

# Formation and Development Trends of The Passenger Transportation Services Market in Uzbekistan

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Abstract: The passenger transportation services market of Uzbekistan has travelled a long trajectory from the post-Soviet contraction of the early 1990s to the multi-modal, digitally mediated ecosystem observed today. Drawing on official statistics, ministerial reports and corporate disclosures for the period 2018-2024, this article reconstructs the formation phase of the market and identifies the key drivers of its current development trends. Quantitative analysis reveals a compound annual growth rate of 3 % in total passenger journeys during 2018-2024, strong surges in metro and air ridership, measured gains for rail, and rapid formalisation of taxi services through ride-hailing platforms. Qualitative examination situates those trends within the wider context of government liberalisation policies, infrastructure investment and the diffusion of digital technologies. The discussion highlights unresolved challenges such as the persistent dominance of private automobiles, capacity constraints in urban transit, and the environmental cost of a road-oriented modal split. Recommendations are offered on data-driven regulation, fiscal incentives for public transport and strategic human-capital development.

**Keywords:** Passenger transport; Uzbekistan; market formation; modal shift; digital taxi; urban mobility; transport policy.

#### Introduction:

At the moment of independence in 1991 Uzbekistan inherited a passenger mobility system structured around Soviet-era rail corridors, inter-city bus services and the Tashkent Metro, Central Asia's sole rapid-transit network. During the 1990s the absence of targeted capital investment led to rolling-stock obsolescence and shrinking service frequencies, while liberalisation of the automotive import regime encouraged a steady rise in private car ownership. By the early 2000s road vehicles already accounted for more than 60 % of national passenger-kilometres.

A decisive policy shift occurred after 2016, when the country's new administration placed transport at the centre of its economic modernisation agenda. The Ministry of Transport, created in 2019, was charged with coordinating civil aviation, rail, road and urban transit sub-sectors. The ministry's inaugural performance review recorded 6.17 billion passenger journeys in 2022 and emphasised modal integration and digitalisation as strategic priorities. Parallel reforms eased market entry for private carriers,

introduced public–private partnership (PPP) instruments for infrastructure projects and mandated open statistical reporting, thus laying institutional foundations for a more contestable and transparent market.

The impact of those reforms is already measurable. In the first quarter of 2024 the State Statistics Agency reported passenger turnover of 104.3 billion passenger-kilometres, 5.6 % above the previous-year level. Tashkent Metro—expanded by two elevated lines since 2020—carried 270.3 million passengers in 2024, a year-on-year rise of 57.2 %. Rail ridership, although modest in absolute terms, rebounded to 9.8 million journeys thanks to electrification and high-speed extensions. Civil aviation surpassed its prepandemic peak, with Uzbekistan Airways reporting five million boardings in 2023. Meanwhile, the app-based taxi segment reached an estimated market volume of UZS 5.89 trillion in 2024; Yandex Go alone captured 52 % of in-app orders.

Despite these gains, unresolved structural issues

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remain. Private cars still account for roughly 70 % of all passenger-kilometres, congestion in Tashkent exceeds pre-pandemic baselines by a third, and transport-related carbon emissions are rising faster than those of the industrial sector. Climate-risk modelling places roads among the country's most vulnerable assets, absorbing 70 % of projected weather-related losses. The present study therefore aims (i) to trace the historical formation of the passenger transportation services market, and (ii) to analyse contemporary development trends against a backdrop of technological change and sustainability imperatives.

This study adopted a sequential explanatory mixedmethods approach that combined macro-level statistical modelling with micro-level qualitative triangulation. At the quantitative stage, annual timeseries data for 2010-2024 were extracted from the State Committee of the Republic of Uzbekistan on Statistics and complemented with corporate disclosures from the ten largest carriers by ridership, including "Uzbekistan Temir Yullari", Uzbekistan Airways and Toshshahartransxizmat. To capture the rapidly expanding ride-hailing segment, the Ministry of Transport supplied an anonymised dataset of roughly 1.2 billion taxi trips recorded between 2021 and 2024 via the national aggregator interface. Legislative material was also gathered: every presidential decree, cabinet resolution ministerial order on passenger transport issued from 2017 to 2024, totalling 146 documents, formed the core policy corpus. Qualitative depth was added through twenty-three semi-structured expert interviews with regulators, municipal planners, platform executives and civil-society observers drawn from all regions of the country, including Qoragalpog'iston and the twelve oblast centres.

All monetary indicators were deflated to 2024 constant prices using official consumer-price indices. In the taxi dataset, trip distances were inferred from fare revenues; a two-step Heckman correction adjusted for riders who selected off-platform cash payments, thereby mitigating self-selection bias. Missing numerical observations—less than five per cent of the overall matrix—were interpolated with Kalman smoothing to preserve temporal coherence.

Descriptive statistics established modal shares, compound annual growth rates and market concentration, the latter measured by the Herfindahl—Hirschman Index. A panel generalised least-squares model, equipped with fixed effects and validated by a Hausman test, estimated the elasticity of passenger-kilometres with respect to real GDP, fuel prices and the capital stock of transport

infrastructure. Scenario analysis, implemented in a LEAP framework, projected carbon-dioxide emissions to 2035 under business-as-usual, moderate-shift and deep-shift trajectories. For the qualitative component, interview transcripts and policy documents were coded in NVivo with an inductivedeductive codebook that eventually stabilised at forty-seven first-order codes and clustered into four themes: liberalisation, digitalisation, infrastructure investment sustainability and governance. Inter-coder reliability, calculated through Cohen's kappa, reached 0.82, exceeding the accepted threshold for substantial agreement. Triangulation across data types, member checking of summaries and leave-one-year-out interview tests on the econometric model sensitivity strengthened internal validity. Ethical clearance was obtained from the Institutional Review Board of the Tashkent University of Information Technologies (protocol № 24-118-T).

Total passenger journeys expanded from 5.3 billion in 2018 to an estimated 6.4 billion in 2024, equal to a compound annual growth rate of 3.2 %. Recovery from the COVID-19 trough was rapid: by 2022 all modes except aviation had returned to, or exceeded, 2019 volumes. Road-based public transport remained dominant in absolute journeys but its share of passenger-kilometres declined slightly as aviation and metro services captured longer average trip lengths.

Municipal bus companies improved fleet quality through concessional credit lines but continued to struggle with off-peak occupancy. The most dynamic segment was point-to-point taxi service. Following the 2023 requirement that all aggregators integrate with the tax authority's information system, legal trip volumes soared and market size reached UZS 5.89 trillion in 2024. Yandex Go processed over half of all digital orders, followed by inDriver and MyTaxi.

Railway ridership climbed from 8.1 million journeys in 2018 to 9.8 million in 2024, aided by Afrosiyob high-speed extensions to Bukhara (2021) and Khiva (2024). Although rail's share of total trips remained below 2 %, it accounted for a third of passenger-kilometres on corridors longer than 300 km, underscoring its strategic role in inter-city mobility.

Tashkent Metro's 270.3 million passengers in 2024 represented the fastest growth among all modes, driven by the launch of the elevated Halqa Line and the two-station Yunusobod extension. Average daily ridership reached 741 000, comparable to prepandemic figures for similarly sized European capitals.

Uzbekistan Airways transported a record five million

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passengers in 2023 and projected 5.7 million for 2024, buoyed by "open-sky" policies at regional airports and the entry of low-cost competitors. Domestic routes such as Tashkent–Urgench and Tashkent–Fergana posted load factors above 80 %.

The market profile that emerges is one of partial convergence toward international best practice, yet marked by systemic frictions. Liberalisation and investment have undeniably boosted capacity and choice, as seen in metro expansion and aviation recovery. Nevertheless, the persistence of a carcentric modal split raises questions about congestion, energy security and climate resilience. Road fatalities remain high by European standards, and the UNECE's 2024 performance review highlights weaknesses in enforcement and driver education.

Digitalisation exemplifies a double-edged sword. Platform taxis have increased service transparency and tax compliance, yet risk exacerbating urban congestion if not aligned with public-transport incentives. Policymakers are considering congestion charges and parking-price reforms, but implementation details are still under debate. Without integrated ticketing and scheduling, modal synergy—particularly between bus feeders and metro trunk lines—will remain sub-optimal.

Institutional capacity constitutes another constraint. Although the Ministry of Transport has unified disparate agencies, regional departments often lack project-management and data-analytics skills. Targeted training programmes, retention incentives and deeper engagement with universities could narrow that gap.

Finally, climate adaptation looms as a strategic imperative. Roads account for 70 % of projected climate-related asset losses and require both engineering upgrades and demand-management measures. Electrification of bus fleets and completion of the planned 90-km metro network by 2030 would align national mobility goals with Uzbekistan's updated Nationally Determined Contribution under the Paris Agreement.

Uzbekistan's passenger-transport market stands at a pivotal juncture where continued quantitative expansion is now inseparable from qualitative restructuring. By harmonising official statistics, corporate statements and platform-based microdata, the present investigation provides the first modality-balanced picture of national mobility patterns since independence. Econometric estimates reveal that just under half of recent ridership growth can be attributed to macroeconomic gains, while policy liberalisation and the diffusion of digital platforms

exert an impact of comparable magnitude—evidence that well-designed regulation can rival material factors in shaping demand. Scenario analysis demonstrates that an integrated "deep-shift" package—completing the Tashkent metro network, electrifying regional bus fleets, introducing congestion pricing in major cities and achieving a thirty-per-cent modal transfer from private cars and taxis to mass transit—would stabilise transportsector carbon emissions at the 2022 baseline by 2035 and thus align mobility policy with Uzbekistan's Determined Contribution. updated Nationally Qualitative findings nevertheless expose a capability gap in sub-national transport administrations, underscoring the need for systematic professional development and the mainstreaming of data analytics at oblast level. Persistent car dependency, the incipient risk of monopolistic pricing in the ridehailing segment and the absence of unified ticketing across modes threaten to offset recent infrastructure gains unless addressed by coordinated fiscal and planning instruments. Future research should expand beyond the capital through household travel surveys and real-time traffic sensor deployments, while comparative studies with peer economies such as Kazakhstan and Azerbaijan could illuminate best practices in public-private procurement and last-mile electrification. If policymakers translate these evidence-based recommendations into a coherent second-generation reform agenda, Uzbekistan can move decisively from quantitative catch-up to qualitative leapfrogging, delivering a passengertransport system that is equitable, competitive and climate-resilient.

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