

## МІСЦЕ ТА ВАЖЛИВІСТЬ ТРАНЗИТНОГО ПОТЕНЦІАЛУ УКРАЇНИ В СИСТЕМІ МІЖНАРОДНИХ ТРАНСПОРТНИХ КОРИДОРІВ

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**Проаналізовано ту частину системи міжнародних транспортних коридорів, яка проходить через Україну. Ідентифіковано транзитний потенціал міжнародних транспортних коридорів та ефективність його використання в Україні. Головною метою статті є ідентифікація місця та вагомості транзитного потенціалу в системі міжнародних транспортних коридорів.**

**Ключові слова:** міжнародні транспортні коридори, транзитний потенціал, види транспорту.

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## PLACE AND IMPORTANCE OF UKRAINIAN TRANSIT POTENTIAL IN THE INTERNATIONAL TRANSPORT CORRIDORS SYSTEM

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**In the article the international transport corridors that cross Ukraine was described. Transit potential of international transport corridors and the effectiveness of its use in Ukraine was identified. The key objective of the article is to identify the place and value of the transit potential of Ukraine in the system of international transport corridors.**

**Key words:** international transport corridors, transit potential, transport type.

**Statement of the problem.** Beneficial geopolitical location of Ukraine, between Europe and Asia, enables it to integrate into the international transport system. 19 of 26 regions of Ukraine are border areas. There are bordered by Poland, Slovakia, Hungary, Romania, and Moldova to the west, Russia to the east and northeast, Belarus to the northwest. The southern regions of Ukraine bordering the Black and Azov Seas, it allows to use the sea communications' lines with Turkey, Bulgaria and Georgia. A favorable geopolitical location provides transit goods transportation distances reducing from the Scandinavian countries, the Baltic States and Western Europe to the East, Central Asia. Ukraine has the longest external border among European countries; its length is near 6550 km, with Slovakia – 98.5 km, Poland – 542 km, Belarus – 1084 km, Moldova – 1202 km, Russia – 2573.5 km. The sea borders length is near 1050 km [1]. The regions of the country favorable geopolitical location, including proximity to the border and seaports are increasing their ability to pass logistic flows with fewer intermediaries and lower costs. The regions which are closer to the borders have greater opportunities to forming border transport and logistics infrastructure; it allows optimizing an external inbound and outbound logistic flows. The proximity of the regions to seaports allows to optimize flows through sea shipping routes by dock-side transport-logistics infrastructure forming and development.

Meanwhile, Ukraine has an extensive domestic transportation system, and the regions of Ukraine are characterized by a high level of cooperation. Transport infrastructure availability, including 22 thousand km of railways, of which 45 % are electrified; a compact public road network are 170 thousand km length; the whole system of ice-free commercial seaports of Black Sea-Azov basin and Ukrainian Danube ports; a large number of rivers suitable for shipping traffic – all those factors are leave no doubt that the development of transit potential – is an important component of the formation of a strong and efficient economy Ukraine [2].

**Analysis of recent research and publications.** In modern scientific literature the issues and problems of effective use and development of transit potential of the country and its regions are highlighted. In particular, these are questions regarding the assessment of the level of transit potential of Ukraine and the presence of transport corridors [3], the efficiency of use of the transit potential of Ukraine [1, 3, 5, 6], the challenges of attracting transit potential in international transport corridors [5], the development of transport infrastructure as the direction of development of transit potential of the country [8].

**Goals of the article.** The aims of the paper are to identify the place and value of the transit potential of Ukraine in the system of international transport corridors.

**The main material of research.** Experts of international organizations appropriate to Ukraine one of the biggest transit indicators in the Europe – 3.75 [3]. This indicates Ukraine has significant potential for further development and increasing of its transit potential. The international transport corridors that pass through Ukraine are indicated the presence of significant Ukraine transit potential and implementation of the transport network to the international transport system (tab. 1).

*Table 1*

**The international transport corridors of Ukraine**

Corridor number and significance	Traffic route	Length, km	
		Total	Including Ukraine
Pan-European transport corridor № 3	Berlin–Wrocław–Katowice–Lviv–Kyiv	1640	648 (railway); 617 (highway)
Pan-European transport corridor № 5	Lisbon–Barcelona–Trieste–Budapest–Kyiv	1595	266 (railway); 338 (highway)
Pan-European transport corridor № 9	Helsinki–St. Petersburg–Vitebsk–Kyiv– Chişinău–Plovdiv–Thessaloniki	3400	1496 (railway); 996 (highway)
Transcontinental transport corridor (Baltic-Black Sea)	Trieste–Ljubljana–Budapest–Bratislava– Uzhhorod–Lviv	1595	975
Transcontinental transport corridor (TRACEKA)	Europe–Caucasus–Asia	4745 (railway)	1001

Transit potential of Ukraine used inefficiently in spite of such potential opportunities to use. “TRACEKA”, which is the biggest international corridor by its transit potential (204.35 million tons) used only 15 %; Pan-European transport corridor № 3 (201.8 million tons) used 10.3 %; Pan-European transport corridor № 9 (100.1 million tons) realized on 18 %; Transcontinental transport corridor (Baltic-Black Sea) (92.9 million tons) – 4,4 %; Pan-European transport corridor № 5 (38,4 million tons) – 29 % [4, P.126]. This situation can be traced according to the data’s given in tab. 2.

According to experts estimation a rate of transit Ukraine is using only 50–60 % [1]. For example, a number of Baltic and European countries with relatively small area and a geopolitical location use its transit potential effectively. In particular, the Latvian transit revenues up to a third part of the gross national product (90 % of goods are transported by transit); a fraction of transit in the Netherland total export of services are more than 40 % [6]. Germany is considered as a leader by its own favorable geographical location using. They focused on the development of through transportations and logistics; resulting in Germany cash on 170 billions euro per year by logistics approach adaptation, Ukraine – 300 millions euro, despite the high transit potential [7]. From the other side, an important role in the transit potential using is transport-logistics centers. For example, in the Netherlands, the activity of transport logistics centers brings 40 % of transport sector, in France – 31 %, Germany – 25 %. In Central and Eastern Europe this fraction averages 30 % [8].

Table 2

**International transport corridors transit potential and the effectiveness of its use in Ukraine**

International transport corridor	Transit potential		The level of transit potential use by the volume of cargo transportation, %
	thousand tons	% of total	
Pan-European transport corridor № 3	201759	31,6	10,3
Pan-European transport corridor № 5	38415	6,0	29,1
Pan-European transport corridor № 9	100073	15,7	17,9
Transcontinental transport corridor (Baltic-Black Sea)	92891	14,6	4,4
Transcontinental transport corridor (Europe-Asia)	204350	32,1	15,0

Source [3; 5]

Let us study the transit flows of cargo through Ukraine territory more detailed. As mentioned above a favorable geographical location is a development basis of Ukrainian transit potential effective use. The transit flows of cargo dynamic by the transport types are contained in tab. 4.

Table 4

**The transit flows of cargo dynamic by the transport types, thousand tons**

Transport type	2007	2008	2009	2010	2011	2012	2013	2014
Railway	99882,4	93347,6	44834,6	44511,8	48669,5	40940,1	132983,0	29398,3
Marine (sea)	2694	3487	1899,4	3660,4	3912,1	1637,7	1519,3	797,2
Highway transport	4494,6	4908,7	3354,2	4649,1	5011,2	4850	5585,0	5863,9
River transport	37,43	74,73	0	0	0	7,6	2,2	0
Air transport	1,3	1,5	1,2	1,6	2,8	3,0	0,8	1,2
Other	44,5	105,5	62,9	90,6	527,8	477,1	787,1	136,6
Total (excluding pipeline service)	107198,7	102031	50215,2	53004,1	58651,2	48392,6	141665	36333,8

Source [12]

There are considerable reduction of the transit cargo flows in 2014 compared to 2007, according to the exploring of the transit cargo dynamics. It is lost the two-thirds of the transit cargo flows in 2007–2014; the transit volume reduces to 36.3 million tons in 2014. It took place some reactivation with nearly 3 times increasing compared to the previous period. There is the most reduction of transit cargo flows by transport type: railway – by 4.5 times, marine transport – 2 times. It is observed a slight recovery of transit cargo flows by highway and air transportation. The using of river transport is practically reduced to nothing as a transit cargo from 2009 and it needs to restore of using of this type of transportation despite the existing Ukrainian potential.

The structure of transit cargo traffic by transport type can be seen in tab. 5.

Apparently, railway type of transport is occupying the lion's share of transportation structure with ratio of 80 %. Highway transport is on the second place by the level of transit potential usage and it ratio equals to 16 %. The other types of transport are occupying a much smaller ratio in the total structure of transit cargo transportation (marine – 2 %, air – 0,003 %, river – is not used). It has a negative impact on transit potential efficiency and the country potential opportunities to fully integrated into the international transport corridor.

Table 5

**The transportation structure by transport type**

Transport type	Volume, %
Railway	81
Highway	16
Marine	2
Air	0,003
River	0

However, transit traffic through the western Ukrainian border is intensified despite the reduction of transit cargoes in Ukraine (through the Poland border on 14.2 %, Slovak Republic – 15.6 %, Hungary – 10.3 %, Republic of Belarus – 14.2 %).

There was a transit cargo significant reduction on the eastern border with Russia (on 23.1 %) and Romania (on 28.1 %) instead [8].

Transit is combining a substantial fraction in the foreign trade cargo flows in Ukraine and it ranges from 30 % to 40 % during the last years. The transit share decreased from 37 % in 2007 to 15 % in 2013 in the foreign trade cargo flow structure (export, import, transit). It reduced the volume of foreign exchange earnings into Ukraine accordingly [2].

Analyzing the foreign trade cargo structure through the Ukrainian borders it is important to note the most fraction in the structure is occupied by export – 45.2 %. The fraction of import occupies 21.8 %, transit cargo flows – 33 %.

There are significantly increased the volume of ironstone (on 11 %) and grain (on 15 %) considering the commodity structure of Ukrainian export transportations in 2015. Thus, Ukraine is among the five largest exporters of ironstone (Australia, Brazil, South Africa, Ukraine, and Canada). There are countries in the transit transportations geographical structure such as Russian Federation, Kazakhstan, Republic of Belarus, and Moldova. They transported 94.2 % of all goods transit through the Ukraine's territory. The biggest transiter is Russian Federation; its fraction was 85 % of the total transit volume in 2013. There are changing trends in Ukrainian foreign trade during the period of 2014–2015 characterized by reducing the share of exports and transit of goods from the Russian Federation. China (24.1 million tons) took the leading position in Ukrainian export traffic in 2015; Russia Federation (18 million tons) is on second place.

**Conclusions and recommendations for further research.** The optimal behavior of transport flows through the country transit territory is impossible without development and forming of the transport infrastructure which where measure up to the European requirements. First of all it requires the modern innovative technologies usage in the road and rail routes construction; the territory logistic and transport potential effectiveness usage; border infrastructure development; improvement of the effectiveness of the functioning of logistics centers which are provide transport services; a balanced regulatory policy in the transit transportation sphere and etc. This will increase the efficiency of Ukraine's transit potential areas and to integrate into the international transport system.

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