

REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

INCREASING THE EFFICIENCY OF TRANSPORT AND LOGISTICS OPERATIONS IN AZERBAIJAN

Speciality: 5304.01 – “Types of economic activity”

Field of science: Economic sciences

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INTRODUCTION

Research issue rationale and development rate. Amidst modern global transformations, one of the major challenges facing the global economy is the establishment of a more efficient transport and logistics system and the enhancement of the attractiveness of international transport corridors. Long-term work on global projects is underway in these areas; agreements are being reached between states, and efforts are being directed toward realizing transport and logistics routes of international significance.

A significant portion of the international transport corridors implemented in the region in recent years was realized through initiatives led by Azerbaijan, with the country acting as the primary financial backer. Examples include the Baku-Tbilisi-Kars international railway, the Silk Road, and the Trans-Caspian Middle Corridor route. These attractive and efficient international transport routes and the logistics corridors established around them - offer substantial efficiency for international freight transport. It is no coincidence that cargo volumes along these routes are demonstrating dynamic growth.

Following the restoration of its independence, Azerbaijan implemented its "Oil Strategy," thereby successfully establishing the country's specialization within the system of the international division of labor. The delivery of oil and gas resources to global markets — particularly exports to the lucrative European market — has created new realities. The oil and gas pipelines commissioned in these directions have bolstered Azerbaijan's international image and competitiveness. Significant efforts have been made to strengthen railway infrastructure; the rolling stock has been modernized, and routes serviced by high-speed trains have been launched. The number of international airports has reached nine, and a new airport is set to be constructed soon in the settlement of Alat, near the International Sea Trade Port. Notably, three of these airports have been commissioned in the territories liberated from occupation: Fuzuli, Zangilan, and Lachin.

The state has undertaken continuous efforts to improve

Azerbaijan's transport system, strengthen the transport-logistics infrastructure, and address existing challenges in the sector. These measures have included establishing a legislative framework, enacting relevant national laws, defining strategic directions for action, and intensifying the integration of the country's transport-logistics system into the international arena. A "permit system" regulating international road transport has been implemented within the country¹. Furthermore, measures have been taken to implement the decisions of the 1998 International Baku Conference, which was held with the aim of restoring the ancient Silk Road². From a legislative perspective, the Law "On Transport," adopted in 1999, can be cited³. Another important document worth noting is the Decree of the President of the Republic of Azerbaijan dated October 21, 2015, on the establishment of the Coordination Council on Transit Freight Transportation⁴.

In addition, it should be noted that the "Azerbaijan 2030: National Priorities for Socio-Economic Development" were approved by the Head of State's decree dated February 2, 2021⁵. A significant portion of the national priorities outlined in this important document is currently being implemented; of particular importance are the goals of diversifying the non-oil and gas sector, accelerating the development of a green economy in line with global challenges, and enhancing the competitiveness of various sectors of the national

¹ Regulation on the "Permit System" Regulating International Road Transport within the Territory of the Republic of Azerbaijan. Approved by Resolution No. 6 of the Cabinet of Ministers of the Republic of Azerbaijan dated January 10, 1997.

² Decree of the President of the Republic of Azerbaijan on measures regarding the implementation of the decisions of the International Baku Conference on the Restoration of the Historic Silk Road, Baku, October 26, 1998.

³ Law of the Republic of Azerbaijan on Transport, Baku, June 11, 1999, 683-IQ.

⁴ The Regulation on the Coordination Council for Transit Freight Transportation of the Republic of Azerbaijan was approved by Decree No. 655 of the President of the Republic of Azerbaijan dated October 21, 2015.

⁵ Azerbaijan 2030: National Priorities for Socio-Economic Development. / – Approved by the Order of the President of the Republic of Azerbaijan dated February 2, 2021.

economy. To achieve these goals and fulfill the assigned tasks, the Socio-Economic Development Strategy for 2022–2026, approved by the President's Order dated July 22, 2022, is being rapidly implemented⁶. At the same time, a draft socio-economic development strategy covering the years 2027–2030 is currently being prepared. The efficient operation of the country's transport and logistics system is of exceptional importance in this regard.

Taking these factors into account, the state is implementing intensive measures to improve the country's transport system and ensure the transition to digital transformation. By the Decree of the President of the Republic dated January 15, 2025, the Charter of the "Azerbaijan Transport and Communication Holding" Public Legal Entity was approved⁷. At the same time, a draft socio-economic development strategy covering the years 2027–2030 is currently being prepared. The efficient operation of the country's transport and logistics system is of exceptional importance in this regard.

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⁶ The Strategy for the Socio-Economic Development of the Republic of Azerbaijan for 2022–2026 was approved by the Order of the President of the Republic of Azerbaijan No. 3378 dated July 22, 2022.

⁷ The Charter of the Azerbaijan Transport and Communication Holding (AZCON) public legal entity was approved by the Decree of the President of the Republic of Azerbaijan dated January 15, 2025.

⁸ Decree of the President of the Republic of Azerbaijan on the Approval of the Digital Development Concept in the Republic of Azerbaijan, Baku, January 16, 2025.

⁹ The Artificial Intelligence Strategy of the Republic of Azerbaijan for 2025–2028 was approved by the Order of the President of the Republic of Azerbaijan dated March 19, 2025.

facilitate the development of more efficient, agile, and multifunctional mechanisms for the country's transport and logistics system. It is well known that the establishment and development of modern transport and logistics infrastructure are top priorities for the country. In this regard, a comprehensive and systematic approach is being applied to ensure the efficient and productive use of the transport and logistics system's existing potential. Furthermore, under current conditions, there is a need for measures and projects to align Azerbaijan's transport and logistics activities with global challenges and to expand operations in this sector. Achieving these goals necessitates fundamental scientific research aimed at analyzing transport and logistics challenges, enhancing the efficiency of operational international routes, and refining existing domestic transport and logistics mechanisms. All these factors underscore the relevance of the dissertation topic.

Another significant document - the Artificial Intelligence Strategy of the Republic of Azerbaijan for 2025–2028 - was approved by the Order of the President of the Republic of Azerbaijan dated March 19, 2025. Efforts in these areas will facilitate the development of more efficient, agile, and multifunctional mechanisms for the country's transport and logistics system. It is well known that the establishment and development of modern transport and logistics infrastructure are top priorities for the country. In this regard, a comprehensive and systematic approach is being applied to ensure the efficient and productive use of the transport and logistics system's existing potential. Furthermore, under current conditions, there is a need for measures and projects to align Azerbaijan's transport and logistics activities with global challenges and to expand operations in this sector. Achieving these goals necessitates fundamental scientific research aimed at analyzing transport and logistics challenges, enhancing the efficiency of operational international routes, and refining existing domestic transport and logistics mechanisms. All these factors underscore the relevance of the dissertation topic.

In addition to this, recent transformations in the global economy - along with challenges regarding the stable and efficient operation of

international transport-logistics hubs and routes, disruptions to transport routes caused by economic sanctions and wars, and issues surrounding transportation costs — necessitate the development of more optimal operational mechanisms and approaches. Consequently, there is a need to conduct further research in these areas and to generate scientific findings and proposals aimed at advancing transport-logistics operations through more efficient mechanisms that take modern realities into account.

Object and subject of research. The object of the study comprises the structures, institutions, and entities facilitating transport and logistics operations in Azerbaijan, as well as the manufacturing and repair enterprises that support processes aimed at enhancing the efficiency of these activities. The subject of the study consists of investigating the efficiency challenges facing transport and logistics operations in Azerbaijan amidst modern global transformations and new challenges, exploring avenues for their resolution, and examining the scientific-practical approaches, principles, methods, and tools applied in this analysis.

Aims and objectives of the research. The primary objective of the dissertation is to conduct a fundamental study of the efficiency issues surrounding transport and logistics activities in Azerbaijan - particularly amidst the growing complexity of global economic processes and mounting challenges within the transport-logistics system - and to identify appropriate, optimal solutions.

To achieve this objective, the following tasks have been set for the research:

- examining the conceptual foundations of transport-logistics activities and formulating modern theoretical perspectives;
- identifying superior methodological approaches by addressing existing challenges in transport-logistics operations;
- studying and synthesizing international best practices to enhance the efficiency of transport-logistics activities in the country;
- analyzing the current state of transport-logistics activities in Azerbaijan;

- assessing the efficiency level of transport-logistics operations in the country;
- exploring opportunities for the more efficient utilization of the transport-logistics system's potential;
- investigating prospects for establishing transport-logistics infrastructure in the liberated territories;
- researching ways to improve the organizational and economic mechanisms of Azerbaijan's transport-logistics system;
- examining the regional and international significance of the Zangezur global transport-logistics corridor;
- identifying avenues to enhance the efficiency of transport-logistics activities in the country - taking new challenges into account - and developing relevant proposals.

Research methods. The research process employed established scientific methods - primarily scientific abstraction, analysis, synthesis, comparison, statistical analysis, and generalization. Alongside these, the study focused on economic concepts, strategies, and theoretical-methodological and practical approaches aimed at developing mechanisms to enhance the efficiency of transport and logistics operations. Furthermore, reference was made to the scholarly works of both domestic and foreign researchers addressing these issues. The study also utilized components of state policy regarding the efficient organization of transport and logistics activities, legislative acts, decrees and orders of the President of the Republic of Azerbaijan, and other relevant analytical materials.

Basic theses for defense are as follows:

1. Amidst global transformations, there is a need for new scientific and practical approaches to the conceptual foundations and existing mechanisms of our country's transport and logistics system, and the necessity of implementing adequate, effective measures has come to the forefront.

2. It would be beneficial to study international best practices regarding the efficient organization and sustainable development of transport and logistics operations and to apply them within the country's own transport and logistics system.

3. Based on the priorities and goals of Azerbaijan's economic

development model, measures must be taken to maximize the efficient use of the transport and logistics system's existing potential.

4. There is a need to improve the currently employed organizational-economic mechanisms of Azerbaijan's transport and logistics system to ensure its more efficient operation.

5. It is necessary to determine the advantages of the Zangezur global transport and logistics corridor — which is slated to open — in terms of the attractiveness of international transport routes, as well as its impact on regional and international freight transportation.

6. It is necessary to identify ways to enhance the efficiency of transport and logistics operations in Azerbaijan within the context of new challenges and to substantiate them with more profound scientific arguments.

Scientific novelty of the research. The main scientific innovations of the dissertation can be grouped as follows:

- A comprehensive set of measures has been developed to shape and advance Azerbaijan's transport-logistics infrastructure and enhance the overall efficiency of the transport-logistics system within the context of global challenges, while solutions to the system's key problems have been identified;
- An algorithmic scheme outlining the stages for developing and implementing risk management mechanisms for enterprises operating in the transport-logistics sector, along with methodological principles for the efficient organization of transport-logistics activities, has been devised;
- Key aspects of competitive advantages regarding transport-logistics infrastructure have been identified, and the essential prerequisites for establishing major transport-logistics hubs within Azerbaijan's infrastructure have been substantiated;
- Strategic and priority directions for creating and developing transport-logistics infrastructure in the liberated territories—aligned with the objectives of state programs—have been determined and their importance substantiated;
- Promising directions for shaping the digital landscape of Azerbaijan's transport-logistics operations have been identified, and a block diagram illustrating the growing role of

information support in enhancing the efficiency of these activities has been developed;

- It has been proposed to develop and approve an Action Strategy for 2026–2030 aimed at enhancing the efficiency of transport and logistics operations in Azerbaijan, taking into account new realities and challenges.

Theoretical and practical significance of the research. Several issues have been highlighted regarding the theoretical and practical significance of the dissertation. There is potential to utilize the research findings and proposals in implementing measures to organize transport and logistics activities more efficiently and in formulating related strategies and concepts. Furthermore, the mechanisms and principles presented in the study can be effectively applied to improve the transport and logistics system in Azerbaijan. At the same time, the material contained in this research can be drawn upon to align transport and logistics operations with new requirements-taking modern challenges into account-optimize costs, and develop educational resources and textbooks.

Approbation and implementation. The research topic was selected in alignment with the general directions of scientific research at the Azerbaijan University of Cooperation.

In connection with the dissertation topic, the candidate has published 11 scientific works — comprising 6 articles and 5 abstracts (including 1 article and 3 abstracts published abroad) — in reputable local and international journals recommended by the Supreme Attestation Commission. The main scientific findings of the dissertation have been published in the following works: "Theoretical-Methodological Approaches to Solving Problems in Transport-Logistics Activities" (Baku, 2023), "International Experience in Developing Transport-Logistics" (Baku, 2024), "Issues Regarding the Efficient Use of the Transport-Logistics System's Potential in Azerbaijan" (Baku, 2024), "Regulation and Improvement of Organizational-Economic Mechanisms in Transport-Logistics" (Baku, 2025), "Directions for Developing the Transport-Logistics System in Azerbaijan" (Baku, 2025), and "Assessment of the Efficiency Level of Transport-Logistics Activities" (Moscow, 2025).

At the same time, a number of key findings of the research have been reflected in abstracts published in the proceedings of international and national conferences, specifically: "Strengthening Transport and Logistics Activities in Post-Conflict Territories in Azerbaijan" (Moscow, 2025), "Issues Regarding the Improvement of Organizational-Economic Mechanisms of the Transport-Logistics System" (Sumgayit, 2025), and "The Role of Transport-Logistics Infrastructure in the Sustainable Development of Industrial Enterprises in Post-Conflict Territories" (Baku, 2025).

Name of the organization where the dissertation work was carried out. Azerbaijan Cooperation University.

The total volume of the dissertation, with the volume of the structural sections separately indicated, is in marks. The total volume - comprising the introduction (16,535 characters), Chapter I (73,304 characters), Chapter II (48,455 characters), Chapter III (72,319 characters), the conclusion (10,573 characters), and the list of references (24,033 characters) - is 266,310 characters. Excluding tables, figures, graphs, and the list of references, the character count of the dissertation is 221,186.

BASIC CONTENT OF THE DISSERTATION

The Introduction of the dissertation substantiates the relevance of the topic, outlines the current state of research, and presents the object and subject of the study, its goals and objectives, methodology, key propositions, and scientific contributions.

The first chapter, titled "Theoretical and Methodological Foundations of the Efficiency of Transport-Logistics Activities," examines and synthesizes the conceptual underpinnings of transport-logistics operations and theoretical perspectives on addressing related challenges; it identifies methodological approaches to resolving contemporary issues in the field and reviews international experience regarding the organization and development of transport-logistics systems. Significant progressive experience has been accumulated globally

in the development of transport-logistics systems, and new methodologies have been devised. In this context, it is worth noting that relatively efficient operational mechanisms have been identified—particularly regarding the optimization of transport, the development of multimodal transport concepts involving various modes, and cost reduction. Overall, transport plays a major role in economic development and performs a wide range of functions. Academician Z.A. Samadzade writes: “The economy is a vast and complex system. The normal functioning of this system naturally depends on the performance of its constituent subsystems, one of which is transport. Transport was one of the sectors that underwent dynamic development during the last century. It can be confidently stated that, in terms of its pace and scale of growth, the transport sector covered ground equivalent to centuries of progress during this period, establishing itself as a vital infrastructure sector”¹⁰. While concurring with these views, it should be added that the role of transport has expanded significantly in modern times, and the transport-logistics system is regarded as one of the economy's key strategic sectors. In other words, the optimal organization of transport and logistics, the reduction of transportation costs, and the ultimate assurance of projected profitability levels for products (and services) are crucial factors influencing the operational outcomes of economic entities. Professor E.A. Guliyev notes: “The Zangezur transport-logistics corridor is of immense importance in enhancing the flexibility of Azerbaijan’s sustainable development... It is a transport-logistics route capable of playing a significant role in expanding trade flows and the exchange of goods between Europe and Asia, as well as in intensifying the movement of resources”¹¹. We also believe that the Zangezur global transport and logistics corridor will significantly enhance Azerbaijan's position and

¹⁰ Səmədzadə, Z.Ə. Azərbaycan iqtisadiyyatı 100 ildə. III cild, – Bakı: Letterpress, – 2021. – s. 402.

¹¹ Guliyev, E.A. The Role of the Karabakh and East Zangezur Economic Regions in Azerbaijan's Sustainable Development. Monograph. – Baku: Kooperasiya Publishing House, – 2023. – 240 p.

competitiveness both regionally and globally. Honored Scientist Professor B.Kh. Atashov and a group of researchers maintain that "transport enterprises structure their economic activities based on the principle of coordinating state regulation with market relations. The finished product realized in the transport sector is the transport process itself"¹². Therefore, the additional contributions that transport can make to the economy—including value added and financial resources—are of exceptional importance. In the current era, advanced and "smart" technologies play a crucial role in organizing transport and logistics activities based on highly efficient mechanisms. Under these conditions, the establishment of high-tech transport and logistics centers can yield significant results. *"Transport is an independent sector of the national economy and social production, responsible for the transportation of passengers and logistical cargo... The movement of products through the various stages of the logistics cycle—specifically, the harmonious organization of the production process, the rapid transit of logistical cargo units through distribution channels, and the maintenance of production and commodity inventories at required levels—is closely linked to transport logistics."*¹³. Concurring with these views, we consider that the transport and logistics system performs vital functions in the development of the national economy, the efficient use of resources, and the operations of economic entities and enterprise networks.

In addition, we have outlined a set of key problems in the field of transport and logistics activities in the modern era, along with their underlying nature (Table 1).

¹² Atashov, B.Kh., Novruzov, N.A., Ibrahimov, E.A. Enterprise Finance. – Baku: Kooperasiya Publishing House, – 2009. – 282 p.

¹³ Imanov, T.I. Fundamentals of Logistics. Part II – Baku: Tahsil NPM, 2005. – pp. 339-340.

Table 1

A group of key problems and their characteristics in the field of transport and logistics activities from a modern theoretical perspective.

№	Key challenges in transport and logistics operations	Characteristics of the main problems
01.	Determining the primary hub for transport and logistics operations	– At this stage, the capabilities and capacity of the locations are determined. – An initial route is designed and laid out based on the distance between the points. – The characteristics of the selected route segment are taken into account, and the most suitable mode of transport is chosen based on them.
02.	Analyzing the characteristics of commercial cargo	– After a detailed analysis of the technical and operational characteristics of the cargo, suitable transport is selected, and the most optimal transportation route is established.
03.	Selecting suitable transport	– Selecting a competitive mode of transport and establishing the necessary infrastructure within the market environment; identifying cost-effective routes and determining the most suitable mode of transport for those specific routes.
04.	Planning the optimal route	– Designing optimal routes for the delivery of commercial cargo within transport logistics systems, ensuring that transportation is carried out within the short timeframes stipulated in the contract; the required delivery speed - agreed upon with the client during the initial stage of cooperation - must be taken into account.
05.	Monitoring cargo during transportation	– Closely monitoring cargo movement in real-time to meet established deadlines and making necessary route adjustments when required.
06.	Developing the country's transport and logistics system to meet international standards	– Intensifying the alignment and integration of the national transport-logistics system with international transport-logistics systems and the national systems of other states, etc.

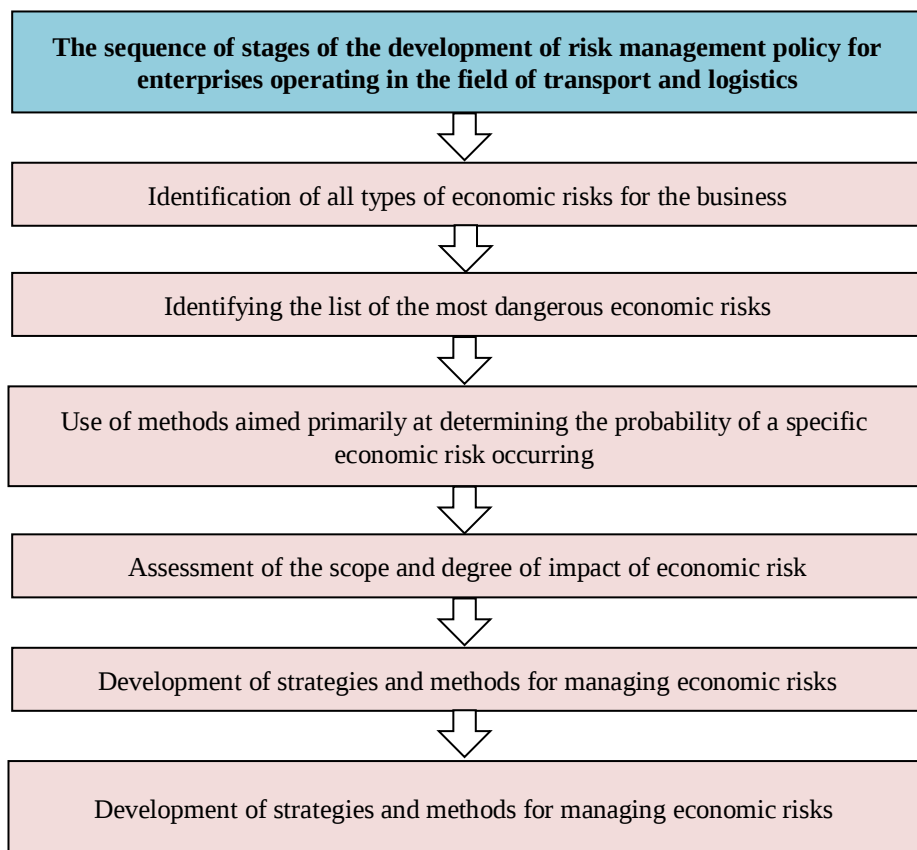
Source: Prepared by the author.

It is well known that the organization and provision of transport and logistics services require substantial capital investment, involving the construction of roads, interchanges, bridges, crossings, other infrastructure facilities, and — in particular — major transport hubs. All of this necessitates continuous capital investment. The establishment of a risk management mechanism for transport and logistics operations is based on the following principles, which facilitate the achievement of positive outcomes: the implementation of appropriate risk management measures; consideration of the possibility of transferring risk to other entities; *and consideration of the financial strategies employed in risk management as well as the time factor within the risk management process*.¹⁴. It should be added that adhering to the aforementioned principles — which are based on establishing a risk management mechanism for transport and logistics operations — enables the achievement of goals such as minimizing the adverse impact of risks stemming from the external economic environment on the enterprise's business activities, safeguarding the transport and logistics company's economic security, and improving the enterprise's financial and operational performance indicators.

Scheme 1 presents an algorithmic flowchart outlining the stages of methodologically developing and implementing a risk management mechanism for enterprises operating in the transport and logistics sector.

It is worth noting that resolving issues within transport and logistics operations depends significantly on the level of automation of the various processes involved. Automating processes in this sector can enhance efficiency and improve the overall quality of the company's operations.

¹⁴ Borisov, A.A. Risk Management Methodology in a Transport and Logistics Company / A.A. Borisov // Enigma. – 2021. No. 30, – p. 25.

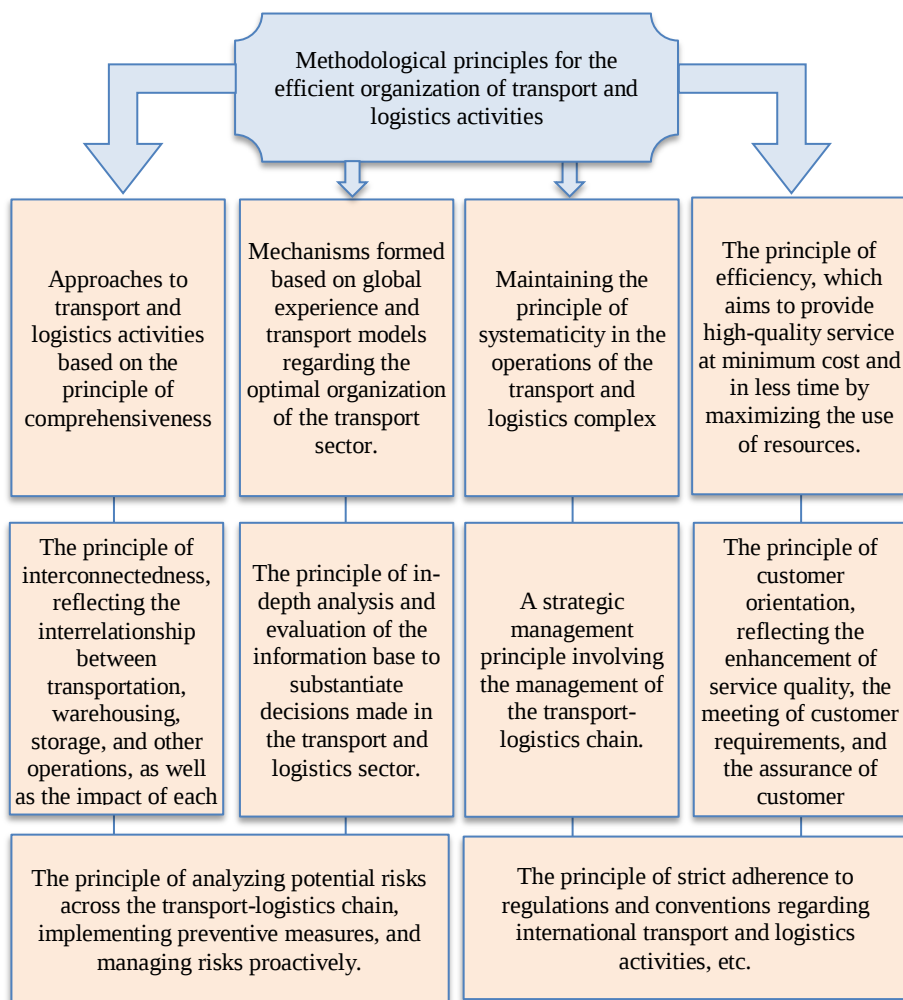


Scheme 1. Algorithm-diagram of the stages for the methodological development and implementation of a risk management mechanism for enterprises operating in the transport and logistics sector

Source: Prepared by the author.

Scheme 2 schematically illustrates the methodological principles for the efficient organization of transport and logistics activities.

It is worth noting that the USA, Japan, and Germany are among the countries with the most highly developed transport and logistics systems. In the USA, all modes of transport are robustly developed, with the primary objective being to ensure the highest level of service in transportation and to rely on sophisticated mechanisms and tools for final delivery. Within the European Union, great importance



Scheme 2. Methodological principles for the efficient organization of transport and logistics activities

Source: Prepared by the author.

is placed on innovation through the adoption of new technologies, the development of modern transport and storage equipment, and the construction of new automated logistics centers. In Italy — a country with strategic cooperation ties to Azerbaijan — priority is

given to seaports when establishing transport and logistics centers; this approach is directly linked to the country's advantageous seaport infrastructure. One such logistics center was established in the country in 1971 and continues to operate efficiently. It should be added that the operations of this logistics center — the Bologna Logistics Center — are quite multifaceted. Specifically, this center accounts for 35% of domestic freight transport in Italy, and 16% of international freight transport passing through the country is also linked to its operations. Over the past 20–25 years, the development of the transport and logistics system in China has been accorded the highest priority. The modern phase of the formation of China's transport and logistics system began in 2004”¹⁵. In addition to this, China's active and extensive trade and economic relations — as well as its import-export operations — with the majority of the world's countries rank among the key factors driving the development of the transport and logistics system. Indeed, the development of transport corridors has already been agreed upon as a priority area in high-level documents signed between Azerbaijan and China..

In the second chapter of the dissertation, titled “Analysis and Assessment of the Current State of Transport-Logistics Activities in Azerbaijan,” the current state of the country's transport-logistics system is analyzed, the efficiency level of transport-logistics operations is evaluated, and opportunities for expanding the utilization of the system's potential are explored.

In modern times, transport-logistics companies utilize specialized software to gather critical data and calculate the demand for specific modes of transport with the utmost clarity and precision. It is evident that the demand for transport-logistics services is constantly rising, necessitating comprehensive and systematic analyses to meet these market requirements. Accordingly, in line with the subject of our research, we have undertaken an analysis of the current state of

¹⁵Lysochenko, A.A. Organizational Foundations for the Formation of China's Transport and Logistics System / A.A. Lysochenko, S. Wang // Bulletin of the Institute of Friendship of the Peoples of the Caucasus (Theory of Economics and National Economy Management). Economic Sciences. – 2023. No. 3(67), – p. 77.

transport-logistics activities in the country.

As shown in Table 2, the value added in the transport sector increased 3.72-fold between 2010 and 2024, reaching 8,823 million manats in 2024. Meanwhile, total profit grew 3.5-fold during the same period, approaching 7 billion manats. Net profit increased 3.3-fold during the period under review, reaching nearly 5.3 billion manats in 2024. Meanwhile, investments in fixed assets within the transport sector grew 2.4-fold between 2010 and 2024, amounting to approximately 5.9 billion manats.

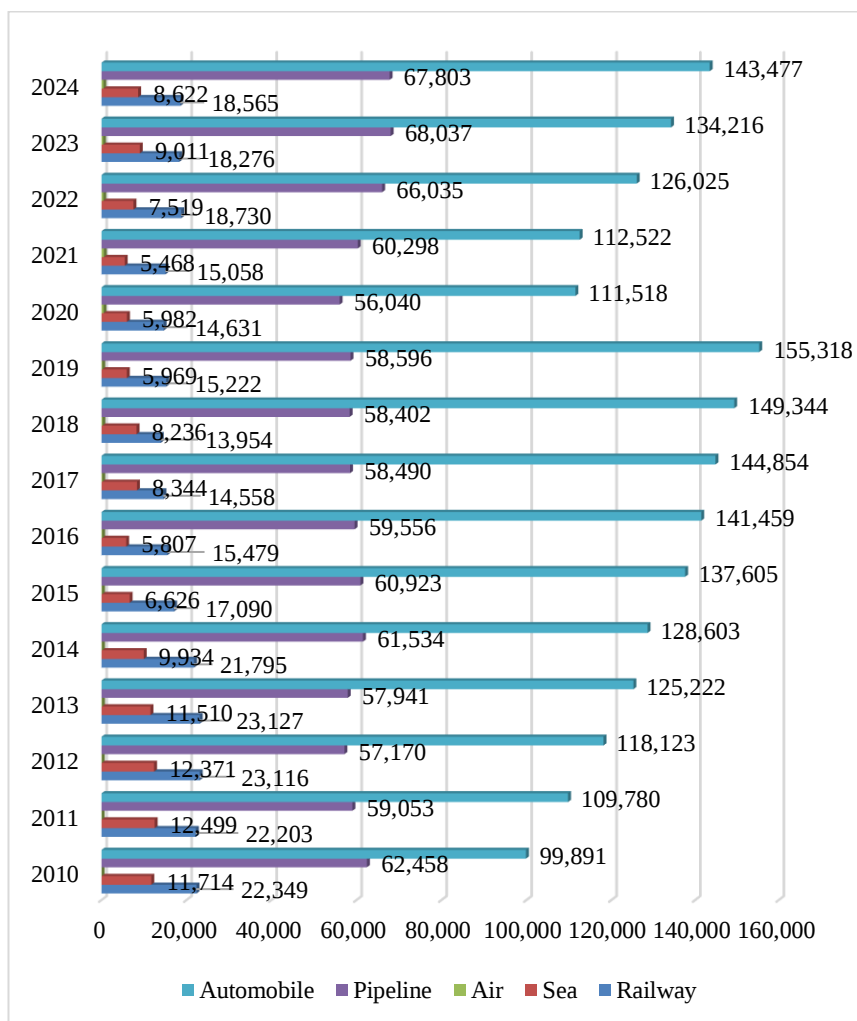
Graph 1 illustrates the dynamics of freight transportation within Azerbaijan's transport sector. As shown in the graph, the volume of freight transported across the country's transport sector rose from 196 million tonnes to nearly 239 million tonnes between 2010 and 2024. Road transport accounts for up to 60% of this freight volume; we believe that the establishment of new transport corridors and the systematic measures taken to enhance the country's transit potential have significantly contributed to this substantial growth. In 2024, the volume of cargo transported via pipelines was recorded at 67.8 million tonnes, with oil pipelines accounting for 38.8 million tonnes and gas pipelines for 29 million tonnes.

Between 2010 and 2022, the volume of freight transported along the Azerbaijani section of the Europe-Caucasus-Asia transport corridor declined from 51.7 million tonnes to 51.4 million tonnes. During the same period, the volume of transit freight decreased from 16 million tonnes to 13.6 million tonnes. Growth was recorded along the North-South and South-West transport corridors during 2023–2024, whereas declines were observed in freight and transit cargo volumes along the Europe-Caucasus-Asia corridor. The highest revenue was generated along the East-West transport corridor—324.4 million manats. Revenue from rail freight transport amounted to 362 million manats.

Table 2
Key macroeconomic indicators for the transport sector in the Republic of Azerbaijan (2010–2024)

Indicators	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Value added (at current prices), million manats	2.369	2.659	2.694	2.569	2.656	3.242	4.076	4.719	4.928	4.867	5.175	6.390	8.122	7.827	8 823
Total profit (at current prices), million manats	1.961	2.238	2.156	1.903	1.963	2.523	3.281	3.860	3.959	3.789	3.814	4.891	6.520	6.134	6 895
Net profit (at current prices), million manats	1.576	1.813	1.724	1.466	1.386	1.860	2.162	2.935	3.137	3.055	2.534	4.054	5.136	4.528	5 264
Number of employed persons, thousand people	112,2	113,4	117,3	122,3	120,2	127,3	123,8	126,1	126,8	130,8	143,6	147,0	151,4	155,8	168,8
Average monthly nominal wage, manats	395	447	512	536	530	576	649	734	807	856	886	953	1.124	1.279	1 395
Fixed assets (at year-end), million manats	5.700	6.581	8.156	8.958	9.124	10.301	11.582	12.404	15.175	15.696	15.705	17.261	18.942	21.245	22.229
Investments in fixed capital, million manats	2.435	2.509	2.610	3.560	2.432	2.195	1.391	1.774	1.923	2.189	2.092	2.857	4.613	5.417	5.863

Source: The table was compiled by the author based on data from the State Statistical Committee of the Republic of Azerbaijan (<https://www.stat.gov.az/source/transport/>).



Graph 1. Structure and volume of freight transport in the transport sector of the Republic of Azerbaijan, thousand tons, 2010–2024.

Source: <https://www.stat.gov.az/source/transport/>; prepared by the author.

In Table 3, we have attempted to outline the services provided by a group of transport and logistics companies operating in our country.

Table 3

Private transport and logistics companies in Azerbaijan and a brief overview of their areas of operation

№	Transport and logistics companies	Areas of activity
1.	Total Expres	- Offers comprehensive transport and logistics services. - Carries out cargo transportation to many countries around the world. - Provides warehousing and cargo tracking services.
2.	Fresh Logistics	- The company specializes primarily in cargo transportation, particularly the transport of agricultural products, electronics, and pharmaceutical preparations.
3.	AZ Logistics and Management Services	- Provides a wide range of transport and logistics services in Azerbaijan and abroad. - Organizes the transportation of oil and petroleum products, as well as hazardous and non-hazardous waste.
4.	Albayrak Group	- Operates at the fertilizer terminal in the Port of Baku and serves as a transit hub for the export of fertilizer products from Central Asian countries. - Possesses infrastructure capable of handling 600 tons per hour and a total storage capacity of 60,000 tons.
5.	Qaya Transport	- Conducts cargo transportation both domestically and internationally. - Specializes primarily in the transportation of food products and is considered one of Azerbaijan's largest transport and logistics centers.
6.	AGT Cargo LLC	- Offers cargo transportation services within the country and along international routes. - Specializes in grain transportation for import, export, and transit operations.
7.	ARNO-TRANS	- Provides transport and logistics services at both local and international levels.
8.	Absheron Logistics Center	- The company primarily carries out transit multimodal operations. - It offers international freight transport, terminal, brokerage, and warehousing services.

Note: Prepared by the author based on the listed websites (Total Expres <https://totalex.az/services/neqliyyat-logistikasi>; Fresh Logistics <https://freshlogistics.az/az/xidmetler/ltl-yuk-dasimalari>; “AZ Logistika and Management Services” <https://az.azlogistika.com/about>; Albayrak Group <https://translogistica.az/az/exhibitors-list/year/2024>; Qaya Nəqliyyat <https://qayaneqliyyat.az/>; “AGT Cargo” LLC <https://agt-cargo.com/>; ASSTRA <https://www.asstra.com/az/>; “Arno-Trans” LLC <https://arnotrans.com/>; Absheron Logistics Center <https://absheronport.az/az>; Alliance Logistics <https://alliance.net/az/rail-transport/>).

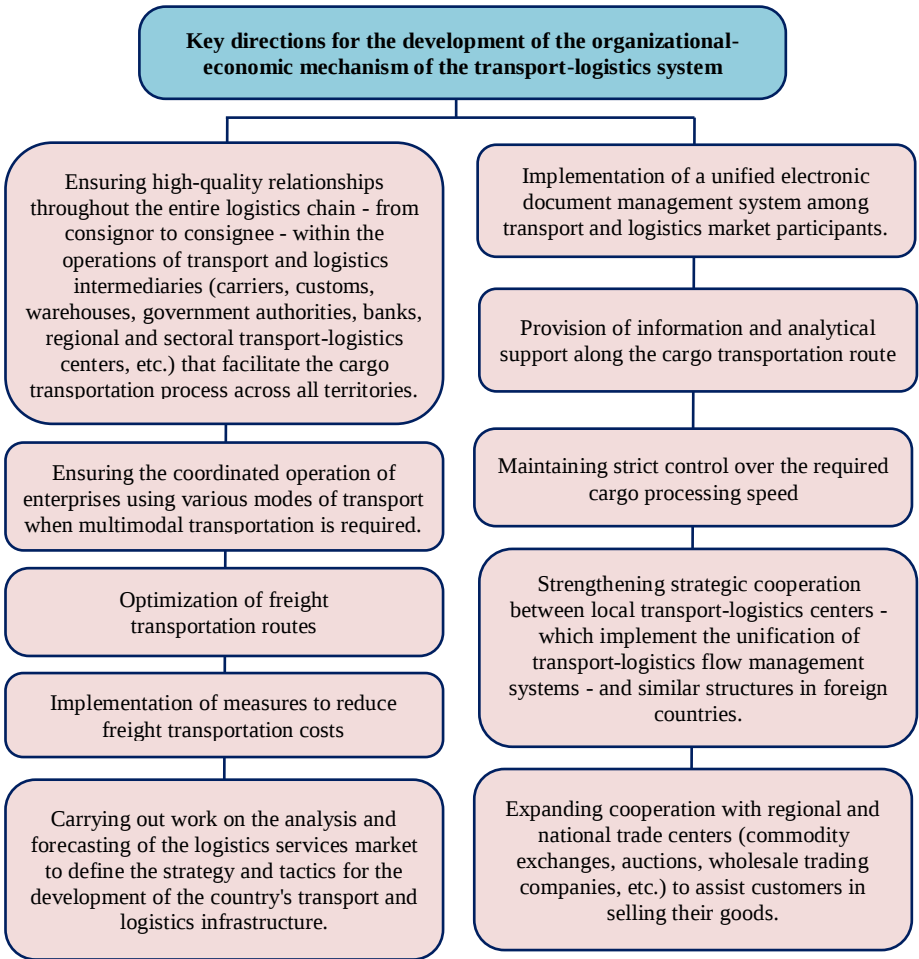
The third chapter of the dissertation, titled "Prospects for Modernizing and Enhancing the Efficiency of Transport-Logistics Activities in Azerbaijan," examines the priorities for improving the organizational-economic mechanisms of the country's transport-logistics system and outlines prospects for establishing transport-logistics infrastructure in the liberated territories. Furthermore, the regional and international significance of the Zangezur global transport-logistics corridor is substantiated, and ways to increase the efficiency of transport-logistics operations in the country under current conditions are identified.

We believe it is necessary to refine the mechanism governing the interactions - encompassing both mutual incentives and oversight - between enterprises, logistics centers, and tax and customs authorities. Taking these factors into account, we have identified the following as key directions for the development of the transport-logistics system's organizational-economic mechanism (Scheme 3).

The strategic and priority directions for establishing and developing transport and logistics infrastructure in the territories liberated from occupation have been defined in alignment with the goals of the First State Program on the "Great Return," and their importance has been substantiated: 1. Restoration of roads and establishment of new transport corridors. 2. Development of the railway network. 3. Construction and expansion of the use of domestic and international airports. 4. Establishment of logistics centers and warehouses. 5. Expansion of the application of innovative technologies in the development of transport and logistics infrastructure. 6. Environmental protection and ensuring sustainable development. The Zangezur global transport and logistics corridor holds great significance for the opening of transport, logistics, and communication links at the international level. *"Against the backdrop of rapidly evolving global economic and technological challenges in the modern era, the importance of the Zangezur global transport and logistics corridor is particularly emphasized"*¹⁶. Azerbaijan is already

¹⁶Aliyev Sh.T. Strategic functions of the Zangezur global transport corridor in the economic integration of Turkic states. Proceedings of the international scientific-practical conference on the topic "Heydar Aliyev and the Modern Turkic World," dedicated to the 100th anniversary of the birth of National Leader Heydar Aliyev. – Baku, – May 2, 2023, – p. 35.

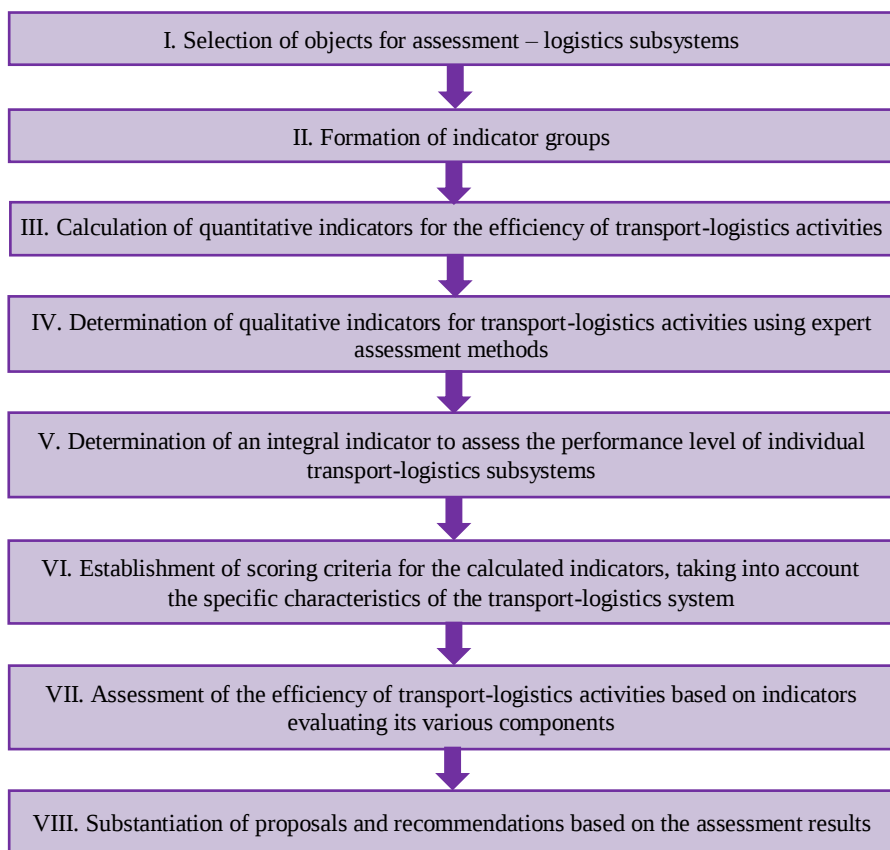
considered a key route within the international transport and logistics system and holds global strategic importance.



Scheme 3. Key directions for improving the organizational-economic mechanism of the transport-logistics system within the current operational framework.

Source: Prepared by the author.

We can represent the general algorithm for evaluating the efficiency of transport and logistics activities as shown in Scheme 4.



Scheme 4. Algorithm for assessing the efficiency of transport and logistics operations in the country

Source: Prepared by the author.

In the modern era, enhancing the efficiency of transport and logistics operations requires superior and attractive operational mechanisms and practical tools. To achieve this, systematic measures must be taken and—as previously noted—approaches tailored to our country's transport and logistics system must be developed by drawing upon leading practices.

We propose a flowchart for an Action Strategy to enhance the efficiency of Azerbaijan's transport and logistics system under these new conditions (Scheme 5).

I. Application and use of information technologies in transport and logistics operations

- ✓ Stimulating the development of digital information systems.
- ✓ Maintaining and developing web-based information integration in transport to ensure global monitoring of cargo movement.
- ✓ Improving internal and external document workflows within transport and logistics companies.
- ✓ Ensuring maximum coordination between customers and transport service providers.

II. Key elements in the mechanism for the digitalization of transport and logistics infrastructure:

- ✓ modernization of previously existing automation of transport-logistics processes based on technological innovations;
- ✓ revision and updating of the normative legal framework, development and creation of uniform standards;
- ✓ development of transport and logistics infrastructure with the application of technological innovations.
- ✓ digitalization of transport and logistics industry.

III. To formulate a successful logistics strategy, the system for evaluating the effectiveness of transport and logistics operations must be based on the following complex conditions:

- ✓ comprehensive recording of all transport and logistics performance indicators;
- ✓ use of only reliable public data and generally accepted calculation methods;
- ✓ adjustment and development of the transport and logistics system based on the application of efficiency analysis results;
- ✓ simplicity and clarity of performance assessment results;
- ✓ unambiguous nature of the assessment results;
- ✓ monitoring of logistics operations.

IV. As a result, the directions for enhancing the efficiency of transport and logistics operations can be identified:

- ✓ defining criteria for, and assessing the quality and effectiveness of, decisions made to optimize transport-logistics systems;
- ✓ evaluating performance indicators for transport-logistics operations;
- ✓ utilizing a balanced scorecard that translates the transport-logistics system's mission and long-term strategy into a unified goal;
- ✓ forming corporate-style alliances within the transport-logistics system involving all stakeholders;
- ✓ stimulating the development of transport-logistics infrastructure by attracting financing from private investors, including commercial banks and non-bank credit organizations;
- ✓ improving the management system for transport-logistics operations, etc.

Scheme 5. Flowchart of the Action Strategy for enhancing the efficiency of transport and logistics activities in Azerbaijan

Source: Prepared by the author.

– In light of new challenges and the transformations occurring within the international transport and logistics system, we present a set of concluding observations regarding the more efficient organization of transport and logistics activities in Azerbaijan:

- It is essential to ensure that transport and logistics activities in the country are organized in accordance with international standards and that the existing operational mechanisms are improved.
- Strengthening the oversight mechanisms for the organization and execution of transport and logistics services is a matter of necessity.
- Measures must be taken to expand transport and logistics activities across the country in alignment with key priority trends and development principles, and to enhance the management mechanisms governing these processes.
- There remains a need to expand efforts to boost the competitiveness of transport and logistics enterprises within the modern competitive environment.
- A need has arisen to expand the use of information technologies - and to provide related services via the Internet of Things - in order to optimize production-related costs across various economic sectors, enhance the economic efficiency and competitiveness of transport companies, and implement mechanisms for monitoring transport and logistics processes.

The “Conclusion” section of the dissertation presents findings of scientific and practical significance derived from the essence of the research, as well as the recommendations and proposals obtained.

1. First and foremost, it should be noted that the strategic importance of transport and logistics activities has grown significantly in the context of global challenges, creating a need for optimal transport-logistics routes to enhance the efficiency of the global economy. In this regard, it is essential to articulate new perspectives on the conceptual foundations of transport and logistics operations and to define the primary objectives of state policy in this area.

2. Despite ongoing international discussions and decisions made by states, groups of countries, and various international organizations—through summits and annual conferences—aimed at resolving existing issues in transport and logistics, global upheavals, economic sanctions, and other factors have created a demand for new routes or necessitated

the optimization of existing ones.

3. The effective development of the transport and logistics sector drives success across a state's economic, political, and social spheres. Conversely, a failure to adequately appreciate the importance of the transport and logistics system inevitably leads to a slowdown in the state's overall development. Transport and logistics operations constitute a continuous process that requires constant development and improvement. It is crucial to devise mechanisms and measures—and to significantly refine or update operational methodologies—in alignment with global challenges and new objective realities regarding continuous development goals and the enhancement of the transport-logistics system.

4. We believe that implementing and developing more efficient approaches in the transport and logistics sector can drive economic growth at both national and global levels. The development of this sector is linked not only to economic benefits but also to ensuring social well-being and environmental protection. For Azerbaijan, steps taken in this direction would pave the way for the country to secure a prominent position in international trade channels. In this context, applying modern methodologies to address challenges in transport and logistics operations is essential for boosting efficiency and gaining a competitive advantage.

5. We conclude that the establishment and development of transport and logistics infrastructure in the territories liberated from occupation will make a significant contribution to Azerbaijan's overall economy. Significant opportunities will arise for the restoration of those territories, the creation of new jobs in the region, and the expansion of the country's international trade relations. Establishing a robust transport and logistics infrastructure will also strengthen the country's regional and international economic ties and accelerate Azerbaijan's integration into the global economy.

6. The Zangezur international transport and logistics corridor is a vital project for regional integration, transport security, and economic development in the South Caucasus. This corridor has the potential to transform the economic landscape not only of Azerbaijan but of the entire region. Driven by political will, diplomatic effort, and

international cooperation, this project is poised to become one of the most successful transit routes of the 21st century.

7. The establishment of transport and logistics centers of international importance across various regions of the country—particularly near border crossing points—and the creation of "transport, logistics, and customs cross-border economic zones" would facilitate the overall expansion of transport and logistics activities and enhance the attractiveness of this sector;

8. Amid the rapid and widespread adoption of digital mechanisms across various economic sectors and the increasingly intensive use of artificial intelligence tools, there is a need in our country to expand practical activities in these strategic areas—specifically by leveraging these mechanisms to strengthen core transport and logistics operations and by enhancing the competitiveness of enterprises and centers specializing in this field;

9. To ensure the efficient and productive utilization of opportunities presented by regional and international transport projects—as well as other similar initiatives in which our country actively participates—we propose the development and approval of an “Action Strategy for Strengthening the Transport and Logistics System of the Republic of Azerbaijan in Line with Global Challenges for 2026–2030,” and we have outlined the key components of this strategy in our research.

The following scientific articles and abstracts have been published on the topic of the dissertation:

1. Theoretical-methodological approaches to resolving problems in transport-logistics activities. // – Baku: “Western Caspian” News Journal, 2023, No. 04. – pp. 200-207.

2. International experience in the development of transport-logistics. // – Baku: “Geostrategy” Journal, 2024, No. 05. – pp. 142-146.

3. Issues regarding the efficient use of the transport-logistics system's potential in Azerbaijan. // – Baku: “Cooperation” Scientific-Practical Journal, 2024, No. 03. – pp. 161-167.

4. Current Issues in Transport and Logistics Activities // Proceedings of the 8th International Scientific and Practical

Conference "Scientific Community: Interdisciplinary Research" – Hamburg, Germany, September 6–8, 2024. – pp. 33–40.

5. Directions for the development of the transport and logistics system in Azerbaijan. // – Baku: "Western Caspian" News Journal, 2025, No. 01. – pp. 263-269..

6. Assessment of the efficiency level of transport and logistics activities. // – Moscow: *Monetary Economics and Management* journal, 2025, No. 07. – pp. 28–35.

7. Regulation and improvement of the organizational-economic mechanisms of transport and logistics. // – Baku: "Kooperasiya" (Cooperation) scientific-practical journal, 2025, No. 02. – pp. 214-221.

8. Issues regarding the improvement of the organizational-economic mechanisms of the transport-logistics system. // Proceedings of the 1st International Scientific Conference on "Current issues of the efficient use of economic resources of Turkic-speaking states," held at Sumgayit State University and jointly organized by Sumgayit State University, Malatya Turgut Özal University, and Osh State University. May 22-23, 2025, – Sumgayit, – pp. 72-75.

9. Strengthening transport and logistics activities in post-conflict territories in Azerbaijan. // XX International Scientific and Practical Conference "Sustainable Development of Society: New Scientific Approaches and Research", – Moscow, July 8, 2025, – pp. 170–182.

10. Problems and solutions of the development of the transport-logistics system in the modern period // II International Scientific and Practical Conference "Exploring the unknown: science, imagination, discovery" – Lisbon. Portugal, July 08-09, 2025. – pp. 28-34.

11. The role of transport and logistics infrastructure in the sustainable development of industrial enterprises in post-conflict territories. // Proceedings of the International Conference "Economic and Social Development of Azerbaijan under New Realities: Problems, Challenges, and Prospects," dedicated to the 60th anniversary of the Azerbaijan University of Cooperation. – Baku, December 6, 2025, – pp. 229-232.

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