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Measurable and explanatory examination of the state of cargo transportation by road transport in Uzbekistan

Z.Y. Yusufkhonov¹^a

¹Tashkent state transport university, Tashkent, Uzbekistan

Abstract:

This article gives an outline of the current state of cargo volume, cargo turnover and the number of holders transported by street in Uzbekistan by year. At the same time, the share of cargo volume by locale and the number of holders transported in coordinations centres or terminals (based on the possibility think about) were dissected utilizing the Pareto run the show. The most issues that diminish the productivity of cargo transportation have been identified. In arrange to extend the efficiency of vehicles and their more productive utilize in household and universal transportation, it is proposed to execute shared integration of transport modes and a noteworthy decrease in sit still running.

Keywords:

road transport, cargo, cargo turnover, cargo transportation, industries, TEU (twenty-foot equivalent unit) logistics centers

1. Introduction

In recent years, our republic has been undertaking a series of efforts to reform transport logistics, widely introduce market relations, improve the freight transportation system across different modes of transport, strengthen the legal framework for relations between carriers and consumers, attract investments to the transport logistics sector, implement resource-saving technologies, and ensure modern methods and technologies for road transport carriers. This is evidenced by the adoption of several regulatory and legal acts that stimulate research and methodological work in the field, aimed at reducing transportation costs for various modes of transport and developing container transportation. In particular, the state program for implementing the Development Strategy of New Uzbekistan for 2022–2026 specifically outlines tasks to "...reduce the cost of freight transportation by up to 30 percent" and "...increase the share of container transportation across transport modes by at least twofold" [1]. In fulfilling these tasks, based on the objectives of reforming the economy of New Uzbekistan, it is highly relevant to conduct systematic research to improve the economic, technical, and organizational methods of container delivery by road transport in our country, grounded in logistics principles.

In later a long time, our republic has been undertaking a arrangement of endeavors to change transport coordinations, broadly present showcase relations, progress the cargo transportation framework over distinctive modes of transport, fortify the legitimate system for relations between carriers and shoppers, draw in speculations to the transport coordinations segment, actualize resource-saving innovations, and guarantee present day strategies and advances for street transport carriers. This can be prove by the selection of a few administrative and legitimate acts that invigorate inquire about and methodological work within the field, pointed at lessening transportation costs for different modes of transport and creating holder transportation. In specific, the state program for actualizing the Improvement Methodology of Modern Uzbekistan for 2022-2026 particularly traces errands to "... reduce the taken a toll of cargo transportation by up to 30 percent" and "... increase the share of holder transportation over transport modes by at

slightest twofold" [1]. In satisfying these assignments, based on the destinations of changing the economy of Modern Uzbekistan, it is exceedingly pertinent to conduct orderly inquire about to move forward the financial, specialized, and organizational strategies of holder conveyance by street transport in our nation, grounded in coordinations standards.

2. Methodology

On a worldwide scale, the volume of cargo transportation by street transport expanded from 72.8% to 82.6% between 2021 and 2023. The productive utilize of worldwide travel interstates for holder transportation by street moreover speaks to a critical source of income [2].

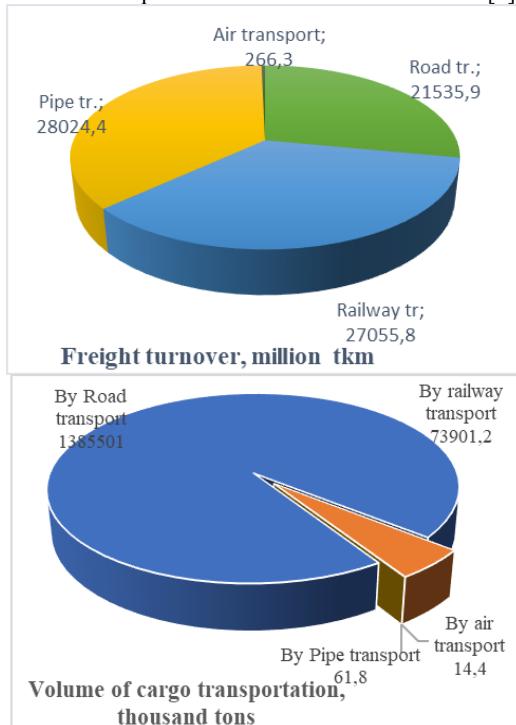


Fig. 1. Chart of transport execution by modes of transport for January-December 2024

^a <https://orcid.org/0000-0003-4233-9304>

Inside the system of built up participation with neighboring nations such as Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Afghanistan, assentions have been come to on the development of unused interstates, the opening of courses to outside nations through them, as well as the joint repair and operation of existing streets [4]. As a result, the volume of street cargo transportation and travel cargo transportation has been expanding year by year.

3. Results and Discussion

The volume of cargo transported by all modes of transport in Uzbekistan in 2024 measured to 1 459,478 million tons, which is 1,4% more than in 2023. The most noteworthy marker for cargo transportation is ascribed to street transport. Cargo transported by this mode expanded by 4,0% compared to 2023 and measured to 1 385,5 million tons. Cargo turnover expanded by 5,0 percent and measured to 21 535,9 million ton-kilometers, bookkeeping for 28,0 percent of the overall cargo turnover (see Figure 1) [3]. Since 2017, noteworthy victories have been accomplished in moving forward cargo transportation by street transport. In specific, holder and bundle cargo transportation have been goal creating, mechanized and robotized transport and distribution center complexes have been set up, mechanized administration frameworks for mechanical zones and holder terminals have been made, and logically grounded strategies for planning the operations of rail and street transport have been advanced [3,5].

Be that as it may, the inadequately level of present day cargo conveyance advances by street transport, as well as the tall extent of wasteful downtime in transport and mechanical cargo operations, don't keep pace with the country's financial advancement rates (see Figure 2).

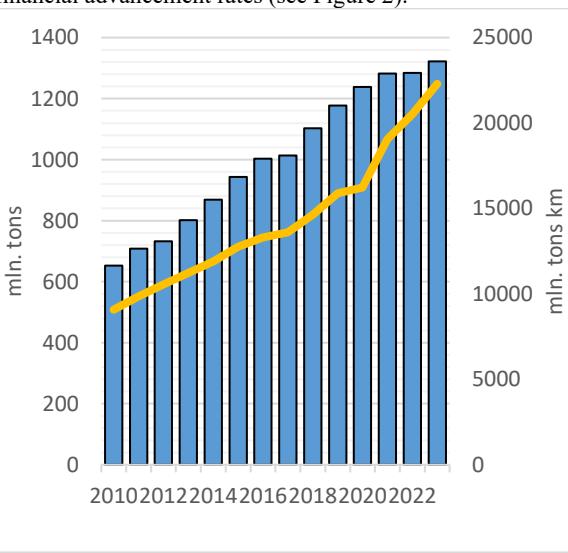


Fig. 2. Dynamics of Transport Performance by Road Transport (2010–2023)

The volume of cargo transportation from 2010 to 2023 expanded from 652.5 million tons to 1,322 million tons, or by 202.6%, whereas cargo turnover developed from 9,076.3 million ton-kilometers to 22,290.7 million ton-kilometers, or by 245.4% [3]. Street transport is partitioned into three categories: open transport undertakings, endeavors and organizations of the financial division, and private vehicle proprietors. The information for these three categories of transportation for 2024 are given underneath (see Figure 3).

The article presents charts based on a Pareto chart, sketching out the first basic regions and holder terminals included in cargo transportation and holder supply chains (see Figures 4 and 5).

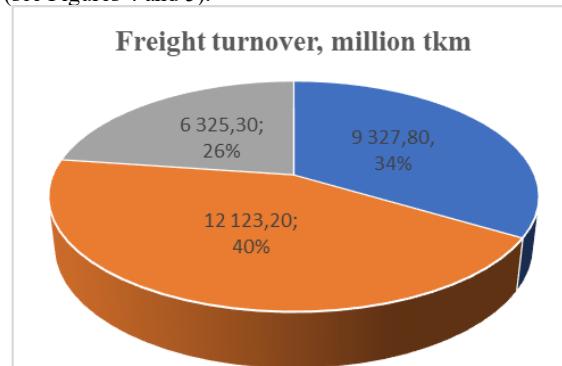


Fig. 3. Components of Cargo Transportation Pointers for Road Transport Organizations in 2024

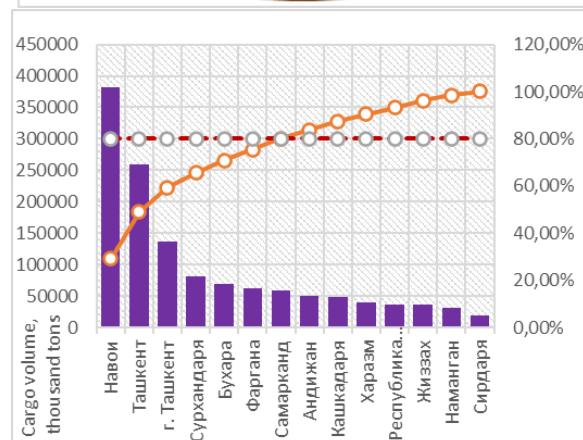
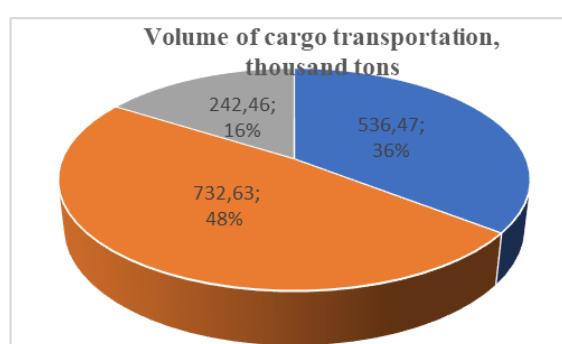


Fig. 4. Pareto Chart Reflecting the Volume of Cargo Transported by Street Transport by Districts for January–December 2023

As appeared in Figure 5, 80 percent of the cargo volume transported by street transport is accounted for by 7 locales, which speak to 50 percent of the districts, contributing to 80 percent of the transportation [3,6].

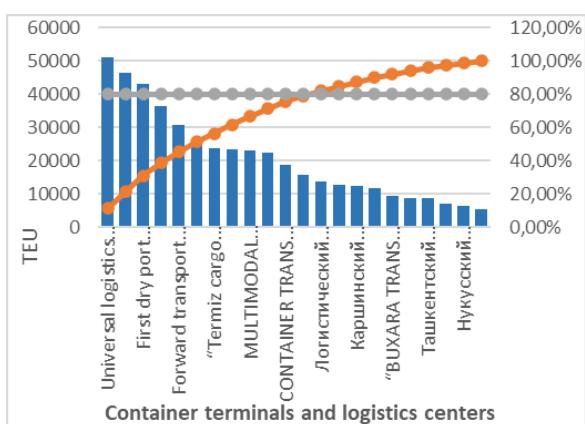


Fig. 5. Pareto Diagram Representing Container Turnover at Logistics Centers and Terminals for January–December 2024

As appeared in Figure 5, 80% of the holder volume transported through terminals or coordinations centers was dealt with by 12 terminals.

4. Conclusion

Concurring to the investigation of the current state of holder streams in street transport and cargo transportation innovations inside the coordinations supply chain, Uzbekistan altogether slacks within the level of containerization of cargo transport, because it constitutes no portion of the overall cargo transportation volume. Furthermore, to improve vehicle efficiency and their more proficient utilize in residential and universal transportation, common integration of transport modes and a noteworthy decrease in purge runs are required.

References

- [1] Decree of the President of the Republic of Uzbekistan dated January 28, 2022, No. UP-60 "On the Development Strategy of New Uzbekistan for 2022–2026."
- [2] UNCTAD calculations, based on Clarksons Research Shipping Intelligence Network (time series, July 2024).
- [3] Data from the Statistics Agency under the President of the Republic of Uzbekistan. <https://stat.uz/>

[4] Marupov M., Yusufkhonov Z. – CHOICE OF THE OPTIMUM FORECASTING MODEL IN DIFFERENT VALUE OF INITIAL INFORMATION. UNIVERSUM. pp. 23-26.

[5] Ceder A. – Public-Transport Automated Timetables using Even Headway and Even Passenger Load Concepts Transportation, 32nd Australasian Transport Research Forum. 2009. pp.1-17.

[6] Жураев М. Н., Ахмедов Д. Т., Мустанов О. Г., Юсуфхонов З. Ю. – Оценка влияния состояния дорожной инфраструктуры на характер координационной модели. Universum: технические науки. 2022. стр. 2-3, 19-24.

[7] Kosimov M. – PECULIARITIES OF THE ORGANIZATION OF LOGISTICS SERVICES IN INTERNATIONAL FREIGHT. In ECONOMIC ASPECTS OF INDUSTRIAL DEVELOPMENT IN THE TRANSITION TO A DIGITAL ECONOMY. 2020. pp. 44-49.

[8] Giyasidinov A. Sh., Maximov J., Samatov G. A., Sarvirova N. S. – E-CMR-an impulse to innovative development of the transport industry. International Engineering Journal For Research & Development. 2020. pp 5-6.

[9] Саматов Г. А., Сарвирова Н. С. – Эффективность создания экономической системы цифровых транспортных коридоров. Транспорт в интеграционных процессах мировой экономики. 2020. стр. 77-78.

[10] Murodov A., Atajanova Z., Yusufkhonov Z. – DETERMINATION OF THE MAIN CRITERIA WHEN SELECTING CARGO TRANSPORTATION. UNIVERSUM. pp 27-29.

Information about the author

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|--------------------|---|
| Yusufxonov | Tashkent State Transport University, |
| Zokirxon | Senior Lecturer (PhD) of the |
| Yusufxon | Department of Transport Logistics |
| o‘g‘li / | E-mail: zyusufxonov1991@gmail.com |
| Zokirkhon | Tel.: +998909761120 |
| Yusufkhonov | https://orcid.org/0000-0003-4233-9304 |

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