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MAJOR PROBLEMS AND LIMITATIONS IN THE DEVELOPMENT OF TRANSPORTATION SERVICE MANAGEMENT IN UZBEKISTAN

Kaiybekov Parakhat Konysbaevich
(ORCID: https://orcid.org/0009-0002-4813-3630,
email: dloong@mail.ru, phone: +998978776267)

Abstract: Uzbekistan's transportation sector has expanded rapidly in recent decades, but weaknesses in planning, management, and infrastructure constrain its efficiency. This paper reviews literature, official data, and policy analyses to identify the main limitations in Uzbekistan's transportation service management. Key issues include the underdevelopment of public urban transit (with heavy reliance on private cars and informal minibuses), challenges in freight and logistics (such as fragmented corridors and underutilized rail), outdated regulatory and institutional frameworks, deficient infrastructure maintenance, and slow adoption of modern technologies. We synthesize findings from academic studies, government reports, and multilateral analyses, highlighting how these problems interconnect. The paper concludes with recommendations for reforming regulations, financing infrastructure, and integrating digital systems to improve service delivery and support economic growth.
Keywords: transportation services, management efficiency, logistics system, infrastructure development, Uzbekistan, digitalization, regulatory framework, sustainable mobility

Introduction. Uzbekistan's economy and population have grown rapidly, placing increasing demands on its transport systems. In the last two decades, passenger and freight traffic in Uzbekistan have risen sharply alongside economic development. However, this growth has outstripped the capacity of existing infrastructure. The country faces a high investment need to maintain and expand roads, railways, and logistics networks, but funding and implementation have been insufficient*[1]*. Moreover, transportation planning and policy remain fragmented: national mobility strategies are only partially coherent, and data limitations make it difficult to set clear priorities or model future demand*[2]*. As a double-landlocked nation of about 34 million people*[3]*, Uzbekistan is acutely dependent on efficient transport for trade and internal connectivity. Recent reforms have aimed to modernize the sector – for example, updating regulatory frameworks and initiating digitalization efforts*[4]* – but many old bottlenecks persist.
This study examines the current state of transportation service management in Uzbekistan, focusing on major problem areas. In particular, it analyzes shortcomings in urban public transport, freight and logistics services, regulatory and institutional structures, infrastructure quality, and the integration of new technologies. The analysis is based on a literature review of academic articles, industry reports, government data, and expert studies (including World Bank, ADB/CAREC, and local sources). By synthesizing the evidence across these sources, we aim to provide a comprehensive picture of where Uzbekistan's transport sector is underperforming and how these weaknesses might be addressed.
Methods. This paper employs a literature-based analysis. We conducted a systematic review of published sources on Uzbekistan's transportation sector, including peer-reviewed journals, conference papers, government publications (e.g. Ministry of Transport reports), and studies by international organizations (World Bank, ADB/CAREC, Asian Development Bank, Asian Transport Observatory, etc.). Searches were focused on topics such as "Uzbekistan transportation challenges", "public transport in Uzbekistan", "Uzbekistan logistics sector", and relevant policy documents (e.g. Uzbekistan's Transport Strategy 2035). Key quantitative data (traffic volumes, network lengths, investment figures) were drawn from official statistics and

reports[5].

Results. Urban public transport in Uzbekistan lags well behind the growth in travel demand. In major cities like Tashkent, private vehicles now dominate (about 70% of trips), causing severe congestion[7]. Although Tashkent has a metro and bus network, these modes serve only a minority of commuters. As one analysis notes, "in passenger transport, growth has taken place almost exclusively in the form of automobiles" and other modes "hardly play a role". In practice, many city residents rely on informal shared minibuses ("marshrutkas") and a proliferating taxi fleet for daily travel.

A queue of marshrutka minibuses at a Tashkent station. Such minibuses are a common, informal transit mode in Uzbek cities. These marshrutkas, which often operate without strict licensing or scheduling, reflect the insufficient capacity and coverage of formal bus services[8]. For example, Tashkent and other cities lack enough high-capacity buses and have struggled to enforce dedicated bus lanes effectively, reducing bus speeds and reliability[9].

Some infrastructure exists, but it is underutilized or outdated. Tashkent's metro, a Soviet-era legacy, provides high-capacity transport on four lines and around fifty stations (several hundred million annual riders[10]), but its network covers only a fraction of the urban area. In fact, Tashkent has about 19 km of metro per million people (over the national average), but the metro's geographic reach is limited[7][10]. Other cities have little or no rail transit. Notably, Uzbekistan once operated city tram and trolleybus networks (e.g. Tashkent's tram network until 2016), but many of these systems were dismantled. Recent plans (e.g. a 10 km new tram line in Tashkent) indicate a renewed interest in urban rail[11]. Meanwhile, bus fleets remain aging: only in 2022 did the government begin a large program to replace buses (827 new buses and minibuses were procured that year).

Overall, the urban transit system is under significant strain. Investment in new services (e.g. some electric buses, expanded routes) is underway, but well below what would be needed to shift modal share away from cars. In some cases, policy and technology are advancing: for example, Uzbekistan has begun installing automated fare-payment systems on buses in select cities and has moved to electronic tendering for route contracts. However, these initiatives cover only a portion of the country. At present, many public transport decisions are made with poor data; analyses lament the lack of reliable ridership and route-level information, making it hard to optimize services or target subsidies[2].

Freight transport and logistics in Uzbekistan exhibit mixed performance, with some modern corridors but also major gaps. Uzbekistan's railways (state-owned UTY) have long carried a majority of overland freight, yet the fastest growth in freight tonnage has been on road. An analysis reports that road freight is expanding "substantially and stronger than rail freight", a trend that is unsustainable given the neglected state of many highways. Conversely, rail freight is currently profitable and has capacity to grow, but it requires better organization. Without strengthening intermodal links, development could slow: "economic development could be slowed and integration of lagging regions weakened if intermodal transport is not strengthened and the rail network remains underutilized".

Cross-border logistics also face obstacles. Uzbekistan's geographic location creates both opportunities (as a transit hub) and challenges (double-landlocked). The country has initiated major international corridors (e.g. the Middle Corridor via Caspian ports, the North–South corridor to India, etc.), but domestic terminal and customs facilities lag behind. For example, exporters report "lack of linkages between transportation corridors and intermodal transhipment terminals" that hampers integration into global supply chains. Additionally, cumbersome customs procedures and paperwork still slow freight flows. A recent review notes that the "strategic location" of Uzbekistan could boost logistics, but only "if careful planning and risk

management" address issues such as tariff complexity, transit delays, and deficient infrastructure. Investment and competition in logistics remain limited. While major highways (e.g. the new Navoi–Bukhara expressway) and rail lines are being built, many routes still rely on single-track rail or poor rural roads. The Ministry of Transport and World Bank identify a large funding gap: maintaining and expanding roads alone will require roughly USD 1.5 billion per year[1]. Private-sector logistics firms have reported difficulties too: studies point to a "complex regulatory and legal framework, limited access to financing, inadequate infrastructure, and a shortage of skilled labor" as key risks in Uzbek logistics. In summary, freight transport is hampered by infrastructure bottlenecks, slow border processes, and a regulatory environment that has yet to fully embrace market competition.

The institutional setting for transport service management in Uzbekistan is in transition but still exhibits old-style constraints. In 2017–2019, the government consolidated most transport functions under a single Ministry of Transport, seeking better coordination. Nonetheless, fragmentation persists at lower levels: for instance, separate agencies handle urban transit, highways, and railways, often with overlapping mandates. Analysts note a need for clearer roles and rules. Berlin Economics and CAREC reports alike emphasize that both road and rail sectors lack a truly level playing field: private firms face bureaucratic barriers while state-owned operators enjoy privileged access[6].

Specifically, the rail system remains vertically integrated under Uzbekistan Temir Yul (UTY). UTY still controls both infrastructure and operations, limiting private-sector participation. Reform proposals (echoing international best practices) include unbundling infrastructure from operations, and separating UTY's business into distinct freight, passenger, and infrastructure units[12][6]. Such changes would, in theory, improve pricing transparency and allow competitive service providers to enter. Similarly, in the road sector, regulators are advised to permit private companies to undertake maintenance and even financing of new roads, rather than relying only on state budgets[6][13].

At the legal level, Uzbekistan has been updating its regulations. Efforts include aligning with international conventions (e.g. joining the UN TIR carnets system for transit trucking) and drafting laws for PPPs and concession projects. The 2019 Transport Strategy includes measures for digital transformation and compliance with WTO standards[4]. However, implementation has been uneven. Experts find that transport legislation is still complex and sometimes contradictory, deterring investment. For example, there is no single independent highway regulator, and fare-setting for urban transport remains controlled by local councils with limited transparency. In short, while a framework for reform exists, its execution has lagged: delays in passing modern laws, coupled with entrenched bureaucratic practices, continue to hinder responsive transport service management[4].

Analyses. Physical infrastructure remains a critical limitation. Uzbekistan inherited a large network of roads and railways but must now maintain and modernize it. The country has one of the highest road densities in Central Asia (about 41 km of road per 100 km²)[1]. National highways are largely in good shape, but local and rural roads are often "worn out"[5]. With vehicle ownership growing (~70 cars per 1000 people and rising fast[5]), the burden on these roads is increasing. Yet funding for maintenance has been chronically inadequate. The World Bank estimates a multi-billion-dollar gap in Uzbekistan's road maintenance budget through 2030[1].

Rail infrastructure shows similar constraints. The national rail network is about 4,700 km long (all broad gauge) with roughly half electrified[14]. Major trunk lines (e.g. Tashkent–

Samarkand–Bukhara) are generally maintained for higher speeds, but many branch lines suffer from slow tracks and limited capacity. Mountainous regions (like the Ferghana valley connections through the mountains of Kyrgyzstan) pose significant engineering challenges, and some key international links (e.g. through Afghanistan) are incomplete. Much of the rail signaling and rolling stock is also dated; UTY has only gradually begun to modernize wagons and locomotives. In aviation, Uzbekistan has expanded airport terminals and airlines, but airports outside Tashkent often lack cargo-handling facilities, affecting multimodal connectivity.

The bottom line is that Uzbekistan's transport networks are strained: increased traffic has outpaced new construction, and the backlog of maintenance is growing. Analysts point out that even if sufficient funds were raised, other issues (like project prioritization and administration) must also improve[1][13]. For example, one report notes that every dollar invested in preventive road maintenance can save $4–8 in future repair costs[1] – indicating that smarter investment allocation could mitigate the infrastructure problems. At present, however, the lack of dedicated maintenance funding (and few alternative financing tools like tolls or congestion charges) means roads and rails often degrade just as demand peaks.

The adoption of new technologies in Uzbekistan's transport management has been cautious. On the positive side, the government has started implementing digital tools: as noted, the roll-out of automated fare validators on buses (706 fixed and 44 mobile devices were installed in 2022) and the switch to electronic tenders for passenger route allocations illustrate this trend. The transport authorities have also digitized some services, such as vehicle registration and licensing. In freight logistics, Uzbekistan has launched a national "single window" for customs to try to streamline paperwork, and it is evaluating more advanced cargo tracking systems.

Despite these steps, technological integration remains limited. Many passenger routes in smaller cities still use paper ticketing and manual schedules. Traffic signal coordination and intelligent transport systems are generally absent, contributing to inefficiencies on city streets. Critically, comprehensive data collection is weak: for example, official passenger-trip and goods-movement statistics are often inconsistent, as evidenced by discrepancies in reported road traffic data[2][6]. This lack of reliable data undermines planning. Transport experts explicitly call for building better data platforms and GIS models to inform an integrated strategy[6][2]. In summary, Uzbekistan is beginning to modernize (citing digital initiatives in its strategy[4]), but in practice most transport management is still analog and reactive, hampering performance gains.

Discussion. The literature highlights a set of intertwined problems. Perhaps the most evident is the modal imbalance: Uzbek transport policy and investment have not kept pace with the shift toward road vehicles. As numerous sources state, private cars and trucks have surged while public and rail modes remained static or declined[5]. This threatens sustainability and safety: for instance, road crashes remain very high in number, imposing a heavy human and economic toll. The bias toward road has also led to underinvestment in alternative systems. The dismantling of trolleybus and tram networks (in cities like Tashkent) forced commuters onto buses and shared vans[8]. Only now are some of these decisions being partially reversed (e.g. reintroducing trams in Tashkent) to relieve congestion.

Freight logistics suffer from a related set of issues. Uzbekistan's aspiration to become a transit hub is undermined by domestic bottlenecks and rigidities. Without efficient intermodal terminals or competitive services, even newly built international highways and rail links cannot fully boost trade. The literature notes that Uzbekistan must reconcile its double-landlocked challenge by ensuring cheap, reliable transit; otherwise, regional competitors or logistics through third countries become more attractive[3]. In effect, the country risks isolating its economy if freight costs remain high due to management and infrastructure faults.

Institutionally, the sector remains in transition. While reforms are underway, inertia persists. The

older Soviet-style organization (with large state enterprises and little private participation) has been only gradually dismantled. Analysts uniformly recommend greater market liberalization: eliminating captive shipping by state entities, allowing private railcar leasing, and opening road maintenance to tender[6][12]. A common refrain is that Uzbekistan needs a "level playing field" for companies so that services can improve. This will require not just new laws (which are being drafted) but a shift in governance culture to enforce rules, improve transparency, and reduce corruption.

Moreover, a cross-cutting weakness is the paucity of data-driven planning. Several sources lament that Uzbekistan has "poor data" on traffic and transport costs[2]. Without accurate information on where and how people and goods move, policymakers cannot prioritize investments or measure outcomes. The ADB/CAREC study specifically suggests that Uzbekistan should first build a comprehensive transport model before enacting further reforms[6]. In our view, the cumulative effect of these issues – overwhelmed infrastructure, uncompetitive regulations, weak planning capacity, and minimal tech adoption – is that Uzbekistan's transport services are not managed to world-class standards. Each problem reinforces the others: e.g. infrastructure gaps make data collection harder, while lack of technology means even good policies are executed slowly.

Nonetheless, signs of progress are evident. Recent government attention to transport (including the creation of a unified ministry and passage of new laws) shows recognition of these challenges. International partnerships (with World Bank, Asian Development Bank, etc.) are bringing technical assistance and funds for projects. If implemented fully, the current strategy (to 2035) could lay the groundwork for major improvements. The challenge will be in execution: harnessing stakeholder cooperation, securing financing, and building capacity to ensure that plans yield results in mobility and service quality.

Conclusion and Recommendations

Uzbekistan's transport service management faces multiple, overlapping difficulties. Urban transit systems remain fragmented and underfunded, leading to excessive car use and congestion. Freight logistics are hampered by partial networks and procedural bottlenecks. Regulatory and institutional frameworks are in transition but still reflect pre-reform rigidity. Physical infrastructure suffers from under-maintenance and overload. Finally, technological modernization and data systems are nascent rather than ubiquitous. Together, these factors limit the country's ability to provide efficient, reliable transport services and constrain economic growth.

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