

THE INCREASE IN TRAFFIC AND CARRYING LINES CAPACITY, DUE TO THE TRANSPORT CORRIDORS DEVELOPMENT OF THE KAZAKHSTAN REPUBLIC

Balgabekov T.K.

The Karaganda State Technical University, Karaganda, e-mail: tdi_kstu@mail.ru

The challenges and the prospects of the transport corridors development of the Republic of Kazakhstan are discussed in this paper. In the context of the world – wide globalization, the economy and the State competitiveness will be largely depended on the efficient operation activity of the of the transport and communication complex, haven given the vastness of the Kazakhstan territory. So, the main key to the domestic goods, services and the economy competitiveness, as a whole, is the high tech transport infrastructure, completely appropriate the State transport and also its transit policy.

Keywords: transport corridors, freight (transportation of goods), traffic capacity, freight traffic, turnover, railway routes

The Introduction. The President of the Republic of Kazakhstan N.A. Nazarbaev noted: *«...the main condition for the high quality of life – is to be ensured the sustainable economic growth.*

This challenge is within our reach. We have already created the necessary groundwork in the economy, which is allowed to be provided the economic growth at the level of 8 – 9% per year. Now, it is much significant to be focused on the strategic directions, which will be given us the breakthrough and will be allowed to be taken its rightful place in the global economy in the beginning of the second decade.

... The Kazakhstan will have to become the part of the global transport and communication system, that will be required us the advanced whole transport infrastructure development of the country.

We'll have to be taken the long – term transport strategy, having logically linked with the further territorial development. So, it is quite necessary for us to be created the whole modern highways network, having permitted to be implemented, as the continental, well as the transcontinental transits in the North – South and the West – East directions.

It, moreover, is necessary to be developed the work on the transit routes network formation through the country's airspace. The special priority in this activity will be given to the modern «hubs'» creation – the powerful traffic centers and the transport nodal points, that will be permitted to be linked between them together not only all the cities of the country, but also the largest cities in the world».

At present, the share of the transport sector in the GDP of the country is made up 9%. Over the past ten years, US \$1,4 trln. have already been embedded in the transport and communication complex development. And more, another US \$ 4,2 bln. have already been made the foreign investments. The goods transported volume has already been increased up to 2,5 bln. tons, or in 1,8 time over these years.

The number of the air passengers served has already been increased up to 6 mln. passengers, or in 5,5 times. The traffic capacity of the railways has already been increased up to 260 mln. tons, or in 1,5 time. During the years of independence, 740 km of the new railways had already been built (e.g. Khromtau – Altyntarino – 402 km, Aksu – Degelen – 183 km, Shar – Ust – Kamenogorsk 151 km), that reduced by more, than 700 km traffic distance within the country.

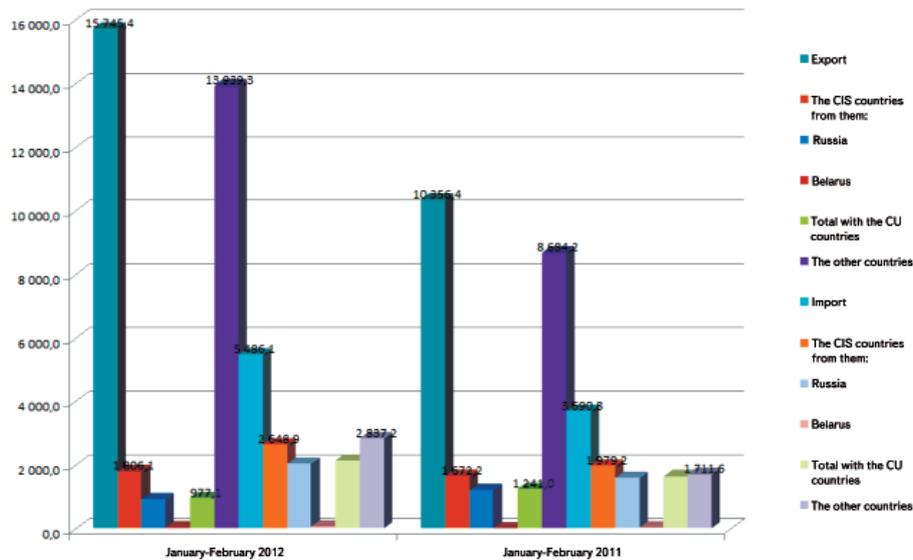
Materials and methods of research

In the country the transit routes network has already been established in three priority directions:

1. Russia – the European and Asian countries;
2. China, Japan and the South – Eastern Asia countries;
3. The Central Asia, the Transcaucasia, the Black Sea, the Persian Gulf countries and Turkey.

The five already established international transport corridors are being passed throughout the country's territory in each of these above – indicated directions: **The Northern Corridor of the Trans-Asian Railway Main Line** (TARML, Western Europe – China, Korea, Japan through Russia and Kazakhstan (Dostyk – Astana – Petropavlovsk section)); **The TARML Southern Corridor** (South – Eastern Europe – China and South – Eastern Asia through Turkey, Iran, the CA countries and Kazakhstan (Dostyk – Saryagash section)); **The Central (Central Asian) Corridor** (Central Asia – Russia and the EU countries (the section by RK: Saryagash – Arys – Kandygach – Ozinki); **«North – South»** (Northern Europe – Countries – the Persian Gulf through Russia and Iran with the Kazakhstan's participation in the area Aktau seaport – the Ural and Aktau regions – Atyrau); **«TRASEKA»** (the Eastern Europe – Southern Caucasus – the Caspian Sea – Central Asia (the section by RK: Dostyk – Aktau). In addition, **Western Europe – Western China** is jointed to these corridors. So, all these corridors are divided into 6 railway and 6 highway transport corridors inside Kazakhstan [1, 2].

The turnover with the RF has already been made up and amounted US \$ 8,5 bln., the turnover with the EU countries – US \$ 38,2 bln. So, the turnover with China – US \$ 14,8 bln., the turnover with the CA countries, India, and Iran – US \$ 4,4 bln. Thus, the total turnover of the Republic of Kazakhstan with the countries of the world – US \$ 81,3 bln.



The Fig. 1. The foreign trade turnover of the RK (in US \$ dollars)

The 4 international air corridors are being passed through the air space of the country. The Program on the transport infrastructure development for the 2010–2014-es is being realized in the framework of ГПФИИР, which is provided for the implementation of more than 60 infrastructure projects, worth for the total sum of US \$ 2,8 trln. Over these years, it is planned to be built

about 1,5 ths. km of the new and to be electrified 1 ths. 700 km of the railways, to be constructed and to be reconstructed about 50 ths. km of the highways, to be carried out the works on the airport infrastructure reconstruction and the modernization, the national merchant marine fleet development, and also the maritime ports infrastructure.

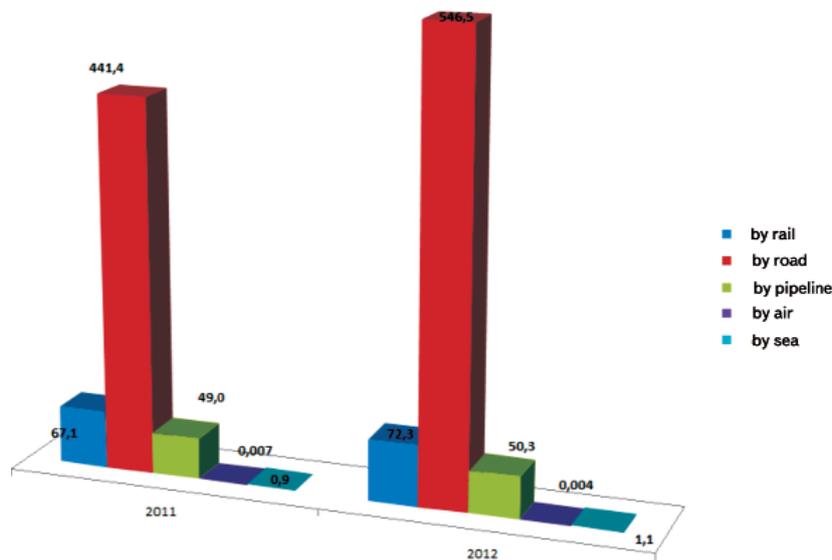


Fig. 2. The transportation of goods by all the transport types (mln. tons)

In December, 2009, the Presidents of Belarus, Kazakhstan and Russia have already signed the Declaration on the Common Economic Space formation, which is included the 165 million people, the thousands of enterprises power, the vast and colossal natural resources. Moreover, the Custom Union of Belarus, Kazakhstan and

Russia has already been created, and it is successfully being operated.

In result of the Custom Union formation, the single customs territory has been formed, the mutual trade has already been received the serious and the strong impetus, many of the procedures have already been simpli-

fied, the costs have already been reduced, and the time for the goods movement inside the Customs Union. For the first time, the supranational body – the Commission of the Customs Union has already been emerged in the post – originated space. The results of the bilateral trade

are very impressive, and even the most cautious experts predict the Customs Union's members by 2015, the 15% increase of the GDP. So, in October, the Agreement on the free trade zone had already been signed in St.-Petersburg, the participations of which the 8 CIS states were become.

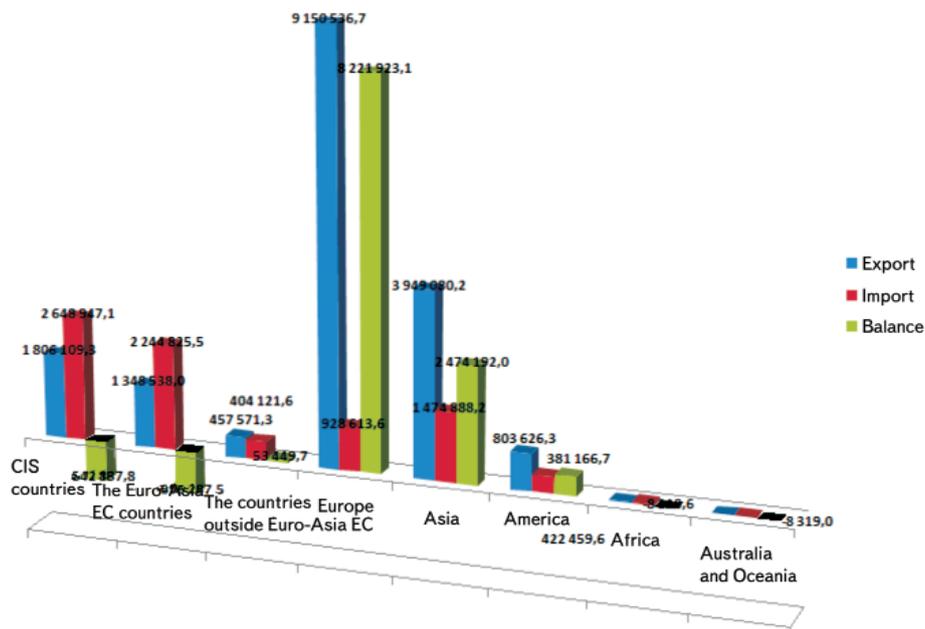


Fig. 3. The external trade main indicators of the Republic of Kazakhstan in January – February, 2012 (in thousands of US dollar)

Results of research and their discussion

As a whole, in 2015, it is planned to be completed the reconstruction of all the 6 international highway corridors, with the total length of 8 ths. 415 km. For Kazakhstan, the international railway border crossing with China Dostyk – Alashankou is the main point of the international transit. As a result of the measures already taken, the Aktogai – Dostyk and the Dostyk – Alashankou border crossing section traffic capacity will be increased: in 2011 up to 16,5 mln. tons, and to 2020 – 20 mln. tons. So, the quite new routes formation in the East – West and the North – South directions, both as for the Kazakhstan production, well as for the transit goods, the «Zhetygen – Korgas» and «Uzen State border with Turkmenistan» realized railway projects are being promoted. The other projects of the railways routes construction implementation is being provided for the further formation development of the railways optimal network up until 2020: «Zhezkazgan – Beineu» (988 km), «Arkalyk – Shubarkol» (212 km), «Yeralievo – Kuryk» (14,4 km). It is also being planned the electrification of about 1 ths. 800 km railways sections: «Makat –

Kandyagash» (392 km), «Almaty – Aktogai» (541 km), «Aktogai – Mainty» (522 km), «Dostyk – Aktogai» (309 km).

In the framework of the Customs Union, Kazakhstan is expected to be become the reliable transit corridor between the countries and the states, having bordered with the CU Southern borders and this organization members. «Over time, the Dostyk – Khorgos – Moscow – Brest transport corridor will be able to be turned into the special economic corridor. In this regard, the overland route, through the CU countries, can be considered for 15–18% further increase in the cargo traffic in the China – Europe direction». The example may be served as the starting October, 28, 2011 the «Saule» container train on the route of Chongqing (China) – Dostyk (RK) – Klaipeda (Lithuania) – Antwerp (Belgium). The follow-up time from Dostyk station – to Klaipeda (Lithuania) – is 10 days and nights (e.g. 240 hours). In December of 2011, it is planned the «Baltic Transit II» similar container train to be launched between Estonia and Kazakhstan. It, moreover, is being planned the «Mercury» container train to be launched between Russia, Belarus and Kazakhstan.

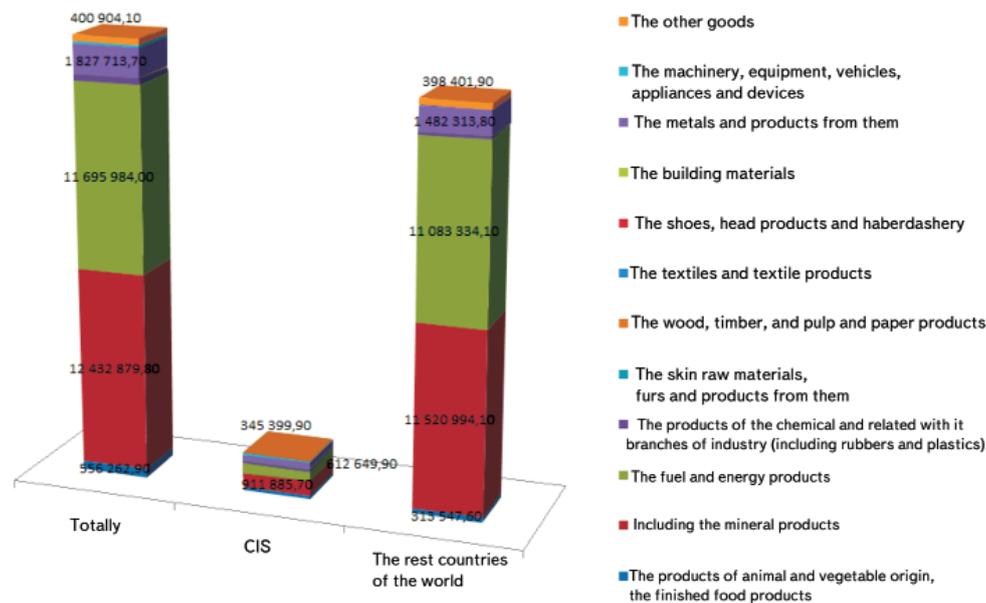


Fig. 4. The Republic of Kazakhstan exports structure by the major commodity groups

The Classification of the Transport Corridors (ORC)

The schemes development of the international railways routes in the Europe – Asia traffic is being conducted under the aegis of the (ORC). By now, the 13 main transcontinental routes and their offshoots have already been

formed, the 5 of which are being passed on the territory of Kazakhstan [3, 4].

The Corridor № 1. It is being passed through the territory of Poland, Latvia, Lithuania, Estonia, Belarus, Russia, Kazakhstan, Uzbekistan, China, Mongolia, and also North Korea.

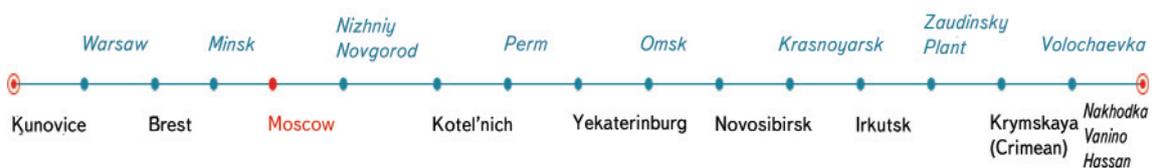


Fig. 5. The transport corridor location № 1

The Offshoots

- Riga / Ventspils / Liepaja → Krustpils → Zilupe → Posin → Moscow;
- Saint – Petersburg / Tapa → Vologda → Kotel'nich;
- Moscow → Ryazan → Syzran → Orenburg → Aktybinsk → Kandagach → Arys → Tashkent;
- Karymskaya → Harbin → Tumen → Namyang → Radjin;
- Harbin → Shenyang → Dalyan;
- the Zaudinsky Plant → Ulan – Bator → Erlan;
- Shanyang → Dandong → Siniiju → Kaesong;
- Kaliningrad → Pagegiai → Radvilishkis → Daugavpils → Rezekne;
- Hassan → Tumangan → Wonsan → Kymgansan;
- Ventspils / Riga → Krustpils → Indra → Bigosovo → Vitebsk → Smolensk.

The Corridor № 2. It is being passed through the territory of Russia, Kazakhstan, China, Vietnam.



Fig. 6. The transport corridor location № 2

The Offshoots

- a. Dema → Kartaly → Tobol → Astana;
- b. Zhengzhou → Hengyang → Jiulong (Kowlong);
- c. Xuzhou → Shanghai;
- d. Hengguang → Liuzhou → Nanning → Hanoi.

The Corridor № 3. It is being passed through the territory of Poland, the Ukraine, Russia.

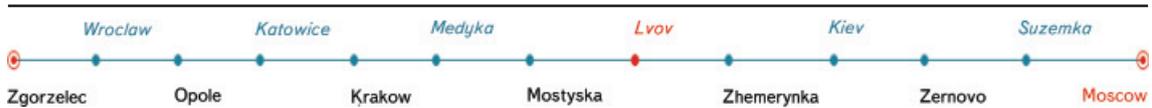


Fig. 7. The transport corridor location № 3

The Corridor № 4. It is being passed through the territory of Czech Republic, Slovakia, Hungary, Poland and the Ukraine.



The Fig. 8. The transport corridor location № 4

The Offshoots

- a. Prerov → Boreclav;
- b. Czeska Trebova → Brno → Boreclav → Bratislava → Budapest;
- c. The Border in Moravia → Ostrava → Petrovice → Katowice;
- d. Cheb → the Prague;
- e. Gornji Dvoriste → the Prague;
- f. Warsaw → Zwardon → Zilina;
- g. Pukhov → Bratislava.

The Corridor № 5. It is being passed through the territory of Hungary, Slovakia, the Ukraine, Russia, Kazakhstan, Georgia, Azerbaijan, Moldova, China, and Kyrgyzstan.



Fig. 9. The transport corridor location № 5.

The Offshoots

- a. Dartica → Konotop → Zernovo → Suzemka → Bryansk → Moscow;
- b. Murakeresztur / Gyekenyec → Dombovar → Budapest;

- c. Magyarboly → Dombovar;
- d. Fastov → Znamenka → Dniepropetrovsk → Ilovaysk → Kvashino → Rostov → Samur → Yalama → Baku → Beyuk – Kiasik → Tbilisi → Poti/Batumi;
- e. Ungeni → Kishinev (Chisinau) → Razdelnaya → Zhmerinka;
- f. Kurgan → Omsk → further along by **the Corridor № 1**;
- g. Rtishchevo → Ozinki → Arys → Lugovaya / Bishkek → Rybach'e / Almaty → Aktogai;
- h. Bratislava → Zhilina → Kosice → Cierna – over – Tisza.

The Corridor № 6. It is being passed through the territory of Czech Republic, Slovakia, Hungary, Romania, Serbia, Bulgaria, Greece, Turkey, Iran, and Turkmenistan.

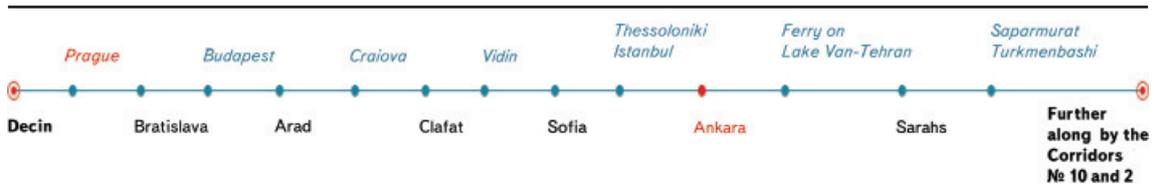


Fig. 10. The transport corridor location № 6

The Offshoots

- a. Arad → Bucharest → Constanta → further along by **the Corridor № 10**;
- b. Budapest → Belgrade → Sofia;
- c. Hegyeshalom / Sopron → Budapest;
- d. Sofia → Gorna Oryahovitsa → Varna;
- e. Tehran → Kum → Bander – Abbas;
- f. Kum → benderHomeini;
- g. Mashhad → Bafq.

The Corridor № 7. It is being passed through the territory of Poland, the Ukraine.



Fig. 11. The transport corridor location № 7

The Corridor № 8. It is being passed through the territory of the Ukraine, Russia, Kazakhstan, Uzbekistan, and Turkmenistan.

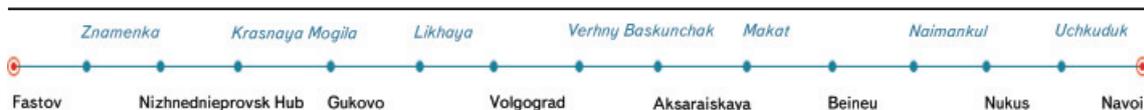


Fig. 12. The transport corridor location № 8

The Offshoots

- a. Naimankul → Chardjou;
- b. Makat → Kandagach → Nikel – Tau → Kartaly.

The Corridor № 9. It is being passed through the territory of Lithuania, Belarus, and Russia.



Fig. 13. The transport corridor location № 9

The Offshoots

a. Kaliningrad → Nesterov → Kaunas → Kalsiadorys.

The Corridor № 10. It is being passed through the territory of the Ukraine, Bulgaria, Rumania, Georgia, Azerbaijan, Uzbekistan,

Turkmenistan, Kyrgyzstan, Kazakhstan, and Tajikistan. It is corresponded to the «TRASE-KA» corridor route.

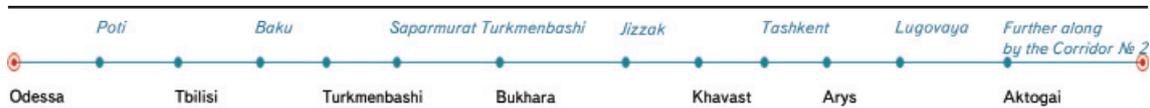


Fig. 14. The transport corridor location № 10

The Offshoots

- a. Baku → Aktau → Beineu → Makat → Kandagach → further along by the **Corridor № 5**;
 a'. Ashkhabad → the Kara – Kum → Ichoguz → Dashoguz;
 b. Lugovaya → Bishkek → Rybach'e;
 c. Khavast → Bekabad → Kanibadam → Kokand → Andijan → Karasu → Osh/Jalal-Abad;
 d. Bukhara → Karshi → Tashguzar/Talimarjan → Bojsun → Kumkurgan → Dushanbe/Termez → Galaba → Hayraton / Kurgan – Tube.

The Corridor № 11. It is being passed through the territory of Russia, Azerbaijan, Iran.



Fig. 15. The transport corridor location № 11

The Offshoots

- a. Kochetovka → Liski → Rostov – Chief → Timoshevskaya → Novorossiysk;
 b. Rostov-Chief → Armavir → Gudermes → KarlanYurt;
 c. Timoshevskaya → Krasnodar → Krivenkovskaya → Adler.

The Corridor № 12. It is being passed through the territory of Moldova, Romania, Bulgaria.



Fig. 16. The transport corridor location № 12

The Corridor № 13. It is being passed through the territory of Russia, Estonia, Latvia, Lithuania, and Poland.

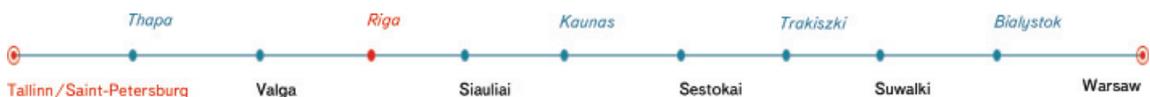


Fig. 17. The transport corridor location № 13

The Conclusion. It has already been found, if the goods are engaged in the carriage by the successive several modes of the transport, it

is called the mixed or the combined one. All these transits by the rail freightage services are practically carried out in three following cases:

– at the goods non – delivery possibility from the point – of – origin to the point of destination by the one mode of transport using;

– at the economic feasibility of the goods trans-shipment in the transit en route from one mode to another transport, i.e. when the total logistics costs of the goods shipping in the mixed traffic are practically appeared lower, than in the case of the goods delivery by one mode of the transport;

– at the crossing or traffic carrying capacities deficit of the definite transport lines or sections.

There is the cargo transfer from the rolling stock of one mode of the transport to the rolling stock of another mode of the transport in the junction points of the different transport modes. Almost the third of all the cargo, having transported by the domestic road transport, the freight is being delivered to the cargo railway stations and through their storehouses or directly is loaded onto the wagons. So, about the same amount of the cargo is practically loaded from the wagons into the cars and then, is delivered to their recipients at the destination stations. Approximately 70% of the railway transport freight traffic is originated and extinguished on the enterprises access routes. Here, the railway systems (e.g. the workshops) of these enterprises are joined and interacted with the stations, which are adjoined by their driveways. The sea and river transport is prac-

tically carried out about 90% of their traffic transport, including the railway transport participation. Almost the entire volume of the air cargo traffic is practically carried out with the road transport participation. The pipeline transportation at the oil, the petroleum products, and the other liquid cargo delivery is also actively engaged and interacted with the other modes of the transport.

The main reason of the broad multi-modal rail-water transport extensive development is that of all the modes of transport, the car one is essentially able to be performed «from door to door» transport. But the railway and the water transport have this capability only in the presence of the access roads and the wharfs at the cargo owners.

References

1. Balgabekov T.K., Kelisbekov A.K., Abetov D.B. On the Transport Corridors of Kazakhstan // *The World of Transportation Journal*, The Moscow State University of Railway Engineering (MIET). – M., 2012. – № 4. – P 96–101.
2. Balgabekov T.K. The Transport Corridors of Kazakhstan: Challenges and Prospects // *The Proceedings of the BSTU (The Belarus State Technical University) / The Scientific Journal*. – Minsk, 2012. – № 2 (149). – P. 103–106.
3. The Website of the Ministry of Transport and Communication of the Republic of Kazakhstan. The Website on Statistics of the Republic of Kazakhstan.
4. Balgabekov T.K. The Scientific Substantiation of the Wagons' Traffic Volumes Technological Cycle on the Main Rail and Industrial Railway Transport. The Monograph. The Karaganda State Technical University. (KarSTU). – Karaganda: The «KarSTU» Publishing House, 2012. – P. 184.