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TRANSFORMATION OF STATE POLICY IN THE SPHERE OF STRATEGIC DEVELOPMENT OF PUBLIC PASSENGER ELECTRIC TRANSPORT IN THE RUSSIAN FEDERATION

Specialty: 5.2.3. Regional and Sectoral Economics

Abstract of a dissertation
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Relevance of the research topic. The strategic development of public transport is an integral part of national and regional policy in most countries. The development of passenger transport facilitates the movement of citizens from their places of residence to their workforce, to socially significant facilities (healthcare facilities, educational institutions, retail outlets, and others), to cultural and leisure facilities, and recreational areas.

Russia's current transport policy is approved by Russian Government Decree No. 3363-r of November 27, 2021, «»On Approval of the Transport Strategy of the Russian Federation until 2030 with a Forecast to 2035» (hereinafter referred to as the Transport Strategy). Additionally, certain aspects of transport development are presented in Decree No. 309 of the President of the Russian Federation of May 7, 2024, «On the National Development Goals of the Russian Federation for the Period until 2030 and for the Perspective until 2036» (hereinafter referred to as the National Goals). The importance of developing public passenger transport has been repeatedly raised at the highest level. For example, on August 17, 2023, Russian President Vladimir Putin held a meeting of the State Council Presidium in the Kremlin on public transport development in the country. At the meeting, officials' positions on the need to develop public transport, including electric transport, and on prioritizing spending on passenger transport activities from regional and federal budgets were noted. The high level of depreciation of urban electric transport infrastructure, including rolling stock, was noted, as was the need to replace 9,200 trolleybuses and trams in the country by 2030. Russian Prime Minister Mikhail Vladimirovich Mishustin has repeatedly stated the importance of developing public transport, as well as the need to develop public transport infrastructure. All of this demonstrates an understanding at the federal level of the importance and urgency of developing the industry. Currently, electric transport is managed primarily at the local level, and less frequently at the regional level.

One aspect of the modern socio-economic development agenda is the issue of environmental conservation and ecology. Due to excessive emissions of carbon dioxide and other pollutants into the atmosphere, many countries are concerned

about switching from oil, gas, and coal (combustible) fuels to alternative energy sources.

One way to decarbonize the transport industry is to transition from internal combustion engines to electric motors. A special focus on electric traction has become a new milestone in the development of electric transport worldwide.

If we consider the development of urban public electric transport at the current stage, we can see the growth dynamics of the electric bus market: while in 2017, the number of electric buses in the global fleet was 385,000 units, by the beginning of 2026, this figure will reach 780,000 units. The People's Republic of China owns the majority of these vehicles, accounting for 87% of the world's electric bus assets, which is linked to China's program to decarbonize public transport.

Thus, it can be noted that the role of electric transport in passenger transportation is steadily increasing. Russia has historically witnessed the active development of electric transport, which has been ongoing since the late 19th century. As of August 2025, approximately 180 urban electric transport (UET) systems are concentrated in 125 cities across the Russian Federation, with 10 systems in the mothballed stage but with potential for restoration, including in reunified territories. In the vast majority of populated areas, electric transport serves as the backbone of the network, carrying the heaviest load. This indicates that the development of urban electric transport is of national importance, as it provides residents with a mass-scale, high-speed, and environmentally friendly mode of transport.

At the time of the study, it was revealed that a number of conceptual problems exist related to the comprehensive development of urban electric transport, including an outdated approach to its development, insufficient concepts for its development, and a limited integrated approach to developing urban passenger electric transport in addressing operational transport challenges. All of this leads to a misunderstanding of the specifics of urban electric transport and the conditions for its economic efficiency. The development of passenger electric transport should be linked to the comprehensive regulation of the transport industry as a whole. This topic is important for science in terms of improving the approach to developing

passenger electric transport. This approach, based on best domestic and international practices, can be extrapolated to the existing industry and lead to its development in the medium and long terms, which will positively impact the achievement of Russia's national goals.

Thus, the relevance of this work is explained by the following premises:

– The existence of a number of problems associated with the comprehensive strategic development of urban electric transport, including an outdated approach to state policy for its development and insufficient development of concepts for the development of public urban passenger electric transport.

– The influence of macroeconomic factors, including the emergence of global trends toward decarbonization and carbon footprint reduction, and the rising cost of traditional fuels.

– The need to transform the current approach to government regulation of public passenger electric transport development, caused by systemic problems in the sector.

– The need for a structural transformation of the strategic development of public passenger electric transport.

– The presence of potential for improving the socioeconomic indicators of cities and regions and achieving national and industry goals.

The hypothesis of the study is that in order to improve the efficiency of activities in the field of public passenger electric transport and achieve the National Goals of the Russian Federation and the objectives of the Transport Strategy, it is necessary to comprehensively improve state policy in this area, including the transformation of state policy in the field of strategic development of public passenger electric transport with increased centralization and adjustment of regulatory frameworks.

The degree of scientific development of this problem is limited to individual studies on narrower subtopics, including issues of road safety, the development of individual vehicle components, and the introduction of new

technologies. These studies lack interconnectedness and do not consider the entire transport system as a unified whole. It is noted that an integrated approach to the development of electric transport is extremely rare in scientific works. This indicates insufficient consideration of the development of passenger electric transport and the role of federal authorities in it, which represents a significant challenge for the field. This study examined the scientific works of various scholars who contributed to the development of this topic and related areas. Both contemporary works on current issues of public administration in this area and earlier works related to fundamental issues in the development of science in management and transport were used. Approaches to the implementation of state and regional policy in the field of transport were studied in the works of researchers: Abdulaal (2023), Azarenkova (1983, 1984), Azimzhan (2022), Almatar (2021), Albov (1976), Bandzeladze (1973, 1974), Burinskiene (1982), Burinskiene, Vitkauskas, Chibiras (1984), Verma, Harsha, Subramanian (2021), Vuchik (2017), Ganzburg (1999), Glik (1981, 2020), Granovsky and Etkina (1981), Gulyaevsky (2008), Delbosc, Currie (2013), Dupuy (1999), Efanov, Rumyantsev (2012), Jia, Shanjun (2023), Zhukov et al. (2009), Zaremba (1986), Kant (1990), Karo (1975), Kiselev (1988), Korotkov (1991), Lapin, Lomovtseva, Ilekhmenev (2013), Le Tuan Anh (2019), Nakashidze (1902), Nguyen et al. (2023), Nic, Nual, Napon, (2019), Ostapets (2021), Otdelnova (1988), Ponachugin (2009), Rassokha (2006), Romanova (2015), Sedov, Ulitsky (1972), Sivakov, Kamynin, Tikhomirov (2020), Tanenbaum (1898), Urinson (1985), Fedorenko et al. (1985), Kharkharrov (2001), Hegazy (2019), Yushkyavichyus (1980), Jacobs (1961).

Issues of strategic planning and management have been considered in the works of the following scholars and researchers: Belyaeva (2018, 2021), Bozadzhiev (2015), Grishina and Yatsenko (2023), Zhovtun (2012), Zelenkov (2010), Ilarionova (2019), Morozova (2019), Rodachin (2021), Fayol (1923), Filiptsov (2007), Khalipov, Khalipova (1996), Kharin, Loginov (2023).

In terms of strategic approaches to the development of passenger electric transport, the works of such researchers as: Blinkin (1978, 1989), Boyan (2021), Vaksman (1990, 1991, 2013), Gavrilenko (2015), Dudakov (2018), Zilbertal (1932,

1937), Quan, Guo, Gu (2022), Livshits V.N. (1977), Livshits D.M. (1971), Newman (1999), Polyakov (1935, 1973, 1974), Rahman (2020), Serdar, Kochshami, Al-Ghadmi (2021), Spirin (2010), Tarkhov (1990, 2000, 2002) were considered.

The issues of historical and technical aspects of the development of urban electric transport were studied by the following researchers: Aleinikov, Varelopulo (1966), Antonovich (1902), Arantcha (2020), Afanasyev (1988), Blinkin (1988), Viktorov, Kulko, Sinkov (2014), Henard (1891), Gorbunov (2014), Shelikhova (2020), Daft (2021), Zhirukhin (2020), Ivkin (1998), Kabeyi, Olanrewaju (2022), Kazantsev (1991), Kirzner (1975), Kong, Zheng (2021), Krasnov (2020), Nunno (2018), Newman and Kenworthy (1999), Ponachugin, Shirin (2015), Sedov, Kulikova (1989), Soria (1894), Tarkhov (2008), Tishina et al. (1984), Yatsukovich (1989).

The socio-economic aspects of transport development have been examined in the works of the following scholars: Aloe (2023), Belov I.V., Persianov V.A. (1993), Berezhnaya (2022), Bocharova (2011), Galaburda (2012), Golskaya (2021).

It is important to note that this problem is not new to the industry, but has become especially significant and relevant in the modern period, primarily in 2020–2025, with the formation of new state transport policy aimed at strengthening the role of federal executive bodies in the development of this industry.

From a theoretical perspective, this paper presents the development of a new structured approach to assessing the performance of electric transport systems, based on a combination of assessments of all system elements and new modes of transport.

It was noted that academic studies on the development of electric transport insufficiently take into account an integrated approach. This suggests the need for further research into the development of passenger electric transport and the role of public policy in this area. This motivated the choice of this topic for research.

Research Objectives and Tasks. The purpose of this study is to develop theoretical frameworks and practical proposals for transforming public policy in the area of strategic development of public passenger electric transport in the Russian Federation.

The **following tasks** are set for the study:

1. To explore theoretical approaches to the development of the transport industry in Russian and international research.

2. To systematize practical approaches to the formation and implementation of public policy in the transport industry based on international and domestic planning experience.

3. To analyze the specifics of strategic planning and management in the field of public passenger electric transport as a sector of the transport industry in the Russian Federation (using expert interview data).

4. To assess the development of public passenger electric transport in the Russian Federation over time for the period from 2014 to 2025.

5. To identify the challenges of municipal and regional management of public passenger electric transport systems.

6. To define the goals, principles, priorities, and stages of transformation of public policy in the field of strategic development of public passenger electric transport in the Russian Federation.

7. To develop an industry-specific model for organizing the management of public passenger electric transport development in the Russian Federation.

8. To develop proposals for the structural transformation of the strategic development of public passenger electric transport within the framework of the developed model.

9. Conduct an economic assessment of the effectiveness of measures within the framework of the proposed transformation of the public passenger electric transport sector.

Object and Subject of the Study. The object of the study is public policy in the field of public passenger electric transport as a sector of the transport industry. **The subject** of the study is the transformation of public policy in the field of strategic development of public passenger electric transport in the Russian Federation.

Compliance of the dissertation research with the requirements of the Passport of specialties of the Higher Attestation Commission (in economic sciences). The dissertation research was completed within the following sections of

the specialty passport 5.2.3. «Regional and Sectoral Economics» in the field of «Transport and Logistics»:

– Section 5.1. Theoretical and methodological foundations for analyzing transport economic issues.

– Section 5.2. Formation of mechanisms for sustainable development of the transport industry.

– Section 5.4. Issues of transport industry regulation (by mode of transport) at the national and international levels.

The theoretical and methodological basis of the research used in this work is based on scientific developments and research by domestic and foreign scientists considering the implementation and development of public policy in the field of strategic development of public electric passenger transport. To achieve the set goals, both general methods and approaches were used (dialectical approach, observation, comparison, synthesis, analysis, synthesis, deduction and induction), and special approaches and methods (theoretical analysis within sections 1.1, 1.2, 1.3, systematization and classification within sections 2.1, 2.3, 3.1, 3.2, descriptive statistics (calculation of average level indicators in section 2.2, graphical presentation of statistical data in sections 1.2, 2.2), expert interviewing of the industry community in section 1.2, analysis of regulatory documents (in sections 1.3, 2.3), case study of experience, including global experience, based on individual cases in sections 1.2, 3.1, diachronic analysis in section 1.2, expert assessment in sections 2.2, 2.3, 3.1, 3.2, field surveys within the framework of section 2.3.

The research data base consists of the following sources: the portal of state programs of the Russian Federation; the portal of national projects of the Russian Federation; the official website of the Ministry of Transport of the Russian Federation, including collections of information and statistical bulletins (including «Transport in Russia» and «Transport and Communications»); the official website of the Federal State Statistics Service (Rosstat). Also used were regulatory legal acts and regulatory technical acts governing the activities of the transport industry and the urban passenger electric transport industry, their relationship with state policy, data from the portals of municipalities and regional departments in the field of

transport, data from the official websites of state and municipal enterprises of urban passenger transport, data from the unified information system in the field of procurement (UIS «Zakupki»), and the results of the author's applied research, which was conducted in 2023-2025 during the preparation of the dissertation research.

Thesis proposals for defense that demonstrate scientific novelty.

The scientific novelty of this study lies in the creation of a scientifically grounded conceptual approach to transforming public policy in the area of strategic development of public electric passenger transport in the Russian Federation, based on the principles of integrated development and hybrid management. The author has developed new methodological recommendations and projects for improving regulatory documents and the governance structure of the area under study, which will ultimately create a platform for the development of the transport industry.

The thesis proposals submitted for defense include the following:

1. It is substantiated that it's need to introduce the term «public policy in the field of public passenger electric transport» into scientific circulation. The term refers to the structured activities of government bodies in the field of passenger electric transport within the transport industry, aimed at achieving the goals and objectives set in the Transport Strategy and National Goals of the Russian Federation. The article substantiates the need to develop and implement public policy measures for the development of passenger electric transport, based on the author's analysis and systematization of the experience of implementing public policy in the field of passenger electric transport in 40 leading countries according to the ranking of gross domestic product at purchasing power parity. The author has developed a typology of transport policy instruments for the strategic development of urban electric transport, based on diversification in the regulatory, economic, informational and managerial regulation of the transport sector. This, unlike existing industry typologies, allows for structuring the object of study with a high degree of detail for subsequent analysis of the effectiveness of the measures applied. The importance of using the tools included in the typology is confirmed by the experience of the industry development during the Soviet period (from 1923 to

1991), which was analyzed using the method of diachronic analysis of government agencies that develop and implement state policy in the transport industry and in the field of passenger electric transport *(section 5.1. Theoretical and methodological foundations for analyzing transport economic issues).*

2. Using a multivariate regression analysis, it has been demonstrated that of the 15 currently collected quantitative statistical indicators influencing the annual passenger flow, 4 indicators are highly significant: the city's population, the annual mileage of public electric transport, the number of rolling stock, and the number of depots and parks in the city serving enterprises. Based on expert interviews with industry representatives (N=10) conducted by the author, the list of indicators has been substantially supplemented with not only the identified quantitative but also the following qualitative indicators influencing the annual passenger flow of public electric transport: the maturity level of government support measures, the extent to which trends toward the decarbonization of human activity are taken into account in transport policy, the priority given to the development of electric transport in national goals and government programs, the need for mass passenger transportation in conditions of high settlement density in certain areas, the level of labor shortage, and the extent to which landscape and climatic conditions making electric transport the most optimal are taken into account *(section 5.1. Theoretical and methodological foundations for analyzing transport economic issues).*

3. Based on the author's analysis of 321 federal and regional transport planning documents, in which electric transport was considered comprehensively in only 41% of cases, it is substantiated that current state policy on the strategic development of public urban electric transport requires transformation to achieve national goals. The author has identified the risks of state regulation of the transport industry: partial loss of electric transport infrastructure; disruption of the transport industry and, as a consequence, of related sectors of the economy; an increasing shortage of management personnel and a reduction in the scientific and educational base in the industry; congestion of urban spaces due to the growth of motorization, increased environmental pollution, and the emergence of social tensions due to reduced transport safety and increased noise and vibration levels *(section 5.4. Issues*

of transport industry regulation (by mode of transport) at the national and international levels).

4. An organizational and economic model for improving the state industry policy in the sphere of strategic development of public passenger electric transport has been developed. This model represents an interconnected system of goal-setting, principles, stages and priorities, the key element of which is the stage-by-stage transformation based on the sequence «updating and harmonization of the regulatory framework – audit – resource assessment – centralization of strategic management – development strategizing – implementation and control» with profile specifics, which, unlike existing ones, includes the unity of management not only over the route network, but also over the entire infrastructure, information and comprehensive development, which will ensure sustainable development of this sphere. As part of improving the regulatory framework, the author provides recommendations, including: updating existing regulatory legal acts in terms of the application of digital and unmanned technologies; synchronization of regulatory legal acts with current state standards and codes of practice; exclusion of outdated regulatory legal acts; development of new documents in accordance with current industry trends. To conduct the audit, proprietary guidelines were developed for a comprehensive assessment of the condition of urban electric transport systems. These guidelines include an assessment of the energy, fleet, and linear infrastructure, as well as the rolling stock, and the identification of new key condition parameters. These guidelines allow for a comprehensive approach to assessing electric transport systems and simplify the process for those implementing them *(section 5.2. Formation of mechanisms for sustainable development of the transport industry).*

5. The need for a new model of strategic management and regulation of electric transport systems in the Russian Federation is substantiated and developed. Recommendations are provided for transforming public policy in the field of public passenger electric transport, based on the transfer of strategic and tactical management issues, including the development of human resources, financial and economic, scientific and technical, organizational and production, information, and marketing policies, to the federal level under the control of an energy company, the

choice of which is substantiated by the author through a qualitative analysis, and which is capable of directly participating in the implementation of the process of improving public policy. It is advisable to maintain the operational level of management at the regional level, limiting the operator's activities to the level of the transportation process. Unlike existing models, this model resolves the contradiction between the need for large-scale investments, the necessary competencies, and the local nature of transport service provision. The model will reduce the need for unique engineering and management personnel at the local and regional levels, alleviate the management burden, and focus efforts on passenger transportation activities. The author conducted an economic assessment of the effectiveness of measures within the proposed transformation of public electric passenger transport. This assessment showed that, over a 20-year planning horizon, assuming the measures are implemented, the difference in annual profits between the current situation and future solutions will amount to 8.219 billion rubles. This is due to attracting investment for infrastructure development, optimizing equipment operating costs, and implementing measures to enhance the competitiveness of systems, leading to increased attractiveness and passenger traffic, and, consequently, increased revenue. This indicator serves as a marker of the effectiveness of the proposed measures *(section 5.4. Issues of transport industry regulation (by mode of transport) at the national and international levels).*

6. A multi-level organizational and management structure has been developed that integrates into the management activities of federal executive bodies in the field of passenger electric transport the relationship between types of activity and the levels of their optimal implementation in a hierarchical order and an algorithm for adapting the organizational structure of the federal executive body represented by the Ministry of Transport of the Russian Federation, taking into account the allocation of the urban and agglomeration mobility sector into a separate department to improve the efficiency of managing the planning of passenger transport systems according to the department structure described in the dissertation research. *(section 5.2. Formation of mechanisms for sustainable development of the transport industry).*

The theoretical significance of this study lies in its analysis and systematization of modern approaches to implementing public policy in the field of urban electric transport, conceptualizing elements not previously considered in this policy. The significance of this study is confirmed by the fact that, since 2022, the President of the Russian Federation, the Prime Minister, the Speaker of the Federation Council, and the Speaker of the State Duma have repeatedly emphasized the importance of developing urban electric transport and the need to create federal programs for its development to foster national and regional economic growth.

The practical significance of this work is determined by the impact of its results on achieving the National Goals of the Russian Federation, as well as the goals and objectives of the Russian Federation's transport strategy. The application of the developed methodological recommendations by federal executive bodies will enable the development of a more structured, scientifically sound, and streamlined policy in the field of urban electric transport and the transport industry as a whole. This work will be particularly significant in the period from 2025 to 2040, when structural shifts in state policy on transport development will occur. Furthermore, its significance will be reflected in the consideration of the developed recommendations for improving regulatory frameworks for the industry and rethinking approaches to state sectoral transport policy in the field of passenger electric transport.

The validity and reliability of the study's results are ensured by its reliance on the work of domestic and international scholars, regional and state governance practices, and a system of logical evidence, statistical data, and arguments. The empirical data is relevant, as it is based on information for the period from 2022 to 2025, taking into account the current state agenda and foreign and domestic policy factors. Data from expert interviews conducted by the author in 2025, which included interviews with industry representatives and senior management, was also used.

The research results in this work are tested based on the developed methodological recommendations using the example of one of the regions of the Russian Federation. Based on the results, a decision is made to implement this

development in the practical industry activities of the organization OOO «StroyInvestProekt», which is confirmed by the implementation act. The methodological recommendations are used in the work of research organizations engaged in the development of transport planning documents for the constituent entities of the Russian Federation. The author also tested the results within the framework of lectures and seminars at the Institute of Public Administration and Management of the Russian Presidential Academy of National Economy and Public Administration (IPAM RANEPA). The research results were also tested within the framework of scientific conferences: International Conference on Social Sciences and Humanities «Azov Development Forum: Economy of Novorossiya» (Mariupol, 2025); Conference session of the Institute of Civil Service and Administration of the Russian Presidential Academy of National Economy and Public Administration (IPSA RANEPA) «Public Administration and Development of Russia: Civilizational Challenges and National Interests» (Moscow, 2024); International scientific conference session of the IPSA of the Presidential Academy «Public Administration and Development of Russia: Challenges, Strategies and Prospects» (Moscow, 2025); International scientific and practical conference «Current Aspects of Scientific Research» (Moscow, 2025); VI International scientific and practical conference «Frontiers of Knowledge: An Interdisciplinary Approach in Science» (Saratov, 2025); XVI International scientific and practical conference «Enhancing the managerial, economic, social and innovative-technical potential of enterprises, industries and national economic complexes» (Penza, 2025); VI International Scientific and Practical Conference «Synergy in Science and Technology» (Saratov, 2025).

Author's Publications. The main provisions of this dissertation are reflected in 25 publications totaling 13,55 pp., including 14 works totaling 10,2 pp. in journals included in the List of Journals Recommended by the Higher Attestation Commission (HAC) under the Ministry of Science and Higher Education of the Russian Federation.

Dissertation Structure. The sequence of material is based on the logical presentation of materials to address the stated objectives within the stated research goal. The dissertation consists of an introduction, three chapters (nine sections), a

conclusion, a list of abbreviations and symbols, and a bibliography containing 431 titles. The dissertation is 255 pages long and contains 21 figures and 18 tables. There are also eight appendices.