

# Optimization of International Multimodal Transportation Along the Corridors of the Republic of Kazakhstan

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The article describes the importance of the development of transport transit potential of the country at the present stage in order to realize the national interests of the Republic and further expansion of its own political and economic benefits. Revealed the prospect of a strong regional transit and logistics center, given that in the current global environment, logistics plays a key role in the industrial development of the State.

**Keywords:** services, transport infrastructure, lack of professionalism, lack of personnel, aviation hub, transit and logistics centre, industrial development, advanced training, cargo quality.

Due to the growth of logistic market prospects in Kazakhstan, specialists now think about how to take service of transport companies to the highest professional level that complies with all global standards.

It is known that Kazakhstan is a country with a quite complex logistic system. At times, great distances do not allow entrepreneurs to develop their business in various regions of the country because of high logistical costs. That is the problem currently being resolved by logistics companies by way of reducing costs and increasing cargo delivery speed.

Under development of transportation infrastructure and storage facilities, bad quality of services provided, low professionalism of domestic logistic operators on the one hand and great opportunities related first of all to a EXPO-2017 and construction of road "West Europe – West China" on the other hand, as well as WTO accession [1].

In recent years, the Government of the Republic of Kazakhstan pays special attention to development of infrastructure including to road construction in Almaty region. The major funding of the country is allocated for these needs of the region. At once several motor roads complying with international quality standards are constructed within the "NurlyZhol" program. At the boundary with China, FEZ (free economic zone) "Khorghos –

East Gate" is created, dry (inland) port is constructed. Besides, construction of the Great Almaty Ring Motorway (GARM – BAKAD) has started; a concept of creation of an international air hub near Almaty is discussed. It is required to create a powerful transit and logistics centre in the region by integrating all these projects. It will allow increasing cargo traffic, passenger traffic, developing trade, tourism, industry, small and medium business. Kazakhstan shall become a transit corridor between Asia and Europe. The final stage of infrastructure development in Almaty region was the signing of the Memorandum of Cooperation between the MID of the RK (the Ministry for Investments and Development of the Republic of Kazakhstan) and Akimat of Almaty region. Agriculture, transportation and logistics, and tourism have been determined as key areas of further development of the region. These areas will be included in the Plan of Economic Growth in Conditions of Law Raw Material Prices, Budget Constraints [3].

Logistics is a kind of industrial development catalyst, and improvement of logistics is of paramount importance for any country. This process is the backbone on which the whole interstate integration is built. Being an ardent supporter of various integration processes, Kazakhstan has an important benefit – its geopolitical and economic resources allow

successful implementing the transit potential as the most optimal alternative to a land transport communication of Asiatic states with Europe [4].

It should be noted that in the modern global conditions logistics plays a key role in industrial development of states. In a number of countries, a government, first of all, placed its bets on development of logistics as a main factor of industrial development stimulation. In the Republic of Kazakhstan, this instrument also may produce a significant economic effect for industrial breakthrough:

- firstly, it is an incentive logistic servicing of operating and new enterprises within SPFIID of the RK (State Program of Forced Industrial and Innovative Development of the Republic of Kazakhstan). This would include acceleration, simplification, and cheapening of inland traffic when providing industry with raw materials, delivery of finished products to a consumer, long-distance transportation, hard-to-reach area transportation;
- secondly, it is national expert services, i.e. logistics that stimulates attraction of transit through the territory of Kazakhstan;
- thirdly, logistics that facilitates activation of investment processes in the economy of the country, i.e. external effects of logistics, when a foreign partner makes decision on implementation of investment projects in the territory of Kazakhstan thanks to the developed logistic system.

At the 25<sup>th</sup> plenary session of the Council of Foreign Investors, the President of Kazakhstan has declared a start of implementation of the "Kazakhstan – New Silk Road" project and noticed that Kazakhstan shall revive its historic role and become the largest business transit hub of the Central Asia region, i.e. a kind of bridge between Europe and Asia. It means creation of a single set of international level hubs – trade and logistic hub, financial and business hub, innovative and technology hub, and touristic hub – in key transport corridors of Kazakhstan.

President of JSC "NK "KTZh" (Joint Stock Company "National Company "Kazakhstan Temir Zholy") has presented a strategy of transportation and logistics system of Kazakhstan in light of implementation of the large-scale "Kazakhstan – New Silk Road" project. He has noted an important role of partnership between business and power in realization of transportation and logistics potential of Kazakhstan.

In the Republic of Kazakhstan, a new structure "National Centre for Development of Transport Logistics" has been created under the national company JSC "Kazakhstan Temir Zholy". It has been noted that the Centre will become a partner in the field of transportation and logistics studies, and a coordinator of all new business initiatives and projects in the transport logistics.

It should be noted that creation of the Logistics Centre will serve the solution of the problem set by N.A. Nazarbayev, the President of Kazakhstan, namely to ensure becoming Kazakhstan as a trade, logistic, and business hub of the region. A newly created structure is assigned with functions of development of the transportation and logistics system and provision of entire spectrum of logistic services.

Prospective lines of activity of the new Centre have been outlined. Among them:

- information and analytical support;
- support, development of operational recommendations for making decisions concerning issues of transport policy;
- industry-oriented conferences and business forums for specialists of the industry;
- advanced training of specialists;
- creation of a single information web portal on transport logistics and guidebooks for logistics operators in the RK.

In brief, a concept of transport logistics "speed + service + cost + safety + stability" shall finally comply with all elements declared in it.

In the Republic of Kazakhstan, a systematic work on improvement of quality of transport services is carried out. First of all, it is a reduction of transportation time, reduction of transportation costs, optimization of tariffs, safety condition of cargo, and, not least, preparation of qualified human resources that is intended to ensure normal functioning of the whole logistic system.

Approximately 70% of all traffic in the republic is performed by railway. Due to this fact, Nursultan Nazarbayev, the President of the Republic of Kazakhstan, set a task to create a transportation and logistics cluster. At the present time, the sea port of Aktau city has been handed in trust of the national company JSC "Kazakhstan Temir Zholy"; an issue on transfer of a number of large terminals in airports and automobile terminal complexes to the Company is being pursued.

Large-scale logistics projects are currently being implemented by collective of the Kazakh Academy of Transport and Communications

named after M. Tynyshpaev. Feasibility study of Trans-Kazakhstan railway has been completed. It will allow reducing transportation of cargo from south ports of China by 10-15 days in comparison with sea transportation.

Need of this project is stipulated, firstly, by an opportunity to use transit to the full extent. Secondly, presence at a "trade through-passage" is of advantage for our country. To repeat "success" of that avenue of commerce Kazakhstan has all conditions and prerequisites. Surely, conditions and goods have changed with the course of time, but requirements to traffic remain the same: speed, service, cost, safety, and stability. Kazakhstan has no exit to the open sea, therefore it is important for Kazakhstan to have an access to a large avenue of commerce. In the result of implementation of the project by 2020, transit flows through Kazakhstan from the South-East Asia to the West from Europe to the Central Asia will almost double.

JSC "National Company "Kazakhstan Temir Zholy" has a key role to play in the implementation of strategic projects on arrangement of supply chains with participation of various transportation modes [3]. Being a main coordinator of domestic transportation system development, JSC "NC "KTZh"" is currently carrying out significant work on enhancement of efficiency of country's transit potential using. Here we should note a creation of JSC KTZExpress on the basis of JSC "NC "KTZh"" a task of which is a coordination of transport flows at all levels [4]. Appearance of this company at the market will help fundamentally changing the philosophy of conduct of transportation business in Kazakhstan, i.e. from a competition between transportation modes inside the country to a competition with global transportation companies at the international level. At that, rail transport has a leading role to play in the new transportation and logistics concept.

Because of the projected increase of transit cargo traffic in June 2013, the United Transport and Logistics Company (UTLC), which should unite a part of railway assets of Kazakhstan, Russia, and Belorussia within the frameworks of creation of a transit container competence, was created on the initiative of railway administrations of member countries of the Customs Union [5]. Creation of UTLC will have a positive influence both on development of the domestic container market in whole and on activity of private market players. Main task of UTLC is a realization of transit potential of Kazakhstan, Russia, and Belorussia, which implies, first of all, creation of a

competitive transport product, solving of problems of an infrastructural nature in cooperation with founders, and harmonization of infrastructural tariffs for transiting etc.

The following projects had a positive influence on increase in share of transit traffic through Kazakhstan:

-construction of the logistics terminal in sea port of Lianyungang (PRC). In 2013, JSC "NC "KTZh"" entered into agreement with the People's Government of Lianyungang for development of feasibility study on construction of logistics terminal in the Lianyungang port; main function of the terminal was the arrangement of foreign trade cargo transportation between the RK, countries of Central Asia, Japan, South Korea, Australia, and Southeast Asian countries, with the possibility to form ready container trains, which would facilitate the increase of transportation efficiency, reduction in delivery time, increase in trade turnover, and reduction in logistic costs.

The Third Railway Survey and Design Institute Group Corporation (TSDI) – on the part of China and the Kazakh Academy of Transport and Communications named after M. Tynyshpaev (KazATC)– on the part of Kazakhstan under the guidance of B.B. Zhardemov, D.Eng.Sc., B.M. Kuanyshev, professor, President-Rector, D.Eng.Sc., and others took part in the development of feasibility study [2].

Pursuant to predictions provided in the feasibility study, cargo traffic in direction to/from Southeast Asian countries via the Lianyungang port when implementing the terminal construction project will increase more than 5 times by 2020 and more than 13 times by 2030 (in comparison with the level of 2012), which is represented in the diagram on Figure 1.

If to consider these traffic volumes in the context of transportation modes, export from Kazakhstan in 2020-2030 will amount to 57.5%, import to Kazakhstan – 42.3%, transit through the territory of Kazakhstan and China – approximately 0.2%.

Then the projects implementation on development of transit container traffics from China to Europe through the territory of Kazakhstan should be noted. As of today, Asia – Europe traffic for container trains is organized on the following routes: Chongqing – Duisburg, Chengdu – Lodz, Zhengzhou – Hamburg, Wuhan – Lodz, Pardubice. The primary benefit of cargo traffic by container trains is delivery time. The

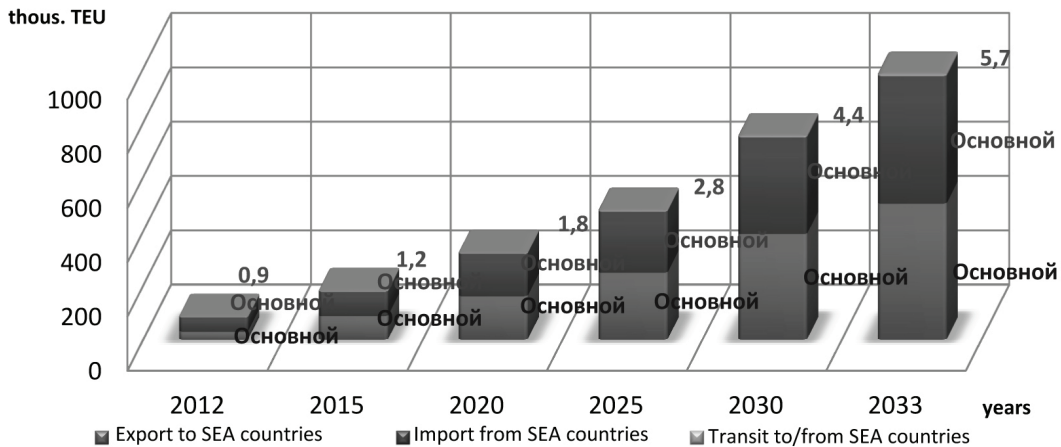


Fig. 1. Projected values of the volume of container traffic (thous. TEU) through terminal in Lianyungang port until 2033.

forecasted volume of Asia-Europe transit traffic of containers within the territory of Kazakhstan by 2020 will be up to 1 mln. TEU;

- construction of new railway lines “Almaty – Altyntkol”; “Uzen – Bolashak”; “Zhezkazgan – Saksaulskaya” and “Shalkar – Beineu”; “Arkalyk – Shubarkol”;
- operation of new railway passage Altyntkol (Kazakhstan) – Khorgos (China). The component of new passage within Kazakhstan territory is railway line Zhetygen – Altyntkol, construction of which was completed in 2011. Thus, an additional transit route from China to Europe through Kazakhstan has appeared on the map of Eurasia railway roads. This significantly expands opportunities of transport and logistics on this popular direction of continental cargo transportation;
- SEZ “Khorgos - Eastern Gate” project. Airport, dry port, railway road Zhetygen – Khorgos, automobile road and direct traffic with sea port Aktau shall become the strategic facilities of SEZ, which will be a certain centre of international cross-border cooperation between Kazakhstan and PRC;
- opening of direct railway traffic (2013) between countries along the border crossing point Bolashak (Kazakhstan) and Serhetyaka (Turkmenistan);
- construction of highway “West Europe – West China”. International transport corridor is the shortest way which provides communication of the countries of Central Asia with Europe and exit from the countries of South-East Asia to Europe. The total length of corridor is 8445 km, within the territory of Kazakhstan - 2787 km.

- construction of ferry complex in Kuryk port, with design capacity of 4 million ton of cargo per annum it is focused on transfer of grain, oil products, fertilizers, chemicals and other cargo to neighbouring states of the Caspian region. It is expected that a large-scale ferry crossing from Kuryk port and railway line Borzhakty –Ersai will ensure multimodal transportation of general and liquid cargoes, that will facilitate a significant increase in transit cargo traffic, increase in export capacity to the west through the Caspian Sea.
- commissioning of tunnel “Marmarai” which joins eastern and European part of Istanbul, construction of railway branch Akhalkalaki – Kars, successful cooperation of Kazakhstan, Azerbaijan and Georgia increases the capacity of Transcaspian transport corridor which facilitates delivery of cargoes from China market to Europe.

The first speed cargo train along railway main line Chengdu – Poland was 12 days on a journey. This time was found enough for the train to arrive to Polish town Lodz. By comparison, the sea route takes almost month and a half. Central Asian speed cargo train can compete not only with sea transportation but with air transportation, as the cost of railway delivery is by eight times less than by plane. The route along the steel trunk runs through China cities Baoji and Lanzhou, railway checkpoint Alashankou and checkpoint Dostyk neighbouring to it within the territory of Kazakhstan, Russia and Belarus. The total length of this railway main line is 9826 km. Chengdu is a continental city, it has no sea gate, and only construction of railway road has given an opportunity to enter the markets of foreign

countries, having connected by that seas and oceans, countries and continents. The countries neighbouring to West China – Vietnam, Thailand, etc. also transport their cargoes from this place. Such conditions facilitate active promotion of trading with motor vehicle parts, machinery, construction materials, consumer goods, engineering goods and chemical industry products, food products, etc. As for our country, the basic cargo traffic is natural resources jet, which are transported to China. But the build-up rates of mutual trade indicate that the situation may change quite quickly.

Now the train of 41 wagons departs each ten days, although it was initially planned that it will run only once a month. But already for the first year of operation the demand for cargo transportation has increased by three times. The annual cargo turnover of Chengdu railway logistic hub through border point Dostyk – Alashankou is over 400 thous. containers per annum. The main cargo traffic along New Silk Way will be carried out from east to west, and west and central provinces of China are exactly located on the direct railway traffic with the EU countries on the route passing through Kazakhstan station Dostyk.

One more innovative idea is commissioning of regular cargo trains, which was started in 2013. The regular model supposes departure of trains as per established schedule like passenger trains run. Such experience of Russia, Canada, USA, Germany and Sweden shows that the economic benefit from implementation of this innovation appears in reduction of cargo delivery time and wagon turnover almost twice. The system was already tested on railway section Arys – Kandygash 1300 km long, the economic benefit for 23 days of experiment was 40.8 thous. US dollars.

Opening of Kazakhstan terminal in Lianyungang port together with advancement of legal base for transit transportations, carried out by the government of Kazakhstan, systematic program of transport industry modernization, as well as introduction of more flexible tariff policy for high-paying transit traffic will facilitate in the future to significantly increase competitive ability of Kazakhstan railway road and to attract to it up to 8% of total volume of transit cargo traffic for direction “SEA countries – Europe, CIS”. This cargo traffic may be potentially directed to Lianyungang port and, therefore, to Kazakhstan logistic terminal, that will also facilitate increase of export and transit capacity of the republic,

stimulation of industrial development of the republic and overall development of the country.

With availability of all infrastructure at the terminal, consignors have an opportunity to receive the whole list of services on cargo acceptance, sorting, storage when transporting, and operators of Kazakhstan container traffic – when organizing container trains.

Thus, implementation of construction project will give Kazakhstan the opportunity to intensify its activities in east ports of China and so to create hub for cargoes which now transported by railway vehicles through China to Europe and return. With the help of terminal in Lianyungang port Kazakhstan can organize acceptance and accumulation of cargoes not only from China but from Japan, Republic of Korea and SEA countries. Construction of such terminal will also give Kazakhstan the opportunity to form a pool of transit trains towards Kazakhstan. Consequently, this project has a strategic importance for economy of Kazakhstan and implementation of transport capacity of the country.

In general, the actuality of development of transport transit capacity of the country at the present stage is based on the need of implementation of the republic’s national interests and further building-up of own political and economic advantages. Therefore, today the Republic of Kazakhstan is in the process of active forming of its transit policy, improvement of its directions and formation of new vectors. Efficiently using its situation, Kazakhstan can not only get revenue due to transit but develop regions on the basis of their attraction in goods exchange, creation of such products at the places of production which have demand on the foreign markets [6].

Kazakhstan, being at the junction of international corridors, has all backgrounds to become the main logistic chain link which connects Europe and Asia. The basis for formation of transnational multimodal logistic operator with the full sector of assets and competences is determined by JSC “NK “KTZh”. The multimodal company will consist of sea port Aktau, SEZ “Khorghos - Eastern Gate”, airports, terminal network of Kazakhstan.

Integration of transport assets to a single structure will allow providing a necessary level of management, integrity of multimodal services and implementation of one stop-shop principle, creating by this favourable conditions for implementation of export and transit capacity of

the country. At that an additional impulse to development of transportation and logistics system of the republic will attract the global operator Dubai Port World to port and terminal infrastructure of Kazakhstan.

The network of transportation and logistics systems is also formed outside Kazakhstan, which are consolidation and distribution centres of transit cargo traffics and centres of Kazakhstan export marketing activities.

Within the scope of Common Economic Area, the key project is creation of integrated transport and logistics company, the activity of which will consist in provision of integrated services by railway administrations of Kazakhstan, Russia and Belarus, based on one stop-shop principle, integrated process, quality standards and price policy, and, consequently, in coordination of process parameters for development of main terminal infrastructure of transport corridors. Transportation and logistics system may become one of drivers for economic growth. The common effect of gross value added from implementation of development program for transportation and logistics system for the period until 2020 will be 15 billion US dollars, mid-annual effect in GDP growth will be at the level of 1 %. For this about 5 trillion tenge of public and private investments will be attracted to the infrastructure development.

For attraction of investments to logistic industry of RK there is much tension around the issue on a lack of logistics qualified personnel. This has dictated a decision that the Kazakh Academy of Transport and Communications named after M. Tynyshpaev (KazATC) to become a member of JSC "National Company "Kazakhstan Temir Zholy" which trains logistics specialists.

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