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STATE AND ANALYSIS OF DEVELOPMENT OF TRANSPORT AND LOGISTICS INFRASTRUCTURE IN KAZAKHSTAN

Abstract. The article deals with the issue that is relevant for many countries - transport and logistics infrastructure, since logistics, as the most effective, market-oriented way of planning, forming and developing commodity and related flows with the lowest costs in the entire logistics chain, has firmly gained its position in the world market. The authors also highlight the main factors of economic growth, which is the formation of integrated transport and logistics systems that cover individual areas of business, entire regions and countries. One of the effective ways of socio-economic development, both for individual regions of our country and the Republic of Kazakhstan as a whole, is the formation of transport and logistics infrastructure, which determined the relevance of the article taking into account the specifics of the Republic of Kazakhstan. The factors and problems that have the greatest impact on the efficiency and effectiveness of the functioning and management of transport and logistics systems are identified.

Keywords: logistics, transport system, integration, transport and logistics system, cargo transportation.

Introduction. The effectiveness of national economy, economic upturn, sustainability of territorial complexes and foreign economic activity development are defined by all means of transport functioning. On the one hand, it reflects development level of the country's national economy and its competitiveness, and on the other hand, it creates conditions for long-term strategic relations and cooperation building of all economic entities, regardless of forms of property and industry affiliation.

Sustainable development of the country will be provided by means of speeded up diversification and improving competitiveness of the national economy, namely, increase in productivity of manufacture and innovations introduction [1]. Thereupon, the country's transport and logistics complex is one of the priority innovative directions in the Government activities. Transport services cater to their recipients, namely the needs of the population, the economy, and solution of strategic issues for provision of unity, defense and security of the country.

Meeting existing and forecast needs in transport services, their quality improvement serve as a launchpad for transport system development. Therefore, the Concept of the state transport policy of the Republic of Kazakhstan sets the development of the transport system as its primary goal in order to increase transit transport efficiency within the territory of the Republic of Kazakhstan. It must be noted that the strategy covers all means of transport: railway, road, city passenger, air and water, the development and effective functioning of which largely depend on the state policy [2]. The primary objective defined in the Strategy is integration of Kazakhstan's transport system into the world transport system by means of the level of development of transport infrastructure increase on the basis of the main meridional and latitudinal transport routes, connecting routes and hubs in East-West and North-South directions.

The main purpose of the Transport Strategy of the Republic of Kazakhstan is integration of Kazakhstan's transport system into the global transport network by way of:

- level increase of transport infrastructure development on the basis of the main meridional and latitudinal transport routes, connecting routes and hubs in East-West and North-South directions;
- achievement of maximum efficiency of transport processes;
- decrease of transport component share in final products cost in inland, transit and export-import traffic;
- carrying-out of transport system passage to a whole new level of functioning, optimal transport network creation.

Methods. Domestic manufacturers are export-oriented, therefore, the TLCs provide positive factor affecting the development of economic activity in general, and is one of the significant directions of the scientific-technological progress development. It is essential to improve the legal and regulatory framework in order to provide “clear path” for logistics in the domestic market, to clarify and improve transport and customs mechanisms and procedures for cargo execution at cross-borders, as well as mechanisms of appropriate through tariff rates for transportation provision. Integrated control over transportation is necessary, based on common use of modern electronic, communication and information technologies. For creation of safe and reliable traffic flows, it is important to provide control authorities with complete and accurate information about traffic in “online” mode and lead information about possible changes, accidents on the road that can have an impact on traffic at scheduled routes or lead to break-down of tough and tight route schedules.

At present, developing countries, mainly Asian ones, produce about 60% of global GDP. At the regional level, Kazakhstan acts as a modern service center. Using existing potential, Kazakhstan must become a developed service center of the region for provision of a wide range of transport services meeting international standards.

Currently, Kazakhstan’s economy is gaining rapid growth in all sectors, relations with foreign countries are improving, cargo traffic and cargo turnover, domestic goods export are increasing, the country's transport industry is developing rapidly, all this leads to the fact that the TLC development is a necessary element for the whole economy, and plays vital role in improvement of socio-economic situation in the country.

In connection with that, in modern conditions there emerged a necessity of organizing a unified transport and logistics system as a national company in the Republic of Kazakhstan. TLC is a new innovative national company under the name “Transport Logistics of Cargo Delivery” and will be of great economic importance for each region and the country on the whole, it will track status and location of all consignments, time of dispatch and delivery, stages of all necessary procedures completion, unobstructed passage of cargo across borders. All companies operating on international points of transition, as well as companies having international agreements with foreign companies should use services of such TLC. Companies of such kind will have common information, transport, storage, purchase and distribution systems that will be responsible for safety of cargo, as well as for delivery of this cargo right on time.

Based on the above-stated, it should be noted that the main cost advantage of TLC is achieved by means of reduction in volume of material resources stocks and time of delivery of goods. The key advantage of integrated management is optimization of total expenditures for movement and storage of resources. According to expert estimates, application of logistics methods allows to reduce inventory levels by 30-50 % and reduce product promotion time by 25-45 %. Another important condition for transport flows is transport routes, roads of international importance: railway, automobile, marine, river, forming transport network. In other words, the presence of transport network is necessary condition for transportation of goods. Such roads have their own infrastructure: stations, ports, power supply, security facilities, communications, loading and unloading technologies, warehouses, and all necessary conditions for successful work and accommodation of workers, namely, improvement of social infrastructure. Due to such communication lines, the optimal distances of transport flows are defined.

Therefore, optimization of costs of purchase and distribution is the most important problem of the economic system efficiency increase. Nowadays, the basic reserves of the production are not only and not so much in principal production as in auxiliary production, the funds of which comprise material resources of TLC company.

After data studying of the Statistical agency of the RK, it can be noted that the proportion of volume of traffic that is made by means of transport of Kazakhstan is approximately from 57-73 %, and by non-

residents is within 35-45 %. Nevertheless, the use of territory as a transit for economic reasons is beneficial to neighboring countries. Realization of international container service on transcontinental railway line "Europe-Kazakhstan-China", according to the opinion of leading economists of the country, has great economic advantages due to shorter transportation distance compared to transportation along the Trans-Siberian railway (about 30 %). According to Feasibility Study source of "Free economic zone "Khorgos – East gate" creation, the income from transit traffic via the territory of our country can amount to 2 billion dollars per year.

It can be seen from table 1 that over the past ten years from 2008-2018 transport sector indicators increased significantly: transportation of cargo increased by 1.9 times, namely, by 1707.4 million tons, cargo turnover by 1.66 times, namely, by 194.5 billion tons / km, transportation of passengers by 2.15 times or by 11369.2 million people, passenger turnover by 2.4 times or by 148356 million kilometers. On the whole, there is an increase in all types of transportation, mostly in transportation of cargo and transportation of passengers [3]. Further development of the transport system of the Republic of Kazakhstan should provide its integration into international transport network and use all transit corridors for significant reduction of time and cost of cargo delivery.

Table 1 - Key economic indicators of transport sector in the RK

Years	Transportation of cargo (million tons)	Cargo turnover (billion t/km)	Transportation of passengers (million people)	Passenger turnover (million pkm)
2008	2124,2	350,5	11160,1	124366
2009	2188,7	309,7	11325,4	127455
2010	2103,3	337	11806,5	130834
2011	2439,4	385,3	13186,5	149065
2012	2974,9	448,8	16647,2	188939
2013	3231,8	478,0	18484,6	213036
2014	3508,0	495,4	20004,3	235738
2015	3634,4	490,8	21293,2	255959
2016	3 733,8	546,0	21 839,1	251 251
2017	3 729,2	519,2	22 332,8	266 784
2018	3 946,1	563,9	22 744,7	273 193

Note – drawn up by the author according to data of the RK Statistical agency.

Share of transport in the country's GDP in 2013 amounted to 7,76 %, in 2014 – to 8,05 %, in 2015 – to 8,61 %, in 2016 – to 8,25 %, in 2017 – to 8,37 %. Analyzing indicators of transportation and warehousing in production of goods, their share is constantly and steadily growing (table 2).

Table 2 - Indicators of development of transportation and warehousing sector in the RK for the period of 2013-2017

Indicators	Years				
	2013	2014	2015	2016	2017
Transportation and warehousing mln. tenge	2 736 538,1	3 144 595,3	3 520 545,5	3 876 007,8	4 442 189,6
Gross domestic product, mln. tenge	35 275 153,3	39 040 898,9	40 884 133,6	46 971 150,0	53 101 281,8
Share, in %	7,76	8,05	8,61	8,25	8,37

Note – drawn up by the author based on statistical data.

Presently, the leader in transportation of cargo and passengers is road transport, where an increase of index by 33 % takes place compared to the previous year. This indicator increased by 438.1 million tons, or by 1.1 times from 2013 to 2017. The analysis of transportation of cargo by road transport suggests that many companies choose namely this type of delivery, because the services are relatively inexpensive, and the most important advantage is "door-to-door" cargo delivery.

Among all means of transport, railway transport has high rates of cargo turnover, but they are stable, which indicates the existing situation in the country's economy. Air transport cargo turnover is showing decreasing levels, transportation on maritime transport is sufficiently stable, and growth is observed in pipeline transport (figure 3) [3].

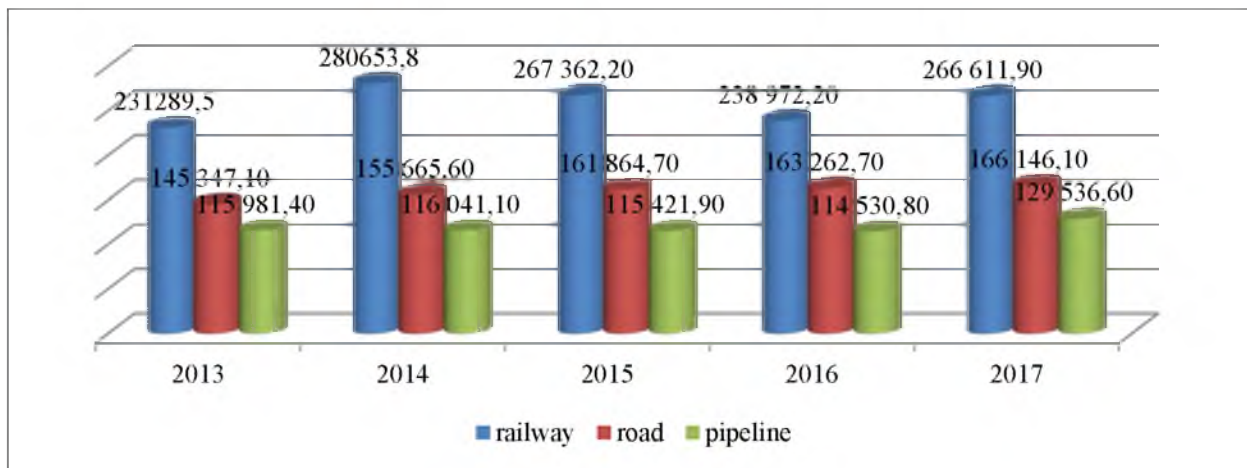


Figure 3 - Dynamics of cargo turnover by different means of transport of the RK for the period of 2013-2017, billion tkm

A comparative analysis of cargo transportation indicators has shown that transportation is distributed more evenly by regions, except for Almaty, Karaganda, Kostanay and East Kazakhstan Region, where growth rates are high on road transport, the organizational functioning of TLC is much higher than in economically underdeveloped regions (figure 4).

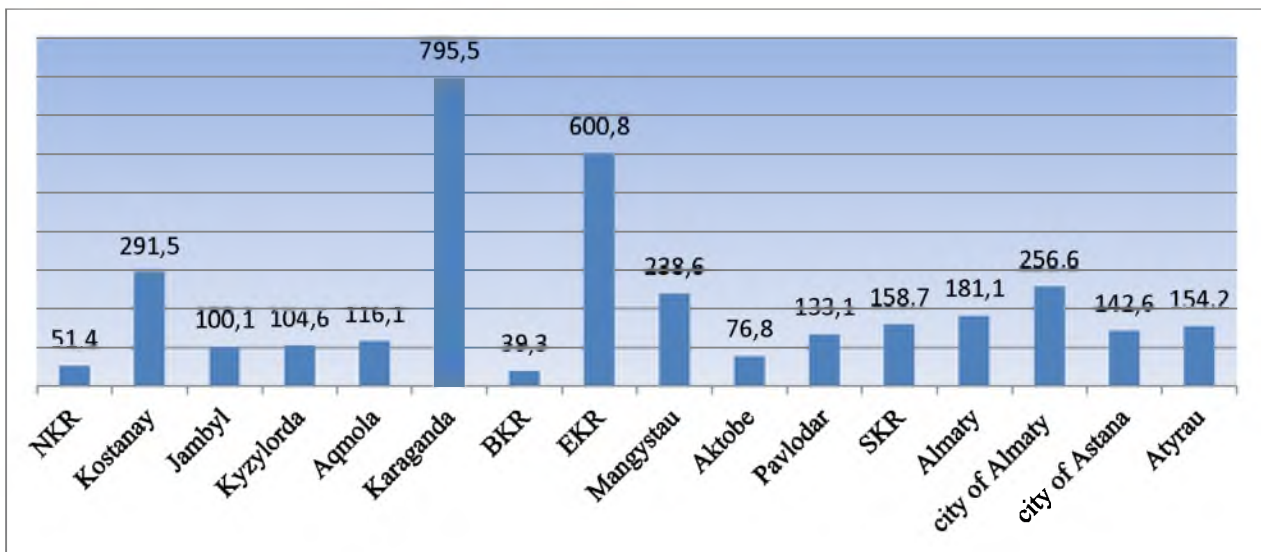


Figure 4 - Dynamics of development of road transportation indicators in the RK for the period of 2017

Configuration of the railway network was formed on influence of two factors: growth of interregional and interstate cargo traffic as a result of the development of mineral resources deposits and virgin ground, as well as growth of transit cargo traffic. In Kazakhstan, railway transport deals well with service of interregional, interstate, and transit cargo transportation; the railway network for cargo transportation between regions of the republic has some problems. More specifically, transportation of cargo between the regions of East and North Kazakhstan is carried out through the regions of Russia, between the regions of Central and Northern Kazakhstan through Western Siberia, the Urals, and sometimes through South Kazakhstan, such transportations increase time of transportation, and, at that, transport costs also increase.

In the country railway transport is in first place in terms of cargo turnover, and then comes road transport. The cargo turnover of railway transport in 2014 amounted to 216.6 billion tkm, and automobile transport amounted to 155.7 billion tkm. Structure of cargo sent by public railway transport is shown in the table; coal, construction and oil cargoes have the maximum share (table 12) [3]. Railway transport has

a significant impact on the development of interrepublican and transit traffic, and the role of road transport is invaluable for the development of interregional intrarepublican traffic.

There is also water transport in the republic, divided into marine and inland water transport. Marine transport is used only in the Caspian Sea, where Aktau, Bautino, Atyrau ports are in operation, through which Kazakhstan is connected with Azerbaijan, Lower Volga region, Turkmenistan and Dagestan [4].

The volume growth of cargo transportation was influenced by: in the field of railway transport – growth of loading of coal, non-ferrous ore, iron ore, oil cargo, and an increase in international transportation. In the field of road transport - an increase in requirements of international transportation volumes. In the field of road transport - an increase in demand of the population and economic sectors for auto transportation, in the field of water transport - an increase in volume of oil shipping in the direction of Aktau–Neka, Aktau–Makhachkala. In the field of air transport – an increase in demand for transit traffic through the territory of the Republic of Kazakhstan. As was mentioned above, the leader in transportation of cargoes is road transport.

Conclusion

For successful social and economic development of Kazakhstan, in order to include it into the global transport system, it is necessary to carry out: transition to international standards, development and improvement of international corridors that pass across the territory of the Republic of Kazakhstan, establishment of better transportation conditions, solution of other trade and transport problems and active development of its export, import and transit potential.

The Republic of Kazakhstan's entry into the number of the most developed countries in the world until 2030 suggests advanced development of transport system of the republic due to a number of its territorial features: vastness of area and its heterogeneous economic stability; distinguished transit functions of Kazakhstan; sizable differentiation of natural resources potential; relocation of the capital.

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ҚАЗАҚСТАНДАҒЫ КӨЛІК-ЛОГИСТИКАЛЫҚ ИНФРАҚҰРЫЛЫМНЫҢ ЖАЙ-КҮЙІ МЕН ДАМУЫН ТАЛДАУ

Аннотация. Мақалада көптеген елдер үшін көкейкесті мәселелердің бірі болып отырған көліктік-логистикалық инфрақұрылым саласы қарастырылған, өйткені логистика әлемдік нарықтағы орнын, барлық логистикалық тізбектегі ең аз шығындармен тауарлық ағындарды жоспарлаудың, қалыптастырудың және дамытудың ең тиімді, нарықтық бағдарлы тәсілі ретінде, өз шешімін табанды түрде жеңіп алды.

Ғылыми мақала тақырыбының өзектілігі қазіргі әлемде көптеген елдерде мемлекеттік дағдарысқа қарсы жоспарды іске асырудың негізгі рөлі – көлік инфрақұрылымын дамытуға арналған, сондықтан көлік инфрақұрылымының тез өсуіп қамтамасыз ету және бәсекеге қабілетті ұсынысты қалыптастыру үшін көліктік-логистикалық қызметтер, елдің транзиттік әлеуетін іске асыру, компанияны дамытудың барлық стратегиялық бағыттарындағы жұмысты жандандыру қажет.

Сонымен қатар бұл салада көліктің барлық түрлерінің өзара әрекеті болады, соның арқасында халықаралық және көліктік-логистикалық орталықтардың желісі құрылады, олар экономика мен тұрғындардың сенімді және қауіпсіз көлік қызметтеріне деген қажеттіліктерін барынша қанағаттандырады. Мұның бәрі Қазақстанның галамдық көлік-коммуникация жүйесінің құрамдас бөлігі болуға мүмкіндік береді және қазіргі кездегі хабтар – Қазақстан Республикасының барлық қалаларын ғана емес, сонымен бірге бүкіл әлемнің ірі қалаларын қосатын қуатты көлік хабтарын құруға ерекше басымдық беріледі.

Мақалада авторлар көліктік-логистикалық орталықтың ұйымдық нысанын енгізу және қалыптастыру, іскерлік және коммерциялық белсенділікті арттыруға, қосымша жүк ағындары мен инвестицияларды тартуға, жана жұмыс орындарын құруға және көмірсутек шикізатын экспорттаудан түсетін бюджеттің кірістерімен салыстыруға болатыны атап өтіледі. Сондай-ақ ірі қалаларда көлік-логистикалық орталықтың құрылуы экономикалық дамыған елдермен іскерлік қатынастарды кеңейтеді. Әрине, бүгінде ТМД елдері экономикалық қатынастардың негізгі серіктестері болып отыр, бірақ интеграцияланған көліктік-логистикалық жүйеге қосылу – әлемдік нарыққа қатысу үшін үлкен мүмкіндік.

Дамыған елдердегі көліктік-логистикалық жүйелерді пайдалану тәжірибесі көрсеткендей, бұл көлік шығындарының азаятынын, тиеу-түсіру, материалдық ресурстар мен дайын өнімді сақтау шығындары қысқарғанын, материалдық ресурстар айналымы жеделдетілгенін көрсетеді.

Сондай-ақ авторлар, өз еңбектерінде, кәсіпкерліктің жеке бағыттарын, бүкіл аймақтар мен елдерді қамтитын интеграцияланған көліктік-логистикалық жүйелерді қалыптастыру болып табылатын экономикалық өсудің негізгі факторларына назар аударады. Еліміздің жеке аймақтарының да, жалпы Қазақстан Республикасының да әлеуметтік-экономикалық дамуының тиімді жолдарының бірі – бұл Қазақстан Республикасының ерекшеліктерін ескере отырып, мақаланың өзектілігін анықтаған көліктік-логистикалық инфрақұрылымды қалыптастыру.

Көліктік-логистикалық жүйелердің тиімділігі мен нәтижелілігіне айтарлықтай көп әсер ететін факторлар мен мәселелер анықталған.

Түйін сөздер: логистика, көлік жүйесі, интеграция, көліктік-логистикалық жүйе, жүк тасымалы.

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СОСТОЯНИЕ И АНАЛИЗ РАЗВИТИЯ ТРАНСПОРТНО-ЛОГИСТИЧЕСКОЙ ИНФРАСТРУКТУРЫ В КАЗАХСТАНЕ

Аннотация. В статье рассматривается вопрос, который является актуальным для многих стран – транспортно-логистическая инфраструктура, так как логистика, как наиболее эффективный, рыночно-ориентированный способ планирования, формирования и развития товароматериальных и сопутствующих им потоков с наименьшими издержками во всей логистической цепи, прочно завоевала свои позиции на мировом рынке.

Актуальность темы научной статьи заключается в том, что в современном мире во многих странах основная роль реализации государственного антикризисного плана отведена развитию транспортной инфраструктуры, в связи чем нужно активизировать работу по всем стратегическим направлениям развития компании для обеспечения опережающего роста транспортной инфраструктуры, формирования предложения высококонкурентных транспортно-логистических услуг, реализации транзитного потенциала страны.

Также в этой сфере будет взаимодействие всех видов транспорта, благодаря чему будет создана сеть международных транспортно-логистических центров мультимодальных перевозок, которые позволят достигнуть максимальный уровень обеспечения потребностей экономики и населения в надежных и безопасных транспортных услугах. Все это позволит Казахстану стать частью мировой транспортно-коммуникационной системы и особый приоритет будет отдан созданию современных хабов – мощных транспортных узлов, которые позволят связать между собой не только все города Республики Казахстан, но и крупнейшие города всего мира.

В статье авторы отмечают, что внедрение и формирование организационной формы транспортно-логистического центра способствует повышению деловой и коммерческой активности, привлечению дополнительных грузопотоков и инвестиций, созданию новых рабочих мест и получению прибыли, сопоставимой с доходами бюджета от экспорта углеводородного сырья. Также строительство транспортно-логистического центра в крупных городах позволит расширить деловые отношения с экономически развитыми странами. Конечно, сегодня основным партнерами в экономических отношениях являются страны СНГ, но вхождение в интегрированную транспортно-логистическую систему – это огромный шанс участия на мировом рынке.

Приведен опыт использования транспортно-логистических систем в развитых странах, который показывает, что транспортные расходы при этом сокращаются, расходы на погрузочно-разгрузочные работы, хранение материальных ресурсов и готовой продукции уменьшаются, а также ускоряется оборачиваемость материальных ресурсов.

Также авторы в своей работе выделяют основные факторы экономического роста, которым становится формирование интегрированных транспортно-логистических систем, которые охватывают отдельные сферы предпринимательства, целые регионы и страны. Одним из эффективных путей социально-экономического развития, как отдельных регионов нашей страны, так и Республики Казахстан в целом является формирование транспортно-логистической инфраструктуры, что определило актуальность статьи с учетом специфики Республики Казахстан. Выявлены факторы и проблемы, оказывающие наибольшее влияние на результативность и эффективность функционирования и управления транспортно-логистическими системами.

Ключевые слова: логистика, транспортная система, интеграция, транспортно-логистическая система, перевозка грузов.

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