

Trends of Ukraine's Freight Transport Sector During the War

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Abstract. The article is devoted to the study of transport development trends under the effect of the war. The objective of the study is to conduct comprehensive analysis of trends of freight transport transformation under the war-time conditions. Ukraine has been in a state of a full-scale war for the fourth year; and the transport infrastructure has suffered significant damages. In particular, the russian invasion has caused the cessation of air, river and partly maritime transport, overall drop of transportation volumes. A sharp deterioration in dynamics of transportation and forced changes of transport and economic connections due to the displacement of the origin and destination points of cargo flows are clearly observed. Among the negative factors there are the lack of qualified personnel due to the mobilization for the defense needs and also the fleeing of about 6 million people abroad. Analysis of dynamics of freight carriage by transport of Ukraine, volume of cargo handling has been provided. Challenges, new trends and risks for transport in Ukraine have been assessed. One of the biggest bottlenecks—in the freight transport has been identified - the insufficient capacity of checkpoints on the border with the EU. The research methodology is based on systemic analysis of official Ukrainian government documents, expert assessment by the World Bank and the European Commission for transport industry. Analysis of the National Transport Strategy of Ukraine until 2030, the Strategy for Development and Expansion of Boarder infrastructure with the EU, recent laws for road and rail transport has been provided. Procedure for implementation aquas communitare for transport industry has been analyzed. Some solutions for improvement of the transport logistics between Ukraine and EU countries are discussed. Along with the negative trends, there are also discussed some positive prospects. Transport development priorities have been reoriented, and some reforms are being carried out in the industry in accordance with the principles of the European transport policy. Logistic chains are somehow improved thanks to the construction of dry ports near the state boarder with EU, building of links with EU railway track 1420 mm, development of multimodal transportation. Ukraine's experience has become unique in many ways.

Keywords: transport, full scare war, logistic chain, bottleneck, border points, dynamics of carriage, national transport strategy, European integration, trends, challenges.

JEL Classification: F47, L52, L92, R40

Formulas: 0; **fig.3,** **table:** 0; **bibl:** 30

Introduction. Ukraine has been in a state of a full-scale war along four years, and this war has become a huge trial for the country's entire economy, especially for its infrastructure. The biggest challenges-Ukraine confronted due to the russian invasion comprise of enormous destruction, including ones of transport infrastructure facilities, as well as the ongoing threat of further ruin of infrastructure: in 2025 russia has convicted to systematically destroy railway stations and the fleet. Overall, the war led to the cessation of air, river and partly maritime transport, the drop of transportation volumes, forced changes in logistics chains due to the displacement of origin and the destination points of cargo flows.

Literature Review. Scientific research about the impact of the war on the Ukrainian transport industry is developing within several thematic directions: estimation of damage for Ukraine and its economic sectors – for calculation of the needs for recovery; analyses of changes in logistics chain, forecast for future Ukrainian transport development.

The World Bank estimated direct damage for Ukraine for the period of 2022-2024 from the russian aggression at 154 billion USD (2024). The Transport sector ranks second after the Housing – 34 billion USD in direct losses. Total recovery needs for that period were estimated at 486 billion USD, of which 74 billion USD - for transport.

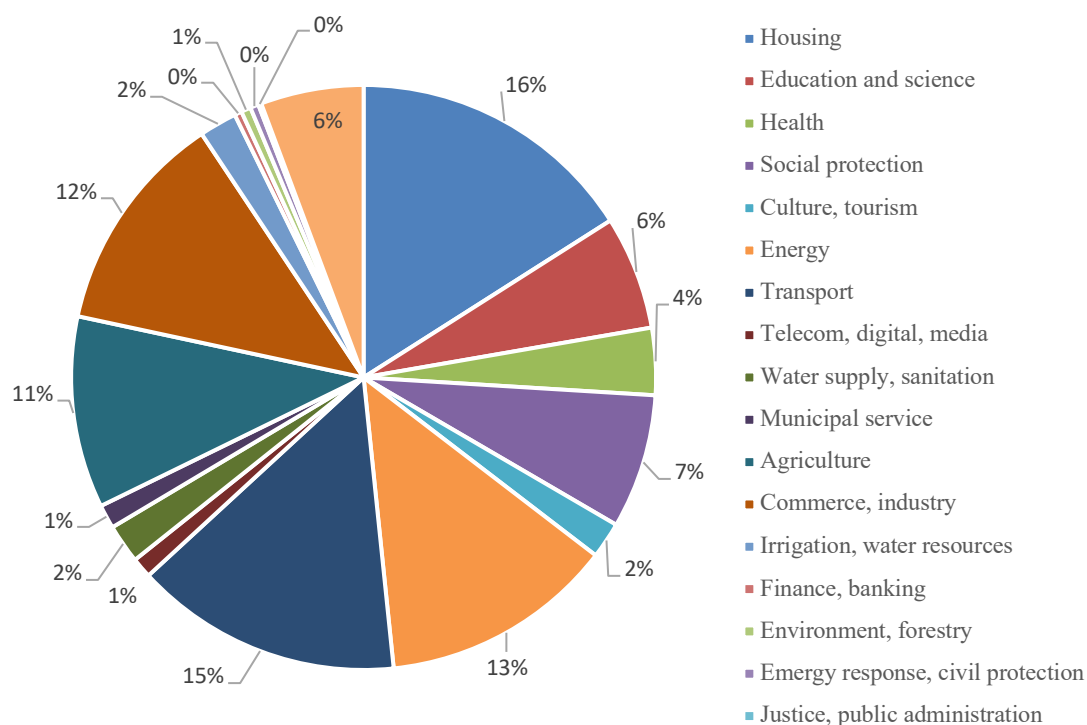


Figure 1. Total recovery and reconstruction need Ukraine, \$524 billion

Source: Ukraine Fourth Rapid Damage and Needs Assessment, World Bank, February 2022 – December 2024

Kyiv School of Economics (2024) calculated that since the beginning of the hostilities in Ukraine, 19 airports and civilian airfields have been damaged; at least 126 railway stations and stations have been damaged and continue to destroy due Russian air attacks. According to preliminary estimates, the total amount of damages to transport infrastructure in Ukraine was \$36.8 billion. Total of 25,400 km of roads and 344 bridges and bridge crossings were damaged due to the hostilities.

SWOT analysis of Ukraine's transport industry was published by A. Novikova, S. Lytvynenko, T. Yashchenko, V. Voitsehovskiy, Z. Dehtiar Z., P. Ovchar (2023). Along with negative factors, such as the ruin of transport infrastructure, some positive features have also appeared – the European integration processes have accelerated, and needed reforms are being carried out.

O. Pavlenko, D. Mtoszuk-Jouzylyov, V. Ivanov, M. Bartoszek, J. Jóźwik (2023) described integration of Ukraine into the EU internal market in the conditions of war. They paid attention to the challenges and opportunities also.

I. Jacyna-Golda, N. Shmygol, N. Gavkalova, M. Salwin (2024) analyzed importance of sustainable development of intermodal freight transport and foreign trade between Ukraine and Poland. It is noted that the post-war recovery of Ukraine will require the activation of logistical flows with EU countries.

Lots of research are devoted to logistics chains during the war, first of all transportation of grain. A. Novikova and R. Symonenko (2022) pointed that Ukraine became a world leader of export grain, including to countries suffering from famine. At the beginning of the war Russia had blocked Ukrainian ports. Some logistics chains or Solidarity Lanes were described.

C. A. Carter, S. Steinbach, (2023) calculated that since May 2022, the Solidarity Lanes have allowed Ukraine to export nearly 196 million tonnes of goods, including nearly 88 million tonnes of grain, oilseeds, and related products.

The Solidarity Lanes (2023) have also allowed Ukraine to import around 86 million tonnes of goods it needs: from defence and humanitarian aid to fuel and other products. The total value of trade via the Solidarity Lanes is estimated at around €236 billion, including around €170 billion in imports to Ukraine. The European Commission, together with partner financial institutions, are investing in capacity increases, repairs and liquidity for operators. So far, more than €2 billion has been mobilised for Solidarity Lanes to increase global food security and provide a lifeline for Ukraine's economy.

R. Goyal, S. Steinbach (2023) studied the futures market response to the Russian invasion of Ukraine and the Black Sea Grain Initiative. Event study estimates indicated that futures prices for agricultural commodities were 16% above the counterfactual within the first nine weeks after the

invasion. The dynamic treatment estimates also showed that futures prices began to recede after the EU Solidarity Lanes were established in May 2022.

The article of O. Bodnar, Y. Halchynska, Y. Larina, A. Filatova, I. Stepanets (2024) evaluated the transformations in logistics in the grain and oilseeds markets due to the war, discussed the impact of international agreements on export and logistics supply chains, and proposed marketing strategies for the trade of grain, oilseeds, and related products during wartime.

V. Yanovska, M. Krol, R. Pittman's (2025) results suggest two issues that should have the highest priority for policymakers at this point: 1) the inadequacy of alternative export modes and locations, as they were unprepared for the mammoth volume of diversions from the Black Sea ports (including rail capacity and other issues on the EU sides of borders), and 2) the long-standing weaknesses of the rail monopolist Ukrzaliznytsia, with years of funding neglect resulting in shortage and obsolescence of locomotives and rolling stock, as well as a shortage of skilled labour.

S. Lousada, S. Delehan, J.M. Naranjo, J.M. Gallardo, O. Mandryk, A. Khorolsky (2024) devoted their article to the ongoing railway reforms in Ukraine. They are crucial for the country's integration into the European Union's transportation network. A major challenge lies in the difference in track gauge widths: Ukraine predominantly uses a 1520 mm gauge, while European countries utilize a 1435 mm gauge. This 85 mm difference presents significant logistical and operational barriers, hindering smooth cross-border trade and travel. The study examines the current state of Ukraine's railway system, highlighting the urgent need for infrastructure modernization to meet European standards. This infrastructural change will serve as a catalyst for deeper integration, strengthening Ukraine's position within the European transportation network.

Aims. The purpose of the study is to define the main trends in the development transport and logistics under the effect of the war. To achieve the purpose, the following tasks are set: analyze dynamics of freight transportation and trends for logistics chain; identify the main obstacles to logistics chain; assess the impact of the current governance and also of the EU transport policy's instruments onto Ukraine's European integration in this industry; propose some measure for transition towards sustainable patterns of transport development, according to the Operation Plan of the National Transport Strategy-2030.

Methodology. The study employs a comprehensive analysis of statistical data from official sources and of expert assessments by the World Bank and the European Commission for transport industry. Analysis of the National Transport Strategy of Ukraine until 2030, recent laws for road and rail transport has been conducted. Procedures for implementation of aquas communitare for transport industry has also been analyzed. Some policy

solutions on technological issues for improvement of transport logistics between Ukraine and EU countries are proposed.

Results. Concerning the trends of carriage in Ukraine, in 2022 it was demonstrated a sharp decline in cargo transportation volumes by all modes of transport; but already in March 2023 the situation began to slightly stabilize, and in the first quarter of 2024 there was an increase in transportation volumes by 26%, and by the end of 2024 – by 22% compared to 2023 (Figure 2).

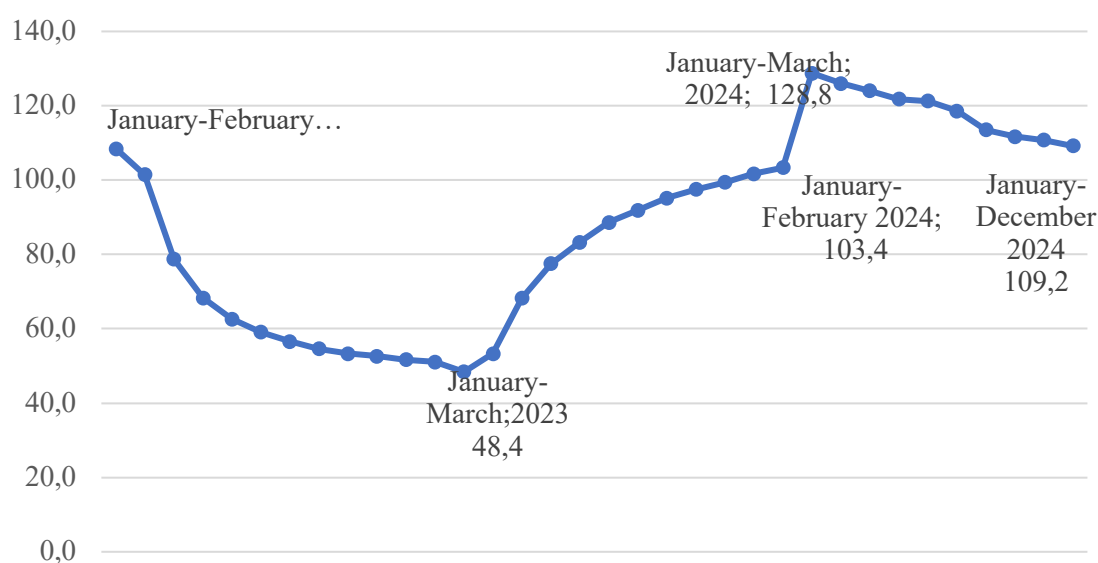


Figure 2. Dynamics of freight carriage by transport Ukraine in 2022 - 2024, %

Source: State Statistics Agency Ukraine

The war changed the very conditions in the transport sector. First of all, Russia's blockade of Black Sea ports had stopped the marine cargo traffic in 2022. Multilateral negotiation of Turkey's government with the Ukrainian party and with Russian side had renewed the cargo traffic by maritime transport in the second part of 2022, and following years' growth of cargo handling had been demonstrated. Seaports of Ukraine processed 59 million tons in 2022 and 67 million tons – in 2023, in 2024 the volume of cargo processing was 73 million tons, and it is envisaged to be 81 million tons in 2025. However, it should be noted that the pre-war volume of cargo processing was about 180 million tons (Figure 3).

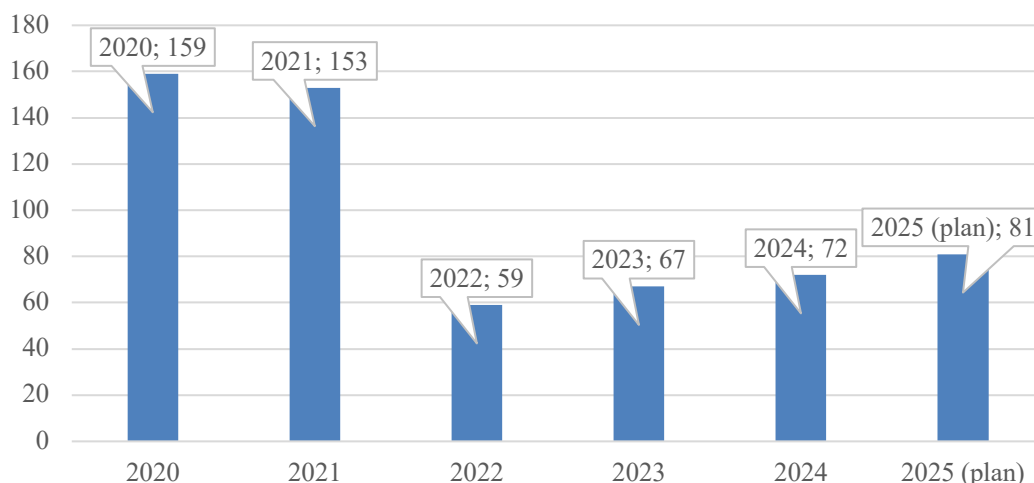


Figure 3. Volume of cargo handling thought the seaports of Ukraine, million tons

Source: State Statistics Agency Ukraine

It is important to mention that Ukraine remains one of the world's leaders in grain exports. The grain shipments by transport modes in 2024 amounted to: maritime -46.99 million tons (87%), railways - 5.28 million tons (10%), road transport - 1.18 million tons (2%), river transport - 0.49 million tons (1%). The Danube ports (Reny, Izmail) alone supported Ukraine's foreign trade during the blockade of the Black Sea ports in 2022.

One of Ukraine's transport logistics problems is that it lags behind in terms of containerization, disregards of the raw material nature of its exports, where the agricultural goods, pig iron, other black metals predominate. The volumes of container transportation by rail were: in 2021 – 648.6 thousand TEU, in 2022 – 518.9 th., in 2023 – 605.4 th., in 2024 – 664.9 thousand TEU. In 2024, there was a surplus of grain wagons and a decrease in the wagon rental rate from 35\$/day to 28\$/day.

Overall, the major challenges in the field of freight transportation can be assessed as follows:

- shift in the logistics of export transportation: redirection to the western border crossings points while ceasing trade with russia;
- change in export cargo base due to the invasion of a number of territories in the East and South of Ukraine;
- change in the import logistics for oil products due to the ceasing to purchase them from the russian federation and belarus and due to the destruction of oil refineries in Ukraine by russia;
- insufficient throughput capacity of border checkpoints at the western border;
- the need to reload cargo by rail when changing the rail gauge from 1520 mm to 1435 mm at western border (except dangerous goods, where change handling trolleys are used);

- air transport has not been in operation since the beginning of the full-scale invasion;
- river transport has not been exploited due to the ruining by Russia of Kakhovska Hydroelectric Power Plant and its dam in June, 2023.

Significant problems in the functioning of rail and road transport are both the direct ruining impact of the continued bombing of the infrastructure and rolling stock by the Russian invaders and also long-term adverse war impact on possibility (in particular, due to lack of financial resources) of updating the rolling stock, the complication of maintaining the infrastructure and rolling stock in proper condition, as well as the lack of qualified human resources due to the departure abroad and also defence mobilisation.

The risks of infrastructure destruction and, in general, risks for the functioning of inland transport may remain even after the end of the war, since the intentions and actions of the neighboring uncivilized country are unpredictable.

Road transport, which plays an important role in Ukraine's logistics supply chains, also has its specific features. Traditionally Ukraine had faced a significant problem of obtaining permits for road freight traffic to EU countries. Agreement between the European Union and Ukraine on the Carriage of Freight by Road was signed in June, 2022, and later it received a further extension until 2027. Its visa-free travel regime provided a solution of the problem. In general, the Agreement's implementation provides a new impetus to the development of road transport in Ukraine, as evidenced by the indicators of trade between Ukraine and the EU: 22 percent more goods were imported by road transport in 2023 than in 2022. In 2023, the share of road transport in the imports of goods was 51.5 percent and in 2024 – 39 percent.

Ukraine received the candidate status for accession to the European Union on June 23, 2022. It means full implementation *Acquis Communautaire*.

Law of Ukraine "On Amendments to Law of Ukraine "On Road Transport" Concerning Improvement for Regulation of Market of Passenger and Freight Carriage by Road Transport" had been approved by the Verkhovna Rada (Parliament) of Ukraine on March, 27 2025. It implements the requirements of EU Regulation (EC) No 1071/2009 of the European Parliament and of the Council of 21 October 2009 establishing common rules concerning the conditions to be complied with to pursue the occupation of road transport operator and repealing Council Directive 96/26/EC and the Quality Charter for International Road Haulage Operations under the ECMT Multilateral Quota System.

In this regards it should be mentioned about the EU Package of Mobility 2020, which includes Directive (EU) 2020/1057 of the European Parliament and of the Council of 15 July 2020 laying down specific rules with respect to Directive 96/71/EC and Directive 2014/67/EU for posting drivers in the road transport sector and amending Directive 2006/22/EC as regards

enforcement requirements and Regulation (EU) No 1024/2012. It requires equal condition for Ukrainian and European carriers for expenditure: drivers' salary, stops in hotel, limit of cabotage. But real economic conditions in Ukraine and EU countries, in particular, in Poland are different. For example, an average salary in Ukraine is 3 times less than in Poland. Large distances from central regions of Ukraine to EU countries create different condition to posting drivers. Therefore, the mentioned requirements are rather complicated for Ukraine.

On the other hand, draft Law "On the system and features of the functioning of the railway transport market of Ukraine" of 21.10.2024 No 12142 provides for the large reform of the railway industry in accordance with the EU legislation. The draft law is being discussed in the committees of the Verkhovna Rada of Ukraine.

As mentioned above, one of the biggest bottlenecks in the freight transport is insufficient capacity of checkpoints on the border with the EU. Downtime for trucks at the border sometimes may reaches up to 10 days. The reorientation of Ukraine's transport and economic relations from the CIS countries to the EU states had continued for a long time, while the network of border points had not developed sufficiently.

The Strategy for the Development and Expansion of Border Infrastructure with the European Union Countries and the Republic of Moldova until 2030 and the Operational Plan of Measures for its Implementation in 2024-2030 were approved by the Resolution of the Cabinet of Ministers of Ukraine of December 24, 2024 No. 1337-r.

Thanks to the European Commission's assistance within the framework of the Paths of Solidarity project, Ukraine, together with neighboring countries, intends to implement a number of projects related to the development and modernization of boarder points within the framework of the CEF financial instrument for 2021-2027.

A special role in this affair has been played by Resolution of the Cabinet of Ministers of Ukraine on December 2, 2022 No. 1349 "On the peculiarities of the implementation of the experimental project on the organization of the management of queues of road vehicles in front of international checkpoints across the state border of Ukraine for road communication using the electronic system "Electronic border crossing queue"(eCherga).

Since December 2022 project of electronic queue for crossing the State border by trucks has been started. E-queue for buses that carry out international passengers, has been in effect since August 2023. It is very successful project. During the period 2022-2025 2.4 mln vehicles, including 2.2 million tonsrucks had been crossed Ukrainian state boarder, 138 thousand drivers had been, registered in this service. According the data Institute for Economic Research and Policy Consulting the economic impact of reduction downtime is estimated at 600 million euros per month, with an average wait time of 22 hours for 200,000 border crossings. Environment

effect: the total reduction in carbon dioxide emissions is 845 tons per day, 5 tons of nitrogen oxides, 169 kg per day of fine dust. However, before this project queues of 60 km and waiting times of 6-7 days were observed.

There are some priority queues: for TIR, perishable cargo, authorized economic operator, authorized economic operator of perishable cargo.

The main problem remains the low throughput capacity of border crossing points with EU countries. It is planned to completely introduce this system as part of the implementation of the Border Infrastructure Development Strategy by constructing new or modernizing existing service areas. Starting from May 2023, four new service zones were opened near the checkpoints on the state border with EU countries: Romania (Porubne), Hungary (Tysa), Slovakia (Uzhhorod) and Poland (Sheghini). The service zone software is synchronized with electronic system of queue – data on vehicle license plates, time of arrival and departure from the service zone, number of free zones, available services are transmitted.

The processes related to crossing the state border need some improvement, in particular, on the creation of inter-subject and cross-border mechanisms with integration into the digital space of the EU and the Schengen zone. The solution to this issue within the framework of the implementation of the Strategy is planned to be carried out with the help of a joint control, New Computerized Transit System (NCTS) and electronic invoices (e-CMR) procedures.

Since December 6, 2023 control procedures using the technology of the joint control were started at the checkpoint with Moldova "Kuchurgan - Novosavyska" on the territory of Ukraine. Coordinated control with the Republic of Poland regarding the external border of the EU is carried out at four road checkpoints (exclusively on the Polish side): "Ustyluh - Zosin", "Uhryniv - Dolgobychiv", "Hrushiv - Budomezh" and "Smilnytsia - Krościenko".

The introduction of the joint (coordinated) control will make it possible to solve a number of problematic issues, in particular, regarding the arrangement of checkpoints. Given that EU checkpoints are equipped with scanning systems, the joint control will greatly simplify and speed up the border crossing procedure.

Among some problems is the blocking of Ukrainian haulage trucks by Polish carriers and also by farmers, arising acute from time to time. Since November 1, 2024 Poland has approved some additional requirement to non-EU carriers. All carriers of non-EU countries are obliged to additionally register the vehicle and cargo in the electronic system. With this, the Polish side is trying to restore permits for road transport in electronic format. Huge sizes of a penalty are introduced for non-EU countries: 2870 euros per carrier, plus 1200 euros per driver. A penalty of 2400 euros for the driver's non-working GPS is also imposed: it's an element of struggle against cabotage.

In 2025 the EU introduces the requirement of smart tachographs and control of its use in Ukraine. This requirement does not look completely legal, since non-EU countries have not full access to this technology. European Agreement concerning the work of crews of vehicles engaged in international road transport (AETR) regulating international road transport does not have a legal provision on smart tachographs use yet.

In order to facilitate the elimination of delays at checkpoints for railway connections, Joint Stock Company "Ukrainian Railways" (JSC "Ukrzaliznytsia") together with the State Customs Service has developed a technology for transportation on the railway platform semi-trailers and trailers without trucks and accompanying drivers. Its pig back transport intermodal technology. An algorithm of interaction between customs authorities and railway (Joint Stock Company "Ukrzaliznytsia") during the movement of goods in motor vehicles by counter-trailer trains across the customs border of Ukraine has been developed.

A Memorandum of understanding and cooperation was signed with the German logistics company "Global Asset and Logistics Company" regarding the development of intermodal connections between Ukraine and EU countries.

A temporary technology for the three-way organization of train movement on the 1520 mm track between the stations of Galac Larga (Romania) - Giurgiulesti (Moldova) and in the opposite direction was agreed upon. JSC "Ukrzaliznytsia" and Romanian Railways (Căile Ferate Române, CFR) agreed on the formation of a group of trains destined for Galac Larga station (Romania).

Due to the problems with the passage of Ukrainian trucks at the border, interest in piggyback transportation is increasing, which could somewhat relieve the border crossings. To solve the problem of rail capacity, construction of the Eurogauge has begun on the sections Mostyska II - Lviv, Chop - Uzhhorod, Dyakove - Chernivtsi. There are the following sections of 1435 mm: Chop - Batyovo - Korolevo - Dyakove (103 km); Batyovo - Mukachevo (26 km); Kovel- Yahodyn (60 km) and some little others (less 10 km). There are also two 1520 mm lines located in Poland (ending in Slavkovo) and Slovakia (ending in Koshice), they were built for the needs of metallurgy in ex-Soviet times.

Among the advantages of creating border terminals are their location, the presence of two types of gauges (1435/1520 mm), the scale (scope) of activity (concentration of cargo flows), the presence of developed infrastructure (or active construction), specialization in the transshipment of export-import cargo flows or the offer of such a service.

The Strategy for Development and Expansion of Border Infrastructure with the EU envisages the opening of 17 new border checkpoints. In 2022-2023 the crossing points "Dyakovtsi - Rakivets" (still pedestrian) and "Krasnoilsk - Vicau de Sus" on the border with Romania, "Nižankovići-

Malhovice" on the border with Poland were opened. Allocation of a number of additional border checkpoints is designated only for trucks over 7.5 tons and buses, for example, Yahodyn - Dorogoosk.

The number of dry ports on the border with the EU have been created: 16 large terminals, 13 of which in one-way and 3 two-ways provide integrated logistic service. The terminals on both sides on the border are:

1. Pakobo Logistics Centre (railway station Chop)
2. Mostyska Container Terminal MOST LOGISTIC TERMINAL
3. Lisky Central Terminal
4. Karpaty Terminal (station Batyovo)
5. Chernotysiv Terminal (TERCH)
6. Western Container Terminal
7. Eurocar (Solomonovo, Ukraine)
8. East-West Gate Terminal (Hungary)
9. TSL Silesia Terminals (Poland)

On October 1, 2022, the Law of Ukraine of August 15, 2022 No. 2510-IX "On Amendments to the Customs Code of Ukraine" and other laws of Ukraine regarding certain issues of implementation of Chapter 5 of Section IV of the Association Agreement" entered into force. It facilitates the full-fledged application of a New Customs Transit System (NCTS), a software product that has been used for a long time in the movement of goods between the EU member states and a total of 35 countries. The New Customs Transit System ensures the practical implementation of the provisions of the Convention on Common Transit. The choice of one or another transit system, guarantee documents - more convenient for specific international transportation, considering procedures, requirements, escort, etc., remains mostly up to the carrier.

Implementation of an electronic waybill (eTTN) pilot project was successfully conducted in Ukraine in 2020-2021. The UN ECE working group on the implementation of electronic CMR functions according to the Additional Protocol to the 2008 Convention on the Contract for the International Carriage of Goods by Road (CMR) on the electronic waybill, which Ukraine joined in 2020, had operated in 2022-2023. The concepts/processes of the future eCMR system and the architecture of the system, which should comply with the UNCITRAL (the United Nations Commission on International Trade Law) model law on electronic signatures, were discussed. The business also implements an electronic waybill in international transportation by eCMR road transport between Ukraine, Poland and Germany. Order of the Ministry of Development of 12 December 2024 No. 1491 was registered with the Ministry of Justice of Ukraine on 19 February 2025 under No. 59/43665 "On confirmation of the procedure for the functioning of the electronic document flow system of the electronic consignment note".

The trends expected in 2025:

- Changes in the course of the war actions;
- Focus on strategic challenges, not tactical ones;
- Attracting new specialists to the transport industry;
- Risks in the energy sector and construction of new, resilient capacities;
- Construction of customs terminals along the border with the EU,
- Increasing rail and road tariffs and excise duty on fuel; shortage of drivers.
- Improving the environmental sustainability of Ukraine's road and rail freight sectors.

The National Transport Strategy until 2030 (2018) and the Operational Plan of Measures for its Implementation in 2025-2027 (2024), had been approved by Resolution of the Cabinet of Ministers of Ukraine of December 27, 2024 No. 1550-r. It states: "Ensuring the stability and survivability of Ukraine's transport infrastructure in the face of acts of aggression and negative man-made phenomena through the development of main and alternative logistics routes." That is, it is necessary to rebuild the destroyed objects, and to build new - alternative ones. Obviously, this mostly applies to the short-term perspective. In the long-term perspective: "rehabilitation of the transport infrastructure with a focus on the implementation priority for infrastructure projects to overcome the capacity deficit, in particular prioritization of investments in Ukrainian links of the Trans-European transport network (TEN-t)."

The Operational Plan of the National Transport Strategy(2024), in particular, provides "ensuring the prioritization of projects of new construction, reconstruction, repair and maintenance of roads on the basis of information-analytical and expert systems and avoiding subjective interference in the process of planning works based on instrumental indicators".

Discussion. Some discussion questions of further development transport system.

Unlike the building 80 km European-gauge rail line Lviv – Mostyska II, idea building new high speed passenger rail line from Kyiv to the west boarder of Ukraine is not realistic now. Contra arguments are:

- the large distance to EU countries (for example, 1354 km from Kyiv to Berlin);
- needs to build high speed line on the EU countries territory connected with Ukrainian rail line;
- huge investments equal State Budget of Ukraine that is not possible for destroyed country now;
- aviation will dominate at long distance lines after the war.

Transit flows trends. More than 90 per cents of transit had been came from Russia. 100% pig iron flows, 96% coal, 82% oil and oil products were

born in Russian Federation. This transit flows will not come back nearest years.

Freight flows from Europe through Black Sea ports to Kazakhstan, Caucasian and former USSR Middle Asia countries (TRACECA corridor) can be forecasted but there are very much alternative routes from Black Sea countries (through Romania, Bulgaria, Moldova, Turkey) create high competition between ports. Another logistic route for Middle Asia countries has been reoriented to Iran port – Bender-Abbas for export cotton. Transit freight flows need peace, stability and sustainability.

Start air operation can be possible only after stopping active phase of the war. But Uzhhorod airport, which is situated at 8 km near Slovakia can be start operate now. The airport Uzhhorod has a unique location, as its runway abuts the state border when take-off and landing operations are carried out, Ukrainian airspace is simply not used. On September 24, 2020, an intergovernmental agreement was signed between Slovakia and Ukraine on the use of Slovak airspace. This agreement was drafted in such a way that take-off and landing operations of civil commercial air transport are allowed to be carried out precisely from the Uzhhorod International Airport. Slovakia and Ukraine signed an intergovernmental agreement on March 17, 2025, that allows for the use of a specific part of Slovak airspace for flights to and from Uzhhorod International Airport. The agreement, which is still in the process of national ratification and implementation, will allow the airport to resume full operations by having a Ukrainian air navigation service provider manage air traffic in that section of Slovak airspace.

Ukraine aspires to become a full member of the EU. To this end, the EU legislation is actively implemented, which requires a number of radical reforms in the transport sector. Therefore, reorientation of the transport sector towards the European market and European standards has become determinative.

Conclusions. Transport is a critically important but vulnerable economic sectors during the war. The transport industry of Ukraine has suffered significant damage during the full-scale aggression of the Russian Federation. According to the World Bank, the need of funds for reconstruction of Ukraine was preliminary estimated in 486 billion dollars, including the transport sector - 77 billion dollars. The destruction is continued while the war is ongoing.

The first year of the war led to a general decrease in transportation volumes by 51.2%, while cargo transshipment in seaports - by 61.5%. However, starting from the spring of 2023, the system began to slightly stabilize, and transportation volumes has begun to grow. This applies to both inland and maritime transport.

The ceasing of trade with Russia and the reorientation of trade towards the EU and other countries have led to insufficient capacity difficulties at border checkpoints, where trucks may be stuck for several days. The Strategy

for the Development of Border Infrastructure are to solve these problems by creating new checkpoints and expanding existing ones.

The largest bottleneck at rail transport is the need to reload goods due to a change in gauge. There are only some short sections of European gauge 1450 mm inlets on Ukraine's western border. Therefore, a few projects for the construction of European gauge inlets, as well as logistic terminals, have begun to be implemented. Another solution to this problem is the development of piggyback transportation - trucks on a railway platform. A next step can be the carriage of semi-trailers on the rail platform and creation of a pool of reversible semi-trailers.

Ukraine needs European gauge rail network to develop economic relation with EU countries. In September 2025 a new 22 kilometers rail section Chop – Uzhhorod European gauge has been opened. This is the first example of a newly built railway track. Now from Uzhhorod passengers can get to several European capitals without leaving the van.

There are plans to build a new European-gauge railway to Lviv. On November 6, during the CEF Steering Committee in Uzhhorod, the European Commission officially handed over a grant agreement to Ukrainian Railways under the EU Connecting Europe Facility (CEF) program. The agreement provides €73.5 million in grant funding for the implementation of the European standard gauge railway (1435 mm) from Lviv to the Polish border, on the 80 km section Mostyska II – Sknyliv (Lviv). This represents the first phase of construction.

The Grant Agreement was presented by Oleksii Kuleba, Vice Prime Minister for the Restoration of Ukraine – Minister for Development of Communities and Territories. The document was handed over on behalf of the European Commission by Magda Kopczyńska, Director-General of the Directorate-General for Mobility and Transport (DG MOVE).

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