

LOGISTIC OPPORTUNITIES AND CHALLENGES OF THE REPUBLIC OF ARMENIA IN INTEGRATING INTO INTERNATIONAL TRANSPORT CORRIDORS

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Abstract

Integration into international transport corridors and global supply chains is one of the main prerequisites for expanding economic activity and increasing the competitiveness of national economies. In this context, the development of logistics systems is of key importance, contributing to the efficiency of freight transportation, increasing trade volumes and deepening regional cooperation. For the Republic of Armenia, which has a strategic location in the South Caucasus, the improvement of the logistics system is an essential factor in terms of organising international transportation and transit movement. However, currently, Armenia's logistics capabilities are significantly limited due to geographical isolation, closed borders with Turkey and Azerbaijan, as well as shortcomings in infrastructure and customs processes. These problems are also reflected in the low positions of the country in the Logistics Performance Index (LPI), particularly in the components of the efficiency of customs processes, infrastructure quality, and timeliness of supply chains.

The transport system of the Republic of Armenia is one of the strategic pillars of the country's economic development and regional integration. As a key infrastructure of the national economy, it plays a significant role in the formation of the country's logistics capabilities and the development of transit opportunities. Armenia's logistics system is predominantly based on road transportation, which limits the possibilities for the development of multimodal transportation and hinders the country's effective integration into regional transport corridors.

The development of the "North-South" road corridor and the "Crossroads of Peace" strategic initiative can turn Armenia into a transit hub, connecting the ports of the Persian Gulf and the Black Sea. In parallel with the modernisation of the logistics system of Armenia, it is essential to simplify

customs procedures, introduce digitalisation and form effective management systems, which will contribute to reducing the costs and terms of cargo transportation. In a regionally competitive environment, where neighbouring states have more developed infrastructure, a comprehensive strategic approach is needed so that Armenia can occupy the role of a regional transit hub and expand its economic ties in international transportation networks to increase competitiveness, as well as strengthen regional security and economic stability.

Keywords: Logistics system, international transport corridor, North-South road corridor, Crossroads of Peace initiative, regional integration.

ՄԻՋԱԶԳԱՅԻՆ ՏՐԱՆՍՊՈՐՏԱՅԻՆ ՄԻՋԱՆՑՔՆԵՐԻՆ ԻՆՏԵԳՐՄԱՆ ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԼՈԳԻՍՏԻԿ ՀՆԱՐԱՎՈՐՈՒԹՅՈՒՆՆԵՐԸ ԵՎ ՄԱՐՏԱՀՐԱՎԵՐՆԵՐԸ

ՄԱՐՈ ԴԵԹԼՈՖՖ

ՀՀ Գիտությունների ազգային ակադեմիայի գիտակրթական միջազգային կենտրոնի

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ՀՀ պաշտպանության նախարարության Պաշտպանական ազգային հետազոտական համալսարանի տարածաշրջանային ռազմավարական վերլուծությունների կենտրոնի գիտնական-վերլուծաբան,
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Համառոտագիր

Միջազգային տրանսպորտային միջանցքներին և գլոբալ մատակարարման շղթաներին ինտեգրումը տնտեսական ակտիվության ընդլայնման և ազգային տնտեսությունների մրցունակության բարձրացման հիմնական նախապայմաններից մեկն է: Այս համատեքստում լոգիստիկ համակարգերի զարգացումն առանցքային նշանակություն ունի՝ նպաստելով բեռնափոխադրումների արդյունավետությանը, առևտրի ծավալների ավելացմանը և տարածաշրջանային համագործակցության խորացմանը: Հայաստանի Հանրապետության համար, որն ունի ռազմավարական դիրք Հարավային Կովկասում, լոգիստիկ համակարգի կատարելագործումը կարևոր գործոն է միջազգային փոխադրումների և տարանցիկ շարժի կազմակերպման տեսանկյունից: Սակայն ներկայումս Հայաստանի լոգիստիկ կարողությունները զգալիորեն սահմանափակված են աշխարհագրական մեկուսացվածության, Թուրքիայի և Ադրբեյջանի հետ փակ սահմանների, ինչպես նաև ենթակառուցվածքների և մաքսային գոր-

ծընթացների թերությունների պատճառով: Այս խնդիրները դրսևորվում են նաև «Լոգիստիկ կատարողականի ինդեքսում» (Logistics Performance Index – LPI) պետության ցածր դիրքերում, մասնավորապես՝ մաքսային գործընթացների արդյունավետության, ենթակառուցվածքային որակի և մատակարարման շղթաների ժամանակայնության բաղադրիչներով:

ՀՀ տրանսպորտային համակարգը երկրի տնտեսության զարգացման և տարածաշրջանային ինտեգրման ռազմավարական հենասյուներից մեկն է: Որպես ազգային տնտեսության առանցքային ենթակառուցվածք՝ այն զգալի դեր է կատարում երկրի լոգիստիկ կարողությունների ձևավորման և տարանցիկ հնարավորությունների զարգացման գործում: Հայաստանի լոգիստիկ համակարգը գերազանցապես հիմնված է ավտոմոբիլային փոխադրումների վրա, ինչը սահմանափակում է բազմատեսակ փոխադրումների զարգացման հնարավորությունները և խոչընդոտում երկրի արդյունավետ ինտեգրումը տարածաշրջանային տրանսպորտային միջանցքներին:

«Հյուսիս–Հարավ» ճանապարհային միջանցքի և «Խաղաղության խաչմերուկ» ռազմավարական նախաձեռնության զարգացումը կարող են վերածել Հայաստանը տարանցիկ հանգույցի՝ կապելով Պարսից ծոցի և Սև ծովի նավահանգիստները: Հայաստանի լոգիստիկ համակարգի արդիականացմանը զուգահեռ՝ կարևոր է մաքսային ընթացակարգերի պարզեցումը, թվայնացման ներդրումը և արդյունավետ կառավարման համակարգերի ձևավորումը, ինչը կնպաստի բեռնափոխադրումների ծախսերի և ժամկետների նվազեցմանը: Տարածաշրջանային մրցակցային միջավայրում, որտեղ հարևան պետություններն ունեն ավելի զարգացած ենթակառուցվածքներ, անհրաժեշտ է համակողմանի ռազմավարական մոտեցում, որպեսզի Հայաստանը կարողանա գրավել տարածաշրջանային տարանցիկ հանգույցի դեր և ընդլայնել իր տնտեսական կապերը միջազգային փոխադրումների ցանցերում՝ մրցունակության բարձրացման, ինչպես նաև տարածաշրջանային անվտանգության և տնտեսական կայունության ամրապնդման համար:

Բանալի բառեր՝ լոգիստիկ համակարգ, միջազգային տրանսպորտային միջանցք, «Հյուսիս–Հարավ» ճանապարհային միջանցք, «Խաղաղության խաչմերուկ» նախաձեռնություն, տարածաշրջանային ինտեգրում:

Introduction

In the context of globalisation in the 21st century, the development of transport and logistics systems has become a key factor in the economic growth and competitiveness of countries. In this context, integration into international transport corridors provides opportunities for rapid access to markets, strengthening regional cooperation, and expanding trade volumes.

The Republic of Armenia, being a landlocked country operating in a

complex geopolitical environment and with limited external transport links, faces serious logistical challenges. However, the country's geographical location provides an opportunity to become a transit hub that can unite the Middle East, the South Caucasus, Asia and Europe. In this regard, the development of international transport corridors, in particular, the International North–South Transport Corridor (INSTC), the Trans–Caspian International Transport Route (TITR), known as the Middle Corridor, as well as the expansion of multimodal transport platforms in the EAEU and China–EU directions, open up new opportunities for Armenia to participate in the processes of multi-vector transport and regional economic integration. However, the effective realisation of this potential is conditioned by the modernisation of logistics infrastructure, institutional strengthening of management systems, simplification of customs procedures, and deepening of multi-layered international cooperation. In this context, a scientific analysis of Armenia's logistics potential and the obstacles to its development is important to formulate a strategy for the country's effective integration into international transport corridors.

The article aims to analyse the logistics capabilities of the Republic of Armenia and highlight the main challenges that condition the country's effective integration into international transport corridors.

The research objectives are:

- To present the current state and structural features of the logistics system of Armenia.
- To analyse the role of international transport corridors in the processes of regional cooperation and economic integration.
- To identify the factors that limit the integration of the logistics system of Armenia at the international level.
- To propose practical solutions and strategic directions for the effective development of the logistics system of Armenia.

Theory and Methodology

The concept of international transport corridors plays an essential role in economic development, as economies need to be supported by efficient and sustainable logistics systems. It is often used as a development concept to create high-speed lanes between origin and destination points in different countries, facilitating trade and transport, and increasing communication. The establishment of international transport corridors creates opportunities for improving freight transport management, aligning legal and regulatory frameworks, introducing coordinated border-crossing procedures, attracting infrastructure investments, and enhancing the effectiveness of public–private sector cooperation.

The analysis of Armenia's opportunities and challenges for integration into international transport corridors is based on a number of interrelated

theories that address regional economic integration, the efficiency of logistics systems, and the structural and strategic significance of transport corridors. However, each theory has both applicability and limitations, especially for a small, landlocked, and geopolitically complex country like Armenia.

1. Regional Economic Integration Theory (Balassa, 1961) suggests that interconnectivity among countries in terms of infrastructure, markets, resources, and institutions fosters mechanisms for simultaneous development. International transport corridors (ITCs) serve as the physical foundation of this integration, reinforcing bilateral and multilateral cooperation frameworks. This theory is particularly applicable in the context of the Republic of Armenia, as the coordination of transport infrastructure may strengthen collaboration with Iran, Georgia, Russia, and the Central Asian countries. Economic integration also promotes the flow of investments and facilitates access to new markets. However, the theory is somewhat abstract and does not adequately address political disagreements and security-related risks. In Armenia's case, regional integration efforts are often hindered not by economic constraints, but by political and military factors—such as the Armenia–Azerbaijan conflict and the closure of borders with Turkey and Azerbaijan. While the theory provides a valuable foundation for shaping national development strategies, its application must be context-sensitive and should be complemented by security and geopolitical analysis frameworks.

2. Territorial Transport Economics (Rodrigue et al., 2020) explores how transport corridors shape economic interactions between regions. The theory emphasizes territorial balance and the enhancement of regional competitiveness. International transport corridors (ITCs) are structured systems of spatial connectivity and logistics integration that facilitate deeper multinational economic ties and improve the efficiency of regional distribution. These corridors are often multimodal in nature and function as “supply chain highways,” supporting the stability of global production and consumption networks. However, territorial economics models often overlook geopolitical risks and conflict zones—factors that are critically important in the case of Armenia. While the theory provides a useful framework for infrastructure development and transport planning, it must be complemented with analysis of regional conflicts and risk management strategies to be fully applicable in complex geopolitical environments.

3. A theory of logistics networks and supply chains that offers a practical toolkit for optimizing logistics systems, reducing costs, and improving the efficiency of connections. It is particularly applicable in conditions of multimodal transportation. International corridors that connect efficient logistics networks contribute to lower production costs, higher competitiveness, and faster delivery times (Christopher, 2016; Chopra & Meindl, 2019). Within

the framework of this theory, logistics is viewed as a value-creating system that operates in an integrated environment of transportation, warehousing, information flows, and management (Christopher, 2016; Harrison & Van Hoek, 2011). Furthermore, effective logistics requires not only infrastructure and technology, but also a strategic management culture that aligns logistics operations with broader supply chain goals (Harrison & Van Hoek, 2011). In Armenia, the technological sophistication of existing logistics nodes is low, which complicates the full application of this theory. The introduction of modern logistics management systems requires not only infrastructure but also professional capacity and a corresponding management culture.

4. The theory of flexibility and vulnerability in the context of global transportation emphasizes the need to reduce the vulnerability of corridors in the face of global disruptions such as conflicts, pandemics, and economic crises (Sheffi, 2007). Armenia, with its limited route diversity, must enhance its logistical flexibility to avoid unilateral dependencies. The theory proposes adaptive and preventive approaches to ensure the resilience of logistics systems. This is particularly relevant for Armenia, considering its closed borders with two neighboring countries (Turkey and Azerbaijan), restricted transit access, and politically unstable regional environment. Armenia's vulnerability within international transport corridors is deeply structural and not always manageable through flexible governance alone, especially in the absence of diplomatic solutions. While this theory is crucial for strategic planning, it must be complemented by risk identification and diversification strategies, clearly outlining alternative routes and allied systems.

The combined application of the aforementioned theories is essential for shaping Armenia's logistics policy and developing a strategy for integration into international transport corridors. However, Armenia's geopolitical position, domestic economic capacity, and regional challenges require an adaptive approach that aligns theoretical models with real political and economic considerations.

Research Methods

The article employs systemic, comparative, economic-statistical, and graphical methods, as well as situational analysis (SWOT), which have enabled a comprehensive assessment of the structure, key indicators, and regional integration opportunities of Armenia's logistics system.

Results

The logistics and transport system of the Republic of Armenia is one of the main pillars of the country's economic development. However, the logistics system is still in its initial stage of development and faces a number of structural, institutional, and technological challenges. The system's efficiency

depends on the quality of transport infrastructure, the effectiveness of customs administration, storage capacities, the level of digitalization, and regional integration opportunities.

In recent decades, the South Caucasus region has become a key strategic hub in the context of the formation and development of international transport corridors. Within this framework, the transport system of the Republic of Armenia holds a significant position, both as a transit country and as a platform for diversifying regional connectivity.

The geographical location of the Republic of Armenia—at the crossroads of Europe and Asia—offers the potential to become a regional transit hub. However, the lack of access to the sea and the closure of borders with two neighboring countries significantly limits Armenia’s logistical potential, reducing its ability to access international markets (World Bank, 2023). This situation severely restricts the volume of international freight traffic and diminishes Armenia’s attractiveness as a logistics centre. In the global context, Armenia’s logistics system is often ranked poorly. According to the World Bank’s Logistics Performance Index (LPI) for 2023, Armenia ranks 97th out of 139 countries, with an overall score of 2.5. The LPI score is based on six key components: the efficiency of customs clearance, the quality of infrastructure, the ease of arranging competitively priced shipments, the competence and quality of logistics services, the ability to track and trace consignments, and the timeliness of deliveries.

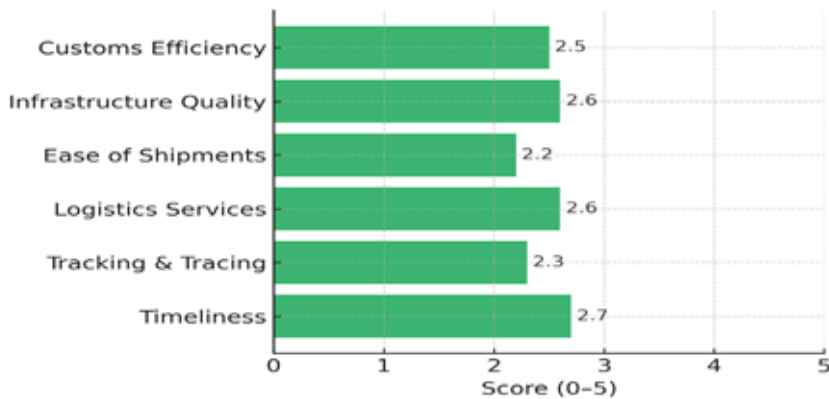


Chart 1. Armenia’s Logistics Performance Index (LPI) Components – 2023
(World Bank, 2023)

Table 1.

**Logistics Performance Index (LPI) Scores of Armenia, 2012–2023
(World Bank, 2023)**

Year	Number of Countries Rated	LPI Rank	LPI Score	Customs Score	Infrastructure Score	International shipments Score	Logistics competence Score	Tracking & tracing Score	Timeliness Score
2023	139	97	2.5	2.5	2.6	2.2	2.6	2.3	2.7
2018	160	92	2.61	2.57	2.48	2.65	2.5	2.51	2.9
2016	160	141	2.21	1.95	2.22	2.22	2.21	2.02	2.6
2014	160	92	2.67	2.62	2.38	2.75	2.75	2.5	3
2012	155	100	2.56	2.27	2.38	2.65	2.4	2.57	3.07

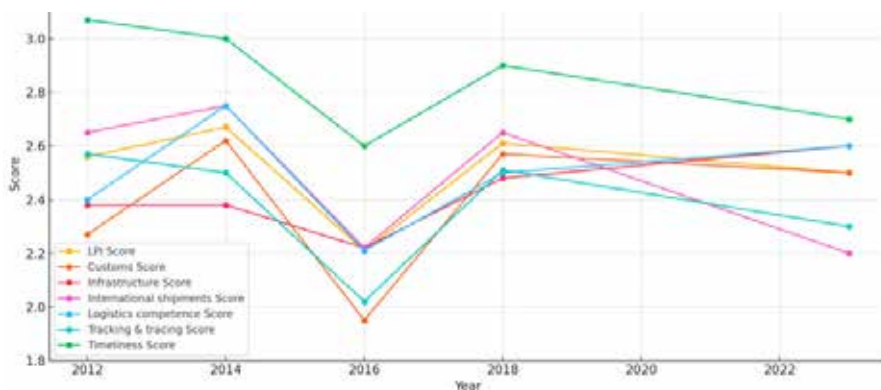


Chart 2. Logistics Performance Index (LPI) Scores of Armenia, 2012–2023
(World Bank, 2023)

Analysis of Table 1 reveals that Armenia’s logistics system developed at an unstable pace between 2012 and 2023. The highest overall score was recorded in 2014 (2.67 points), while the lowest was in 2016 (2.21 points, ranked 141st). Despite some recovery in 2023 – particularly in the areas of infrastructure (2.6) and logistics competence (2.6) – these improvements did not offset the declines observed in international shipments and tracking & tracing. The overall trend indicates inconsistent development of the logistics system and highlights the need for structural and managerial reforms.

Thus, Armenia’s LPI indicators reflect some improvement in infrastructure and logistics competence; however, significant challenges remain in customs procedures, international shipments, and technological development. State strategies should be directed toward deepening digitalization in customs and logistics, enhancing international cooperation in the field of corridor-based transportation, and strengthening professional capacities in the sector.

The logistics systems of Armenia’s neighboring countries have a significant impact on Armenia’s own logistical position. Therefore, assessing the logistics performance of these countries is essential to understanding the opportunities and limitations of regional integration. Below is a comparative analysis based on the 2023 Logistics Performance Index (LPI) data.

Table 2.
Comparative Logistics Performance Index (LPI) Scores of Armenia and Neighbouring Countries, 2023 (World Bank, 2023)

Country	LPI Score	LPI Rank	Customs Score	Infrastructure Score	International Shipments Score	Logistics Competence and Quality Score	Timeliness Score	Tracking and Tracing Score
Turkiye	3.4	38	3.0	3.4	3.4	3.5	3.6	3.5
Azerbaijan	2.9	66	2.6	2.7	2.9	2.8	3.2	2.9
Georgia	2.7	79	2.6	2.3	2.7	2.6	3.1	2.8
Armenia	2.5	97	2.5	2.6	2.2	2.6	2.7	2.3
Iran, Islamic Rep.	2.3	123	2.2	2.4	2.4	2.1	2.7	2.4

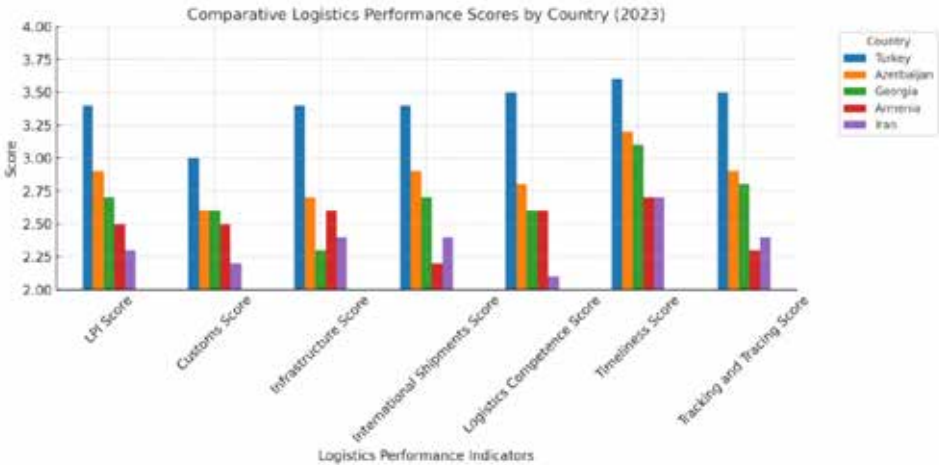


Chart 3. Comparative Analysis of Logistics Performance Indicators of Armenia and Neighbouring Countries (2023)

Table 2 presents a comparative analysis of the logistics performance of Armenia and its neighbouring countries—Turkey, Azerbaijan, Georgia, and Iran—based on the World Bank’s Logistics Performance Index (LPI) 2023 data. As previously mentioned, Armenia’s LPI score in 2023 was 2.5, ranking 97th out of 139 countries, which is relatively low and significantly lags behind regional peers such as Turkey (3.4, ranked 38th) and Azerbaijan (2.9, ranked 66th). Georgia also outperforms Armenia with a score of 2.7 (ranked 79th), while Iran, despite its considerable economic potential, recorded a lower score of 2.3, ranking 123rd, primarily due to internal logistics and infrastructure limitations.

In terms of customs efficiency, Armenia also demonstrates relatively weak performance (2.5), falling behind Turkey (3.0), Azerbaijan (2.6), and Georgia (2.6). This negatively affects the speed and cost of border crossings. Despite some improvements, Armenia still lags behind Turkey and Azerbaijan in terms of infrastructure quality. The main challenges are related to the underdevelopment of railway, road, and warehousing infrastructure. Moreover, Armenia records the lowest score in the region for international shipments (2.2), which reflects limited opportunities for export and import operations.

Georgia serves as Armenia’s primary logistics gateway to the outside world—particularly to the Black Sea ports of Poti and Batumi. Georgia’s relatively high LPI score in 2023 (2.7) contributes to the reliability and timeliness of the flow of Armenian goods through this corridor.

Iran’s current Logistics Performance Index (LPI) score (2.3, ranked 123rd out of 139 countries) reveals several structural deficiencies in its logistics system, which to some extent limit both Iran’s and Armenia’s integration into international transport networks. However, these limitations can be mitigated through enhanced regional cooperation and the joint development of infrastructure. Armenia can position itself as an intermediary platform between Iran and other countries, partially centralising supply chain functions and fostering mutually beneficial partnerships.

The above-mentioned logistics dynamics in the region have several implications for Armenia’s ability to integrate into international transport corridors:

- **Responsiveness and reliability:** Armenia’s low LPI score indicates that the country does not yet meet the standards required for full participation in major international logistics networks. As a result, Armenia is often perceived as an alternative rather than a primary node for regional transit operations.
- **Regional competitive environment:** Azerbaijan, Georgia, and especially Turkey enjoy a competitive advantage due to their higher logistics performance, making them more attractive in international

transport corridor initiatives. For instance, Turkey plays a key role in the Middle Corridor. At the same time, Azerbaijan is strategically positioned in both North–South and East–West corridors, including the International North–South Transport Corridor and the Middle Corridor.

- **Transit position limitations:** Located at a strategic crossroads in the South Caucasus, Armenia possesses notable transit potential. However, the ongoing blockade by Turkey and Azerbaijan significantly restricts its ability to serve as a regional transit hub. In contrast, open borders with Iran and Georgia present opportunities for cargo movement through specific routes—particularly within the frameworks of the North–South and Persian Gulf–Black Sea transport corridors. Nonetheless, full integration will require comprehensive reforms in logistics governance, digitalisation, and infrastructure modernisation.

Armenia’s logistics challenges stem not only from internal systemic shortcomings but also from broader geopolitical constraints. As a landlocked country, Armenia lacks direct access to maritime ports. In addition, two of its borders—those with Azerbaijan and Turkey—remain closed due to political and security reasons. As a result, Armenia operates under complex logistics conditions, relying almost exclusively on transit corridors through Georgia and Iran for foreign trade and transit flows (Asian Development Bank, 2011). By contrast, Turkey has access to major seaports (e.g., Istanbul, Mersin, Izmir), a highly developed road and rail network, and diversified connections with both Europe and Asia. Azerbaijan is actively investing in transport corridor infrastructure—such as the Middle Corridor, the International North–South Transport Corridor, and the Baku–Tbilisi–Kars railway—thus reinforcing its role as a key regional transit player. Despite internal infrastructural challenges, Georgia serves as Armenia’s principal external gateway, particularly through the ports of Poti and Batumi. In comparison, Armenia’s transport infrastructure remains underdeveloped due to limited investment policies, gaps in strategic planning, and inefficiencies in governance systems. The absence of maritime access exacerbates Armenia’s dependence on the ports of neighbouring countries, especially Georgia (Poti and Batumi) and Iran (Bandar Abbas and Chabahar). The vast majority of Armenia’s international trade is conducted via land routes, transiting through Georgian territory. This dependency results in high transport costs, unreliable delivery times, and increased political sensitivity. Road infrastructure often fails to meet international standards, and rail connectivity is limited in both volume and reach. Consequently, increased transport time and costs negatively affect Armenia’s logistics attractiveness, particularly in terms of foreign direct investment and export competitiveness.

In this context, the improvement of Armenia’s logistics system should be regarded not only as a crucial element of economic development but also

as a means of strengthening political sovereignty. It is essential to develop a comprehensive strategy aimed at modernising infrastructure, expanding multifaceted international cooperation, optimising digitalisation and customs processes, and deepening international partnerships at both regional and global levels.

The improvement of Armenia’s logistics system is vital for enhancing the country’s competitiveness and achieving full integration into international transport corridors. Comprehensive enhancement of the components of the Logistics Performance Index (LPI) should be regarded as a strategic objective within the framework of government, international, and private sector cooperation.

The transport system of the Republic of Armenia is one of the strategic pillars of the country’s economic development and regional integration. As a key infrastructure of the national economy, it plays a significant role in shaping the country’s logistics capacities and enhancing its transit potential.

Table 3.

Freight Transportation by Mode and Share in Total Cargo Volume in Armenia in 2019–2023 (Statistical Committee of the Republic of Armenia, 2024)

	2019		2020		2021		2022		2023	
Mode of Transport	Freights shipped, 1000 t	Share in Total Cargo, %	Freights shipped, 1000 t	Share in Total Cargo, %	Freights shipped, 1000 t	Share in Total Cargo, %	Freights shipped, 1000 t	Share in Total Cargo, %	Freights shipped, 1000 t	Share in Total Cargo, %
Motor vehicles	9 661.7	65.6	9 801.3	65.8	12 067.2	70.0	13 239.0	70.1	14 393.4	77.9
Railroad lines	3 212.6	21.8	3 201.0	21.5	3 124.7	18.1	3 509.1	18.6	2 103.3	11.4
Air	20.7	0.1	16.0	0.1	17.3	0.1	23.3	0.1	33.9	0.2
Trunk pipeline	1 837.3	12.5	1 870.9	12.6	2 033.8	11.8	2 124.3	11.2	1 952.4	10.5
Total	14 732.3	100	14 889.2	100	17 243.0	100	18 895.7	100	18 483.0	100

According to the data presented in Table 3, the dominant share of freight transportation in Armenia—77.9%—is carried out by motor vehicles, a figure that has shown steady annual growth, reaching 14.4 million tons in 2023.

This trend is primarily attributed to the relative accessibility and flexibility of the road network, as well as the simplification of freight procedures by motor transport due to Armenia's membership in the Eurasian Economic Union (Statistical Committee of the Republic of Armenia, 2024).

A contrasting trend is observed in rail freight transportation. In 2023, the volume of freight transported by rail amounted to only 2.1 million tons, representing a decline of approximately 40% compared to 2022. Correlation analysis reveals the following patterns: a moderate negative correlation between road and rail transportation ($r = -0.54$), indicating a trend of substitutability; a strong positive correlation between road and air transport ($r = 0.78$); and a significant negative correlation between rail and air transport ($r = -0.79$). These interactions suggest that Armenia's logistics system is increasingly concentrating on road transport at the expense of multimodal transportation. This trend limits the country's capacity for diversified multimodal freight operations and hinders its integration into international multimodal transport corridors. This issue poses a serious challenge for Armenia's participation in international corridors, as rail remains one of the key modalities for connection to regional transport networks. The challenge is particularly relevant in the context of the North-South International Transport Corridor. Furthermore, the limited and relatively stable role of pipeline transport highlights Armenia's underutilization of potential energy corridor opportunities. The reconstruction of the railway system and more efficient management of pipeline freight volumes could significantly enhance Armenia's infrastructure, cross-border transport reliability, and multimodal connectivity.

Traditionally, Armenia's North-South highway is associated with the International North-South Transport Corridor (INSTC), particularly due to Armenia's participation in the INSTC agreement. However, it is geographically disconnected from the corridor's western road route. According to analytical reports by the Eurasian Development Bank, the construction of the North-South highway within Armenia is officially regarded as part of the INSTC development projects, as Armenia is a full-fledged party to that agreement (Eurasian Development Bank, 2022). The North-South Road Corridor will contribute not only to the organisation of international freight flows through Armenia, but also serve as a linking route in broader regional networks connecting India, Iran, Central Asia, and Black Sea ports. This corridor has the potential to become part of the INSTC while simultaneously integrating into the Persian Gulf-Black Sea International Transport and Transit Corridor, which aims to establish a route from Iranian ports through Armenia and the Black Sea (via Bulgaria and other participants) to European markets. The Persian Gulf-Black Sea Corridor naturally overlaps with the North-South highway's alignment in Armenia, reinforcing the diversification of transit options. In this

context, Armenia's North–South Roadway can serve as a vital link from Iran to the Black Sea—and further—to EU markets.

Thus, road transport plays a pivotal role in the formation and development of Armenia's logistics system, serving as the primary structural component of the national transport infrastructure. Within this subsystem, the construction of the North–South Road Corridor in Armenia holds strategic significance, to activate the country's transit and foreign trade potential by integrating Armenia into international freight transport networks. The construction of this strategically significant highway is expected to facilitate smooth transit from Armenia's southern border to the Georgian border—and subsequently to Black Sea ports—enabling freight and passenger transportation in line with European standards and creating significant development opportunities for all settlements along the north–south axis (Armroad, n.d.).

Despite the strategic significance of the North–South project, its implementation has been significantly delayed. Initially planned for completion by 2017, the project remains only partially realised, which negatively affects the performance of Armenia's logistics system. This situation reflects existing challenges related to governance efficiency, investment climate stability, and program implementation capacity.

Upon completion of the North–South project, the following key outcomes are anticipated:

- An upgraded road corridor meeting international standards;
- First-class four-lane highways along the Yerevan–Gyumri and Yerevan–Ararat sections;
- Upgraded roads on other sections of the corridor to international standards, with future potential for expansion to four lanes;
- Efficient and safe traffic management along the corridor (Armroad, n.d.).

The North–South corridor serves not only as a means of transport communication but also as an instrument of regional integration. Its operation will enable the creation of a unified transport corridor linking Armenia with Persian Gulf ports such as Bandar Abbas and Chabahar, as well as Black Sea ports including Poti, Batumi, and Burgas. The formation of such a trans–Eurasian corridor can transform Armenia into a regional transit hub, provided that the necessary road, border, and customs infrastructures are constructed and modernised. This project aligns with several strategic initiatives of the Government of the Republic of Armenia, including the “Gyumri Tech City,” “Tatev Tourism Centre,” “Jermuk City Development,” and “Zvartnots Free Economic Zone” programs, all of which are interconnected with the activation of logistics potential (Armroad, n.d.).

Thus, the whole operation of the North–South road corridor can

significantly enhance Armenia's logistics efficiency, promote regional and intercontinental cooperation, expand export opportunities, and reduce time and financial costs. However, the sustainable and effective implementation of the project requires an improved governance system, a stable investment climate, and efficient interagency and international cooperation.

An adequate and well-functioning railway infrastructure plays a crucial role in ensuring the sustainable growth of Armenia's national economy and enhancing its competitiveness in the global economic system. The South Caucasus Railway, a branch of the Russian State Railway, operates the Armenian railway network, connecting it with Georgia's railway system and facilitating freight transport to the ports of Poti and Batumi. However, the absence of railway connections with Turkey and Azerbaijan limits the international integration potential of this infrastructure. Reconstruction and modernisation programs are essential to achieve full compliance with international standards and to enable the effective use of multimodal logistics.

Enhancing competitiveness in domestic and international transport markets requires efficient use of railways as a cost-effective, reliable, and intercontinental freight transport backbone. From this perspective, the development of logistics functions within Armenia's railway system is a key element for the effective organisation of international transport and transit. Armenia's strategic goal should be to establish a comprehensive, internationally compliant logistics system within its railway network, which will foster regional integration and strengthen the country's position in international transport corridors.

The construction of the Southern Armenia Railway (linking Armenia and Iran) holds significant strategic importance for the Republic of Armenia (Government of the Republic of Armenia, 2014). This project would help restore Armenia's role as a transit country and serve as the shortest overland transport route connecting the Persian Gulf basin countries to the Black Sea ports. From the perspective of freight movement between the Persian Gulf and European countries, the Iran–Armenia railway would position Armenia as the most efficient land-based corridor. However, the implementation of the project is currently considered less feasible due to its high investment costs.

Armenia's geopolitical position, along with the prolonged blockade of regional transport communications, places the Republic of Armenia in a constant search for new economic and logistical solutions. In this context, Armenia's strategy for integration into international transport corridors becomes particularly significant. In recent years, Armenia has intensified its diplomatic and economic efforts aimed at developing new transit routes and modernising its logistics infrastructure. The Government of the Republic of Armenia has developed the “Crossroads of Peace” initiative, aimed at

unblocking transport and communication infrastructure and promoting regional cooperation (Mirzoyan, 2025). The initiative seeks to restore and expand regional connectivity by reactivating existing infrastructure and constructing new roads, railways, pipelines, electricity lines, and digital corridors. It encompasses both North–South and East–West directions, fostering Armenia’s integration into global transport networks and enhancing regional economic ties (Mirzoyan, 2025; Harutyunyan, 2024). Armenia approaches the process constructively, based on four fundamental principles:

1. Routes must operate under the sovereignty and jurisdiction of the countries they traverse.
2. Reciprocity and equality must be ensured.
3. Any form of unilateral control or the involvement of foreign forces must be excluded.
4. Security and oversight must be guaranteed through international standards and modern technologies without compromising Armenia’s sovereignty (Mirzoyan, 2024).

Within this framework, Armenia has expressed its readiness to take practical steps to implement the initiative and expects active support from international partners (Harutyunyan, 2024).

Thus, Armenia’s integration into international transport corridors—particularly within the framework of the “Crossroads of Peace” initiative—may serve as a strategic solution, simultaneously contributing to the expansion of the country’s logistical engagement, economic diversification, and the strengthening of regional stability.

Conclusions

As a landlocked and partially blockaded country, Armenia faces serious logistical challenges that hinder its full integration into international transport corridors. At the same time, the ongoing expansion of global and regional transport corridors provides an opportunity to make more effective use of Armenia’s strategic geoeconomic position. Realising Armenia’s transit potential could not only generate economic benefits but also serve as a tool for increasing regional influence.

While Armenia declares its readiness to engage in international transport corridor initiatives, other countries in the region—including Azerbaijan, Georgia, and Turkey—are already implementing mutually beneficial projects. Therefore, Armenia must complete the North–South Highway within the shortest possible timeframe and, to integrate into international transport corridors, must not only develop its physical infrastructure but also implement efficient logistics solutions by integrating road, rail, and air transport capabilities. To this end, it is proposed to establish integrated logistics centres at key highway junctions, such as the Yerevan–Ashtarak or Gyumri area.

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