of cargo transit of Kazakhstan-China, million tons

Cargo flows	Years											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
To China	5,2	6,6	8	9,07	10,0	7	10,7	11	10,8	12,2	8,4	5,59
From China	0,6	0,9	1,3	2	3,1	5	4,6	5	5,8	7,2	6,4	5,4
Total	5,8	7,5	9,3	11,07	13,1	12	15,5	16	16,6	19,4	14,8	10

Note. Compiled by the authors based on data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan

Despite the decrease in the volume of cargo transit, Kazakhstan is taking measures to continuously stimulate the marketing of traffic, attract cargo flows as well as improve the quality of transport services and attract export, import and transit cargo volumes. The state is also taking actions to enhance the organization of iron ore transportation from Kazakhstan through the border crossing point Khorgos – Altynkol to Inya Metallurgical Plant, as well as the transportation of sulfur, clay, grain, coal and other general cargoes to China. Special centers for the provision of services for train customers as well as a document clearance center with qualified specialists have been established. Taking into account the above, Table 3 shows the results of the SWOT-analysis of the transit potential development of the Republic of Kazakhstan based on macroeconomic indicators and presents the economy's strengths, weaknesses, opportunities and threats.

Table 3. SWOT-analysis of the transit potential development of the Republic of Kazakhstan

Strengths	Weaknesses
<ul style="list-style-type: none"> • Rich iron ore and mineral resources. • Large crude oil and natural gas stocks. • Strategic location between Europe and Asia. • Sufficiently developed transport potential in the region. • Uniform customs territory of the EAEC member countries. • Project financing to implement the National Infrastructure Development Plan. 	<ul style="list-style-type: none"> • The poorly developed manufacturing sector. • Insufficient consumer demand for goods and services in the local market (small economy). • Unbalanced economic development, remote poorly developed areas. • The raw orientation of the national economy requires that products with low added value be moved to large distances (coal, iron ore, oil products, products of metallurgical industry and agriculture - grain, wool, meat, etc.). • A large area requires more infrastructure investments to increase the density of railways and highways. • Limited access to the sea – there is no direct access to international seaports. • Lack of training programs on integrated logistics.
Opportunities	Threats
<ul style="list-style-type: none"> • Development of the transit route of China - Kazakhstan - Western Europe. • Proximity to Russia, China and India - developing economies provide low-cost supplies and large markets for exports. • Development of the Economic belt of the Silk Road. 	<ul style="list-style-type: none"> • Lack of direct access to the world's trading markets. • Lack of rolling stock that meets international standards. • High cost of import tariffs for containers. • Restriction of the activities of local carriers in the international transport services market. • The economic crisis may reduce credit and investment opportunities. • Particular changes in requirements and tariffs complicate planning.
<p>Note. Compiled by the authors</p>	

It should also be noted that the trade turnover between Kazakhstan and the EU reveals the potential for the development of Kazakhstan's transport and logistics system in the context of the formation of the Eurasian Transcontinental Bridge. The EU is the main trade and investment partner of Kazakhstan. Over the past 10 years, the trade turnover between Kazakhstan and the EU has increased 13-fold, and the volume of European investments in Kazakhstan's economy – 10-fold. The EU accounts for more than half of Kazakhstan's foreign trade turnover and 49% of attracted foreign capital in the economy of Kazakhstan. The foreign trade turnover of Kazakhstan with the EU

countries amounted to 31.2 billion US dollars in 2015, which corresponds to 51.4% of the country's total foreign trade volume. In turn, Kazakhstan is one of the EU's 30 largest trade partners, ranking 26th in terms of the total EU trade.

An example of the EU's influence on the development of Kazakhstan's transport and logistics system is the implementation of the intergovernmental program TRACECA (the international transport corridor Europe-Caucasus-Asia) aimed at supporting the political and economic development of the Black Sea region, the Caucasus and Central Asia through the improvement of the international transportation system. The main objective of the project is the development and improvement of trade in the region as well as the integration of the international transport corridor TRACECA into the Trans-European transport networks (Muratov, n.d.).

According to the European Commission, in 2015 the volume of exports from the EU to Kazakhstan amounted to 6.8 billion euros, and the volume of Kazakhstan's exports to the EU - 14.7 billion euros. About 90 percent of Kazakhstan's exports are energy and minerals. Over the past seven years, Kazakhstan accounted for five percent of oil imported into the EU. 70 percent of Kazakhstan's oil exports were consumed in Europe. Germany and France made deals with Astana on the extraction and export of rare earth metals. Kazakhstan has significant reserves of energy carriers and rare earth metals, but needs investments and technologies for their extraction as well as markets for their sale.

In general, the relevance of developing the country's transport transit potential is dictated by the need to realize its national interests and further increase in its own political and economic advantages. Therefore, currently, the Republic of Kazakhstan is in the process of actively building its transit policy, improving its directions and forming new vectors.

Therefore, there appears an objective need to improve the set of practical measures aimed at developing the transport transit potential of the Republic of Kazakhstan. This set of measures should integrate the economic, technological, industrial, transport, information and international policies of Kazakhstan.

3. Conclusions

Currently, one of the important ways to increase the efficiency of using transit potential is the qualitative development of rail and road transport in the Republic of Kazakhstan. Kazakhstan, being in the center of the Eurasian continent, creates favorable prerequisites for the use of transport highways of the emerging transcontinental routes in Europe-Asia communications, most of which include sections of the Kazakhstan road network.

According to Selfin and Hope (2011), transit flows in the Southeast and East Asia-Europe directions are estimated at 330.4 billion US dollars. It is assumed that up to 20% of transit flows should pass through the territory of the Russian Federation and Kazakhstan via rail and road routes. Charges for transit traffic are direct revenues of the budget. The development of these modes of transport is of particular importance given that five international transport corridors pass through the territory of Kazakhstan: the Northern Corridor of the Trans-Asian Railway, the Southern Corridor, the Central (Central Asian) Corridor, the North-South and TRACECA.

Thus, the formation of the transcontinental bridge in Kazakhstan will be successfully realized due to, first of all, the scientific and technical modernization of the transport system, which should take place in two directions – the re-equipment of the transport park and the technical and technological improvement of transport infrastructure. The development of modern multimodal transport technologies will optimize and reduce transportation costs, increase the efficiency of transport infrastructure as well as connect regional and industrial production cycles (Syzykbayeva, 2014).

Secondly, Kazakhstan, acting as a transit state, needs to draw attention to the development of roadside service, which should include bus stations that meet international standards, passenger service points, recreation areas with parking lots and public catering establishments.

Thirdly, an efficient transit traffic system brings revenue to the country's economy, therefore in the case of transit through Kazakhstan neighboring countries that compete in the world transport system also have their interests. To solve this problem, it is necessary to regulate the country's tariff and customs policy and pay attention to coordinating the work of customs services at the border.

The successful development of Kazakhstan as a transport and logistics hub of Eurasia and the realization of its transit potential cannot be carried out without the active development of the logistics sector. We believe that the state needs to pay attention and provide financial investments for the construction of new warehouses as well as to develop and modernize existing ones on world experience. First of all, one can create logistic parks in such regions as Aktobe, Aktau, Karaganda and Shymkent, as well as combine several private logistics companies in one large logistics center of the region that would meet all the requirements of transit traffic.

Changing the models of the production process is also one of the ways to develop Kazakhstan's transport and logistics system. In particular, the transition to the establishment of supranational integration transport and logistics centers, within which the bulk of operations and transportations are carried out, influences the extension of the continental transport routes, the reduction in the period of passenger and cargo delivery as well as the creation of a new transport distribution network in the context of the unified network of transport corridors, based on the reduction in the size and weight of traffic and on the increase in the number of traffic, the development of a combined transport system. In this case, the transport system will be able to effectively perform the inherent functions of the transcontinental bridge.

To implement this kind of task, there is a need for the complex development of all modes of transport and connecting elements of transport infrastructure on the basis of a long-term integrated plan for the maintenance, repair and reconstruction of roads. The main problem is the task of forming sustainable financing sources. The economic crisis has shown that the development of transport infrastructure and, first of all, road construction must be carried out using innovative approaches, both in technological and administrative areas. In the long term, with regard to the size of the territory, it is necessary to introduce intelligent transport systems using satellite monitoring systems.

In addition, the effective development of the transport system can be achieved through the formation of the foreign economic policy of the transit state, based on the inclusion of transit rent as an instrument of geopolitics.

Therefore, the potential of the efficiency of Kazakhstan's transport system can become the base point of economic growth and improvement of the quality of life of the population. Orientation to the optimal functioning transport system should be considered as an important factor of sustainable economic development, and deviation from optimal values is an indicator of an additional reserve for growth.

Bibliographic references

Abdikarimova, Sh.T. (2011). The Great Silk Road – a strategic road of intercontinental importance. *Bulletin of Kazakh National University*, 69.

Cooley, A. (2012). *Great games, local rules: The new great power contest in Central Asia*. London: Oxford University Press.

Development of the national transport system of Kazakhstan (2008). Development of the national transport system of Kazakhstan: the main trends in the formation of a competitive transport cluster. Analytical report. Astana. Retrieved from: <http://www.do.gendocs.ru/docs/index-180220.html> (assessed date August 18, 2016).

Ermakov, V. (2007). *Kazakhstan in the modern world*. Almaty: Zhibek Zholy.

Galat, I. (2015). Kazakhstan in figures: Statistics for October 19, 2015. *Vlast'*. Retrieved from: <https://vlast.kz/strana/13605-kazahstan-v-cifrah-statistika-za-19-oktabra-2015-goda.html> (assessed date August 18, 2016)

Kotlyar, N.V. (2011). Russian regions in the world transport system. *Bulletin of the Chelyabinsk State University*, 14(229), 17-24.

Linn, J.F. (2011). Central Asian regional integration and cooperation: Reality or mirage. In E. Vinokurov (Ed.), *EDB Eurasian Integration Yearbook 2012 (The Economics of the Post-Soviet and Eurasian Integration)* (pp. 96-117). Almaty: Eurasian Development Bank.

Muratov, R. (n.d.). Development of the transport sector. *Ekspert*. Retrieved from:

http://expert.ru/ratings/table_57979/ (assessed date August 18, 2016).

Popov, D. (2012). Kazakhstan – China's Gateway to Central Asia. *Geopolitika*. Retrieved from: https://www.geopolitica.ru/article/kazahstan-vorota-kitaya-v-centralnuyu-aziyu#.UWqSA6nw_x

Prospects for the development of the infrastructure of roads and railways (2011). Prospects for the development of the infrastructure of roads and railways included in EurAsEC transport routes. Almaty. Retrieved from:

http://www.eabr.org/general/upload/reports/full_version_may_2011%20infrastruct%%20dorog%20.pdf (assessed date August 18, 2016)

Selfin, Y. & Hope, D. (2011). *Future of World Trade: Top 25 Sea and Air Freight Routes in 2030*. Unpublished Report, PricewaterhouseCoopers: London, United Kingdom.

Starr, S. F. & Cornell, S.E. (2015). The EU and Central Asia: Developing transport and trade. *Analytical Articles*. Retrieved from: <https://www.cacianalyst.org/publications/analytical-articles/item/13313-the-eu-and-central-asia-developing-transport-and-trade.html>

Syroezhkin, K. (2007). China in Central Asia: From trade to strategic partnership. *Central Asia and the Caucasus*, 3(45), 40-51.

Syzdykbayeva, B.U. (2014). *The role of logistics in the innovative development of Kazakhstan*. Retrieved from: www.enu.kz/repository/repository2014/Sizd_Rol'%20logistiki....doc (assessed date February 8, 2014)

Titarenko, M. (2015). On the prospects for the development of the Silk Road. *Bulletin of the Amur State University*, 2(70), 65-70.

Zuokui, L. (2015). The pragmatic cooperation between China and EU. *Global Economic Observer*, 3(1), 44-53.

1. PhD, Postdoctoral Student of Al-Farabi Kazakh National University, Researcher of the Institute of Economics of Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan, Almaty, Republic of Kazakhstan

2. Deputy Director of the Institute of Economics of Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan, Head of the Centre for Spatial Development, Doctor of Economics, Professor, Doctor PhD in Economics, Almaty, Republic of Kazakhstan

3. Associate Professor, PhD, Department of International Relations and World Economy of Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan

Revista ESPACIOS. ISSN 0798 1015
Vol. 38 (Nº 34) Año 2017

[Índice]

[En caso de encontrar algún error en este website favor enviar email a webmaster]

©2017. revistaESPACIOS.com • Derechos Reservados