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HISTORY OF LAND TRANSPORTATION IN UKRAINE AND KHARKIV

M. Myroshnychenko, student

T.V. Gerasymchuk, PhD, Associate Professor

Kharkiv National Automobile and Highway University

The history of land transportation in Ukraine and Kharkiv reflects the evolution of transportation methods that significantly influenced industrial development, urban infrastructure, and public life. Situated at the crossroads of Europe and Asia, Ukraine's transport history mirrors its geopolitical significance, with Kharkiv emerging as a crucial hub in both imperial and Soviet eras.

Early History: From Carts to Railroads Until the late 19th century, horse-drawn transport—including various types of carts, carriages, and wagons—served as the

primary means of transportation throughout Ukrainian territories. The chumaky merchants, using ox-drawn carts, established vital salt and grain trade routes between Crimea and central Ukrainian lands, creating the foundation for later transport networks. The construction of the first railroads in the mid-19th century marked a revolutionary transformation. In 1869, the first railway line between Odessa and Balta opened, initiating a new era of transportation infrastructure development across Ukraine.

The First Railway Lines Kharkiv's railway era began with the opening of the Kharkiv-Kursk line in 1869, followed by the Kharkiv-Nikolaev (now Mykolaiv) connection in 1870. These developments created crucial transportation corridors between the Russian Empire's central regions and Ukraine's agricultural and industrial areas. The Kharkiv railway junction quickly became one of the empire's busiest, handling significant volumes of grain, sugar, and coal shipments. By 1878, the completion of the Kharkiv-Sevastopol line further enhanced the city's strategic importance, connecting it to Black Sea ports.

Expansion of the Railway Network and Kharkiv's Rise as a Railway Hub Between 1880 and 1914, Kharkiv's railway network expanded dramatically. The city became a critical intersection for lines connecting Moscow and St. Petersburg with Donbas industrial regions, Crimean ports, and Caucasus oil fields. The construction of the Southern Railway's main workshops in 1869 established Kharkiv as a major railway maintenance and manufacturing center. By 1913, the city's railway station handled over 3 million passengers annually, while freight traffic exceeded 15 million tons, making it one of the Russian Empire's largest railway hubs.

By 1913, Kharkiv's railway junction featured:

- 7 main directions
- 3 classification yards
- 2 locomotive depots
- Annual freight handling capacity of 8 million tons

The Southern Railway administration building (built 1914) symbolized the city's status as a major transport hub.

The Introduction of Trams in Kharkiv Kharkiv pioneered Ukraine's electric tram system, launching its first line along Sumska Street in 1906. The Belgian-owned "Kharkiv Tram Company" initially operated 20 motor cars and 10 trailers on a 12-kilometer network. By 1914, the system had expanded to 45 kilometers of track with 85 motor cars, serving all major districts. The tram network played a vital role in urban development, enabling the growth of suburban areas like Pavlove Pole and Saltivka. During the 1920s reconstruction, Soviet authorities significantly expanded the system, reaching 150 kilometers of track by 1931.

The Introduction of Trams in Kharkiv

The 1906 tram launch revolutionized urban mobility:

- Initial fare: 5 kopecks
- Daily ridership: 15,000 passengers
- Network expansion to 45 km by 1914

The tram system played a crucial role during industrialization, transporting workers to factories including the locomotive plant and Malyshev factory.

Introduction of the Trolleybus Kharkiv launched its first trolleybus route in 1939, connecting Freedom Square with the KhTZ factory district. The initial fleet consisted of 15 YaTB-1 vehicles, which offered quieter and more comfortable travel compared to trams. Post-war reconstruction saw rapid trolleybus network expansion, with routes reaching new residential areas like Pavlove Pole and Alekseyevka. By 1965, the system operated 28 routes spanning 180 kilometers, carrying over 200 million passengers annually. The introduction of Škoda 9Tr trolleybuses in the 1970s modernized the fleet and improved service reliability.

Introduction of the Trolleybus

The 1939 trolleybus system introduction featured:

- Initial route: 8.5 km from Freedom Square to KhTZ
- Fleet: 15 vehicles
- Post-war expansion to 180 km by 1965

The system significantly reduced noise pollution and provided more comfortable winter travel compared to trams.

Growth of Automobile Use Privhicles, necessitating the construction of new roads and parking facilities. The 1978 operating automobile ownership in Kharkiv began increasing significantly during the 1960s with the mass production of Zaporozhets and Zhiguli vehicles. The city's first major traffic management project, the 1968 reconstruction of Freedom Square, accommodated growing vehicular traffic. By 1975, Kharkiv had over 50,000 privately owned vehicles of the Saltivska line of the metro partially alleviated road congestion, but automobile numbers continued rising, reaching 150,000 by 1985.

Growth of Automobile Use

Key developments in motorization:

- 1965: 25,000 vehicles
- 1975: 50,000 vehicles
- 1985: 150,000 vehicles

The 1970 opening of the first multi-level interchange at Ploshcha Povstannia represented a milestone in traffic infrastructure development.

Expansion of the Bus Network Kharkiv's bus network development accelerated during the 1950s with the introduction of Soviet-made ZIS and LAZ buses. The 1960s saw particular growth in suburban connections, with routes extending to regional centers like Derhachi and Merefa. By 1980, the city operated 85 bus routes using 800 vehicles, carrying approximately 1 million passengers daily. The bus system complemented other transport modes, particularly in newly developed residential areas where tram and trolleybus infrastructure was not yet established.

Expansion of the Bus Network

The bus network's growth demonstrated particular importance:

- 1955: 30 routes
- 1970: 65 routes
- 1985: 120 routes

Buses became essential for connecting new residential districts like Saltivka (population 400,000) with the city center.

Modern Developments and Challenges The post-Soviet period brought significant changes, including the privatization of some transport services and the introduction of marshrutka (fixed-route taxi) services. Since 2000, Kharkiv has modernized its transport system through EU-funded projects, including the purchase of new trams from Elektron and trolleybuses from Bogdan. The 2015 introduction of electronic payment systems and real-time passenger information displays represented another step toward modernizing the city's transportation infrastructure.

Modern Developments

Post-1991 developments include:

- 2002: First low-floor trams
- 2012: Electronic ticket system implementation
- 2018: 100 new Euro-5 standard buses

The 2015-2020 transport modernization program allocated €150 million for fleet renewal and infrastructure upgrades.

Throughout its history, Kharkiv's transportation development has reflected broader economic and social changes, from imperial industrialization to Soviet urbanization and post-independence modernization. The city's transport system continues to evolve, balancing historical infrastructure with contemporary mobility needs while facing challenges of urbanization and sustainable development.

Conclusions

1. Infrastructure as Economic Driver: Each transport innovation directly stimulated Kharkiv's economic growth. The railway connection (1869) triggered industrial development, while the tram system (1906) enabled urban expansion and workforce mobility.

2. Technological Progression: The evolution followed a clear pattern: from horse-drawn (pre-1869) to rail-based (1869-1906) to rubber-tired electric transport (1939-1950s) and finally to comprehensive multi-modal systems.

3. Urban Planning Integration: Transportation development directly shaped Kharkiv's urban structure. Railway workshops influenced industrial district formation,

tram lines dictated streetcar suburbs development, and metro construction (1975) enabled high-density residential areas.

4. Social Impact: Each transport mode democratized mobility - trams made the city accessible to workers, trolleybuses served expanding suburbs, and buses connected peripheral areas.

5. Modern Challenges: Contemporary transportation faces issues of integration between old and new systems, balancing private and public transport, and implementing sustainable solutions while preserving historical infrastructure.

6. Kharkiv's National Role: The city consistently served as a transportation innovation laboratory - first electric tram in Ukraine, pioneering trolleybus network, and testing ground for modern electronic payment systems.

The history of land transportation in Kharkiv demonstrates how strategic infrastructure development can transform a regional center into a major metropolitan area while reflecting broader technological and social changes in Ukrainian society.

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GROWING DEMAND FOR LOGISTICS JOBS IN UKRAINE: CHALLENGES AND OPPORTUNITIES

V. Sydorchuk, student

Kharkiv National Automobile and Highway University

Introduction

The logistics sector in Ukraine has undergone major structural and operational transformations in recent years. This shift has been largely influenced by the challenges of war, disrupted supply chains, increased demand for humanitarian deliveries, and the reconfiguration of trade routes. As a result, logistics has become one of the most critical sectors in maintaining both domestic stability and international trade links. Ukrainian logistics companies are now facing the dual challenge of adapting to rapidly changing conditions while also addressing a growing need for skilled professionals who can manage supply chains efficiently and flexibly.

This demand for qualified workers is not just a temporary consequence of war, but a long-term trend reflecting global logistics modernization. As digital tools, automation, and international standards are being increasingly adopted in Ukraine, the industry seeks workers who are not only operationally capable but also technologically literate[1].