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**Transport corridors of the
Republic of Kazakhstan and
prospects of their development**

Kazakhstan is located in the center of Eurasia, in the midst of communication flow between Europe and Asia. The country has a huge transit potential. Further development of the country's transit potential in the field of international transport, which has great importance for the development of the country's economy and strengthen international ties, largely depends on the development from passing through the territory of Kazakhstan transport corridors and their branches. Considering potentially leading role of the country in development of the Euroasian transport, the government actively participates in the world integration processes, which purpose is strengthening of the international and regional trade and economic cooperation. This paper discusses the issues of the organization of international transit traffic in the Republic of Kazakhstan. The main rail and road corridors, an analysis of the quality of roads passing through the territory of the Republic of Kazakhstan are given in the article. The authors identify the significant problems that must be resolved for the subsequent efficient operation of the country's transport system and prospects of development of the transport complex of the Republic of Kazakhstan.

Key words: transport corridors of the Republic of Kazakhstan, transportation, freight traffic, transit, development prospects.

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**Қазақстан Республикасының
көлік дәліздері мен олардың
болашақтағы даму
перспективалары**

Қазақстан Еуразияның кіндігінде, Еуропа мен Азияның арасындағы коммуникациялық ағынның ортасында орналасқан. Ел үлкен транзиттік әлеуетке ие. Қазақстан аумағынан өтіп жатқан көлік дәліздерін дамытудың еліміздің транзиттік әлеуетін және халықаралық тасымалдау саласындағы қарым-қатынастарын нығайту, экономикалық дамуы үшін маңызы зор. Қазақстан Еуразиялық көлік елдерінің дамуында ықтимал жетекші рөл ескере отырып, үкімет халықаралық және аймақтық сауда-экономикалық ынтымақтастықты нығайтуға бағытталған жаһандық интеграциялық үдерістерге белсенді қатысады. Бұл мақалада Қазақстан Республикасының халықаралық транзиттік жол қозғалысының ұйымдастырылуы мәселелері талқыланады., Қазақстан Республикасының аумағы арқылы өтетін негізгі темір жол және автокөлік дәлізі, жолдардың сапасын талдау бойынша талдау жұмыстары орындалған. Еліміздің көлік жүйесін одан әрі тиімді жұмыс істеуі үшін шешілуі тиіс басты мәселелер қарастырылған. Мақалада Қазақстан Республикасының көлік кешенін дамыту мәселелері мен перспективалары анықталған.

Түйін сөздер: Қазақстан Республикасының көлік дәліздері, тасымалдау ағындары, көлік ағындары, транзит, даму болашағы.

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**Транспортные коридоры
Республики Казахстан и
перспективы их развития**

Казахстан находится в центре Евразии, в центре коммуникационного потока между Европой и Азией. Страна имеет огромный транзитный потенциал. От развития проходящих по территории Казахстана транспортных коридоров и их ответвлений во многом зависит дальнейшее развитие транзитного потенциала страны в области осуществления международных перевозок, что имеет колоссальное значение для развития экономики страны и укрепления международных связей. Учитывая потенциально ведущую роль страны в развитии евразийского транспорта, правительство активно участвует в мировых интеграционных процессах, целью которых является укрепление международного и регионального торгово-экономического сотрудничества. В данной работе рассматриваются вопросы по организации международных транзитных перевозок Республики Казахстан. Представлены основные железнодорожные и автомобильные коридоры, проведен анализ качества дорог, проходящих по территории Республики Казахстан. Приведены основные задачи, которые необходимо решить для последующей эффективной работы транспортной системы страны. Определены проблемы и перспективы развития транспортного комплекса Республики Казахстан.

Ключевые слова: транспортные коридоры Республики Казахстан, перевозка, грузопотоки, автомобилепотоки, транзит, перспективы развития.

**TRANSPORT
CORRIDORS OF
THE REPUBLIC OF
KAZAKHSTAN AND
PROSPECTS OF THEIR
DEVELOPMENT**

Kazakhstan is a country, which have complex of automobile and railway networks, port at the Caspian Sea, makes all efforts for creation of transcontinental transport connection between Europe and Asia that is the main task of the Program of development of transport infrastructure in the Republic of Kazakhstan [1]. A main goal of transport policy of Kazakhstan is further creation of the Euroasian transcontinental bridge, due to the increase in volumes of freight traffics between China and Europe now.

In fact, the most important railway lines, which connect Europe and Russia with the countries of the Asia-Pacific, Central Asia and the Middle East, pass across the territory of the Republic of Kazakhstan. In line with the geographical location of Kazakhstan, the country's railways border and interact with the railways of neighboring countries such as Russia, Turkmenistan, Uzbekistan, Kyrgyzstan, China and Azerbaijan (using rail ferries).

The country has a network of transit routes in three priority areas: 1) Russia – Europe and Asia; 2) China, Japan and South-East Asia; 3) The countries of Central Asia, the Caucasus, the Black Sea, the Persian Gulf and Turkey.

To date, the territory of Kazakhstan has 9 railway, 6 car and 4 air corridors of international importance [2].

In December, 2009 presidents of Belarus, Kazakhstan and Russia signed the Declaration on formation of the Common economic space which includes 165 million people, capacities of thousands of enterprises, enormous natural resources.

State program of the development and integration the infrastructure and transport system of the Republic of Kazakhstan until 2020 (the Program) covers railway, automobile, city passenger, air and water means of transport. The development and effective functioning of them substantially depend on policy of the State.

Linking together cities and towns of the republic, transport plays a key role in ensuring the territorial and administrative integrity of the state, its defense and security [1].

According to statistics provided by the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, the main means of transport for the organization of cargo transportation on the territory of Kazakhstan and abroad are rail, road and pipeline transport modes (see fig.1).

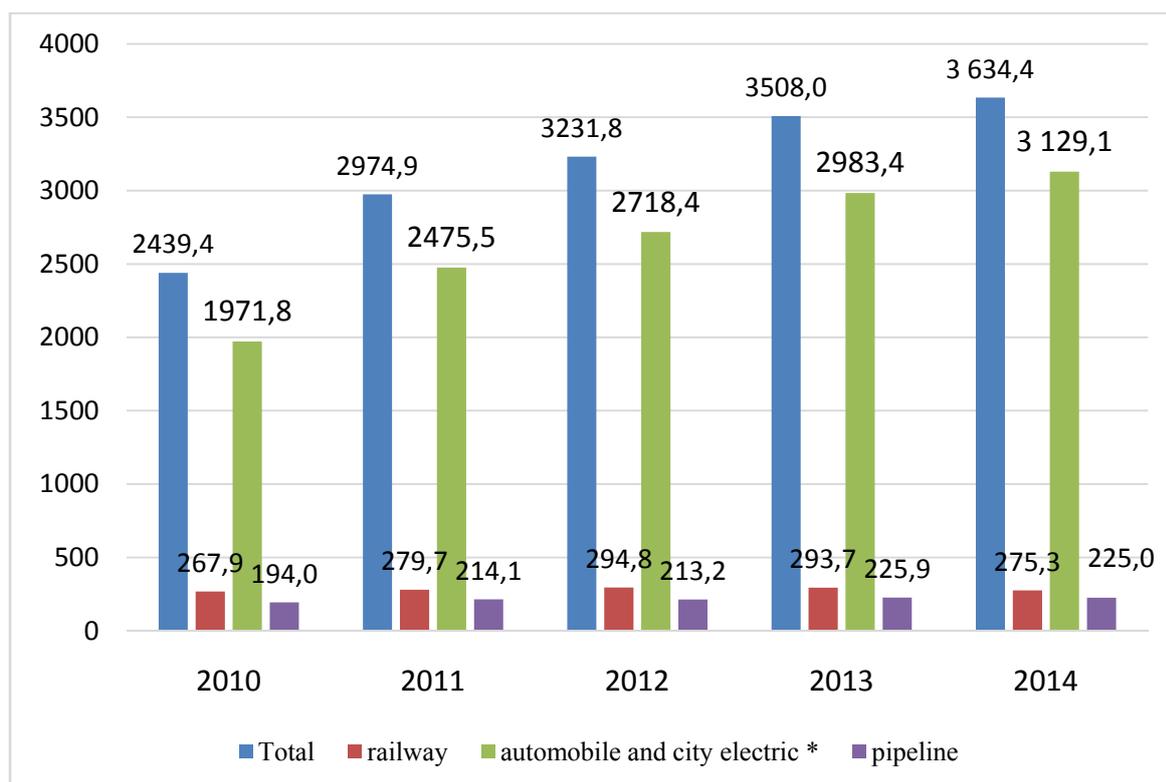


Figure 1 – Freight transportation in RK by main modes of transport (mln. tons)*

*Note: compiled by the authors according to [3]

In the Figure 1, you can see the dynamics of the transportation of goods according to the three modes of transport for 2010-2014.

The diagram shows that the volume of cargo transportation by railways has a tendency to grow. During 2014, the volume of cargo transportation by this type of transport in 2014 was 3.6344 billion tons compared with the 2013 year – 3.508 billion tons. Traffic roadway takes the second place. The volume of cargo transportation in 2013 on the roads was 2.9834 billion tons, in 2014 this figure increased to 3.1291 billion tons of cargo. Third place goes to pipeline path. Unfortunately, water and air communication path are not developed in Kazakhstan.

Thus, the rail and road lines of communication hold main niche for cargo.

Classification of the transport corridors.

The following classification of transport corridors of Kazakhstan are:

Rail corridors [4]:

1) Central Corridor (TRACECA): Europe – Central Asia via the Black Sea, the Caucasus and the

Caspian Sea (Gaza seaport Aktau – Beineu – Makat – Kandyagash – Aris – Almaty – Aktogay – Dostyk – the border with China).

2) Trans-Asian Railway Network (TARN):

- Northern Corridor: Western Europe – China, Korean Peninsula and Japan through Russia and Kazakhstan (section Dostyk – Aktogay – Sayak – Mointy – Astana – Petropavlovsk).

- Central Corridor: It branches from the Northern Corridor in Moscow

should be in Kazakhstan through Ozenki, crosses the northern part of Kazakhstan

through Aktobe and Astana, where provides communication with the Northern Corridor.

- Southern Corridor: South-Eastern Europe – China and South-East

Asia via Turkey, Iran, Central Asia and Kazakhstan (sector Dostyk – Almaty – Chu – Aris – Saryagash), the same site in Kazakhstan is also part of the TRACECA network.

3) The corridor «North – South» extends from St. Petersburg to the Gulf via Aktau in western Kazakhstan.

4) The corridors of the Central Asia Regional Economic Cooperation (CAREC) I, II, III and VI.

Road corridors.

The state also has road corridors, with equal importance and the volume of traffic as railway corridors. Car park of the republic has 408.6 thousand trucks, 112.9 thousand buses, 4000.1 thousand cars. In addition, the country registered 78.7 thousand motorcycles and 131.1 thousand trailers [5].

By data for January, 2015 by motor transport of the republic taking into account an assessment of volume of transportations by the businessmen who are engaged in commercial transportations it is transported freights – 2241, 87 million tons, goods turnover made 114, 62 billion ткм. Already for the beginning of year in comparison with last years the volume of transportation of goods increased by 3,8%, goods turnover increased by 1,37%. All types of motor and city electric transport transported passengers – 17413,53 million people, the passenger turnover made 171,52 billion ткм. For January, 2015 in comparison with data of last year there was an increase in these indicators by 3,4% and 1,8% respectively [3].

The main transit project on the present originating on Horgosa is the automobile corridor Western Europe – the Western China. The corridor represents the shortest way from China to Europe with the minimum quantity of member countries (Kazakhstan and Russia), so, the minimum quantity of borders.

Start of automobile corridors at full capacity, requires complex development of a road network. Due to the concentrated investments the Republic intends to improve and reduce national road infrastructure to the international standards on the basis of transport strategy of Kazakhstan, till 2020. It is planned to lay 1,6 thousand km new, and also capitally to repair and rehabilitate about about 50 thousand km of highways with parallel development of roadside service. That is very important because of total absence in Kazakhstan of roadside infrastructure, which would meet the requirements of the international carriers. In the most part service at roads arose spontaneously therefore does not differ in high quality.

In Kazakhstan, there are 6 major operating routes that are part of international road corridors. There are:

(1) The border with Uzbekistan – Shymkent – Taraz – Bishkek – Almaty – Khorgos – border with China. Length of 1137 km

(2) Shymkent – Kyzylorda – Aktobe – Uralsk – border with Russia. Length of 2048 km.

(3) Almaty – Karaganda – Astana – Petropavlovsk length of 1,669 km

(4) The border with Russia – Atyrau – Aktau – border with Turkmenistan. Length of 1420 km.

(5) The border with Russia – Pavlodar – Semipalatinsk – Maikapchagai – the border with China. Length of 1105 km

(6) Astana – Kostanay – border with Russia. The length of 879 km.

Corridor «Western China – Western Europe» is formed by the corridors I and II connecting in Shymkent [1].

The total length of the above-mentioned corridors is 8258 km. The highest traffic observed on sections of the road from the border with Uzbekistan to Khorgos (on average more than 4,000 vehicles per day, but was fixed and 7000), the Uzbek border to the Urals (more than 2,000 vehicles per day). The capacity of these specific sites and reaches a maximum of 100%. However, in some other areas, for example, from Astana to Russia via Kostanai, from Russia to Turkmenistan through Atyrau, traffic is barely 50% of design capacity. In 2005 roads of I and II categories made 5,5% of a network of public highways in Kazakhstan, and the III categories – 40% are expensive [6, p.41].

The government of the Republic of Kazakhstan plans to increase quality of roads along above-mentioned international transport corridors because of high intensity of the movement and the assumption of its increase. Now according to Transport strategy of the Republic of Kazakhstan until 2020, modernization of the reconstructed international roads is planned. It is expected that roads of the international value will be modernized according to requirements for the II category (at least 13 t on an axis).

Nevertheless, the road network of Kazakhstan is in unsatisfactory technical condition, in particular in rural areas. For roads characterized by the lack of road signs, a bad marking, and also hollows which quite often have dangerous depth that is especially dangerous for driving at night (see Table 1).

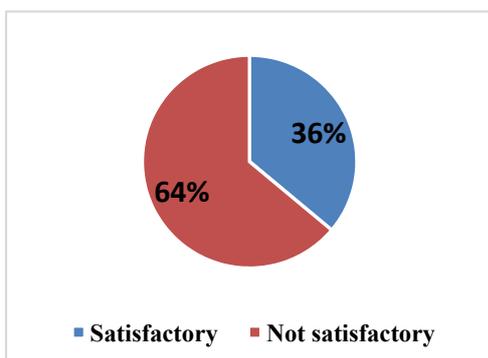
Table 1 shows the main characteristics of the roads of Kazakhstan.

Analyzing the data shows that the majority of these roads are in poor condition. One-third of the road corridor, named in Table 1 as a corridor №1: the border with Uzbekistan – Shymkent – Taraz – Bishkek – Almaty – Khorgos – the border with China is in an unsatisfied state. Although this trend in China is a major in cooperation with China, and has a maximum average traffic volume of vehicles per day.

Table 1 – Characteristics of highways in Kazakhstan [1, 6]

Direction of road corridors	Length, km	Length on a state		Traffic volume vehicles per day
		Satisfactory, km.	Not satisfactory, km.	
(1) The border with Uzbekistan – Shymkent – Taraz – Bishkek – Almaty – Khorgos - border with China	1137	267	870	4567
(2) Shymkent – Kyzylorda – Aktobe – Uralsk – border with Russia	2048	607	1441	1227
(3) Almaty – Karaganda – Astana – Petropavlovsk	1669	844	925	2599
(4) The border with Russia – Atyrau – Aktau – border with Turkmenistan.	1420	312	1108	757
(5) The border with Russia – Pavlodar – Semipalatinsk Maikapchagai – the border with China.	1105	600	505	900
(6) Astana – Kostanay – border with Russia	879	352	527	2376
Total:	8258	2982	5276	12426

Analyzing the condition of the road corridors in Kazakhstan, and creating the above Table 1, we can say that more than a third of all road corridors in Kazakhstan are in poor condition (see Fig.2).


Figure 2 – Percentage of condition of the road corridors in Kazakhstan*

* – Note – compiled by the authors according to [1, 6]

Figure 2 shows the percentage of the state of the above roads nowadays. Where it is clear that 64% of roads need reconstruction. From 8258 km of roads, only 2,982 km, which is only 36% of the total length of the corridor, are in satisfactory condition, the rest of the roads require repairs.

Results

During the work, it was found that the development of transport corridors in Kazakhstan has great importance, as the transportation of goods both inside and outside are carried out mainly by

rail and road routes. As well, it was revealed that the condition of road corridors of the republic is at a low level. All roads require repair works. The low level of roads lets other countries use other alternative ways to deliver their goods to other links. Kazakhstan also being in the center of Eurasia, and with all the conditions for cooperation with other countries, being a transit country, loses the advantages because of the low level of road [7].

The main objectives of the Program for the development of transport infrastructure in the country:

1) the creation of the territory of Kazakhstan of modern transport and logistics system that provides a high and efficient transport links in the country, the increase in cargo traffic through the territory of the Republic of Kazakhstan and the coordination of all kinds of land, sea and air transport;

2) integrated Software villages and small towns of quality public transport;

3) development of local transport infrastructure in the regions;

4) ensuring the integration of the transport infrastructure of Kazakhstan in the international transport system.

The research, which was done by the authors, identified the following issues, which, according to the State Program of development and infrastructure integration of the transport system of the Republic of Kazakhstan until 2020, have to be solved [1, p. 22].

These problems we have structured by the industry, which indicate the following program objectives:

1) In the road sector:

development of transport infrastructure and the provision of high-quality public transport services;

– reduction in a good and satisfactory condition of 80% of highways of republican and 65% of a local network;

– introduction of paid system on separate sites of highways of republican value.

2) In the railway sector:

– increase of speed of a freight traffic for 15-20%, and along the main international transport corridors for 20-30%;

– decrease in level of wear of assets of railway transport on average to 60%;

– realization of new tariff policy in railway branch.

3) In civil aviation:

– carrying out reconstruction of runways, passenger and cargo terminals at 13 airports of the republic;

– increase in number of the international air traffics twice in comparison with 2010 and introduction of the European aviation standards.

4. In water transport sector:

– bringing quantity of merchant marine fleet to 11 units, including 9 tankers and 2 dry-cargo courts;

– updating and modernization of the state technical river fleet in number of 24 units;

Conclusion

Our conclusions are based on the Government's Program [1] and are aimed at achieving the efficient operation of the transport system for a complete physical action that requires permission of the following tasks:

1. the increase in the transportation of goods to 5.8 billion tons by the end of 2020, including up to 4.3 billion tons by the end of 2016;

2. increase the amount of transportation of passengers 4 to 34.2 billion by the end of 2020, including up to 25.5 billion by the end of 2016;

3. an increase in turnover to 800 billion. ton-km by the end of 2020, including up to 600 billion ton-km by the end of 2016;

4. creation the modern transport and logistics system in Kazakhstan, providing high and efficient transport connectivity in the country, the increase in cargo traffic through the territory of the Republic of Kazakhstan and the coordination of all kinds of land, sea and air transport;

5. integrated Software villages and small towns quality transport links;

6. development of local transport infrastructure in the regions.

7. Ensuring the integration of the transport infrastructure of Kazakhstan in the international transport system.

Historical experience shows that global trade and transport systems, such as the Great Silk way in the ancient time, are the base of development of the open and transparent relations of close partnership, peace and harmony in the Euroasian space.

Certainly, during globalization development of the international transport relations can become the necessary catalyst of interregional and transcontinental trade and economic relations, the economies of our countries promoting a conclusion to the new level of growth and prosperity.

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