

МЕХАНІЗМИ ДЕРЖАВНОГО УПРАВЛІННЯ

UDC 656.13

DOI 10.36030/2310-2837-1(100)-2021-69-73

TRANSPORT COMPLEX DEVELOPMENT MANAGEMENT IN CONDITIONS OF INTEROPERABILITY

O. V. Stepanov,

Kharkiv National Automobile and Highway University

A. S. Venger,

Kharkiv National Automobile and Highway University

A. A. Iarish,

National Academy for Public Administration under the President of Ukraine

The article considers issues of public administration and regulation in the field of transport, which are aimed at implementing long-term objectives of socio-economic development of transport. The opinion that in the conditions of social transformations the special place in the transport complex is occupied by interoperability of transport as one of the most important components of the market infrastructure is substantiated. It is concluded that public administration and regulation of the transport sector should be aimed at promoting the development of the market of transport services at the interregional level, to accelerate the transition of transport to a higher organizational and managerial and technological level.

Keywords: management; regulation; transport complex; interoperability; infrastructure; socio-economic development.

УПРАВЛІННЯ РОЗВИТКОМ ТРАНСПОРТНОГО КОМПЛЕКСУ В УМОВАХ ІНТЕРОПЕРАБЕЛЬНОСТІ

O. B. Степанов,

Харківський національний автомобільно-дорожній університет

A. C. Венгер,

Харківський національний автомобільно-дорожній університет

A. A. Яріш,

Національна академія державного управління при Президентові України

Розглядаються питання державного управління і регулювання у сфері транспортного комплексу, що спрямовані на реалізацію довгострокових завдань соціально-економічного розвитку транспорту. Обґрунтовується думка про те, що в умовах суспільних трансформацій особливе місце в транспортному комплексі займає інтероперабельність транспорту як один із найважливіших компонентів ринкової інфраструктури. Робиться висновок про те, що державне управління і регулювання транспортного комплексу має бути спрямовано на сприяння розвитку ринку транспортних послуг на міжрегіональному рівні, прискорення процесів переходу транспорту на більш високий організаційно-управлінський і технологічний рівень.

Ключові слова: управління; регулювання; транспортний комплекс; інтероперабельність; інфраструктура; соціально-економічний розвиток.

Introduction. Transport in Ukraine, as an independent sphere of material production, has a number of features that distinguish it from other sectors of the economy. In modern conditions, transport plays not only social significance, but also performs national economic functions (Bondar, 2014, p. 344; Materiali sajta Ministerstva; Pro shvalennya Nacionalnoyi transportnoyi strategiyi, 2018).

In general, transport reduces the temporal and spatial gap between production and consumption, between buyer and seller. The above suggests that transport in terms of social transformations is characterized by interoperability (Borodakij, 2009, p. 16–24; Titov, 2014, p. 18–19). In particular, the interoperability of transport can be observed between organizations in carrying out their activities.

In addition, transport can accelerate the process of expanded production, increasing the mass of finished products in the process of treatment (Bondar, 2014, p. 344; Malish, 2012, p. 110–119). A special role is given to public administration and regulation of the transport complex, which should be aimed at accelerating the transition of transport to the higher organizational, managerial and technological level.

Analysis of basic research and publications.

A significant contribution to the development of the theory and methodology of public management of the transport complex was made by domestic and foreign researchers: H. D. Eitutis, O. S. Ignatenko, O. M. Lozhachevska, H. I. Mishchenko, Yu. Ye. Pashchenko, V. Y. Razvadovsky, D. A. Timokha, A. M. Tkachenko, and others. The basis of

© Степанов О. В., Венгер А. С., Яріш А. А., 2021

state regulation in the field of transport is also the work of well-known experts in the organization of public administration and regulation of various spheres of society, namely: A. M. Averyanov, T. K. Anokhin, Yu. S. Barash, I. V. Blauberg, D. M. Hvishiani, V. M. Hurnak, O. V. Dovhalev, V. P. Kuzmin, O. A. Mashkov, A. M. Novikov, N. R. Nyzhnyk, V. Yu. Stepanov, V. M. Sadovsky, V. S. Tyukhtin, V. V. Tsvetkov, L. P. Yuzkov, and others. However, researchers still have important issues to clarify the features of transport infrastructure as an object of public administration, the development of proposals for the implementation of the mechanism of state regulation of self-organization of the transport complex.

The purpose of the study, problem statement.

Consider the management of the transport complex in terms of interoperability, as an important component of market infrastructure.

Research materials. Considering the issues of state management of the development of the transport complex, we note that a special place in the transport complex is occupied by its interoperability, as one of the most important components of the market infrastructure. Infrastructure is understood as a set of industries necessary for the effective functioning of enterprises in the sphere of material production (Jochimsen, 1966, p. 99).

The market infrastructure can be defined as a complex of institutions that ensure the normal and continuous functioning of the market (Mochernij, 2000, p. 846). Taking into account interoperability in the market infrastructure, the transport infrastructure is distinguished as a sphere of transport production, which contributes to the receipt of its final product–transport services.

Transport, due to its infrastructural nature, should be subject to control and regulation by state and regional authorities. This process should include government bodies at the interregional level.

To substantiate the key areas for improving the transport infrastructure, it is necessary to take into account strategic changes in the main system-forming areas, namely: institutional, technological and macroeconomic. To substantiate the key areas for improving the transport infrastructure, it is necessary to take into account strategic changes in the main system-forming areas, namely: institutional, technological and macroeconomic (Kuznecovoyi, 2018, p. 184; Titov, 2014, p. 18–19).

1. Institutional factors: support of national enterprises of the transport complex in international competition; solution of national and regional socio-economic problems; creation of interregional

and international transport and distribution centers; development of innovative forms of organizational and economic interaction between the subjects of the transport market.

2. Technological factors: introduction of modern transport-logical and other technologies; development of high-speed and high-speed types of freight and passenger transport; development of container and package transportation as the basis for mixed cargo delivery; development of global and corporate information and communication networks; introduction of electronic systems for regulating the movement of vehicles and document circulation in transportation.

3. Macroeconomic factors: expansion of interstate and interregional transport and economic relations; formation of interregional markets for goods and services; formation of the system of national transport corridors with the elimination of gaps and bottlenecks in the transport network; development of forms of ownership; increased competition and development of transport and logistics services.

It should be noted that it is necessary to consider the development of the transport complex from the point of view of the systematic approach and integration of efforts of all participants in the process. To achieve a common goal, it is necessary to recognize the interconnections and interdependencies between the building blocks of the market. In addition, the multiplicity of functions associated with the implementation of the development mechanism. This can be achieved by moving to the corporate management culture. At the same time, the responsibility for the development of the transport complex is the integrative function of business and the state. Thus, the coordinated development of all elements of the transport infrastructure requires the use of the most effective methods and tools for managing integration activities, among which cooperation takes a special place.

Cooperation of market participants in the form of cooperation and partnership is an effective way of interaction at the interregional level. Note that the peculiarities of the technological mode of production of transport services objectively lead to cooperation, partnership of all participants in the process, including the state. It should be emphasized that the configuration of the partnership is determined by the form of interaction, and its content in each case is filled depending on the dominance of a particular feature (Malish, 2012, p. 110–119).

The nature of partnerships depends not only on the combinations of elements within the partnership model, but also on actual organizational structures.

Partnership can be considered as a form of voluntary economic interaction with a balanced set of mutual interests of community members (Pro derzhavno-privatne partnerstvo, 2010).

Partnership relations between the state and business should take place in compliance with the principle of the optimality of the degree of state participation in the production and financial activities of transport enterprises, taking into account the specific conditions and characteristics of regional development. In addition, it is necessary to take into account the preservation of competition and interaction in the market of transport services, as well as the multidimensionality of the regulation of the transport system.

In practice, partnerships are realized in the form of the certain institutional environment, set of relationships and a mechanism of state regulation. At the same time, the formation of solutions to socially oriented projects that are beneficial for the state, and for business, and for citizens should be carried out according to the innovative type of organizational and economic interaction (Malish, 2012, p. 110–119; Mochernij, 2000, p. 864).

The study of scientific research has shown that a meaningful assessment of the adequacy of the development of the transport complex, its effectiveness and compliance with current and future socio-economic needs, should be based on a certain system of models. They include the existing and forecast territorial and sectoral balances of production and consumption of products with the allocation of material balances. Thus drawing up of such balances in modern conditions should have forecast, variant character taking into account external environment.

It should be noted that transport users are also exposed to significant, unpredictable risks. In particular, there is often no alternative, full-fledged replacement for many transport facilities. At the same time, the formation of the competitive environment in transport is associated with capital investment. Transport systems must be highly efficient, resistant to operational loads, and have sufficient diversity to adapt them to the wide range of likely transport and market conditions.

Research shows that three aspects are distinguished in the general system of state economic management: national economic – covering a single complex of the country; branch – the object of which are branches and intersectoral complexes; territorial – including in the field of transport along with regional and interregional level (Mochernij, 2000, p. 864; Kuznecovoyi, 2018, p. 184).

It is well known that market mechanisms do not provide the rational distribution of resources from the social point of view. These are cases when it

comes to production, accompanied by external effects or the creation of public goods. In the functioning and development of socially-oriented and promising transport, the state must take on the function of adjusting the distribution of economic resources. In this case, economic resources include material, labor and financial resources, which together represent the main factors of transport production.

In addition, the task of efficient use of financial resources is based on the specific organization. In this case, the concept of «organization» means the internal order, coherence, interaction of more or less differentiated and autonomous parts of the whole. However, in all cases, the organization assumes the existence of certain mechanisms. The following elements of the organizational mechanism are meant: goals, objectives, principles, methods and structure of the management system.

The analysis of scientific sources has shown that regionalization, as a process of development of the transport complex, should be more closely linked with the processes of state regulation.

Conclusions. At present, there are various scientific views on the theory of public administration of the development of the transport complex. On the one hand, there is a point of view that the state should be limited to the execution of the minimum set of functions for the development of the transport complex. On the other hand, there is a position that the state development of transport in market conditions is the objective necessity. It should be noted that the state itself must act through the market mechanism as the economic entity.

State management of the development of the transport complex should take place on the following conditions: the legal foundations of transport activities and regulation of the transport complex should be developed on the principles of the systematic approach; the distribution of budgetary resources between different types of transport should be balanced; the availability of conditions for the interaction of types of transport based on the principles of logistics, competition and the formation of the single information and tariff space; coordination of efforts and resources of the center, regions and business. That is, the mission of the state in the functioning and development of the transport complex of Ukraine can be defined as promoting economic growth and improving the welfare of the population through access to safe and quality transport services.

The transition to the organization of the development of the transport complex on fundamentally new market conditions makes it necessary to change views on the role of transport infrastructure in the

development of the country's regions. This reveals a number of new tasks to increase its economic effi-

ciency. In this case, the base is the strategic management system, which is the subject of further research.

References

- Borodakij, Yu. G., Lobodinskij, Yu.V. (2009). K probleme obespecheniya interoperabelnosti [To the problem of ensuring interoperability]. *Informacionnye tehnologii i vychislitel'nye sistemy*. Is. 5. P. 16–24 [in Russian].
- Bondar, N. M. (2014). Rozvitok transportnoyi infrastrukturi Ukrayini na zasadah derzhavno-privatnogo partnerstva [Development of transport infrastructure of Ukraine at the ambush of state-private partnership]. Kyiv : NTU. 366 p. [in Ukrainian].
- Materiali sajta Ministerstva infrastrukturi Ukrayini. Retrieved from: <http://mtu.gov.ua/timeline/Evrointegraciya.html>
- Malish, N. A. (2012). Osoblivosti realizaciyi mehanizmu derzhavno-privatnogo partnerstva v transportnij sferi Ukrayini [Features of the implementation of the mechanism of state-private partnership in the transport sector of Ukraine]. *Naukovi rozvidky z derzhavnoho ta munitsypalnoho upravlinnia*. Kyiv : Akad. municip. upr. Is. 3. P. 100–119 [in Ukrainian].
- Mochernij, S. V. (2000). Ekonomichna encyklopediya : u 3 t. T. 1 [Economic encyclopedia : in 3 volumes. Vol. 1]. Kyiv : Akademiya. 864 p. [in Ukrainian].
- Pro shvalennya Nacionalnoyi transportnoyi strategiyi Ukrayini na period do 2030 roku : Rozporyadzhennya Kabinetu Ministriv Ukrayini vid 30.05.2018 № 430-r. Retrieved from: rada.gov.ua
- Pro derzhavno-privatne partnerstvo : Zakon Ukrayini vid 01.07.2010 № 2404-VI. Retrieved from: <http://www.president.gov.ua/documents/12134.html>
- Kuznecova, I. O. (2018). Suchasni tehnologiyi strategichnogo upravlinnya v umovah evrointegraciyi [Modern technologies of strategic management in the minds of European integration]. Harkiv : PromArt. 184 p. [in Ukrainian].
- Titov, O. (2014). Yuridichna skladova interoperabelnosti zaliznichnogo transportu Ukrayini v konteksti vzayemin iz krayinami Yevropejskogo Soyuzu [Legal Warehouse Interoperability for Rail Transport in Ukraine in the Context of the Union from the Countries of the European Union]. Is.12. P.18-19. *Ukrainski zaliznytsi* [in Ukrainian].
- State of the art on Semantic IS Standardization Inteoperability & Quality. Erwin Folmer, Jack Verhoosel. University of Twente. 163 p.
- Jochimsen, R. (1966). Theorie der infrastruktur. P. 99.

Список використаних джерел

- Бородакий Ю. В., Лободинський Ю. В. К проблеме обеспечения интероперабельности. Информационные технологии и вычислительные системы. 2009. № 5. С. 16–24.
- Бондар Н. М. Розвиток транспортної інфраструктури України на засадах державно-приватного партнерства : монографія. Київ : НТУ, 2014. 366 с.
- Матеріали сайту Міністерства інфраструктури України. URL: <http://mtu.gov.ua/timeline/Evrointegraciya.html>
- Малиш Н. А. Особливості реалізації механізму державно-приватного партнерства в транспортній сфері України. *Наук. розвідки з держ. та муніцип. упр.* : зб. наук. пр. Київ : Акад. муніцип. упр., 2012. Вип. 3. С. 110–119.
- Мочерний С. В. Економічна енциклопедія : у 3 т. Київ : Видавн. центр «Академія», 2000. Т. 1. 864 с.
- Про схвалення Національної транспортної стратегії України на період до 2030 року : Розпорядження Кабінету Міністрів України від 30.05.2018 № 430-р. URL: rada.gov.ua
- Про державно-приватне партнерство : Закон України від 01.07.2010 № 2404-VI. URL: <http://www.president.gov.ua/documents/12134.html>
- Сучасні технології стратегічного управління в умовах євроінтеграції : монографія / [І. О. Кузнецова та ін.] ; за заг. ред. д-ра екон. наук, проф. І. О. Кузнецової ; Одес. нац. екон. ун-т. Харків : ПромАрт, 2018. 184 с.
- Тітов О. Юридична складова інтероперабельності залізничного транспорту України в контексті взаємин із країнами Європейського Союзу. *Українські залізничні*. 2014. № 12. С. 18–19.
- State of the art on Semantic IS Standardization Inteoperability & Quality. Erwin Folmer, Jack Verhoosel. University of Twente. 163 p.
- Jochimsen, R. Theorie der infrastruktur. Tubungen. 1966. P. 99.

Степанов Олексій Вікторович,

доктор технічних наук, доцент, професор кафедри організації та безпеки дорожнього руху, Харківський національний автомобільно-дорожній університет, 61002, Україна, м. Харків, вул. Ярослава Мудрого, 25

Венгер Альбіна Сергіївна,

аспірантка кафедри організації та безпеки дорожнього руху, Харківський національний автомобільно-дорожній університет,

61002, Україна, м. Харків, вул. Ярослава Мудрого, 25

Яріш Анатолій Анатолійович,

аспірант кафедри інформаційної політики та цифрових технологій, Національна академія державного управління при Президенті України, 03057, Україна, м. Київ, вул. Антона Цедіка, 20

Цитування: Степанов О. В., Венгер А. С., Яріш А. А. Управління розвитком транспортно-логістичного комплексу в умовах інтероперабельності *Вісн. НАДУ. Серія «Державне управління»*. 2021. № 1 (100). С. 69–73.

Стаття надійшла: 18.02.2021

Схвалено до друку: 01.03.2021

Stepanov, Oleksii V.,

Doctor of Technical Sciences, Associate Professor, Professor of the Department of Traffic Management and Road Safety,

Kharkiv National Automobile and Highway University, 25, Yaroslav Mudryi St., Kharkiv, 61002, Ukraine

E-mail: cc_7@ukr.net

<https://orcid.org/0000-0003-4954-2532>

Venger, Albina S.,

postgraduate student of the Department of Traffic Management and Road Safety,

Kharkiv National Automobile and Highway University, 25, Yaroslav Mudryi St., Kharkiv, 61002, Ukraine

E-mail: venger91@ukr.net

<https://orcid.org/0000-0001-9285-4801>

Iarish, Anatolii A.,

Ph.D Student of Information Policy and Digital Technologies Department, National Academy for Public Administration under the President of Ukraine,

20, Anton Tsedyk St., Kyiv, 03057, Ukraine

E-mail: infpol@ukr.net

<https://orcid.org/0000-0002-8834-905X>

Citation: Stepanov, O. V., Venger, A. S., Iarish, A. A. (2021). Upravlinnia rozvytkom transportnoho kompleksu v umovakh interoperabelnosti [Transport complex development management in conditions of interoperability]. *Bulletin of the NAPA. Series «Public Administration»*. Is. 1 (100). P. 69–73 [in English].

Article arrived: 18.02.2021

Accepted: 01.03.2021