



BEYOND TRANSIT: STRATEGIES FOR TRANSFORMING AZERBAIJAN INTO A REGIONAL LOGISTICS HUB

Daxil olub: 4 fevral 2026-cı il

Qəbul olunub: 26 may 2026-cı il

Received: 4 February 2026

Accepted: 26 May 2026

Aybeniz Hashimli

Independent Researcher

aybenizhashimli@gmail.com

<https://orcid.org/0009-0009-0026-2629>

DOI: <https://doi.org/10.30546/UNECSR.2026.02.457>

Abstract

This study explores how Azerbaijan can move beyond a transit-based role and enhance domestic economic value through a logistics-oriented hub model. Despite remarkable growth in transit freight volumes and strengthened regional connectivity, the economic benefits generated within the national economy remain limited. The main objective of the research is to identify practical pathways for transforming transit connectivity into value-added logistics outcomes.

The paper applies a qualitative and analytical research approach based on existing data from official national sources, including transport and customs statistics, academic literature, and international reports. A comparative perspective is employed to examine Azerbaijan's logistics practices in relation to selected international experiences such as Singapore, Rotterdam, and Jebel Ali. The analysis is structured around a conceptual framework integrating transit connectivity, logistics upgrading, and value creation.

The research addresses key questions concerning why transit growth does not by itself result in greater domestic value and which logistics functions are critical for enhancing value capture. The results emphasize the importance of corridor-based logistics hubs, multimodal coordination, inland terminals, customs digitalization, cargo consolidation, value-added logistics services, aviation logistics specialization, and stronger private sector participation for deeper integration of transport flows within the domestic economy. This investigation contributes to the academic literature on transit-based economies and offers policy-relevant insights for Azerbaijan and other emerging transit countries.

Keywords: *transit-based economy, logistics-oriented hub model, regional connectivity, value creation, regional logistics hub.*

TRANZİTDƏN KƏNAR: AZƏRBAYCANIN REGIONAL LOGİSTİKA MƏRKƏZİNƏ ÇEVRİLMƏSİ ÜÇÜN STRATEGİYALAR

Aybeniz Həşimli
Müstəqil tədqiqatçı

Xülasə

Bu tədqiqat Azərbaycanın tranzit mərkəzi yanaşmasından logistika əsaslı inkişaf modelinə keçid imkanlarını və bunun daxili iqtisadi dəyərin artırılmasına təsirini təhlil edir. Tranzit yük daşımalarının əhəmiyyətli dərəcədə artmasına və regional əlaqələrin güclənməsinə baxmayaraq, ölkə iqtisadiyyatında formalaşan daxili iqtisadi dəyərlər hələ də məhdud səviyyədə qalmaqdadır. Tədqiqatın əsas məqsədi ölkənin tranzit modelindən kənara çıxaraq əlavə dəyər yaradan regional logistika mərkəzinə çevrilməsi üçün həlledici əhəmiyyət daşıyan praktik yanaşmaları müəyyən etməkdir.

Məqalədə rəsmi milli mənbələrdən əldə edilmiş mövcud məlumatlar əsasında analitik araşdırmalar həyata keçirilmişdir. Təhlil prosesində nəqliyyat və gömrük statistikasına məlumatları ilə yanaşı, akademik ədəbiyyat və beynəlxalq hesabatlardan istifadə edilmişdir. Müqayisəli yanaşma çərçivəsində Azərbaycanın logistika təcrübəsi Singapur, Rotterdam və Cəbəli limanı kimi seçilmiş beynəlxalq nümunələrlə qarşılaşdırılmışdır. Araşdırma tranzit əlaqələrinin genişləndirilməsi, logistika strukturunun modernləşdirilməsi və əlavə dəyər yaradılması anlayışlarını birləşdirən konseptual çərçivə əsasında aparılmışdır. Tədqiqat çərçivəsində tranzit daşımalarının özlüyündə daha yüksək əlavə dəyər formalaşdırmadığı, eləcə də bu dəyərin artırılması üçün hansı logistika funksiyalarının həlledici rol oynaya biləcəyi təhlil edilmişdir.

Əldə olunan nəticələr göstərir ki, regional dəhliz modeli əsasında logistika mərkəzlərinin formalaşdırılması, multimodal koordinasiya mexanizmlərinin tətbiqi, daxili terminalların inkişafı, gömrük proseslərinin rəqəmsallaşdırılmasının təkmilləşdirilməsi, yük konsolidasiyası mexanizmlərinin tətbiqi, əlavə dəyər yaradan logistika xidmətlərinin inkişafı, aviasiya logistikasında ixtisaslaşma və özəl sektorun logistika fəaliyyətində daha fəal iştirakı nəqliyyat axınlarının milli iqtisadiyyata daha dərinlən inteqrasiyasında mühüm rol oynayır. Araşdırma tranzit iqtisadiyyatı üzrə elmi ədəbiyyata töhfə verməklə yanaşı, Azərbaycan və bu model əsasında formalaşan digər tranzit ölkələr üçün siyasət yönümlü nəticələr təqdim edir.

Açar sözlər: *tranzit iqtisadiyyatı, logistika əsaslı inkişaf, nəqliyyat axınları, dəyər yaradılması, regional logistika mərkəzi.*

ЗА ПРЕДЕЛАМИ ТРАНЗИТА: СТРАТЕГИИ ТРАНСФОРМАЦИИ АЗЕРБАЙДЖАНА В РЕГИОНАЛЬНЫЙ ЛОГИСТИЧЕСКИЙ ХАБ

Айбениз Гашимли
Независимый исследователь

Резюме

В данном исследовании анализируется, каким образом Азербайджан может выйти за рамки транзитной модели и повысить уровень внутренней экономической ценности за счет логистически ориентированной хабовой модели. Несмотря на существенный рост транзитных грузопотоков и укрепление региональной транспортной связности, экономические выгоды, формируемые внутри национальной экономики, по-прежнему остаются ограниченными. Основной целью исследования является выявление практических механизмов трансформации транзитной связности в логистические результаты с добавленной стоимостью.

В работе применяется качественный и аналитический исследовательский подход, основанный на вторичных данных, полученных из официальных национальных источников, включая транспортную и таможенную статистику, академическую литературу и международные отчеты. Сравнительный подход используется для сопоставления логистической практики Азербайджана с отдельными международными примерами, такими как Сингапур, Роттердам и Джебель Али. Анализ базируется на концептуальной модели, объединяющей транзитную связность, модернизацию логистики и создание экономической ценности.

Исследование направлено на выявление ключевых причин, по которым рост транзитных перевозок сам по себе не приводит к увеличению внутренней добавленной стоимости, а также на определение логистических функций, играющих решающую роль в ее формировании. Полученные результаты подчеркивают значимость коридорных логистических хабов, мультимодальной координации, развития внутренних терминалов, цифровизации таможенных процедур, консолидации грузов, логистических услуг с добавленной стоимостью, специализации авиационной логистики и более активного участия частного сектора для более глубокой интеграции транспортных потоков в национальную экономику. Работа вносит вклад в научную литературу по транзитным экономикам и формирует практико-ориентированные выводы, релевантные для Азербайджана и других формирующихся транзитных стран.

Ключевые слова: транзитная модель, логистически ориентированная хабовая модель, транспортная связность, добавленная экономическая ценность, региональный логистический хаб.

Introduction

In recent years, global trade routes have undergone significant transformation due to geopolitical tensions, supply chain disruptions, and the reconfiguration of Eurasian connectivity. As a result, transport corridors linking Europe and Asia have gained renewed strategic relevance. Countries located along these corridors increasingly seek not only to facilitate transit flows but also to derive greater economic value from them.

Within this evolving context, Azerbaijan has strengthened its position in regional transit networks, particularly along the Middle Corridor. Located at the intersection of East–West and North–South routes, the country has invested heavily in multimodal transport infrastructure, including railways, the Port of Baku, international airports, and modern transfer facilities. However, growing competition among corridor economies means that transit capacity alone is no longer sufficient. Sustainable gains depend on the ability to develop advanced logistics functions and retain a larger share of value within the domestic economy.

The prospective opening of the Zangezur corridor further increases the urgency of this transformation by enhancing regional connectivity and expanding transit potential. Yet international experience shows that infrastructure development by itself does not automatically generate long-term economic benefits. Countries that successfully move beyond simple transit functions and develop logistics-based services—such as consolidation, warehousing, processing, and re-export—are better positioned to diversify their economies and generate employment.

Although Azerbaijan has made progress toward a logistics-oriented model through the development of ports, airports, and free economic zones, the overall economic impact of these initiatives remains below its strategic potential. The key challenge, therefore, lies not in expanding transit volumes, but in converting existing connectivity into a value-generating logistics system.

This study examines how Azerbaijan can facilitate this transition. Based on the conceptual framework of transit – logistics upgrading – value creation, the article explores how transport integration can be converted into sustainable economic benefits. By focusing on structural, institutional and strategic factors, the study aims

to identify practical pathways for developing Azerbaijan's role as a regional logistics hub within the evolving Eurasian transport system.

Theoretical Background and International Experience

To better understand the concept of transit and logistics-based development, it is useful to review the main theoretical approaches in the literature. Based on the early trade and regional integration studies by Balassa (1965), countries located along global trade routes can benefit economically from expanded cross-border flows. Building on this idea, later transport economics literature explains the concept of a transit economy as a system in which national income is mainly generated through the movement of goods and services across region rather than through domestic production [1, p. 99-123].

According to Rodrigue (2020), transit-based economies largely count on transport services, corridor accessibility, and basic handling operations. While such activities intensify regional connectivity, they tend to generate limited domestic value, rather than enhance it [2]. In the same way, Hesse and Rodrigue (2004) emphasize that transit-based systems often demonstrate weak linkages with local industries, which restricts impact on employment and technological upgrading [3, p. 171–184].

From a theoretical perspective, transit economies are viewed as an initial stage of integration into international trade networks. As argued by UNESCAP (2019), long-term development requires moving beyond simple transit toward more advanced logistics and service-based functions that enable countries to keep a higher share of trade-related value [4].

The logistics-based development model expands traditional transit-oriented approaches by highlighting value creation rather than physical movement alone. Based on OECD (2018), logistics systems contribute to economic growth when they support efficient coordination between transport, production, and trade activities. This model emphasizes the importance of services such as warehousing, processing, packaging, cargo consolidation, and distribution in improving domestic economic returns [5].

According to port and logistics development studies, Notteboom and Rodrigue (2005) argue that logistics platforms develop into key drivers of economic growth when they are integrated with industrial zones and regional supply chains. In this framework, logistics infrastructure serves as part of a wider ecosystem that includes digitalization, institutional quality, and private sector participation [6, p. 297–313].

Moreover, the World Bank's logistics research suggests that enhanced logistics performance strengthens national competitiveness by reducing trade costs and improving reliability (World Bank, 2023). From this point of view, logistics-based development is not limited to infrastructure investment but requires coordinated improvements across regulation, customs, and service markets. Therefore, countries that adopt logistics-based development strategies are more likely to achieve economic diversification and sustainable growth [7].

The hub-and-spoke system is widely discussed in transport geography as an efficient structure for organizing cargo flows. Based on Rodrigue (2020), it relies on concentrating cargo in central hubs connected to smaller nodes through feeder routes, enabling route optimization and cost reduction [2]. Studies by Hesse and Rodrigue (2004) similarly show that such concentration attracts complementary services and strengthens the economic role of logistics hubs [3, p. 171–184].

Taken together, these theoretical perspectives emphasize that transit expansion alone does not ensure economic upgrading. Rather, coordinated logistics functions and institutional quality are decisive for value creation.

Singapore represents a leading example of logistics-based development, consistently ranking among the top performers in global logistics efficiency (World Bank, 2023). By transforming limited geographic space into a value-added logistics and services platform, Singapore demonstrates how institutional capacity, digitalization, and long-term strategic planning can convert transit flows into sustainable economic returns [7].

Dubai's logistics development is based on the integration of Jebel Ali Port with its surrounding free zone, combining port operations with industrial and commercial activities. This coordinated structure reduced transaction costs and accelerated re-export processes, allowing Dubai to emerge as a strategic logistics hub linking Asia, Europe, and Africa (World Bank, 2023) [7].

The Netherlands represents a mature model of logistics upgrading centered on the Rotterdam port ecosystem. Through the integration of inland waterways, rail systems, logistics centers, and digital coordination platforms, the Dutch system supports efficient cargo distribution and value-added activities such as processing and packaging. This integrated approach strengthened linkages between transport infrastructure and industry, positioning logistics as a key driver of national economic development (OECD, 2018) [5].

Kazakhstan provides a relevant example for transit-oriented economies seeking logistics upgrading. After initially prioritizing corridor development, the country expanded its strategy toward dry ports, inland logistics centers, and multimodal facilities along the China–Europe routes (ADB, 2021). This shift illustrates how landlocked transit states can move beyond corridor-based flows toward broader logistics and service-oriented development [8].

While logistics hub development and transit-based growth models have been widely examined in transport and regional development literature, most studies concentrate on established global logistics hubs or large-scale national logistics strategies. Far less attention has been devoted to medium-sized transit economies seeking to convert corridor-based connectivity into structured domestic value creation.

Existing research often treats transit expansion and logistics upgrading as parallel processes rather than analytically interconnected stages. In particular, the systematic linkage between transit volume growth, functional logistics upgrading, and domestic value retention remains insufficiently conceptualized for emerging corridor economies. Within this context, Azerbaijan has largely been examined from the perspective of infrastructure investment and transit potential, while the structural conditions required for logistics-based transformation have received limited analytical focus. In addition, emerging regional connectivity dynamics, including the prospective Zangezur corridor, introduce structural factors that remain underexplored in relation to logistics upgrading in medium-sized corridor economies.

This study addresses this gap by applying an integrated analytical framework that connects transit capacity, logistics upgrading, and value creation within a single structural perspective. By grounding the analysis in Azerbaijan’s institutional and geographic context, the research contributes to a clearer understanding of how corridor economies can move beyond transit dependency toward sustainable logistics-based development. The findings provide both conceptual clarification and policy-oriented guidance for similar emerging transit systems.

Methodology

To address the research problem, this study applies a qualitative and analytical research approach. The following section outlines the methodology used to examine how Azerbaijan can move from a transit-based role toward logistics-based development. The methodology focuses on identifying strategies that support advanced logistics functions and greater economic value creation.

The analysis relies on secondary data obtained from official and publicly available sources, including the State Statistical Committee of the Republic of Azerbaijan, the Azerbaijan Transit Council, the State Customs Committee of the Republic of Azerbaijan, the Port of Baku, Azerbaijan Railways, and Heydar Aliyev International Airport. Relevant international reports, policy documents, and academic literature are also reviewed to strengthen the analytical framework.

A comparative analysis is used to examine recent transport trends and to relate Azerbaijan's logistics practice to international experiences. Based on this analysis, the study develops a conceptual framework linking transit connectivity, logistics upgrading, and value creation.

Azerbaijan's Current Logistics Characteristics & Constraints

The expansion of logistics infrastructure has become a key element of Azerbaijan's economic modernization strategy. Recent investment policies have prioritized logistics centers to enhance cargo handling, storage, and distribution efficiency, while strengthening the country's integration into regional and international transport corridors, particularly the Middle Corridor and the North–South Transport Corridor. Within this evolving framework, Azerbaijan's logistics system is structured around several key logistics centers and multimodal nodes that support both corridor-based transit and domestic distribution functions.

Port of Baku (Alat)

The Port of Baku, situated in Alat, represents the central node of Azerbaijan's maritime logistics system and one of the most significant transport hubs in the Caspian basin. The port's operational structure is designed around multimodal integration, linking maritime transport with rail and road networks. Modern cargo handling technologies and warehousing facilities enable the efficient processing of various freight categories. Owing to its strategic position along the Middle Corridor, the port plays a vital role in facilitating trade flows between Europe, Central Asia, and China, thereby contributing to Azerbaijan's corridor-based logistics capacity [9].

Absheron Logistics Center

Located near Baku, the Absheron Logistics Center supports both domestic and cross-border trade operations through diversified storage and cargo management services. The facility includes specialized warehousing solutions, including temperature-regulated storage environments, which are particularly relevant for sensitive goods. Beyond basic storage functions, the center provides complementary logistics

services such as cargo consolidation, packaging, and labeling. Its proximity to key transport infrastructure, including major highways and the Port of Baku, enhances operational connectivity within national and international supply chains [9].

Garadagh Logistics Center

The Garadagh Logistics Center occupies a strategically important position within Azerbaijan's logistics network due to its location along major transport routes. The center is equipped with modern storage and refrigeration facilities, supporting the handling of agricultural products as well as industrial cargo. By accommodating both domestic distribution needs and export-oriented flows, the facility contributes to improving logistical efficiency and supply chain reliability [9].

Sumgayit Logistics Center

Positioned within the industrial city of Sumgayit, this logistics center primarily serves manufacturing and industrial activities concentrated in the region. The design of its warehousing and cargo handling infrastructure reflects the requirements of industrial producers and exporters. As part of the broader Baku–Sumgayit economic corridor, the center performs an important role in facilitating the movement and distribution of industrial goods [9].

Ganja Logistics Center

The Ganja Logistics Center enhances cargo distribution capabilities across Azerbaijan's western regions. Integrated with major East–West and North–South transport routes, the facility supports regional trade flows and domestic logistics activities. The center's warehousing and handling functions contribute to improving logistical accessibility for industries operating outside the Absheron region [9].

Astara Logistics Terminal

Situated at Azerbaijan's southern border with Iran, the Astara Logistics Terminal functions as a key logistics interface within the North–South Transport Corridor. The terminal integrates rail connectivity with freight handling facilities designed for both containerized and bulk cargo. Its geographic position supports trade exchanges linking Azerbaijan with Iran, Russia, and South Asian markets, thereby strengthening cross-border logistics operations [9].

Emerging Logistics Zones (Khachmaz and Yevlakh)

In recent years, particularly since 2024, the logistics zones in Khachmaz and Yevlakh have gained increasing relevance within Azerbaijan's inland logistics network. These facilities support regional cargo flows, agricultural supply chains, and

industrial activities, while contributing to broader efforts aimed at strengthening territorial logistics integration.

The Khachmaz logistics zone, located in northern Azerbaijan, is primarily oriented toward agricultural and processing logistics, with particular significance for perishable goods. The presence of logistics service providers, including rail-connected operators, enhances freight transportation access and improves connectivity for regional businesses.

The Yevlakh logistics zone, situated in central Azerbaijan, performs an important distribution and consolidation function within the national logistics system. Its infrastructure supports agricultural logistics and cold storage services, while ongoing upgrades seek to improve rail connectivity and operational efficiency. Collectively, these zones contribute to the gradual expansion of inland logistics capabilities and regional trade facilitation [9].

Baku–Tbilisi–Kars Railway Corridor

The Baku–Tbilisi–Kars (BTK) railway represents a key element of Azerbaijan’s land-based transport and logistics network, providing a direct connection between the South Caucasus, Turkey, and European markets. As an important link within the Middle Corridor, the railway supports long-distance cargo transportation and strengthens regional freight integration.

The strategic value of the corridor is reflected in its ability to facilitate rail transit flows, improve transport efficiency across Eurasian routes, and support the development of multimodal logistics chains. By expanding Azerbaijan’s rail transport capacity, the BTK railway plays a significant role in enhancing corridor connectivity and regional trade opportunities [10].

Heydar Aliyev International Airport (Baku)

Heydar Aliyev International Airport functions as Azerbaijan’s main aviation logistics node, supporting international air freight activities and facilitating cross-border cargo flows. Owing to its strategic location near Baku, the airport provides specialized cargo handling services, particularly for high-value and time-sensitive shipments.

Within Azerbaijan’s multimodal transport framework, the airport enhances logistical flexibility by complementing maritime, rail, and road transport operations. Its operational capabilities contribute to the expansion and diversification of national logistics services, especially for cargo segments requiring speed and reliability [11].

Despite the presence of multiple logistics centers and modern transport nodes, Azerbaijan has not yet fully achieved the characteristics of a regional logistics hub comparable to more mature logistics systems. This gap can be explained by several structural and functional constraints:

- **Cargo Structure and Scale** – The scale and composition of cargo flows remain a critical determinant of hub formation. Although Azerbaijan experiences growing transit volumes, the concentration and stability of large-scale cargo flows required for higher-tier hub functions remain comparatively limited.
- **Limited Value-Added Logistics Activities** – Logistics hubs typically generate economic strength from value-added service clusters. In Azerbaijan, logistics operations are still predominantly associated with transportation and basic handling functions, while higher-value logistics services remain less developed.
- **Inland Logistics Ecosystem Constraints** – The spatial expansion of inland logistics ecosystems remains an important challenge. As a result, logistics activities in Azerbaijan remain heavily centralized around the Absheron economic region, particularly in proximity to Baku and Alat. International experience indicates that successful logistics hubs are supported by diversified inland terminals and distribution platforms, which are still evolving in Azerbaijan.
- **Institutional and Procedural Factors** – Beyond infrastructure, logistics performance is strongly influenced by institutional efficiency. Procedural predictability, customs coordination, and regulatory harmonization remain decisive factors affecting logistics competitiveness.
- **Regional Competition Pressures** – Azerbaijan operates within a competitive corridor environment where multiple countries seek to attract transit and logistics functions. The presence of established logistics gateways across neighboring regions including Turkey, Georgia and Kazakhstan, intensifies competitive pressures for cargo capture and service specialization.
- **Limited Private Sector Participation in Logistics Services** – While substantial public investments have strengthened core transport infrastructure and connectivity, the participation of private operators in higher-value logistics segments remains relatively modest. This market-level gap constrains service diversification and limits the formation of a fully competitive logistics ecosystem required for hub-level development.

The constraints discussed above indicate that Azerbaijan's logistics system still faces structural limitations that restrict the full realization of logistics-based value creation. Addressing these challenges requires a strategic shift from infrastructure expansion toward functional upgrading and value-added logistics development.

Strategic Pathways for Logistics-Based Value Creation

Azerbaijan has developed a multi-modal transport system and strengthened its role in regional connectivity through investments in ports, railways, road networks, logistics facilities, and aviation infrastructure. Transit freight volumes have grown markedly in recent years, particularly along surface transport corridors. According to official data from the Azerbaijan Transit Council, transit cargo increased from about 5,723 thousand tons in 2019 to 11,930 thousand tons in 2022, and reached 14,549 thousand tons in 2024 [12].

These figures primarily reflect rail, road, and maritime transit flows. However, air freight also represents an increasingly relevant component of Azerbaijan's logistics system, especially for time-sensitive and high-value cargo. Air freight statistics are typically reported under separate aviation and customs classifications due to differences in cargo characteristics, measurement frameworks, and operational structures. Consequently, air cargo volumes are not directly aggregated within corridor-based transit indicators.

The upward trend in transit cargo volumes is illustrated in Figure 1:

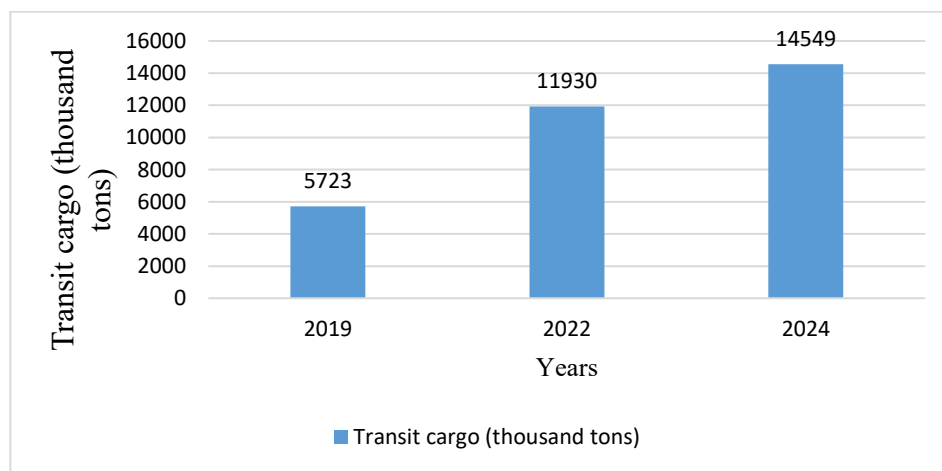


Figure 1. Transit cargo volumes in Azerbaijan, 2019–2024 (thousand tons)

Source: Azerbaijan Transit Council (transit.gov.az)

Figure 1 indicates a significant increase in transit cargo volumes in Azerbaijan over the selected years. Transit cargo rose noticeably from 2019 to 2022 and steadily grew in 2024, reflecting the evolution of regional transport activity. This upward trend demonstrates that Azerbaijan's transit role has expanded in recent years.

According to transport sector data from Azerbaijan Railways, the country's rail network moved over 18.5 million tons of cargo in 2024, with approximately 7.3 million tons carried through transit services, reflecting continued growth in rail freight activity along international corridors [13].

Based on transport sector analysis from the State Customs Committee of the Republic of Azerbaijan, road freight volumes continued to grow in 2024, reaching approximately 5.38 million tons, compared with nearly 4.93 million tons in 2023. This trend indicates a strong reliance on road transportation within the logistics system [14].

Table 1 presents recent trends in freight transportation in Azerbaijan over the period 2022–2024, with a particular focus on dominant rail and road transit flows.

Table 1. Freight transportation by rail and road in Azerbaijan, million tons (2022–2024)

Mode of transport	2022	2023	2024
Rail transport	approx. 16.7	approx. 17.4	over 18.5
Road transport	approx. 4.6	approx. 4.9	approx. 5.4

Source: Compiled by the author based on data from Azerbaijan Railways (corp.ady.az) and official transport statistics reported by the State Customs Committee of the Republic of Azerbaijan and sectoral publications.

Table 1 illustrates a steady growth in freight volumes for both rail and road transport over the observed period. Rail transport showed stronger growth, indicating its expanding role in global transit corridors. Simultaneously, the ongoing increase of road freight points to persistent dependence on road-based logistics services.

Maritime transport also plays a complementary role in Azerbaijan's freight system, which is largely concentrated at the Port of Baku. According to official port statistics, the port handled approximately 7.6 million tons of freight in 2024, reflecting consistent shipping activity in the Caspian Sea. Although port efficiency data are not fully comparable with national freight statistics, they provide essential insight into the capacity of maritime logistics along the Middle Corridor [15].

Similarly, due to differences in measurement frameworks, cargo structure, reporting standards, and the predominance of high-value, low-volume shipments, air cargo volumes are not directly comparable with rail and road freight indicators. At the same time, air cargo transportation in Azerbaijan has exhibited noticeable dynamics in recent years. The continued expansion of international airports has strengthened the country's air freight capacity and enhanced its integration into global logistics networks.

According to data from the State Customs Committee of Azerbaijan, international air cargo transportation reached approximately 79,200 tons in 2024, with a total declared value of about \$5.55 billion, compared with approximately \$3.6 billion in 2023 [14].

Within Azerbaijan's multimodal transport structure, aviation logistics performs an important complementary function by enabling faster cargo movement, supporting specialized supply chains, and facilitating cross-border trade operations. Although air freight volumes remain relatively small compared with rail and road transport, air connectivity contributes to the diversification and adaptive capacity of the national logistics system.

Since freight volumes across transport modes are presented using different measurement approaches, a percentage-based comparison provides a more transparent view of the relative importance of maritime and land-based transport. Based on the official data from the State Statistical Committee of the Republic of Azerbaijan (2025), freight carried through the country's transport corridors in 2024 was distributed across modes, with rail accounting for about 46.0%, road for 30.3% and maritime for 23.7% of total cargo movements [16].

Figure 2 presents the modal distribution of freight transported through Azerbaijan's transport corridors in 2024, providing insight into the relative structure of corridor-based cargo flows.

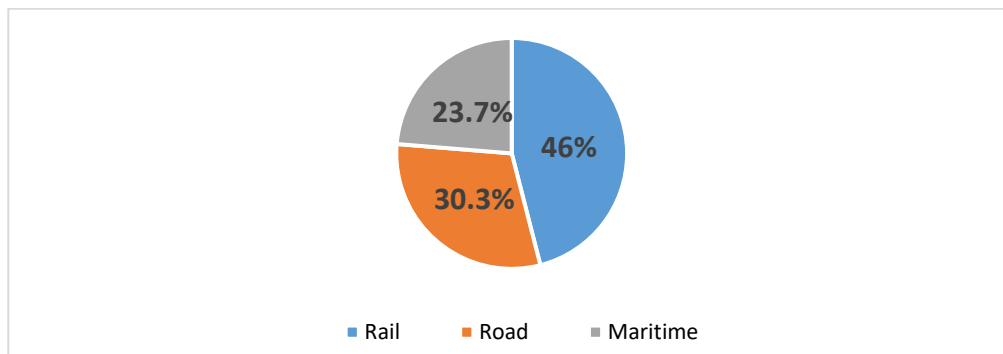


Figure 2. Modal distribution of corridor freight transport in Azerbaijan, 2024 (%)

Source: State Statistical Committee of the Republic of Azerbaijan (stat.gov.az).

Note: Air cargo is excluded because aviation freight data are reported under separate statistical classifications and are not captured within corridor-based freight datasets.

Figure 2 indicates that rail transport accounted for the largest share of freight movements through Azerbaijan's transport corridors in 2024, while road and maritime transport remain less dominant. This highlights the continuing importance

of multimodal connectivity in the country's logistics system and the opportunity for upgrading non-road modes for future value creation.

In addition, TRACECA and global monitoring reports estimate that several million tons of freight move along the wider corridor each year, indicating Azerbaijan's crucial position within Eurasian transport flows [17]. However, existing stable transit activity alone does not automatically result in higher domestic economic value, highlighting the need for targeted logistics-based development strategies.

Building on the structural constraints identified in the previous section, the strategic pathways for transforming Azerbaijan into a regional logistics hub are formulated in direct response to these limitations. Each pathway addresses a specific systemic limitation within Azerbaijan's logistics framework.

The identified structural constraints, strategic pathways, and their anticipated outcomes are conceptually illustrated in Figure 3:

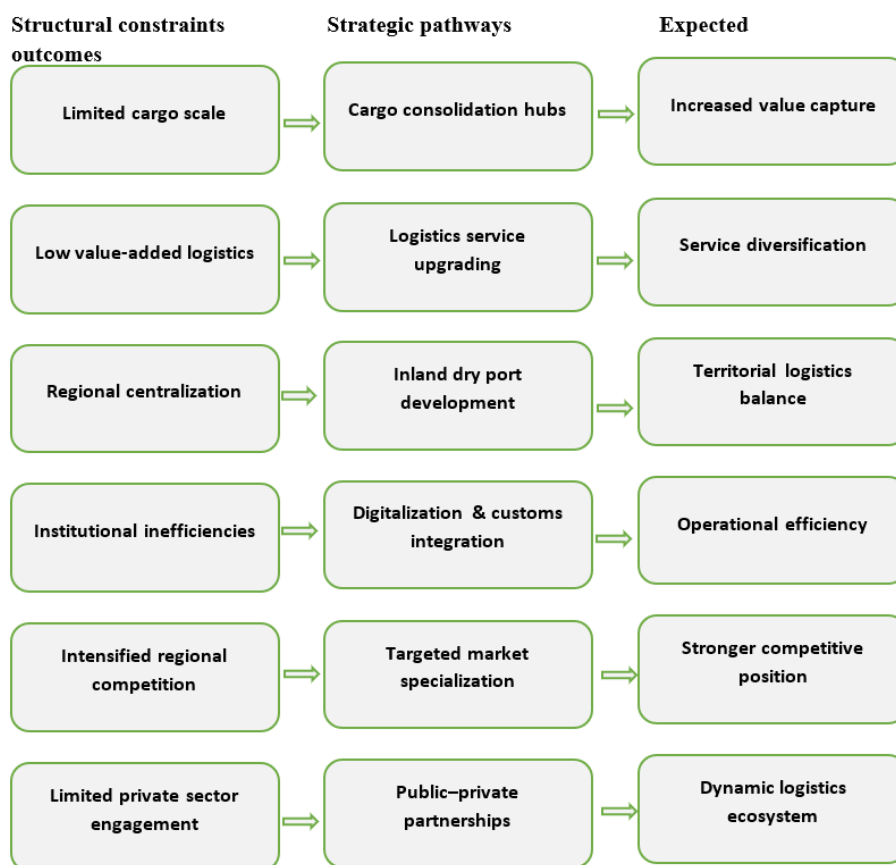


Figure 3. Conceptual framework for transforming Azerbaijan into a regional logistics hub

Source: Developed by the author.

As illustrated in Figure 3, becoming a regional logistics hub requires addressing several connected structural constraints through specific strategic actions. The following section explains each constraint and its corresponding strategic pathway in more detail.

1. Limited cargo scale – Although transit volumes have increased in Azerbaijan, cargo movements remain fragmented and highly dependent on corridor-specific dynamics. The absence of consistent, large-volume cargo streams limits the formation of a stable logistics base required for hub-level operations.

One practical way to address this constraint is the development of structured cargo consolidation mechanisms. By consolidating smaller shipments into full container or full truck loads at the Port of Baku and inland logistics centers such as Ganja or Yevlakh, less-than-container-load (LCL) cargo from different suppliers can be combined into larger and more cost-efficient shipments. The prospective opening of the Zangezur corridor could further increase cargo flows and enhance consolidation potential within Azerbaijan's territory.

By increasing load factors and reducing fragmented dispatch, consolidation would lower transport costs per unit, improve transit efficiency, and enhance corridor reliability. More importantly, it would increase cargo density within Azerbaijan, allowing the country to move from dispersed transit flows toward more coordinated cargo management. This would strengthen Azerbaijan's position within the Middle Corridor by improving cost competitiveness and shipment predictability.

2. Low value-added logistics - Despite significant investments in transport infrastructure, logistics operations in Azerbaijan remain largely focused on transit and basic cargo handling. Although facilities at the Port of Baku provide storage and transfer services, higher value-added activities such as bonded warehousing, packaging, light processing, and re-export remain limited in scope. As a result, a substantial portion of transit cargo generates limited domestic economic value.

To address this constraint, greater emphasis should be placed on expanding value-added logistics activities within the Alat Free Economic Zone (AFEZ), located near the Port of Baku. Allocating additional land for multimodal logistics parks and providing targeted incentives for bonded storage, packaging, and re-export services would encourage cargo processing before further transport. Linking AFEZ

operations with nearby industrial centers such as Sumgayit could further strengthen production-logistics integration.

Strengthening value-added functions within AFEZ would increase domestic value retention from transit flows and support Azerbaijan's gradual shift toward a logistics-based, value-generating economic model.

3. Regional centralization – Logistics activities in Azerbaijan remain heavily concentrated in the Absheron economic region, particularly around Baku and Alat. While this concentration has supported operational efficiency at the national level, it has limited the development of a balanced inland logistics network. Regional centers such as Ganja, Yevlakh, and Khachmaz currently play a supporting role rather than functioning as fully developed logistics nodes.

To address this constraint, greater investment should be directed toward strengthening inland logistics centers and improving their integration with national rail and road corridors. Expanding dry port functions in Ganja and Yevlakh, along with enhancing rail connectivity to the Baku–Tbilisi–Kars corridor, would help redistribute logistics activity beyond the Absheron region. In addition, promoting agro-logistics clusters in regions such as Ganja and Khachmaz, as well as strengthening industrial-logistics linkages with the Sumgayit industrial zone, would support more regionally diversified cargo flows. Improved connectivity between mainland Azerbaijan and Nakhchivan through the prospective corridor could further contribute to a more balanced territorial logistics structure.

A more geographically balanced logistics structure would improve cargo distribution efficiency, reduce pressure on Absheron-based infrastructure, and enhance the overall resilience of Azerbaijan's logistics system.

4. Institutional inefficiencies - Despite recent improvements in border management, institutional and procedural challenges continue to affect transit predictability in Azerbaijan. Modern TIR parks have been established near key checkpoints such as Sadarak, Samur, Astara, and Bilasuvar, and electronic queue systems have improved traffic organization. However, coordination between customs authorities, transport agencies, and logistics operators remains only partially integrated, which can lead to delays and administrative inefficiencies.

To strengthen institutional performance, greater digital integration across border checkpoints, the Port of Baku, and inland logistics centers is required. The introduction of an integrated Single Window customs platform, combined with

electronic pre-arrival declaration systems and real-time cargo tracking between terminals, would reduce clearance time and improve information transparency. Improved procedural coordination and digital interoperability would enhance corridor reliability and strengthen Azerbaijan's reputation as a predictable logistics partner.

5. Intensified regional competition - Azerbaijan operates within a highly competitive regional environment where neighboring countries such as Turkey, Georgia, and Kazakhstan are actively expanding their logistics infrastructure and corridor connectivity. These countries seek to attract transit cargo and position themselves as key nodes along Eurasian transport routes. As a result, Azerbaijan faces increasing pressure to differentiate its logistics offering rather than competing solely on transit capacity.

To respond to this competitive landscape, Azerbaijan should pursue targeted market specialization. In particular, Heydar Aliyev International Airport could be positioned as a regional hub for high-value and time-sensitive cargo segments such as pharmaceuticals, electronics, and express shipments. Focusing on selected cargo categories would allow Azerbaijan to develop a focused specialization instead of competing across all freight segments. Strategic specialization would strengthen Azerbaijan's competitive positioning within regional transport networks and enhance its role in selected high-value logistics chains.

6. Limited private sector engagement – While substantial public investment has strengthened transport infrastructure and corridor connectivity, private sector participation in higher-value logistics services remains relatively modest. The domestic market for third-party logistics providers, specialized freight operators, and integrated supply chain services is still developing, limiting service diversification and innovation.

To address this constraint, stronger incentives for private logistics firms should be introduced, including tax concessions, reduced customs-related administrative costs, and preferential land allocation within zones such as the Alat Free Economic Zone. Expanding public-private partnership (PPP) mechanisms in logistics park management and bonded warehousing operations would further stimulate market entry. In parallel, targeted workforce development programs in logistics management, supply chain analytics, and customs operations should be implemented to improve labor market readiness.

Greater private sector engagement, supported by fiscal incentives and skilled workforce development, would expand service capacity, generate employment opportunities, reduce regional unemployment imbalances, and contribute to the formation of a more competitive and diversified logistics ecosystem in Azerbaijan. Taken together, these strategic directions highlight that Azerbaijan's transition toward a regional logistics hub requires not only infrastructure expansion, but also structural, institutional, and market-level adjustments. Addressing cargo scale, value-added depth, regional balance, procedural efficiency, competitive positioning, and private sector engagement in an integrated manner is essential for achieving sustainable logistics transformation.

Conclusion

Azerbaijan stands at a strategic turning point in its logistics development. While substantial investments in transport infrastructure have strengthened the country's transit capacity, the current model remains predominantly corridor-based and transit-oriented. Infrastructure expansion alone is insufficient to ensure sustainable economic gains from growing Eurasian trade flows.

This study demonstrates that the transition toward a regional logistics hub requires a structural shift across six interconnected dimensions: cargo scale, value-added logistics depth, regional balance, institutional efficiency, competitive specialization, and private sector participation. Without coordinated progress in these areas, Azerbaijan risks remaining a transit passage rather than evolving into a value-generating logistics platform.

The findings suggest that priority should be given to strengthening cargo consolidation at the Port of Baku and inland centers, expanding value-added activities within the Alat Free Economic Zone, reducing regional concentration through inland logistics development, deepening digital customs integration, and promoting aviation-based specialization in high-value cargo segments. At the same time, fiscal incentives and public-private partnerships are essential to stimulate private logistics markets and generate employment.

The originality of this research lies in linking transit capacity with logistics upgrading and value creation within the specific institutional and geographic context of Azerbaijan. By integrating infrastructure, institutional reform, and market-based strategies into a unified framework, the study provides a structured roadmap for transforming corridor connectivity into sustainable economic value.

Ultimately, Azerbaijan's ability to convert transit flows into coordinated, value-based logistics functions will determine whether the country emerges as a regional logistics hub or remains dependent on transit volatility. Strategic consistency, institutional coordination, and targeted specialization will be decisive for long-term logistics transformation.

References

1. Balassa, B. (1965). Trade liberalisation and “revealed” comparative advantage. The Manchester School of Economic and Social Studies, 33(2), 99–123.
2. Rodrigue, J. P. (2020). *The geography of transport systems* (5th ed.). Routledge.
3. Hesse, M., & Rodrigue, J. P. (2004). The transport geography of logistics and freight distribution. *Journal of Transport Geography*, 12(3), 171–184.
4. United Nations ESCAP. (2019). Review of Sustainable Transport Connectivity in Asia and the Pacific. United Nations ESCAP. https://www.unescap.org/sites/default/d8files/knowledge-products/Review2019_LowRes-17Feb2020.pdf
5. OECD. (2018). Enhancing the contribution of transport infrastructure to economic growth. OECD Publishing. <https://www.oecd.org/regional/regional-policy/transport-infrastructure-economic-growth.htm>
6. Notteboom, T., & Rodrigue, J. P. (2005). Port regionalization: Towards a new phase in port development. *Maritime Policy & Management*, 32(3), 297–313.
7. World Bank. (2023). *Logistics performance index report*. World Bank publications. <https://lpi.worldbank.org>
8. Asian Development Bank. (2021). Railway Sector Assessment for Republic of Kazakhstan. CAREC Program. https://carecprogram.org/uploads/CAREC-CRA-KAZ_FA_27APR2021_WEB.pdf
9. Azerbaijan Transit Council — Logistics centers information. [Logistics Centers / Transportation systems - Council](#)
10. Azerbaijan Railways (ADY) — Baku–Tbilisi–Kars railway project information. <https://corp.ady.az/en/ady-2/projects/baku-tbilisi-kars>
11. Heydar Aliyev International Airport — About the airport and cargo terminal infrastructure. <https://www.airport.az/en/about-us/>
12. Azerbaijan Transit Council — Data analytics (transit cargo growth). <https://transit.gov.az/en>
13. ADY (Azerbaijan Railways) corporate news — rail freight figures. <https://corp.ady.az/en>
14. State Customs Committee of the Republic of Azerbaijan. (n.d.). *Statistics Bulletin*. Retrieved from <https://customs.gov.az/en/faydali/gomruk-statistikasi/statistics-bulletin>
15. Port of Baku / Baku International Sea Trade Port — Port throughput and reports. <https://portofbaku.com/en>
16. State Statistical Committee of the Republic of Azerbaijan. (2025, February 19). Cargo transportation by transport corridors in 2024. Retrieved from <https://www.stat.gov.az/news/index.php?id=6188&lang=en>
17. TRACECA — Freight traffic statistics report (2023). <https://traceca-org.org/>

1.