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**STRATEGIC GUIDELINES OF DEVELOPING INTERNATIONAL
MOTOR TRANSPORTATIONS AND TRANSIT POTENTIAL
OF UKRAINE**

In this article the international motor transport services of Ukraine are assessed in terms of trends and current situation of the national market of freight and passenger transportations, reasons for losing significant volumes of transit by Ukraine are revealed. Object-factor algorithm for strategic development of international motor transportations is interpreted and the list of key strategic objectives of public regulation at the market of automotive services based on their effective adaptation to global economic environment is presented.

Keywords: international motor transportation; transport services market; transit potential; transport policy; foreign traffic.

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**СТРАТЕГІЧНІ ОРІЄНТИРИ РОЗВИТКУ МІЖНАРОДНИХ
АВТОПЕРЕВЕЗЕНЬ І ТРАНЗИТНОГО ПОТЕНЦІАЛУ УКРАЇНИ**

У статті за результатами досліджень обсягів міжнародних автотранспортних послуг України оцінено тенденції розвитку і сучасну кон'юнктуру національного ринку вантажо- та пасажироперевезень, розкрито причини втрати Україною значних обсягів транзиту. Інтерпретовано об'єктно-факторний алгоритм стратегічного розвитку міжнародних автотранспортних послуг та виділено перелік ключових стратегічних орієнтирів державного управління на ринку автомобільних послуг з урахуванням їх ефективною адаптації до глобального економічного середовища.

Ключові слова: міжнародні перевезення; ринок автотранспортних послуг; транзитний потенціал; транспортна політика; зовнішньоекономічні вантажопотоки.

Рис. 1. Табл. 2. Літ. 14.

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**СТРАТЕГИЧЕСКИЕ ОРИЕНТИРЫ РАЗВИТИЯ
МЕЖДУНАРОДНЫХ АВТОПЕРЕВОЗОК И
ТРАНЗИТНОГО ПОТЕНЦИАЛА УКРАИНЫ**

В статье по результатам исследований объемов международных автотранспортных услуг Украины оценены тенденции развития и современная конъюнктура национального рынка грузо- и пассажироперевозок, раскрыты причины потери Украиной значительных объемов транзита. Интерпретирован объектно-факторный алгоритм стратегического развития международных автотранспортных услуг и выделен перечень ключевых стратегических ориентиров государственного управления на рынке автомобильных услуг с учетом их эффективной адаптации к глобальной экономической среде.

Ключевые слова: международные перевозки; рынок автотранспортных услуг; транзитный потенциал; транспортная политика; внешнеэкономические грузопотоки.

Problem statement. The market of motor transport services is an integral part of any economy. It has important economic and social values as it serves almost all industries and all sectors, contributes to the development of transport and economic links and to improving life quality. However, a significant degree of physical and

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moral depreciation of vehicles and motor transport complex does not ensure adequate quality of transport services and in the conditions of global competition it leads to displacement of Ukrainian carriers from international markets of transport services, reorienting of transit cargo so that to bypass Ukraine, thus endangering economic security of the state.

Recent publications analysis. Analytical studies and strategic orientations for developing domestic market of motor transport services at international level based on statistical reports and fundamental works are presented by O.A. Humarov (2009), O.V. Kalinichenko (2013), A. Matveev (2011), V.I. Perebyinis et al. (2009) and K.V. Solyannik (2014).

Research objectives. Contemporary strategic objectives of developing domestic market of motor transport services in terms of European integration remain controversial and insufficiently developed. It is also noteworthy that there is an objective need for further deepening of scientific and methodological approaches to assessing the factors increasing transit potential of vehicles under free trade with the EU.

Key research findings. In GDP structure of Ukraine transportation services take one of the first places. In fact, the share of economic activity "Transport, storage, postal and courier activities" during 2013–2015 was ranging between 6–11%. Thus, road transport in 2015 provided transportation to 25% of all cargo and around 45% of all passengers (State Statistics Service of Ukraine, 2015).

Overall, the domestic market of motor transport services satisfies the basic needs of the economy and population. However, the level of safety, indicators of quality and efficiency of passenger transportation and freight transportation, energy efficiency, environmental impact do not meet today's international requirements. Vast majority of national roads, which became part of international transport corridors, were built more than half a century ago. As a result, the average rating of highways in Ukraine is 3.71 which indicates their low bandwidth and no compliance with the current European standards.

According to the order of the Cabinet of Ministers of Ukraine "On approving transport strategy of Ukraine for the period till 2020" (20.10.2010, # 2174) the backlog in the development of a transport network is also observed in slow building up volumes of public roads under the accelerated pace of motorization in the country. Over the last 20 years the length of roads did not increased much while European motorways were developing during that time rapidly. As a result, the density of highways in Ukraine is 5.9 times less than in France (respectively 0.28 and 1.65 km of roads per 1 sq. km of the area of the country). The length of highways in Ukraine is 0.28 ths km, while in Germany – 10.9 ths, France – 7.1 ths km. the level of funding per 1 km of roads in Ukraine is 5.5–6 times less than in the countries mentioned above (Order of the Cabinet of Ministers of Ukraine, 20.10.2010, # 2174).

Availability of roads in the regions of Ukraine also has considerable variation. Among the regions with high-density public roads there are Lviv (376 km per 1 ths km² of the area), Ternopil (361 km) and Chernivtsi (355 km) regions. The lowest density is recorded in Kherson (174 km), Mykolaiv (195 km) and Lugansk (218 km) regions (The Institute for Economic Research and Policy Consulting, 2014).

An important component of the international market of motor transport services is its infrastructure which is based on rational decisions of public administration

and market participants as well as interaction of supply and demand should generate optimum prices for transport services (Perebyinis et al., 2009).

Among the agencies of public administration in the sphere of international transport policy we should mention: Ministry of Infrastructure of Ukraine, State Agency of Highways of Ukraine, Department of Strategic Development of Road Market and Automobile Transportations, Department of International Cooperation, Association of International Automobile Carriers of Ukraine and others.

At the market of road transport services entities of all ownership forms carry out their activities, the share of private ownership exceeds 90% (Kalinichenko, 2013). Commercial transportations provide more than 56.2 ths of carriers including 240 enterprises engaged in international transport of passengers. Route network connects Ukraine with 23 foreign countries and there are more than 400 regular bus routes. In serving these routes more than 1.5 ths buses are involved (Ministry of Infrastructure of Ukraine, 2016).

50% of exports belong to the services of freight road transport, export freight forwarding services – 47.4%. In import of services forwarding services of road transport are 56.5%, 25.7% and 2.0% fall on the services of freight and passenger road transport respectively. In 2014 exports of transportation services amounted to 6.1019 bln USD (imports – 1.3766 bln USD). In the total volume of transport services car transportations provide export services for the amount of 459 mln USD and import services – 189 mln USD. In the overall structure of services' imports by types of transport the road transport comes fourth and in cargoes export – fifth (State Statistics Service of Ukraine, 2014).

Nomenclature of export cargo flows of road transport includes wood and products of wood (30%); non-precious metals and their products (14%); food products (12.8%); herbal products (8.5%), chemicals and related products (5.8%); live animals and animal products 4.7% (State Statistics Service of Ukraine, 2015).

In the total volume of transport services export CIS countries have about 39% and the EU countries – 34%; the volume of transportation services import is formed by 49% by the EU countries and 21% – by CIS. The volumes of export-import operations with Asia and America are small due to geographical factors and it does not reflect the global trends and strategic changes in the field of transport services with these countries (State Statistics Service of Ukraine, 2014).

The key problems of international automobile transportations include: availability of unregulated market segment – "illegal" passenger transportations which is a product of corruption; environmental pollution; accidents; high costs; poor state of the road sector; technical condition of vehicles; low qualification of drivers; lack of own investment resources for innovations and renewal; in consistencies in the legislation of Ukraine with the international one (Matveeva, 2011).

Using the functions of "Excel" we determined the density of connection between the volume of cargo exports by motor transport and "time" (that means a set of reasons that consistently affect the volume of transit cargo and cause its changes) using mathematical functions (Table 1).

The most tight connection is observed for the polynomial function ($R^2 = 0.9321$), so this tendency is approximated by this mathematical function (Figure 1).

Table 1. Reliability of approximation of dynamics of cargo exports by motor transport under various mathematical functions, calculated on the basis of data (State Statistics Service of Ukraine, 2014)

Function	Equation	Value of reliability of R ² approximation
Linear	$y = 457.75x + 6655.6$	0.7799
Exponential	$y = 6705.9e^{0.0586x}$	0.786
Logarithmic	$y = 1201.4\ln(x) + 6878.4$	0.8679
Graded	$y = 6896.5x^{0.1543}$	0.8806
Polynomial	$y = -170.9x^2 + 1483.1x + 5459.2$	0.9321

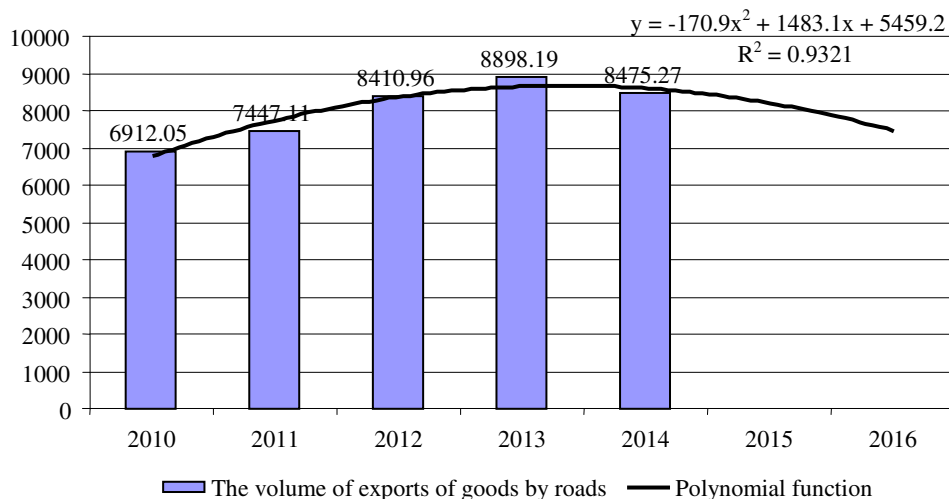


Figure 1. Connection density between the volume of cargo exports by motor transport and "time" by the polynomial function, ths tons, authors'

The current state of the national economy hinders the development of international road services. So, if a set of reasons which forms the tendency of destruction of transport infrastructure in the nearest future is not resolved we can expect further decline in exports of cargoes by motor transport which in 2016 will be at the level of 7523 ths tons.

The main reasons that hinder the development of international transit in Ukraine are: inconsistency of Ukrainian legislation with that of other European countries; incompatibility of the national legal framework with international transport laws, in particular, in terms of border crossing, transport organization and cargo handling at terminals; lack of a unified state transit policy; insufficient quality of transit traffic (low speed, organizational and technical barriers at borders, non-conservation of cargoes, poor service); lack of information development; technology gap, particularly, in international transport logistics, combined transport; not enough balanced tariff policy; confusions in the network of motorways, terminals and other facilities in terms of technical parameters and operational requirements.

International treaties of Ukraine determine 359 checkpoints across the state border (19 border regions) but only 196 operate including: at the border with Moldova – 54, Russia – 37, Belarus – 27, Poland – 14, Romania – 10, Hungary – 7, Slovakia – 6. By categories of trips they are divided into international (133), interstate (28)

and local ones (35) and by types of connections – automobile (100), rail (36), sea (20), boat (9), ferry (2), air (26) and pedestrian ones (3) (State Border Service of Ukraine, 2015).

Among international and interstate border crossings we can identify a number of those which have enough high technical and organizational level in terms of European standards, including Novi Yarylovychi – the carrying capacity of 1000 cars per day, Yagodyn 1 – 2100, Ustyluh – 600, Shehyni – 1500, Krakovets – 5000, Chop – 3300 vehicles per day etc. But the system of admission of persons and vehicles across the state border in the most part does not correspond to the actual volumes of passenger and freight traffic. The existing traffic flow is 1.5–3 times higher than the project possibilities of these crossing points (Humarov, 2009).

According to strategic experts one of the most promising areas for development of Ukraine's national competitiveness should be mobilization of transit potential of the state based on geo-economic advantages of Ukraine and is a resource of dynamic development of integration processes in all regions of the world (Humarov, 2009; Kalinichenko, 2013; Solyannik, 2014; Perebyinis et al., 2009).

Public administration in the sector of international road services should be directed to ensure: timely and quality meeting the needs of passengers; safe operations of transport at national and international levels; protection of economic interests of businesses and organizations that operate not only at the domestic but also foreign markets; development of fair competition and restriction of monopoly; licensing of certain activities in the field of transport (Table 2).

Table 2. Key strategic objectives of state administration at the market of transport services in Ukraine in accordance with international standards,
authors' on the basis (Order of the Cabinet of Ministers of Ukraine, 20.10.2010, # 2174; Support to the Transport strategy of Ukraine, 2010)

No.	Category	The essence of key strategic objectives
1.	Improving road safety	<ul style="list-style-type: none"> - creating a system of road safety management harmonized with the European one; - improving the system of technical regulation of accessing drivers and vehicles to participate in road traffic under the European agreement concerning the work of vehicles' crews; - better information support for traffic participants.
2.	Ensuring efficiency of road transport	<ul style="list-style-type: none"> - improving technology of automobile transportations, increasing the share of combined transportations, development of optimal technological schemes for transport hubs; - renewal of rolling stock and optimization through the purchase of vehicles of domestic production; - improving the mechanism of using alternative fuels.
3.	Ensuring the development of highways' network	<ul style="list-style-type: none"> - implementation of measures to increase funding for road infrastructure; - creation of highways reconstruction of the existing roads and construction of new ones mainly on a concession basis.
4.	Strengthening innovation component in the projects of development of transport infrastructure	<ul style="list-style-type: none"> - modernization of the border crossing infrastructure; - introduction of advanced information systems and electronic document management; - ensuring the effective control system of weight and dimensional parameters of vehicles at border crossings.

In order to make Ukraine more attractive for foreign carriers it is necessary to create legal, economic, technical, organizational and technological, environmental conditions close to European ones.

Conclusions and recommendations for further research. Ukraine is planning to join general European transport network and thus it must accept the principles of European common transport policy adapting it to Ukrainian conditions. Object-factor algorithm for strategic development of international transit potential of Ukraine includes: adapting national regulatory framework with the EU requirements and international transport law; technical and technological modernization of transport infrastructure of international importance and cargo crossing points across the state border; creating the single market of international transport services; improving tariff-pricing and tax policies in international transit; introduction of newer technologies of logistics in organizing transit freight and information, financial flows; simplification of customs procedures for the participants of transit market; improving the efficiency of transport companies and transport infrastructure facilities; increasing transport safety, reliability and comfort of passenger journeys.

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