

UDC 35.346.7

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*Candidate for a degree of Interregional Academy of Personnel Management**ORCID identifier: 0000-0001-8939-1324***Improving the mechanisms of state administration of the transport infrastructure of Ukraine**

In modern conditions, the implementation of mechanisms for state management of transport infrastructure is not economically and efficiently enough, which manifests itself in an increased level of financial and labor costs for the construction and maintenance of transport infrastructure, only partial achievement of the goals set by the authorities and insufficient solutions to the problems of development of transport infrastructure, manifest from - for increased wear and tear, congestion, accidents, and underestimated levels of exploitation and miscibility of bridge and road infrastructure. The article is devoted to the study of topical issues of improving the mechanisms of public administration in the field of road facilities. Positive trends in the development of the industry have been identified as part of the implementation of the National Program for the Restoration of Bridges 2020-2025 and the Large Construction Project. It has been established that for the further improvement of the transport industry, it is necessary to delegate expanded management tools to local authorities, streamline, adapt the regulatory framework with EU legislation, promote the development of public-private partnerships, ensure extended independent expert and public control of the quality of road works, stimulate well-coordinated interaction between figurants in the sphere of roads, providing expert monitoring of the condition of roads. Further research can concern a comprehensive analysis of innovations in the niche of the road sector with the analysis of statistical data and dynamics of qualitative indicators of development.

Keywords: public administration, transport infrastructure, construction of bridges, road building, Ukravtodor.

Transport infrastructure occupies a special place in the economic system, since historically and logically it arises in the process of evolution of labor due to the division of economic functions into main and auxiliary (assigned to the corresponding spheres and institutions). The development of the production infrastructure has a national and regional character and is taking place in accordance with changes in the production sector.

Despite the large number of works devoted to the issues of transport infrastructure, there is a need for the scientific development of theoretical and practical problems of its functioning in the sectoral projection, in particular, on the bridge and road transport. The sphere of the road economy is a dynamic structure, therefore, in a broad sense, the relevance of its thorough and comprehensive study is enduring. The road facilities are a kind of buffer in the transport infrastructure. The success of its functioning, on the one hand, depends on the effectiveness of economic strategies and the welfare of the state, on the other hand, the sphere of expensiveness itself largely ensures the efficiency of the economy and affects the indicators of the country's welfare. So, it is known that in 1956, Dwight D. Eisenhower, the American president, took the priority of state policy to the development of the Federal Highway System. Although the program was financially costly, the benefits from its implementation fully paid off the resources spent on construction - the program became a powerful stimulus for the country's economy [1]. According to statistics, the Interstate road network, in which \$ 129 billion was invested, produced more than \$ 2.1 billion in US benefits from a significant impact on production efficiency, a decrease in retail prices and a decrease in road accidents (an over-topical issue for Ukrainian realities).

The vector of attention to the mechanisms for improving the state management of the construction of bridges and roads is more timely than ever for Ukraine, since now the bridge and road construction is in a phase of active revival after years of total decline, which was due, among other things, to imperfect administrative decisions of

the state apparatus. By 2018, the amount of public funds allocated to finance public and local bridges was critically low, funding was on a leftover basis. Speaking of road bridges, it should be noted that funds for the support of their functionality are allocated together with highways and provides for the following distribution for the needs of bridge and road construction. In recent years, road bridges have accounted for less than 5% of the total funding for the development and maintenance of roads. Over the past few years, the transport infrastructure has significantly intensified (2020 became the year of record funding for the road industry in Ukraine), gaps in public administration, affecting the efficiency of the transport infrastructure, are being actively eliminated, leading to an irrational distribution of public funds, poor quality of work performed, etc. spheres and the first results of the effectiveness of ongoing reforms and those at the stage of implementation make it possible to identify effective algorithms for improving public administration for road construction and evaluate tools for the further promising development of the industry.

Analysis of recent research and publications on the topic. In the wake of the intensification of transport infrastructure, there is a noticeable increase in the number of scientific investigations covering current issues in the industry [I. Tokar [2] - a general overview of the current state and assessment of the road development of Ukraine, R. Izhevsky [3] - anti-corruption, L. Kozak, O. Fedoruk [4] - innovative development of the road complex, P. Plazynsky and M. Dmytryshyn [5] - toll roads). Ya. Levchenko [6] draws attention to the fact that the lack of state funding for the construction of roads and bridges can not be eliminated only by attracting public funds. To do this, it is proposed to attract investment infusions. It is a question of development and implementation of the newest forms of cooperation within the limits of public-private partnership on the basis of reception of mutual benefit by the parties of cooperation, by adoption of positive foreign experience (for example, Kazakhstan) and the organization of the unique national form of cooperation. A. Rusnak, I. Nadtochiy, V. Kryukova [7] summarizing the features of investment projects for the construction of roads, note the high level of state regulation and justify the weaknesses of public-private partnership in road infrastructure projects. They are

associated with market-financial and socio-political risks. V. Melnyk [8] also positively assesses the benefits of public-private partnership, especially in line with the implementation of state policy on decentralization, in the vector of which topical issues of road management of Ukraine were considered, in particular from the standpoint of regional reforms. A significant range of investigations covers the involvement of foreign technologies (Tkachuk [9], Stetsyura [10]). The problems of road construction development in Ukraine, including those caused by the imperfection of public administration, are described and their solution is proposed on the basis of foreign experience.

In general, from the literature, it is obvious that most attention is paid to the financing of transport infrastructure and the assessment of current actions and initiatives of the state apparatus for management decisions in this aspect of the complex problem.

The purpose of this study is a thorough analysis of state-level reforms initiated by the government in recent years, aimed at improving the mechanisms of state management of transport infrastructure in Ukraine.

In the context of measures of state management of the transport infrastructure of industrial complexes, three groups should be distinguished: 1) measures aimed at increasing the economic stability of industrial complexes as a whole; 2) measures that directly affect individual objects of production infrastructure; 3) measures of influence on the region-wide industrial infrastructure associated with the fact that many services for the industrial complex are provided by external business entities. Since the transport infrastructure can develop successfully only with the achievement of a pronounced economic stability of the industrial complex, considerable attention should be paid to identifying those areas for improving state participation in this process, allowing the studied complexes in conditions of economic instability to store the necessary production volumes and invest sufficient funds in the development of the corresponding transport infrastructure. , in particular, bridge and road building, which is the object of this study. Among the measures of state participation, centrifugal tendencies should occupy an important place, that is, measures to promote

the effective functioning of roads and highways of local use through the implementation of a set of software and non-software solutions, the current government is clearly trying to implement.

The main research institute for the construction, repair and maintenance of roads and transport structures (bridges) in Ukraine is the State Enterprise "State Road Research Institute named after M. P. Shulgin". The range of scientific and technical activities of the enterprise is aimed at the problems of the functioning and development of the road economy of Ukraine on a scale from the development of theoretical foundations, experimental laboratory and field studies in the implementation of scientific and technical developments in the practice of multi-vector road management.

In May 2020, the National Bridge Restoration Program 2020-2025 and the Large Construction project initiated by the President of Ukraine were presented. This is a global program for the restoration of bridges and the construction of roads since independence. In the context of the Program for ensuring the functionality of bridges, it is planned to restore 1,385 artificial structures in 5 years at UAH 28.7 billion; repair 20 to 90 bridges in each area; to intensify domestic production. In order to make effective management decisions on repairs and operation of bridges in the paradigm of the program's activity, it is planned to inspect more than 10 thousand objects. A large-scale implementation of an analytical expert system for managing bridges on roads not only of national importance, but also of local importance has already begun.

As for roads, 846.9 km of state roads were commissioned already in 2019. According to the official information of Ukravtodor, as of September 3, 2020, road works are being carried out on 4,000 km of roads, while the planned figure is now a quite realistic figure of 4,200 km of roads brought into full operation. Recall that over a three-year period (2016 to 2019), a total of about 4.5-5 thousand km of derdorig was built [11]. The figures better demonstrate the dynamics of the effectiveness of the development of transport infrastructure in Ukraine: the pace of development has increased at least threefold. This was the result of the improvement of public

administration mechanisms in the region, which is the subject of this study, in particular regarding financing mechanisms and targeted use of funds.

To solve the critical situation with the transport infrastructure, the best way was to finance clearly defined tasks and measures for the restoration of bridges and the construction of roads at the expense of the state budget with the possibility of attracting funds from local budgets and investors' funds. This option will ensure the growth of the level of the country's economy, the development of domestic production, its localization, the preservation and creation of new jobs, and an increase in revenues to the budgets of all levels.

It should be noted that as early as November 17, 2016, the Verkhovna Rada of Ukraine adopted Laws No. 1762 "On Amendments to the Law of Ukraine" On the Sources of Financing the Road Sector of Ukraine "regarding the Improvement of the Mechanism for Financing the Road Industry" and No. 1763 "On Amendments to the Budget Code of Ukraine on improving the mechanism of financial support for the road industry ". As a result, targeted expenditures for financing work related to construction, reconstruction, repair and maintenance of public highways were provided in the annual state budget. The next step was that in 2018, as part of the special fund of the State budget, the State Road Fund was created and launched.

The Road Fund has successfully solved the problem of total underfunding in the construction and repair of roads. The sources of its content are:

- 1) excise duty received from fuel and vehicles produced in Ukraine;
- 2) excise tax received from fuel and means of transport are imported into the territory of Ukraine from abroad;
- 3) duty derived from imported petroleum products, vehicles and tires;
- 4) funds received from a paid service for using highways by any means of transport and mechanisms, whose weight and dimensions are overtime;
- 5) financial sources of the special fund of the State Budget of Ukraine, proceeds from bank loans, loans from foreign partner states and international financial institutions for the development and maintenance of roads in common use;
- 6) funds received from toll roads;

7) other financial receipts are recorded in the State Budget of Ukraine in order to support the maintenance and development of highways;

8) income from concession or road lease.

Dynamics of funds credited to the country's road needs by the first three sources, which are the most profitable, in the context of 2018-2020 Positive: the trend from fullness of 50% in 2018, 75% in 2019 and 100% of funds in the current 2020. Since it was precisely the lack of funds that was the main reason for the stagnation of the transport infrastructure over the years of independence, such dynamics testifies to the establishment of a financing system for the road industry and is a guarantor of qualitative changes in public administration in this niche. The list of highways of national importance that are subject to repair or construction using the resources of the state road fund, according to the procedure, is subject to ratification by the Cabinet of Ministers of Ukraine in accordance with the consent of the Verkhovna Rada of Ukraine Committee on Budgetary Issues. The central executive body that implements the state policy in the field of road facilities (Ukravtodor) is the key manager of the state road fund reserves.

As for the financing of local roads, the procedure is somewhat different: the regional authorities receive funds to meet the functional needs of the roads through the mechanism of subventions from the state budget. The distribution of this subvention for local needs is based on the length of regional roads in common use of local importance for each separate administrative-territorial unit. The list of local roads and the amount of subvention funds from the state budget are regulated by the regional state administration with the consent of the Ukravtodor and subsequent coordination by the Verkhovna Rada of Ukraine Committee on Budget Issues [12].

The effectiveness of the described mechanism of state management of transport infrastructure is confirmed by the fact that in 2020 a record UAH 6.97 billion was allocated to the Road Fund (with the following distribution: on state highways - 31,528,000,000 (45%), on local roads - UAH 22.2 billion (31, 9%). The activities of the Road Fund contribute to the predictability and transparency of financing of the road sector. In addition, within the framework of decentralization, the responsibility

for the functionality of the road industry was divided: Ukravtodor took responsibility for 50 thousand km of state roads, local authorities are responsible for 120 thousand km. A significant part of the funds is used to pay off previously taken financial obligations related to roadbuds (debts to foreign creditors and contractor companies). A positive indicator is the fact that after active reform From now on, the applicants are 1-3 contractor companies, and 20-30, which is in spite of competitiveness, transparency, and the dominance of quality indicators of transactions. Foreign companies are also allowed to participate in tenders, often winning. Thus, an active process of experience exchange takes place. In addition, mechanisms of penalties and bank guarantees have been launched to protect against unscrupulous road workers of both domestic and foreign origin.

The activities of the Road Fund make it quite realistic to predict financial receipts for the road industry in the future for a period of 1-5 years in advance. This allows road infrastructure workers to plan repairs strategically in the distant 5-10 years, as opposed to the completely negative and ineffective practice of seasonal patching.

Many critics were aroused by the scheme of activities in the transport infrastructure, when first funds were received (including from foreign loans), and only then work was carried out to develop and implement repairs or construction of roads. This contributed to an extremely irrational, arbitrary and non-transparent allocation of targeted financial resources. With the described innovations in the field of road construction, a linear process of development and design (design work), approval, allocation of funds, a tender for the execution of work, implementation of projects, verification by independent experts in the industry was launched. However, even now, experts say about the unavailability of public administration mechanisms in the transport infrastructure of annual revenues in the road public infrastructure at the level of almost 100 billion UAH due to the need to involve a number of bureaucratic procedures that cannot be ignored or implemented at an accelerated pace [13].

Regarding the state administration for control over the quality of work performed, the innovation is the expansion of the scope of inspection of new roads and roads during the warranty period according to the International Equality Index (IRI) and the control of road surface defects by scanning. The tools of intelligent transport systems are also being actively introduced (in particular, for the automatic weighing of vehicles in motion - the Weight in motion system).

To overcome corruption, the government initiated the anti-corruption program of the State Agency for Highways of Ukraine for 2019-2021 [14], the immediate goal of which is to organize an effective mechanism for preventing and combating corruption through the implementation of qualitatively new principles for the formation and effectiveness of anti-corruption policy in the Ukravtodor system. Ukravtodor conducts an active personnel policy to ensure the efficiency of the functioning of the industrial infrastructure of Ukraine in the field of bridge and road construction, as stated in the Report of the State Agency for Highways of Ukraine for 2019 [15].

The government in every possible way encourages the international activities of Ukravtodor on cooperation with international organizations and the implementation of projects in the framework of international cooperation with bridges and roads. Together with the International Bank for Reconstruction and Development, as well as the European Investment Bank, numerous road construction projects with millions of investments are being implemented:

1. "The second project to improve roads and traffic safety."
2. "Project for the development of the road industry"
3. Project "Improvement of the transport and operational condition of highways on the approaches to the city of Kiev."
4. Project "Transport communication in Ukraine - Phase I".

In the future, the following main tasks can be identified to improve the state management of the road sector:

-delegation of expanded tools for management decisions on road building to local authorities - building an effective mechanism for public administration in the field of road building;

-order, adaptation of the regulatory framework governing the functioning of the domestic road area into the legislation of the European Union;

- promoting the development of public-private partnerships for the restoration and operation of roads (for example, by providing investors with existing roads on a concession basis)

- guarantee of extended independent expert and public quality control of road and bridge construction works;

-stimulation of the effectiveness of well-coordinated interaction between the persons involved in the sphere of roads;

-provision of expert monitoring of the state of highways for making timely decisions on the repair of strategic highways as well as to optimize the costs of construction and operation of highways.

Conclusions

The success of the functioning of the transport infrastructure in many respects determines the success of other spheres of the production and non-production economy of the country. Therefore, the construction and repair of roads is strategic for the development of the country's economy. In recent years, it has been possible to overcome the principle of residual financing of the road sector, which prevailed by 2018. In total, as of today, the transport infrastructure has significantly intensified, and this year has become a record year in financing the road industry of Ukraine (a record UAH 6.97 billion was allocated to the Road Fund). The shortcomings of state management are being actively eliminated, reflected on the efficiency of the functioning of the bridge and road building industry. The most active players in the road economy niche who initiate and implement government decisions on road building are the State Enterprise "State Road Research Institute named after M. P. Shulgin" and the State Agency for Highways of Ukraine (Ukravtodor). In May 2020, the National Bridge Restoration Program 2020-2025 and the Large Road

Construction Project were presented - the largest bridge restoration and road construction program since independence. A large-scale implementation of the analytical expert bridge management system (AESUM) has already begun on national and regional roads. This was the result of the improvement of public administration mechanisms in the region, which is the subject of this study, in particular regarding financing mechanisms and targeted use of funds.

Within the framework of decentralization, responsibility for the functionality of the road industry was divided: Ukravtodor is responsible for 50 thousand km of state roads, local authorities - for 120 thousand km of local roads. The results of the reform and improvement of public administration mechanisms are increased competitiveness, transparency, the dominance of quality indicators of performing transactions, attracting foreign companies as investors and executors. The mechanisms of penalties and bank guarantees were launched to protect against unscrupulous performers. Road infrastructure workers can strategically plan for repairs over the long term 5-10 years. To overcome corruption, the government initiated the anti-corruption program of the State Agency for Highways of Ukraine for 2019-2021.

The work also summarizes a set of further solutions to improve public administration in the field of transport infrastructure.

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