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 **Research Article**

Freight Transport Barriers for Uzbek Enterprises: A Strategic Review of Domestic and Cross-Border Logistics

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ABSTRACT

The effectiveness of freight transportation is a critical determinant of national and enterprise-level competitiveness, especially in landlocked countries such as Uzbekistan. Despite commendable progress in trade liberalization, infrastructure development, and industrial diversification, logistical inefficiencies—ranging from outdated transport networks to regulatory bottlenecks—continue to hinder the country's economic integration with global markets. This study critically examines the logistical, infrastructural, and regulatory challenges confronting Uzbek enterprises in both domestic cargo distribution and international freight transit. Drawing on empirical data, field-based observations, and comparative international case studies, the article proposes strategic policy and operational recommendations to enhance transport efficiency and reduce systemic delays. The findings emphasize the importance of multimodal connectivity, public-private coordination, and digitalization of freight systems in improving logistics performance in developing, landlocked economies.

KEYWORDS

Freight transportation, logistics efficiency, Uzbekistan, landlocked countries, infrastructure development, trade integration, multimodal transport, supply chain, regulatory challenges, transport policy.



INTRODUCTION

Freight transport systems form the backbone of economic development by facilitating efficient movement of goods, enhancing supply chain connectivity, and expanding access to regional and international markets [1]. In landlocked developing countries (LLDCs) such as Uzbekistan, transport and logistics play an even more strategic role, as limited access to seaports and reliance on transit through neighboring states increase the cost and complexity of trade [2].

With the steady growth of industrial output and diversification of its export base, Uzbekistan has witnessed rising demands on its freight transport system. Enterprises increasingly require reliable, timely, and cost-efficient logistics solutions to meet competitive pressures and consumer expectations in both domestic and international markets [3]. However, the current freight system faces significant bottlenecks—including aging road and rail infrastructure, inefficient border procedures, limited intermodal connectivity, and institutional fragmentation within the transport sector [4].

These challenges have real economic consequences. According to the World Bank's Logistics Performance Index, Uzbekistan still lags behind global benchmarks in areas such as customs efficiency, infrastructure quality, and shipment tracking reliability [5]. As the government continues to promote regional integration through initiatives such as the Central Asia Regional Economic Cooperation (CAREC) program, improving freight transport becomes

essential not only for facilitating trade, but also for achieving long-term economic resilience and sustainable development [6].

This paper investigates the structural and operational deficiencies of Uzbekistan's freight transportation system and explores strategic interventions—drawing on international best practices and local empirical evidence—that can elevate the performance of national logistics networks.

Core Problem Areas

Uzbekistan's freight transport sector faces a range of systemic inefficiencies that constrain domestic economic activity and international trade competitiveness. These challenges are especially pronounced in a landlocked context where logistical performance directly affects market access and integration into global value chains [1].

Domestic Transport Inefficiencies

Despite ongoing investments in transport modernization, Uzbek enterprises continue to grapple with substantial inefficiencies in the internal logistics network. Key issues include:

- Deteriorated road infrastructure, particularly in rural areas and secondary routes, where inadequate maintenance has led to increased vehicle operating costs and delays in shipment delivery [2]. This problem is especially acute in the context of last-mile delivery for agribusiness and light manufacturing sectors.
- Over-reliance on railways, which, while cost-effective for bulk goods, suffer from limited

service flexibility, outdated scheduling systems, and insufficient interoperability with road freight systems [3].

- Inconsistent freight pricing across regions, often exacerbated by a lack of digital platforms for tariff transparency and competition among logistics providers [4].
- Seasonal congestion, especially during harvest and peak trade periods, creates capacity imbalances in key transport corridors, delaying agricultural freight and increasing spoilage risks [5].

Such domestic constraints not only inflate logistics costs—estimated to be over 20% of GDP in some years [6]—but also reduce the reliability of supply chains crucial to industrial and agricultural exporters.

○ International Freight Constraints

Cross-border freight movement from Uzbekistan is further complicated by external and institutional obstacles that undermine the efficiency of regional trade corridors.

- Delays in customs clearance remain a critical issue, particularly in transit countries such as Kazakhstan and Turkmenistan, where procedural inconsistencies and manual checks persist [7].
- Non-harmonized documentation systems between Uzbekistan and its neighbors contribute to duplicative paperwork, miscommunication, and extended processing times at border checkpoints [8].

- Limited availability of modern freight forwarding and third-party logistics (3PL) services restricts exporters' ability to optimize multimodal shipments or track goods in real time [9].

- Lack of an integrated multimodal network encompassing road–rail–air–sea routes results in fragmented supply chains and higher transshipment costs, especially for high-value or time-sensitive goods [10].

- Absence of digital logistics platforms for real-time tracking, document exchange, and customs integration hinders operational visibility and responsiveness [11].

Exporters frequently report long border crossing delays, often exceeding 24–48 hours during peak seasons, and unofficial payments arising from uncoordinated procedures between different national customs bodies [12].

These constraints collectively inhibit Uzbekistan's full participation in regional initiatives such as the Belt and Road Initiative (BRI) and CAREC, and diminish its attractiveness as a logistics hub for Central Asia.

METHODOLOGY

This study adopts a qualitative-descriptive research design aimed at examining the multidimensional barriers to freight logistics in Uzbekistan and formulating strategic responses based on empirical insights. The methodology is structured around three main data sources to ensure triangulation and analytical rigor.

First, case studies were conducted involving 20 industrial and agribusiness enterprises operating in the regions of Tashkent, Samarkand, and Andijan. These regions were selected due to their economic diversity and strategic location within key transport corridors. The case studies focused on supply chain performance, freight routing choices, and cost structures under varying logistical conditions.

Second, semi-structured interviews were carried out with a purposive sample of logistics service providers, freight forwarders, customs agents, and policy analysts. A total of 12 expert interviews were conducted to capture professional perspectives on the operational challenges and institutional constraints within Uzbekistan's freight system. Interview questions were designed to probe into both strategic and tactical logistics issues, such as multimodal coordination, digitalization, and infrastructure gaps.

Third, the study incorporates secondary data analysis, drawing from authoritative sources including the World Bank's Logistics Performance Index (LPI), Uzbekistan's national transport statistics, and regional policy documents published by organizations such as CAREC and UNECE [1][2].

To systematically interpret the data, a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis framework was applied. This tool enabled a structured assessment of internal and external factors influencing the efficiency of Uzbekistan's freight logistics landscape. The SWOT matrix was developed through iterative coding of case study notes and interview transcripts, supplemented by

cross-referencing statistical trends and benchmarking indicators [3].

The integration of qualitative insights with comparative logistics metrics enhances the contextual validity of the findings and provides a robust foundation for the policy recommendations outlined in subsequent sections.

Key Findings

The empirical analysis uncovered several systemic issues affecting freight transport efficiency in Uzbekistan. These findings are drawn from field data, interviews, and document analysis:

- Approximately 85% of surveyed enterprises reported delays in cross-border shipments due to unclear and non-standardized documentation requirements, particularly in trade routes passing through Kazakhstan and Turkmenistan [1].
- Over 60% of the participating firms—mostly small and medium-sized enterprises (SMEs)—do not utilize digital logistics platforms, limiting their ability to track shipments, automate customs clearance, or access real-time pricing [2].
- SMEs also face disproportionately high per-unit shipping costs, driven by their weaker negotiating position with freight carriers and limited shipment volumes [3].
- Exporters targeting markets in Russia and the European Union reported frequent transit disruptions, particularly through Kazakhstan's congested checkpoints, resulting in average delays of 7 to 10 days during peak periods [4].

These findings highlight a structural gap between policy intentions and on-the-ground operational realities, particularly in terms of digital infrastructure, institutional coordination, and SME-specific support mechanisms.

Strategic Recommendations

To address these challenges and improve national and cross-border logistics performance, the study recommends the following strategic measures:

1. Public investment in rural road rehabilitation, especially in agricultural production zones, to reduce transport time and costs for inland freight routes. This is critical for improving last-mile connectivity and market access for peripheral regions [5].
2. Expansion of bonded logistics parks near major border checkpoints (e.g., Sariosiyo, Yallama, and Daut-ota) to facilitate warehousing, customs pre-clearance, and value-added processing for export-oriented goods [6].
3. Adoption of digital freight management systems, including e-permits, e-customs, and cargo tracking platforms, to enhance transparency, reduce human error, and accelerate documentation procedures [7].
4. Strengthening of public-private partnerships (PPPs) in logistics infrastructure projects such as intermodal terminals, dry ports, and intelligent transport systems, to leverage private sector expertise and capital [8].
5. Negotiation of bilateral and multilateral transport agreements, particularly within the

frameworks of the CAREC Program, the Eurasian Economic Union (EAEU), and UNESCAP's Asian Highway and Railway networks, to harmonize standards and reduce non-tariff barriers [9].

Collectively, these recommendations aim to build an agile, cost-effective, and resilient freight system aligned with global best practices.

CONCLUSION

Freight transportation remains one of the most persistent bottlenecks in Uzbekistan's trade and industrial development landscape. Despite improvements in national policy and regional cooperation, logistics inefficiencies—particularly at the interface between domestic systems and international corridors—continue to impose significant costs on businesses, especially SMEs.

The research underscores the urgent need for systemic reforms, encompassing both hard infrastructure investments (e.g., roads, terminals, logistics parks) and soft infrastructure enhancements (e.g., digital platforms, customs reforms, policy harmonization). Without these interventions, Uzbekistan risks falling behind in its ambition to become a regional trade and transit hub.

Sustained progress will require a multi-stakeholder approach, involving close coordination among government agencies, private logistics operators, international donors, and regional bodies. If successfully implemented, the recommended strategies could substantially reduce logistical bottlenecks, improve export

competitiveness, and enhance Uzbekistan's integration into global value chains.

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