



BETWEEN THE BORDER AND THE SINGLE MARKET

Ukraine's EU Integration and the Future of Polish Transport

**WARSAW ENTERPRISE INSTITUTE
INSTITUTE FOR ECONOMIC RESEARCH AND POLICY CONSULTING**

BETWEEN THE BORDER AND THE SINGLE MARKET

Ukraine's EU Integration and the Future of Polish Transport

Authors of the report:

Sandra Baniak-Stachowiak, Iryna Kosse, Anastasiia
Kropova, Anastasiia Myropolska, Łukasz Wojdyga,
Stanislav Yukhymenko

This publication was prepared with the support of the Open Society Foundations and the International Renaissance Foundation. The content of this publication is the sole responsibility of the authors and does not necessarily reflect the views of the donors.

WARSAW, MAY 2026

Table of Contents

Executive summary	4
Chapter I. Poland–Ukraine Connectivity in the EU Integration Context: What Changes and Why It Matters	6
Integration Pathway: Rules, Enforcement, Funding, Market Access	7
Chapter II. Controversy Map: Actors, Interests, and Political Pressure Points	9
Chapter III. The Border System: Performance, Governance, and Digital Tools	15
Throughput and Predictability: What Drives Economic Losses	15
Digital Queueing, Joint Controls, and Data Interoperability	15
Shared KPIs: A Practical Monitoring Framework	18
Chapter IV. Road Freight: Market Dynamics, Compliance, and Capacity Constraints	20
Situation in the Road Transport Market	20
Infrastructure needs	23
Chapter V. Rail and Intermodal: Terminals, Gauge Interface, and TEN–T Trajectory ...	24
Intermodal Growth and Terminal Constraints	24
Investment Sequencing and Risk of Misalignment	28
Impacts and Joint Actions (Poland/Ukraine)	30
Chapter VI. Ports and Maritime Access: The Role of Polish Ports for Ukrainian Trade	31
Chapter VII. Airports and Airspace Access: The Role of Ukrainian airlines and airspace for global tourism and air transport	34
Chapter VIII. Strategies for Polish Transport and Logistics Companies	37
Chapter IX. Outlook 2026–2030: Scenarios, Risks, and Opportunity Map	40
Scenario Set and Key Assumptions	40
Risk Register and Opportunity Map by Scenarios	42
Chapter X. Recommendations	43
Recommendations for Polish authorities	43
Recommendations for Ukrainian authorities	44
Recommendations for the European Union and International Donors	44
Recommendations for Business	45

EXECUTIVE SUMMARY

Ukraine's integration into the European Union will transform Poland–Ukraine transport connectivity from a wartime emergency management system into a rules-based, investment-driven model aligned with EU standards. The Solidarity Lanes have served as a critical economic lifeline; as of February 2026, approximately 210 million tonnes of goods had been transported via these routes, accounting for roughly 60% of Ukraine's imports and 60% of its non-agricultural exports. Poland has consequently consolidated its role as a central transit and logistics hub, remaining Ukraine's largest export partner and the second-largest source of imports. However, this rapid, crisis-driven integration has generated significant political and commercial friction, driven by structural market asymmetries, intense competition in agricultural transit, and profound shifts in market access rules.

The road freight sector has experienced intense volatility following the EU–Ukraine Road Transport Agreement, which temporarily liberalized bilateral transport and has since been extended until March 2027. This liberalization led to a dramatic shift in the market, with Ukrainian carriers holding a 92% share of bilateral transport operations by October 2023, up from 62% in 2021. While this arrangement facilitated an 85% increase in Polish road exports to Ukraine, the resulting structural pressures and competitive imbalances triggered severe border blockades by Polish carriers, resulting in an estimated 40% decline in road-borne trade through the Polish border in November 2023. To manage border congestion, Ukraine implemented the digital "eQueue" system, which successfully reduced average truck waiting times by 24%–70% at various crossings, saving an estimated EUR 60 million in potential downtime costs each month. Yet, unilateral digitalization has proven insufficient. From the Ukrainian perspective, without a synchronized "mirror" arrangement and shared key performance indicators (KPIs) with Polish authorities, digital slots often translate into deferred physical queues at the border barrier.

Rail and intermodal transport have rapidly evolved into strategic arteries, with total cross-border rail volumes increasing by approximately 20% in 2024. Border crossings have effectively transformed into critical dry ports to handle the transition between Ukraine's 1,520 mm broad-gauge and the EU's 1,435 mm standard-gauge networks. For example, the Mostyska-2 intermodal hub processed over 97,000 TEU and 472,000 tonnes of cargo in its first two years of operation. The integration of Ukrainian links into the Trans-European Transport Network (TEN-T) has mobilized significant European funding, including a EUR 73.5 million Connecting Europe Facility (CEF) Transport grant for the EUR 190 million Mostyska–Sknyliv standard-gauge rail project extending toward Lviv. However, infrastructure investments face a severe risk of misalignment if they are not sequenced alongside "last-mile" terminal capacities and institutional reforms, specifically the structural unbundling of Ukrzaliznytsia (UZ) by 2027, to ensure non-discriminatory market access.

Maritime access remains heavily influenced by the security situation in the Black Sea, temporarily elevating the importance of Polish seaports. Polish ports handled roughly 3 million tonnes of Ukrainian grain between July 2022 and June 2023, alongside nearly 940,000 tonnes of iron ore and steel. As Ukraine successfully re-established a maritime corridor from the ports of Greater Odesa in late 2023, bulk rail transshipments to Poland decreased substantially, marked by a 77% drop in grain wagons delivered to Poland in

2025. Nevertheless, Poland's Baltic Hub in Gdańsk remains structurally critical for Ukrainian containerized imports, processing between 200,000 and 300,000 TEU annually, which represents up to 40% of Ukraine's total container market.

Conversely, the Ukrainian aviation sector suffered a severe collapse due to airspace closures, with passenger volumes plummeting from 16.2 million in 2021 to just 480,000

Looking toward the 2026–2030 horizon, the trajectory of Poland–Ukraine connectivity will depend heavily on the pace of EU accession.

in 2024, alongside direct infrastructure losses estimated at USD 2 billion. The industry has fundamentally transformed from a mass-passenger model to an export model of aviation services, with Ukrainian carriers surviving by relocating operations abroad and executing international charter and wet-leasing

contracts. The post-war recovery of this sector will heavily depend not just on physical reconstruction, but on creating economic incentives for these relocated businesses to return their operational bases to the domestic ecosystem once airspace safety is restored.

Looking toward the 2026–2030 horizon, the trajectory of Poland–Ukraine connectivity will depend heavily on the pace of EU accession, the duration of the war, and the systematic alignment of regulatory frameworks. The report strongly recommends that both governments and the European Union prioritize establishing a level playing field by harmonizing road transport regulations, accelerating railway market liberalization, and combating institutional corruption in Ukraine. For the private sector, the anticipated shift from road to intermodal transport presents a strategic "win-win" opportunity for joint investments in cross-border logistics hubs and terminal infrastructure, provided that regulatory predictability and data-driven border management are firmly established.



CHAPTER I

Poland–Ukraine Connectivity in the EU Integration Context: What Changes and Why It Matters

Ukraine's EU integration is not only a political process, but also a practical transformation of how cross-border transport works day to day. For Poland–Ukraine connectivity, the integration agenda matters because it gradually shifts the system from wartime exception management to a more rules-based, investment-driven model shaped by EU standards, EU funding instruments, and corridor governance.

Three dynamics make this transition economically significant for both countries.

First, the rules of market access and competition are being reset. Temporary wartime arrangements, especially in road freight, have already changed competitive positions and expectations. The EU–Ukraine Road Transport Agreement, initially introduced after Russia's full-scale invasion, has been extended repeatedly; as of September 2025, the EU and Ukraine extended it until 31 March 2027.¹ Regardless of political debates around it, the key point for connectivity is that policy decisions can rapidly expand or contract capacity on the Poland–Ukraine corridor—so firms and infrastructure planners face an unstable environment unless integration steps become predictable.

Second, EU integration is changing the investment map. Ukraine and Moldova have been brought into the EU's transport connectivity framework through updates to the Trans-European Transport Network. In December 2023, the European Commission signed High-Level Understandings with Ukraine and Moldova to revise the indicative TEN-T maps on their territories, aligning priorities with new wartime realities and strengthening connections with the EU.² TEN-T inclusion is the basis for prioritization and access to EU financing instruments for key links and nodes.

Third, the policy focus shifts from volumes to system performance, in particular, predictability. Under EU single-market logic, time variability at borders and multimodal nodes is a competitiveness penalty. This is why digital interoperability, harmonized inspection practices (aligned with the EU requirements), and common performance indicators become as important as physical infrastructure.

For Poland, the economic stakes are high. As Ukraine converges toward EU rules and EU-linked infrastructure planning, Poland can consolidate a role as a logistics and services hub if capacity constraints are managed on both sides and if investments are sequenced so that new rail and terminal capacity in Poland and Ukraine translates

¹ EU and Ukraine extend road transport agreement until 31 March 2027, https://transport.ec.europa.eu/news-events/news/eu-and-ukraine-extend-road-transport-agreement-until-31-march-2027-2025-09-25_en.

² Commission, Ukraine and Moldova sign High-Level Understandings to improve transport connectivity: https://enlargement.ec.europa.eu/news/commission-ukraine-and-moldova-sign-high-level-understandings-improve-transport-connectivity-2023-12-22_en.

into reliable service. For Ukraine, the stakes are equally high: EU integration is ultimately about stable, scalable access to the EU market. In transport terms, this means additional capacity, compatible rules, predictable procedures, and investment pipelines that match the actual bottlenecks.

Integration Pathway: Rules, Enforcement, Funding, Market Access

Ukraine's integration pathway can be understood as a sequence of interlinked changes that directly affect Poland–Ukraine connectivity.

Transport integration requires gradual alignment with EU rules on safety, interoperability, market governance, and technical standards. Even before formal accession, convergence pressures appear through bilateral arrangements, EU conditionality, and funding requirements. In practice, “rules” translate into operational designs for border controls, documentation requirements, technical compatibility, and the governance model for corridor investments. For cross-border business, the most valuable outcome is reduced uncertainty: fewer ad-hoc exceptions, clearer enforcement, and more stable expectations for operators.

The same rule can produce very different outcomes depending on enforcement intensity and coordination. In Poland–Ukraine transport, friction often emerges from differences in inspection practices, discretionary decisions, and the lack of shared monitoring. All such measures, however, should remain fully consistent with the EU legal framework. As integration proceeds, enforcement becomes a policy instrument: it can smooth flows through coordinated controls and risk-based checks, or amplify disruptions through sudden, uncoordinated tightening. This is why border governance and performance metrics become core economic variables.

EU integration expands access to EU-linked financing for connectivity. The European Commission explicitly links Ukraine's inclusion in the TEN-T to access to EU funding for priority connections.³ The Solidarity Lanes' agenda also mobilized large-scale support. The Commission reports that more than €2.3 billion has been mobilized to improve Solidarity Lanes, including €1.55 billion in non-reimbursable CEF grant support.

A key implication for Poland–Ukraine connectivity is that investment decisions increasingly reflect EU corridor logic, with projects evaluated not as standalone assets, but as linked parts of a chain (border node – terminal handling – last-mile access – network capacity). One recent example relevant to the Poland–Ukraine rail interface is EU grant support under CEF for standard-gauge (1,435 mm) rail development connecting the Polish border toward Lviv: a €73.5 million grant agreement was awarded for the European-gauge rail project toward Lviv, described as the first allocation for this corridor development⁴.

³ EU funding for better transport connections: https://transport.ec.europa.eu/ukraine/eu-ukraine-solidarity-lanes/eu-funding-better-transport-connections_en.

⁴ First €73.5 million allocated for the European-gauge railway to Lviv: Grant Agreement awarded: <https://mindev.gov.ua/en/news/rozbudova-ievrokolii-do-lvova-vidbulos-vruchennia-hrantovoi-uhody-dlia-realizatsii-proiektu>.

Market access changes can have immediate effects on the corridor. The road transport liberalization arrangement is the clearest illustration, as its extension until 31 March 2027 signals continued partial liberalization and ongoing policy debate over conditions and safeguards.

For connectivity planning, the lesson is broader: until integration steps are embedded in stable rules and enforcement cooperation is in place, access conditions may change faster than infrastructure can adapt. This creates a strategic requirement for both governments and businesses: to build flexibility into capacity planning while prioritizing investments and governance reforms that reduce variance (unpredictable delays) rather than simply increasing nominal throughput.

Taken together, these four elements define the integration pathway as it affects Poland–Ukraine transport: rules create the framework, enforcement determines real-world friction, funding shapes what gets built and when, and market access determines who uses the corridor and at what scale.

The following sections of the report trace how these dynamics generate controversy, identify bottlenecks (especially at borders, rail, and terminal nodes), and outline the risks and opportunities for Polish and Ukrainian stakeholders as Ukraine moves deeper into the EU integration process.



CHAPTER II

Controversy Map: Actors, Interests, and Political Pressure Points

The full-scale Russian invasion of Ukraine triggered a series of transformations in the country's transport policy. Before 2022, Ukraine's trade was largely dependent on the ports of the so-called Greater Odesa (Pivdennyi, Odesa, Chornomorsk). In addition, before the invasion, Russia and Belarus were among its key trading partners.⁵ As a result, despite long-standing plans, the construction of standard-gauge railway lines (i.e., the European standard of 1,435 mm) did not remain a priority in Ukraine. Rail and road connections toward the European Union were not significantly developed, nor was cross-border infrastructure with EU member states expanded. Similarly, neighboring countries did not prioritize the development of land transport corridors—both road and rail—toward Ukraine. Ukraine's aspirations for EU membership, combined with the temporary blockade of the Greater Odesa ports and the loss of other economically significant ports, including Mariupol, which remains under Russian occupation, prompted Kyiv to initiate broad integration with the European Union's transport system.

Established in May 2022 by the EU, Ukraine, and Moldova, the Solidarity Lanes enabled the transport of Ukrainian exports, imports, and humanitarian aid through the territories of Poland, Romania, and Moldova, and to a lesser extent through Slovakia and Hungary. Despite four years having passed since the outbreak of the full-scale invasion, the Solidarity Lanes continue to play an important role in Ukraine's economy. As of February 2026, approximately 210 million tonnes of goods had been transported via these routes, accounting for roughly 60% of Ukraine's imports, 60% of its non-agricultural exports, and 15% of its exports of grain, oilseeds, and related products.⁶ The remainder is transported through Ukrainian ports on the Black Sea. Over time, these proportions have been gradually declining (until recently, the European Commission indicated that this accounted for 80% of Ukrainian imports). Yet, they remain crucial for sustaining trade flows, war-related supplies, and humanitarian assistance to the country. At the same time, this underscores the importance of diversifying transport corridors for national security, including economic security.

The ongoing integration of Ukraine into the European Union's transport system is creating a new network of supply chains in Central and Eastern Europe. Poland plays a key role in this process as the main transit country between Ukraine and other EU member states. As Ukraine's trade with the EU continues to grow—given that the EU is Kyiv's largest trading partner in both exports and imports—Poland's importance will increase further. Poland remains Ukraine's largest export partner and the second-largest source of imports, while Germany ranks third in both categories.⁷ The growing trade exchange between Ukraine and the EU, along with the relocation of many industrial facilities to the western part of the country, will further increase the already rising demand for logistics services, expand opportunities for intermodal transport, transshipment servi-

⁵ S. Matuszak, *A year of war in Ukraine's foreign trade*, OSW Commentary, 08.02.2023, osw.waw.pl/en.

⁶ *EU-Ukraine Solidarity Lanes*, European Commission, transport.ec.europa.eu [access: March 1, 2026].

⁷ S. Matuszak, *Względna stabilizacja. Ukraińska gospodarka u progu piątego roku wojny*, Komentarz OSW, 06.03.2026, osw.waw.pl.



ces on both the Polish and Ukrainian sides, and services provided by freight forwarders, customs agencies, and logistics and warehousing centers⁸. Ukraine's ongoing reconstruction will further amplify the scale of this trend. This presents an opportunity for both sides, though it is also associated with competition and a degree of strategic rivalry over who stands to benefit more.

These changes are generating tensions among various actors in both Poland and Ukraine—from governments and institutions to economic sectors and interest groups. Poland views transport cooperation with Ukraine as a means of strengthening its own transport infrastructure and developing its logistics capacity. In recent years, Warsaw has also intensified efforts to expand dual-use infrastructure, drawing on funding from the CEF Transport, among others. Poland supports the development of transport corridors with Ukraine through initiatives such as the TEN-T and the Solidarity Lanes. At the same time, domestic policy tensions have emerged due to pressure from transport and agricultural sectors, which perceive Ukraine's EU accession as a potential threat.

Poland views transport cooperation with Ukraine as a means of strengthening its own transport infrastructure and developing its logistics capacity.

For Ukraine, the in transport po- a symbolic ali- European Union

ment of its post-war reconstruction strategy and westward economic orientation. A central priority is the construction of standard-gauge railway lines across the country, aligned with the system used in most EU member states (except the Baltic states, Finland, Spain, and Portugal). Cooperation with Poland is of strategic importance, as it serves as the main gateway to the EU market and provides access to Baltic ports, including Gdańsk and the Baltic Hub—the largest container terminal on the Baltic Sea—as well as Klaipėda and, to a lesser extent, North Sea ports such as Rotterdam and Hamburg.

systemic shift plicy represents gnment with the and a key ele-

⁸ S. Matuszak, K. Popławski, *Running on European tracks. Modernising the rail network in western Ukraine during wartime*, OSW Commentary, 26.02.2024, osw.waw.pl/en.

A shared interest of both countries in the transport sector includes, among other things, the expansion and modernization of existing road and rail infrastructure in border regions, as well as border crossings—both road and rail—and the construction of new and the expansion of existing transshipment terminals on both sides, particularly in border areas. So far, a key obstacle in this regard has been insufficient funding and the lack of consistent political agreement between the two sides on the development of border crossings.

The main points of tension remain the liberalization of road and rail transport markets, the capacity of border infrastructure, the issue of where transshipment operations should take place (on the Polish or Ukrainian side), and competition in the agricultural sector.

Regarding the liberalization of the road transport market, the agreement between the EU and Ukraine has been extended until the end of March 2027.⁹ Importantly, the arrangement removed the obligation for Ukrainian companies to obtain permits for bilateral transport operations. Still, it did not allow them to freely perform cabotage (i.e., domestic transport within another country by a foreign operator) or cross-trade within the EU (transport between two foreign countries).¹⁰ Access to these types of services continues to be allocated through multilateral quotas negotiated within the framework of the European Conference of Ministers of Transport (ECMT) under the International Transport Forum. Consequently, road carriers from EU member states have strongly opposed the measure, fearing a loss of market share within the Union. The competitive edge of Ukrainian drivers stems from lower labor costs and the absence of certain regulatory burdens that apply to drivers operating in the EU. The future of the agreement between Brussels and Kyiv remains uncertain, given the limited support from neighboring countries and ongoing controversies surrounding the unrestricted application of cabotage and cross-trade, which could distort the functioning of the single market.

Another issue concerns the liberalization of Ukraine's rail transport market, which is particularly important to freight rail operators based in Poland. Ukraine has repeatedly emphasized its intention to introduce such reforms. In the "Ukraine Plan 2024–2027," a technical document adopted by the Ukrainian authorities and a prerequisite for receiving funding under the Ukraine Facility instrument, this reform is identified as a key priority in the transport sector.¹¹

As part of its accession efforts, Ukraine will also need to carry out the so-called unbundling of Ukrzaliznytsia (UZ), the state-owned railway operator. At present, UZ combines multiple roles: it manages railway infrastructure—overseeing maintenance, repairs, construction, and upgrades—administers railway property assets, and operates both passenger and freight services. In EU member states, these functions are typically separated. According to the "National Transport Strategy of Ukraine until 2030," adopted at the end of December 2024, the division of the company into separate entities—covering infrastructure management, property administration, and passenger and freight operations—is expected to take place by 2027. However, this timeline appears highly ambitious. For the authorities in Kyiv, restructuring such a large enterprise will be a si-

⁹ Komisja Europejska, *EU and Ukraine extend road transport agreement until 31 March 2027*, https://transport.ec.europa.eu/news-events/news/eu-and-ukraine-extend-road-transport-agreement-until-31-march-2027-2025-09-25_en, 25 września 2025.

¹⁰ K. Popławski, *Unequal competition. The consequences of the liberalisation of EU–Ukraine road carriage for Central Europe*, OSW Commentary, 4 kwietnia 2024, osw.waw.pl/en.

¹¹ S. Baniak, *Transformation of Ukrainian transport system and its perspectives for the EU integration*, Europeum, March 2025, europeum.org.

significant challenge. UZ is a vast organization that generates substantial budget revenues and has long accounted for approximately 2.5–3% of the country's GDP¹². It also faces structural issues, including overemployment, which contributes to low wages and persistent corruption. Although the workforce has declined in recent years (from around 235,000 employees at the beginning of the invasion), it remains large, currently at approximately 187,000.¹³ By comparison, the entire railway sector in Poland, including private operators, employed around 90,500 people in 2022.¹⁴

In practice, other rail operators in Ukraine are unable to operate independently without close cooperation with UZ, resulting in a de facto monopoly. While it is understandable that wartime conditions differ from peacetime—particularly due to the need to ensure military logistics and supply deliveries to the front line—this situation is further compounded by long-standing unfair practices by UZ toward foreign carriers entering Ukraine via standard-gauge tracks from EU member states. A crucial problem for Polish rail carriers is the long wait (up to 1 year) to obtain an agreement with UZ that allows them to enter Ukrainian territory, which limits their ability to conduct transport operations and forces them to rely on third parties. For a carrier that would have to use border handling services, i.e., outsource them to another operator, this becomes unprofitable. UZ offers such services (which are expensive and charged in Swiss francs), but does not have enough locomotives to provide them. Discussions with Polish rail carriers indicate that UZ is seeking to handle all cross-border transport operations itself, thereby limiting access for other carriers.

Another problematic issue is the capacity of border infrastructure. For years, it had not undergone significant modernization on either side. There is also a clear need to establish new border crossings—both rail and road—to relieve the burden on existing ones. As a result, the Polish-Ukrainian border infrastructure was not prepared to handle such a large volume of traffic, including refugees, freight, military equipment, and humanitarian aid. Nevertheless, it fulfilled its most critical functions thanks to the efforts of national infrastructure managers—PKP PLK and UZ—as well as the Polish passenger operator PKP Intercity and regional and freight carriers (such as PKP LHS – the Broad Gauge Metallurgical Railway Line), which played a key role in evacuating civilians deeper into Poland. From the outbreak of the invasion until February 2023, around 10 million Ukrainians crossed the Polish-Ukrainian border.¹⁵ Border crossings also enabled a more than twenty-seven-fold increase in the transit of Ukrainian agricultural products through Poland compared to 2021. In addition, there are staff shortages among employees at border stations on the Ukrainian side, which partly contribute to delays in transport operations.

Ukrainian authorities plan to develop border infrastructure with neighboring countries further. Nearly half of the funds allocated under the Strategy for the Development and Expansion of Border Infrastructure with EU Member States and Moldova until 2030 (UAH 46.6 billion) will be directed to projects along the border with Poland.¹⁶ These investments are expected to include the modernization and expansion of the border crossing with Poland, five road crossings (Yahodyn, Ustyluh, Rava-Ruska, Nyzhankovychi, Shehy-

¹² W. Konończuk, *Keystone of the system. Old and new oligarchs in Ukraine*, OSW Point of View, 18 sierpnia 2016, osw.waw.pl.

¹³ UZ, *General information*, https://uz.gov.ua/en/about/general_information, [access: March 1, 2026].

¹⁴ UTK, *Zatrudnieni w sektorze kolejowym w 2022 r.*, <https://utk.gov.pl/pl/aktualnosci/20305,Zatrudnieni-w-sektorze-kolejowym-w-2022-r.html>, 4 sierpnia 2023, utk.gov.pl.

¹⁵ *Transportowe korytarze solidarnościowe między UE a Ukrainą*, Ministerstwo Infrastruktury, 23.02.2023, gov.pl/web/infrastruktura.

¹⁶ *Ministry of Economy. Two more steps of the Ukraine Facility Plan completed*, Government Portal, 26.12.2024, kmu.gov.ua/en.

ni), and two rail crossings (Yahodyn and Mostyska). In previous years, political tensions were fueled, among other factors, by Ukraine's cancellation of a contract to expand the Medyka–Shehyni road crossing on its side of the border.¹⁷ In 2015, the Polish government signed an agreement with Ukraine to provide up to EUR 100 million in loans for the renovation and expansion of border infrastructure, on the condition that the contracts would be awarded to Polish contractors.¹⁸ In 2023, five years after the Polish company Unibep had won the tender, the Ukrainian side terminated the contract. Although the company won the tender again a year later, the episode left a degree of mistrust. Still, keeping pace with the growing trade exchange between Ukraine and the EU will require increasing the capacity of existing border crossings and establishing new ones, expanding the number of customs officers and inspection personnel (including veterinary and sanitary services), equipping border services with additional scanning equipment, and constructing extra sidings to prevent delays for trains that already have complete documentation allowing entry into the EU.

A further challenge is the ongoing shift of transshipment operations deeper into Ukraine, a trend likely to intensify as standard-gauge rail infrastructure expands within the country. Ukraine's objective is to move transshipment activities away from Polish and Ukrainian border terminals toward logistics hubs near Lviv. By 2027, a standard-gauge section between Mostyska and Sknyliv (near Lviv), approximately 73 km long, is expected to be completed.¹⁹ In September 2025, the Uzhhorod–Chop section leading to the borders with Slovakia and Hungary was opened; however, at only 22 km, it is significantly

Keeping pace with the growing trade between Ukraine and the EU will require increasing the capacity of existing border crossings and establishing new ones.

shorter and will play a more limited role in trade flows.²⁰ Ukraine is also pursuing the development of new terminals in the western part of the country. This is driven by more competitive pricing offered by these facilities, monopolistic practices associated with UZ, and

the rapid growth of Ukraine's container market, increasingly serviced by major global shipping lines such as MSC, Maersk, and CMA CGM.²¹ In recent years, a large number of new transshipment terminals have been established in western Ukraine, particularly in border regions, to the point that the availability of land for further investment is becoming a constraint. While the gradual relocation of transshipment activities inland can be seen as a natural development—as the interface between standard-gauge and broad-gauge networks shifts eastward—it also entails a loss of potential revenue for Polish terminal operators and rail and road carriers. It poses a risk to PKP LHS's operations.

From Poland's perspective, a significant challenge during this period was managing the surge in Ukrainian agricultural products transiting through its territory and entering its domestic market. Following the EU's decision in June 2022 to temporarily lift tariffs on Ukrainian goods — a deliberate measure to support Ukraine's war-stricken economy

¹⁷ *Spór o rozbudowę kluczowego przejścia z Ukrainą. Polska grozi wstrzymaniem finansowania*, 330gospodarka, 21.07.2023, 300gospodarka.pl.

¹⁸ *Poland to grant EUR 100 million to Ukraine for the construction of border infrastructure and checkpoints on the Ukrainian–Polish frontier*, 09.09.2015, kmu.gov.ua/en.

¹⁹ *First €73.5 million allocated for the European-gauge railway to Lviv. Grant Agreement awarded*, Ministerstwo Rozwoju Wspólnot i Terytoriów Ukrainy, 06.11.2025, mindev.gov.ua/en.

²⁰ *Ukraine opens its first railway line with European track width standard, boosting the country's integration with the European Union*, 06.09.2025, enlargement.ec.europa.eu.

²¹ *S. Baniak-Stachowiak, Global shipping operator MSC is building bridgeheads in western Ukraine*, OSW, 22.10.2025, osw.waw.pl/en.

and global food supply chains — imports of Ukrainian cereals recorded by Polish statistical authorities rose sharply from a near-zero pre-war baseline. According to a report of Poland's Supreme Audit Office (NIK), wheat imports from Ukraine increased by nearly 17,000% in 2022, while maize imports rose by almost 30,000%.²²

These dramatic percentages, however, reflect a base effect: Poland had imported virtually no Ukrainian grain before 2022, and similar step-change increases were recorded across all of Ukraine's EU neighbors — Romania reported an approximately 800-fold rise, Hungary nearly tenfold.²³

Between January and April 2023, 541 thousand tonnes of cereals and oilseeds valued at PLN 6.2 billion. While grain was forwarded to other markets, traders, in some

Ukraine's aim is to transfer transshipment operations from Polish and Ukrainian border terminals to logistics centres near Lviv.

January 2022 and entities imported tonnes of cereals valued at PLN a portion of this marginally in transit intermediary cases, diverted

transit shipments to the Polish domestic market, further compounding supply-side pressure.²⁴ Polish market dynamics also contributed to the situation: the spike in world grain prices in mid-2022 prompted many Polish farmers to temporarily withhold their own stocks, creating a domestic deficit that Polish companies filled with Ukrainian grain. This decision later contributed to the oversupply problem when global prices fell.

The resulting drop in Polish farm-gate prices triggered widespread farmer protests, which also occurred, albeit on a smaller scale, in other EU countries bordering Ukraine. The European Commission's own assessment, however, was that the influx of Ukrainian grain had helped offset production shortfalls across the EU and stabilize consumer food prices; it warned that restricting Ukrainian transit risked triggering a renewed global price spike²⁵. In response to the protests, Poland introduced restrictions allowing only the transit of Ukrainian grain through its territory. However, due to logistical constraints, this transit gradually declined and eventually halted, negatively affecting transshipment volumes in Polish ports and causing losses for companies across the TSL sector, including rail and road carriers, freight forwarders, and terminal operators.

The agricultural sector will undoubtedly remain one of the key areas of tension in Ukraine's EU accession process, as member states are likely to prioritize protecting their domestic agricultural markets and maintaining the stability of their farming sectors. At the same time, Ukraine will seek to preserve market access that has become a fiscal lifeline for its wartime economy.

²² Import oraz obrót zbożem i rzepakiem z Ukrainy – skuteczność działań organów państwa, NIK, 2024, [nik.gov.pl](https://www.nik.gov.pl).

²³ The EU increases its agri-food imports from Ukraine: causes and reactions from Central European states, OSW, 11.04.2023, osw.waw.pl/en.

²⁴ <https://www.ips-journal.eu/topics/economy-and-ecology/seeds-of-strife-7361>.

²⁵ <https://epthinktank.eu/2023/04/19/ukrainian-grain-import-bans-explained>.

CHAPTER III

The Border System: Performance, Governance, and Digital Tools

Throughput and Predictability: What Drives Economic Losses

The economic efficiency of a border is measured not only by the volume of customs duties collected, but above all by the speed and predictability of cargo movement. For modern businesses operating within global value chains, time is the most critical resource. Any border delay triggers a chain reaction of financial losses that affects not only carriers but also manufacturers, distributors, and end consumers. The throughput problem on the Ukrainian border has deep roots, combining the legacy of outdated infrastructure with the challenges caused by the sharp increase in traffic at border crossing points following the outbreak of the war.

The primary source of financial losses is vehicle downtime. A truck waiting in a queue is not simply a stationary object — it is an asset generating losses. Costs include driver wages during waiting time, depreciation of equipment performing no useful work, and fuel consumption for maintaining temperature conditions in refrigerated units or powering cabin comfort systems. However, the most painful consequence for businesses is the disruption of contractual delivery schedules. Missing unloading slots at European warehouses frequently results in penalty charges that can wipe out the entire profit from a trade transaction.

The main bottlenecks at the border:

- **physical limitations:** lanes, inspection bays, weighing and scanning facilities, parking areas, and service zones;
- **staffing and organizational limitations:** number of shifts, scheduling across different services, peak hours, and coordination with other types of controls;
- **procedural limitations:** sequencing and duplication of procedures (two stops instead of one, repeated checks);
- **informational limitations:** absence or incompatibility of data, differing formats and reference systems, manual entry and re-entry of information.

For large international companies — particularly those operating on a just-in-time model — the predictability of border-crossing times matters more than the absolute duration of the crossing.

Digital Queueing, Joint Controls, and Data Interoperability

The central axis of border management reform in Ukraine has become a digital ecosystem that has united the interests of the state and business. The shift from physical queues on roads to virtual slots in databases has transformed not only logistics but also the social climate around border-crossing points. The "eQueue" system addresses a specific class of problem: the chaotic arrival of vehicles at a capacity-constrained service system. The mechanisms behind eQueue's impact include electronic booking,

elimination of physical queues, round-the-clock arrival scheduling, and reduced manual intervention.

An important feature of the Ukrainian model is its adaptability to wartime conditions. In particular, deep integration has been implemented with the "Shlyakh" ("Path") system, which regulates border crossing of male drivers of conscription age (18–60). Previously, this process required separate checks at each stage, creating delays and opportunities for corruption. The algorithm is now synchronized: registration in eQueue automatically retrieves departure authorization data, simplifying the procedure for drivers and the verification process for border guards.²⁶

However, a queue system cannot "create" throughput capacity. If waiting areas, access roads, the number of lanes, and inspection lines are not scaled up accordingly, a "deferred queue" emerges. The queue simply shifts to another location or takes on a different form of delay (for example, vehicles waiting in a service zone without adequate facilities). Despite these successes, end-to-end integration with the information systems of the State Customs Service of Ukraine (SCS) and the "eDocument" system, a temporary digital license containing driver information in Ukrainian and English that can be checked for validity online via a QR code, remains unresolved. Due to the absence of full customs data exchange in Ukraine, the automation of priority clearance for urgent, perishable, or humanitarian cargo operates imperfectly. The identification of such cargo using UCGFEA commodity codes²⁷ is often performed semi-automatically, and inter-agency data exchange in Ukraine is conducted via lists and manual confirmations.

Significant progress in data compatibility in Ukraine occurred on September 10, 2025, when eQueue began operating as a 'single window'²⁸. As a result, data is now automatically cross-checked between the eQueue system, the State Border Guard Service of Ukraine, and the Unified Complex of Information Systems (UCIS) of Ukrtransbezpeka²⁹. This eliminated the need for separate applications and verification of foreign drivers through the Shlyakh module.

The greatest achievement in Ukraine's international data exchange is the country's accession to the Convention on a Common Transit Procedure. On April 22, 2024, Ukraine successfully transitioned to using the European IT system NCTS Phase 5. This system connects the customs services of 36 countries (the EU and other partner states). It enables Ukrainian customs authorities and businesses to exchange customs information in real time using a single transit document for the entire route.

According to research by the Institute for Economic Research and Policy Consulting (IER)³⁰, the average reduction in waiting times following the implementation of the eQueue system is estimated at 24% to 70%. At individual crossing points, the results are as follows: Yahodyn — from 60 to 32 hours (–46.7%), Rava-Ruska — from 55 to 31.5 hours (–42.7%), Porubne at the Romanian border — from 69 to 21 hours (–69.6%). At the same

²⁶ <https://mindev.gov.ua/news/do-uvahy-mizhnarodnykh-pereviznykiv-ta-vodiiv-onovlennia-shchodo-peretynu-kordonu-vodiiamy>.

²⁷ Українська класифікація товарів для діяльності господарчезь з заграницз: <https://business.dia.gov.ua/service/ukted>.

²⁸ *Aktualizacja dotyczząca przekraczania granicy na dzień 10 wrzeńnia*, <https://echerha.gov.ua/news/471>

²⁹ Państwowa Służba Bezpieczeństwa Transportu Ukrainy.

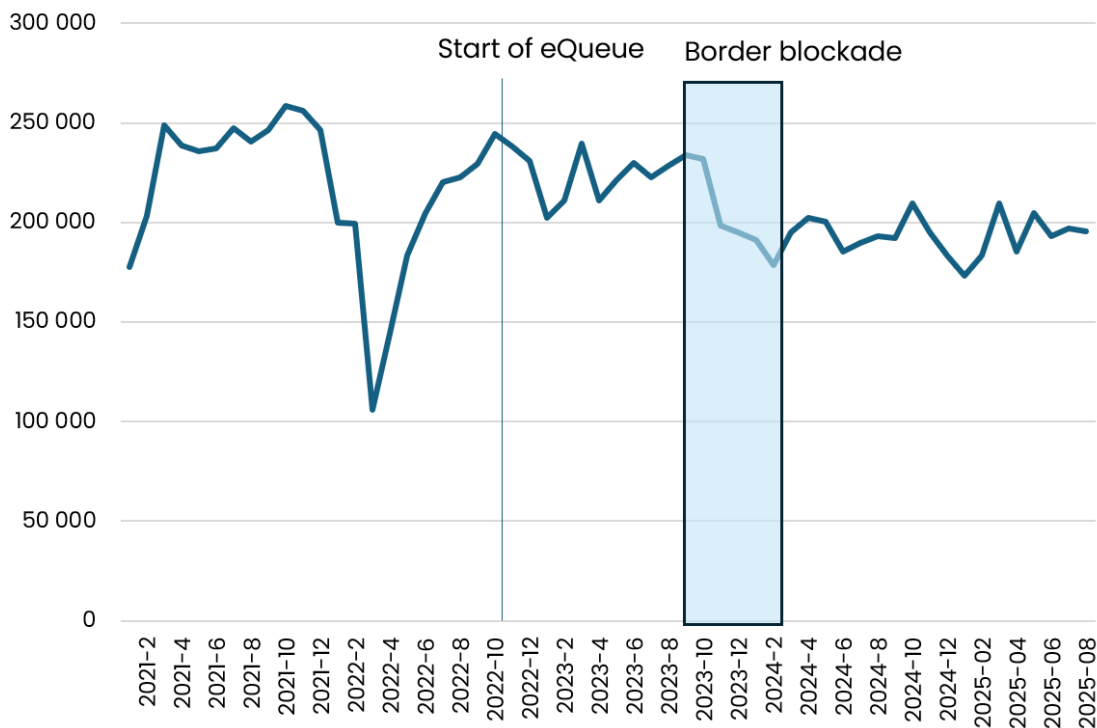
³⁰ http://www.ier.com.ua/files/Projects/2025/News/%D0%92%D0%BF%D0%BB%D0%B8%D0%B2_%D1%81%D0%B8%D1%81%D1%82%D0%B5%D0%BC%D0%B8_%D1%94%D0%A7%D0%B5%D1%80%D0%B3%D0%B0_%D0%BD%D0%B0_%D0%BF%D1%80%D0%B8%D0%BA%D0%BE%D1%80%D0%B4%D0%BE%D0%BD%D0%BD%D1%83_%D0%BB%D0%BE%D0%B3%D1%96%D1%81%D1%82%D0%B8%D0%BA%D1%83.pdf.



time, the effect was uneven: in Krakivets and Uzhhorod, waiting times actually increased slightly, indicating the system did not resolve bottlenecks equally across locations. If the cost of truck downtime is estimated at €300 per day, then a reduction in waiting time of one day across 200,000 crossings per month yields approximately €60 million in potential monthly savings.

Overall, cargo flows indicate that eQueue did not reduce the number of trucks processed in Ukraine. On average, approximately 200,000 trucks cross the Ukrainian border per month. The decline in traffic was linked not to the system itself, but to the blockade of the border with Poland: during the blockade period at the turn of 2023 and 2024, the flow decreased by 13.4%, and after its conclusion stabilized at a lower level – approximately 193,000 vehicles per month, compared to an average of 223,245 before the blockade. In other words, eQueue made the flow more manageable and predictable, rather than increasing throughput capacity.

Fig 1. Dynamics of total truck traffic in Ukraine, 2021–2025 (units).



Source: Analytical Report "The Impact of the eQueue System on Border Logistics, Communities, and State Policy", IER (2025).

At present, the Ukrainian eQueue operates exclusively in a one-sided mode, meaning that the actual time required to cross the border is critically dependent on the capacity and readiness of the neighboring countries' services (Poland, Slovakia, Hungary, and Romania) to handle the flow of vehicles. One-sided digitalization yields only partial results: in the absence of a "mirror" arrangement on the EU side, electronic registration

Ukrainian eQueue operates exclusively in a one-sided mode, meaning that the actual time required to cross the border is critically dependent on the capacity and readiness of the neighboring countries' services.

often leads to prolonged physical waiting at the barrier after passing through Ukrainian controls. According to information obtained from representatives of the regional administration in Lublin and the road haulage sector, Poland is planning to launch a pilot similar electronic system for road carriers at the Dorohusk–Yahodyn border crossing. The pilot is expected to begin

in mid-May 2026, with full implementation of the system planned for 2027, though this timeline may still shift.³¹ If successfully introduced and synchronized with Ukraine's eQueue system, the solution could become the first practical step towards "mirror" traffic management on both sides of the border.

The realization of the "smart border" concept and integration with the European TEN-T transport network requires synchronization of eQueue with the IT systems of neighboring states. This calls for the introduction of a tokenized queue position – a single digital identifier readable by the administrations of both countries – as well as end-to-end exchange of customs and border data in near-real time. Political and economic pressures further complicate the process. Polish carriers and media outlets, for instance, have been sharply critical of the Ukrainian eQueue, labeling it a "political instrument" that allegedly disadvantages Polish companies by pushing them further down the queue.³²

Shared KPIs: A Practical Monitoring Framework

Skuteczność zarządzania granicami i cłami wymaga przejścia od całkowitej kontroli fiThe effectiveness of border and customs management requires a transition from total physical control to data-driven decisions. The eQueue system provides the Ukrainian government with a large volume of data that should be used to establish detailed KPIs. The granular data for each border crossing point enables, for example, the definition of the average processing time, the share of out-of-turn arrivals, the level of capacity utilization, and the number of user complaints for each crossing. However, a strong KPI system cannot be reduced to a single indicator such as "average queue time." **For meaningful border monitoring, it is essential to distinguish at least several time segments: the waiting time before entry, the actual time spent at the crossing point, the total border crossing time, and the deviation from the forecast.**

This is where Ukrainian eQueue provides particularly valuable input, as it allows policy-makers to work not with rough estimates but with live operational data. Based on this data, decisions can be made at three levels:

³¹ Non-public information obtained in expert interviews with representatives of the regional administration and the transport sector, April 2026.

³² <https://biz.liga.net/ua/all/transport/novosti/polski-pereviznyky-hotuiut-protest-na-kordoniz-ukrainoiu-skarzhatsia-na-konkurentsiiu>.

- **at the operational level** – daily redistributing traffic flows between crossings, adjusting to dynamic queue registration, and rapidly responding to incidents;
- **at the tactical level** – planning resources, staff, and equipment;
- **at the strategic level** – determining where to direct investments and which rules need to be revised.

It is also crucial that these KPIs be joint rather than purely Ukrainian. Border capacity is a shared function of both sides and is determined by the slowest link in the chain. Therefore, unilateral digitalization produces only a partial effect. If the queue is digitized on the Ukrainian side but the process is not synchronized on the Polish side, bottlenecks will emerge at the actual crossing stage.



CHAPTER IV

Road Freight: Market Dynamics, Compliance, and Capacity Constraints

Situation in the Road Transport Market

The agreement between the EU and Ukraine on the partial liberalization of road transport, introduced on 30 June 2022, was conceived as an emergency wartime measure. With Ukraine's Black Sea ports blockaded and its rail capacity prioritized for military logistics, road transport became the primary channel for Ukrainian exports to the EU and for the import of fuel, humanitarian supplies, and reconstruction goods. The EU's official rationale was that the existing bilateral permit system and ECMT multilateral quotas provided insufficient flexibility for Ukrainian operators to plan and increase their operations under wartime conditions, and the agreement was essential to sustain the Solidarity Lanes.³³

From Ukraine's perspective, the liberalization was not a trade concession but an economic lifeline — a substitute for the maritime corridor that Russia had destroyed.

Since the start of the full-scale invasion, road transport between Poland and Ukraine has played an even greater role for both economies, particularly for Polish exports, which account for around 80% of Poland's exports to Ukraine.

From the perspective of Polish and Central European road carriers, however, the agreement triggered a competitive disruption that came on top of other compounding pressures. Since the outbreak of the full-scale invasion, Polish transport companies in the country's eastern regions have effectively lost access to their traditional markets in Russia and Belarus, due to the reciprocal bans on Polish trucks in those territories following Poland's own restrictions, effective from June 2023. This loss of eastern market access was a primary driver of financial pressure on a segment of Polish carriers that had specialized in eastbound trade; its connection to Ukrainian competition was indirect, though the two problems converged in public discourse and in the border protests that followed.

Before the agreement entered into force, freight transport between Poland and Ukraine was strictly regulated by an annual quota system of permits. For example, in 2021, the limit was set at 160,000 permits per country for companies. However, there was a notable asymmetry in their use: Ukrainian operators utilized nearly all available permits, whereas Polish companies used only around 35–40%. These permits did not cover cabotage—meaning domestic transport within another country by a foreign carrier—or cross-trade, defined as transport between two foreign countries. Such rights are allocated through multilateral quotas negotiated under the European Conference of Ministers of Transport (ECMT) within the International Transport Forum. For 2024, Ukraine was granted approximately 5,500 annual permits under this system.

³³ K. Popławski, *Unequal competition. The consequences of the liberalisation of EU–Ukraine road carriage for Central Europe*, OSW Commentary, 04.04.2024, osw.waw.pl/en.

As a result of the partial liberalization of the road transport market, Ukrainian carriers have almost completely taken over the handling of bilateral trade flows by road with countries such as Poland, Slovakia, and Hungary, while also increasingly competing in other EU markets through cabotage³⁴ and cross-trade operations³⁵. The most common objections from Polish carriers concern violations of the cabotage and cross-trade bans, as well as pricing at low — and, according to Polish carriers and freight forwarders, dumping — rates.³⁶ Inspections conducted in Slovakia in November 2023 found that around two-thirds of Ukrainian carriers were operating in violation of applicable regulations.³⁷

It is estimated that currently around 80% of Ukrainian trucks enter Poland empty and pick up loads in southeastern Poland³⁸. According to data from the Polish Ministry of Infrastructure, by the end of October 2023, Polish carriers accounted for only around 8% of transport operations in bilateral trade with Ukraine, while Ukrainian carriers held a 92% share.³⁹ This marks a substantial shift from 2021, when Polish firms accounted for approximately 38% of such transport operations, compared with 62% for Ukrainian carriers.⁴⁰ This shift reflected several factors: Ukrainian carriers had a cost advantage stemming from lower labor costs and typically older vehicle fleets. In contrast, Polish carriers mainly rely on leased trucks, which incur high additional costs.⁴¹ In the meantime, however, the Ukrainian carriers were also rapidly expanding their fleet, responding to the sudden increase in demand following the closure of ports. Moreover, many Polish haulage companies were unable to operate in the Ukrainian market due to safety concerns and difficulties in obtaining insurance for vehicles and cargo. **Critically, Ukrainian carriers are not yet subject to the EU Mobility Package requirements, which impose obligations such as driving time limits, detailed recording of drivers' working hours, mandatory return of drivers and vehicles within specified timeframes, rules on the posting of workers, payment in accordance with the regulations of the country where services are provided, and restrictions on cabotage operations.**

However, characterizing the Ukrainian competitive position purely as an advantage requires care. Many Ukrainian carriers expanded their fleets rapidly and somewhat disorderly in 2022–23 in response to the sudden demand spike, leading to an oversupply of vehicles by 2023–24 that put pressure on freight rates across the market.⁴² Additionally, the EU itself recognized that the war had compromised the ability of many Ukrainian drivers to complete normal administrative procedures — including document renewals — due to circumstances beyond their control.⁴³

The Polish road-haulage sector was already under structural pressure from multiple

³⁴ Cabotage is performing transport operations within a EU country by carriers from another EU country.

³⁵ Cross-trade is a type of freight transport between two countries in which the transport company is not established in either of them.

³⁶ *Ukraińska droga do Unii Europejskiej. Polskie Doświadczenia. Sektor Transportowy*, WEI, 31.07.2024, wei.org.pl.

³⁷ *Polska-Ukraina: sektor transportu. Konkurencja i współpraca*, BGK, lipiec 2024, bgk.pl.

³⁸ R. Przybylski, *Polscy przewoźnicy: Ukraina nas blokuje*, Rzeczpospolita, 04.11.2025, rp.pl.

³⁹ *Further actions of the Ministry of Infrastructure aimed at ending the crisis on the Polish-Ukrainian border*, Poland in Estonia, 29.11.2023, gov.pl/web/estonia-en.

⁴⁰ R. Przybylski, *Polscy przewoźnicy: Ukraina nas blokuje*, Rzeczpospolita, 04.11.2025, rp.pl.

⁴¹ *Transport wraca do inwestycji. 19,7 mld zł finansowania i ostrożny optymizm na 2026 r.*, Trans.info, 13.02.2026, trans.info.

⁴² *The blockade of road crossings will cost the Ukrainian economy at least \$1 billion*, GMK Center, December 2023. <https://gmk.center/en/posts/the-blockade-of-road-crossings-will-cost-the-ukrainian-economy-at-least-1-billion>.

⁴³ European Commission, Proposal for a Decision of the European Parliament and of the Council on the conclusion of the Agreement between the European Union and Ukraine on the carriage of freight by road, COM/2022/308 final, EUR-Lex, 2022.

directions: high operating costs, declining EU freight rates, and the loss of access to eastern markets. Polish road haulers remain the largest in the EU, still accounting for roughly 20% of total transport work across the Union.⁴⁴ The EU's own assessment, however, was that the road transport agreement generated mutual benefits. At the time of its 2025 extension, the European Commission noted that Poland's road exports to Ukraine had grown 85% compared to 2021, confirming that the liberalization supported not only Ukrainian exports but also Polish commercial interests in the Ukrainian market.⁴⁵

Against this backdrop, in November 2023, a coalition of Polish carrier associations organized a blockade of the three main road crossings with Ukraine — Korczowa–Krakovets, Hrebenne–Rava-Ruska, and Dorohusk–Yahodyn. The blockade lasted until mid-January 2024. In December 2023, Slovak road haulers joined Polish truckers in blocking the main Slovakia–Ukraine border crossing at Vyšné Nemecké–Uzhhorod, demanding restrictions on Ukrainian competitors and protesting perceived unfair competition. Hungarian and Romanian carriers also temporarily blocked border crossings with Ukraine, although on a much smaller scale.

These blockades had severe economic consequences for Ukraine and its neighbors. According to the GMK Center, Ukrainian road exports to Poland fell by 26.7% in November 2023 compared to the previous month, while imports by road declined by 23.5%; overall, road-borne trade through the Polish border fell by approximately 40% that month.⁴⁶ The Federation of Employers of Ukraine estimated losses to Ukrainian businesses at EUR 400 million by late November;⁴⁷ Reuters estimated the blockade could cost Ukraine approximately 1% of GDP growth if sustained.⁴⁸ The blockade also disrupted the transit of fuel, military supplies, and humanitarian aid into Ukraine. The European Commission warned Poland that punitive proceedings could be initiated if border flows were not restored.⁴⁹ Some of the demands of Polish carriers were taken into account or partially met as a result of negotiations with the government and EU institutions.

The blockade was ultimately resolved through negotiations, resulting in changes to eQueue slot-management rules and other procedural adjustments. In the parallel controversy surrounding the eQueue electronic queuing system, Polish carriers reported that slot hoarding — reservations made without subsequent arrival — extended their waiting times at Ukrainian crossings, sometimes to eight days.⁵⁰ They also argued that the system disadvantaged them. Ukraine's Ministry for Communities and Territories Development acknowledged that in October 2025 alone, around 25,000 slot reservations were canceled. Following numerous complaints, including from Polish carriers, Ukraine introduced changes to the system in late November 2025, including limiting reschedu-

⁴⁴ M. Pakulniewicz, *Polska nadal europejską potęgą. Ale zaczynamy tracić zlecenia*, Polski Instytut Transportu Drogowego, 16.07.2025, pitd.org.pl.

⁴⁵ *EU and Ukraine extend road transport agreement until 31 March 2027*, Komisja Europejska, 25.09.2025, https://transport.ec.europa.eu/news-events/news/eu-and-ukraine-extend-road-transport-agreement-until-31-march-2027-2025-09-25_en.

⁴⁶ *The blockade of road crossings will cost the Ukrainian economy at least \$1 billion*, GMK Center, December 2023, <https://gmk.center/en/posts/the-blockade-of-road-crossings-will-cost-the-ukrainian-economy-at-least-1-billion/>.

⁴⁷ <https://fru.ua/ua/media-center/news/fru/blokuvannya-kordoniv-ekonomika-krajini-vtratit-milyardi-evro-fru-zvertaetsya-do-prezidenta-ukrajini-ta-prezydentki-es>

⁴⁸ <https://www.reuters.com/world/europe/economic-losses-pile-up-ukraine-polish-truckers-protest-2023-11-30>.

⁴⁹ *Polish carriers still blocking critical goods shipments at Ukraine border, infrastructure ministry*, The New Voice of Ukraine, 20.11.2023, <https://english.nv.ua/nation/polish-carriers-still-blocking-critical-goods-shipments-at-ukraine-border-infrastructure-ministry-50369711.html>.

⁵⁰ R. Przybylski, *Przewoźnicy: Ukraina blokuje granicę polskim ciężarówkom*, Rzeczpospolita, 18.06.2025, rp.pl.

ling to once every 60 days and imposing a 14-day suspension from the system for non-compliance with its rules.⁵¹ The system's limitations are genuine and were acknowledged by Ukrainian authorities. Still, the scale of border congestion was substantially shaped by the capacity constraints that predated the eQueue and were compounded by the traffic surge after 2022 – a problem affecting all carriers.

Infrastructure needs

With the steady increase in road transport between the EU and Ukraine since 2022, both sides have accelerated efforts to modernize border crossings and the roads leading to them. Among road crossings, the highest volume of freight traffic between Poland and Ukraine is handled at Dorohusk–Yahodyn, Korczowa–Krakovets, Hrebenne–Rava-Ruska, Medyka–Shehyni, Dołhobyczów–Uhryniv, and Zosin–Ustyluh. In line with its border infrastructure strategy, Ukraine plans to upgrade most of these crossings on its side (including Yahodyn, Ustyluh, Rava-Ruska, Nyzhankovychi, and Shehyni), with financial support from EU funds.

Additionally, Kyiv has secured funding for the construction of parking facilities near the Dorohusk–Yahodyn, Hrebenne–Rava-Ruska, and Krakovets–Korczowa crossings. It has also used EU resources to modernize the M-07 road, which links Kyiv with Yahodyn via Kovel. On the Polish side, EU co-financing currently supports, among other projects, the construction of the cross-border section of the S12 expressway between Piaski and Dorohusk, which is planned to be connected to the A1 motorway running from northern Poland to the Czech border in the future.

Under the Interreg NEXT Poland–Ukraine program, the results of which were announced in autumn 2025, the EU allocated over EUR 57.6 million to cross-border projects on both sides, including the modernization of border crossings and access roads.⁵² An important milestone was the opening of the new Malhowice–Nyzhankovychi road crossing at the end of 2024. Initial discussions on this project date back to the 1990s, and the total investment cost amounted to approximately PLN 150 million.⁵³ The crossing is designated for passenger cars and buses; it does not handle sanitary, veterinary, or phytosanitary inspections, but it helps ease congestion at other crossings that primarily serve freight traffic.

Another, even more ambitious project is the redevelopment of the Korczowa border crossing into a modern freight clearance terminal, estimated at PLN 1.2 billion. One of the most significant challenges for both sides remains the digitalization of border procedures.

⁵¹ *Ukraine Implements New Rules for “eQueue” Freight Queue System from November 24*, Mezha, 20.11.2025, mezha.net/en.

⁵² *Ponad 57,6 mln euro na infrastrukturę i współpracę na polsko-ukraińskim pograniczu*, Interreg NEXT Polska–Ukraina, 08.10.2025, pl-ua.eu/pl.

⁵³ *Ruszyły odprawy na nowym przejściu granicznym Malhowice–Niżankowice*, Ministerstwo Finansów, 21.12.2024, gov.pl.

CHAPTER V

Rail and Intermodal: Terminals, Gauge Interface, and TEN-T Trajectory

Intermodal Growth and Terminal Constraints

After the outbreak of full-scale war in 2022, the Poland-Ukraine railway route became one of the main transport channels between Ukraine and the European Union. Due to the sharp reduction in seaborne exports, land logistics, primarily railways, began to serve as the main route for the transportation of grain, metals, fuel, and humanitarian cargo. As a result, border crossings became central hubs of foreign trade rather than peripheral infrastructure. This process was institutionalized by the inclusion of the Ukrainian transport network in the expanded TEN-T network and the creation of Solidarity Lanes⁵⁴, which provided access to financing through the Connecting Europe Facility and identified Polish-Ukrainian railway crossings as priority EU transport connections.⁵⁵

However, the integration of networks has not eliminated a key structural problem – the different track gauges between the 1,435 mm systems in the EU and the 1,520 mm system in Ukraine. Each freight train at the border requires either reloading cargo or replacing bogies, which creates system delays regardless of the capacity of the main lines. In transportation practice, this means that delivery speed is determined not by route length but by the time spent at the border node. According to estimates, border processing, including controls, often exceeds the transport operation itself, making border stations the main “bottleneck” of the corridor.⁵⁶

Institutional procedures further reinforce the infrastructure barrier. Customs, veterinary, and phytosanitary inspections are mostly carried out sequentially, which increases the train's processing time and creates instability in transit times. As a result, transportation efficiency is determined not by nominal throughput capacity but by the predictability of border crossings. This is especially critical for agricultural exports, where trade contracts are based on guaranteed delivery times, and irregularities increase logistics costs and reduce the competitiveness of Ukrainian products on the EU market⁵⁷.

Four operating railway crossings play a key role in the freight connection between Ukraine and Poland – Yagodyn–Dorohusk, Izov–Hrubieszów, Mostyska-2–Medica, and Rawa–Ruska–Verkhvata. After 2022, they ceased to be mere border checkpoints and became dry ports where transshipment, train formation, and mode changes occur. Therefore,

⁵⁴ https://ec.europa.eu/commission/presscorner/api/files/attachment/878620/Factsheet_EU-UA_Solidarity_Lanes_EN.pdf.pdf.

⁵⁵ <https://mindev.gov.ua/news/34941-ukrayina-stala-povnocinnoiu-ucasniceiu-programi-jes-mexanizm-spolucennia-jevropi>.

⁵⁶ <https://gmcenter/en/posts/how-the-russia-ukraine-war-has-impacted-on-logistics-routes-and-supply-chains>.

⁵⁷ <https://haski.ua/blog/zaliznychni-vorota-u-svit-v-yakomu-stani-perebuvayut-vantazhni-perevezennya-mizh-ukrayinoyu-ta-polshheyu>.



their function is determined not by the length of approaches or the speed of trains, but by the ability of terminals to quickly receive, process, and send cargo.⁵⁸

The most developed intermodal hub is Mostyska-2-Medica. A container hub has been established here, focused on container transportation, agricultural products in big bags, fuel, and general cargo.⁵⁹ The “Mostyska Dry Port” container terminal has become a key intermodal hub on the Ukraine-Poland corridor and actually functions as a dry port on the border. Over the first two years of operation, more than 97 thousand TEU containers have been processed here, and 472 thousand tons of grain, bulk, and general cargo have been transshipped, which reflects the transition from the traditional wagon model to universal multimodal logistics. The terminal has expanded the range of processed cargo, mastered handling piggybacks, mineral fertilizers, rails, and cast iron, and has also created specialized infrastructure, including a grain complex, vegetable oil pumping stations, and equipment for handling fertilizers in big bags and on pallets. As a result, the facility has become a logistics distribution center, where cargo not only crosses the border but also changes transport modes and is integrated into European supply chains.⁶⁰

In total, the terminal warehouse can store up to 4,000 TEU at a time, with a design capacity of up to 100,000 TEU per year. All cargo is subject to weight and customs control thanks to a separate customs post in the terminal itself.⁶¹

Yagodyn-Dorohusk acts as a transit intermodal corridor. The combined 1,435/1,520 mm gauge on the Kovel-Chelm section enables rapid passage of trains to logistics centers in Poland and, further, to the Baltic ports. A “railway-railway-port” chain is formed here, that is, an intermodal scheme with minimal overloading. The main limitation is not in the transition itself. Still, the terminals' ability to accept flows further along the route means the node serves as a synchronization point between the Ukrainian and European networks.⁶²

⁵⁸ <https://uga.ua/meanings/chi-dostatno-ukrayini-zaliznichnih-perehodiv-z-krayinami-yevropi>.

⁵⁹ <https://www.railinsider.com.ua/kontejnernyj-terminal-mostyska-maye-try-lokomotyvy>.

⁶⁰ <https://www.railinsider.com.ua/kontejnernyj-terminal-mostyska-obrobyv-ponad-97-tys-teu-za-dva-roky>.

⁶¹ https://ukrtsa.org.ua/wp-content/uploads/2024/07/Tr_tech.pdf.

⁶² <https://www.railinsider.com.ua/z-pochatku-vijny-z-rf-mizh-ukrayinoyu-ta-lytvoyu-pryamuvaly-ponad-280-poyizdiv>.

The Izow–Hrubieszów crossing also serves an intermodal function. Due to the extension of the 1,520 mm-wide gauge to Sławków, cargo can be delivered directly to Poland's logistics centers, where it is already distributed to road or European rail transport. In fact, transshipment is shifted from the border to the EU's internal hub. This makes the crossing key for the transportation of bulk and semi-containerized cargo, where not only the border crossing is important, but also further integration into Europe's logistics networks.⁶³

The least busy, but functionally important, is Rawa-Ruska–Verkhvata. It is used as an auxiliary intermodal route to southern Poland and Central Europe. Its importance lies not in large volumes, but in the diversification of routes. It can serve regional cargo and alternative logistics chains in the event of overloading at the main crossings.⁶⁴

In 2024, rail transportation between Ukraine and Poland demonstrated significant growth – the total volume increased by approximately 20% compared to 2023, confirming the trend of reorienting freight flows from road to rail. Individual operators, in particular PKP LHS, report even higher growth rates – up to 65% – indicating an intensification of the transit component. According to Ukrzaliznytsia, the following dynamics were recorded through the main checkpoints: Izov – from 8.45 million tons in 2023 to 8.96 million tons in 2024; Mostyska – from 3.17 million tons to 3.18 million tons; Yagodyn – from 1.68 million tons to 2.13 million tons, which demonstrates particularly intensive growth in this direction. In parallel, the infrastructure of Polish ports is being strengthened; in particular, a new grain terminal is being built in Gdansk to process Ukrainian cargo more efficiently. At the same time, the increase in transportation volumes is accompanied by greater load on border infrastructure, underscoring the need to optimize customs procedures, particularly by early processing of T1 declaration.⁶⁵

In 2025, mainly grain crops (corn, wheat, rapeseed), oilseeds and their processed products, containers with industrial and consumer goods, metal products (cast iron, rolled steel, rails), mineral fertilizers, bulk cargo (in particular fuel and chemical products), as well as general cargo, passed through the Ukrainian–Polish railway border. A significant share is accounted for by transit transportation to Polish ports – primarily for further export by sea, as well as import flows of energy carriers, raw materials, and equipment to Ukraine. The cargo structure after 2022 has become more diversified, with a noticeable increase in the role of container and agricultural transportation. **As of 2025, approximately 15–20 railway transshipment terminals and logistics hubs will operate on the Ukrainian–Polish border (either directly at border stations or in the border zone),** providing transshipment of containerized, grain, bulk, and general cargo across different track gauges. The exact number is constantly changing due to ongoing construction and capacity expansion after 2022. Overall, an extensive network of intermodal and grain terminals has been established, which has become key for exports and imports via the Polish route.

On the Polish side alone, there are 13 logistics hubs near the border, while Ukraine has 16 grain-handling transshipment terminals with a total capacity of 1,186 grain wagons per day.⁶⁶ The Polish network plays a key role in routes from Yagodyn and Mostyska toward Poland and further to Germany and the Netherlands.

⁶³ <https://www.railinsider.com.ua/ukrzaliznyczya-zakinchyla-elektryfikacziyu-dilnyczi-kovel-izov-derzhkordon>.

⁶⁴ <https://www.railinsider.com.ua/u-polshhi-vidnovlyat-vantazhnu-stancziyu-bilya-kordonu-z-ukrayinoyu>.

⁶⁵ https://cfts.org.ua/news/2025/01/16/u_2024_rotsi_ukrzaliznitsya__perevezla_175 mln_tonn_vantazhiv_81685.

⁶⁶ <https://elevatorist.com/spetsproekt/214-terminali-na-zahidnomu-kordoni-buduyut-vsyudi-de-ye-mojlivist--rino-pro-suhoputni-shlyahi-eksportu-agroproduktu>.

The terminals differ significantly in function and scale: some are full logistics hubs with grain storage, drying/processing, laboratories, customs areas, and rail infrastructure, while others are primarily transshipment sites moving cargo between broad- and narrow-gauge wagons or between trucks and rail. Examples include Chornotysiv Terminal, with a projected grain capacity of 80,000 tons, and Alebor, which has already completed a second phase, reaching 70,000 tons and is considering a third. At the same time, terminals near Mostyska have increasingly adapted to agricultural cargo, with grain accounting for a significant share of throughput.

A segment of private operators has emerged in Ukraine's container transportation market, with Levada-Cargo, Polish Laude, and N'UNIT playing a key role. They handle a significant share of container traffic and form a private terminal infrastructure, especially in large industrial centers and at border crossings. With the onset of a full-scale war, their activity sharply decreased due to changes in logistics routes and overloading of western crossings, but the following year, transportation volumes recovered, and activity returned to pre-war levels. Some operators even demonstrated multiple growth compared to the most difficult period.⁶⁷ In total, over the past three years, about 30 companies have received permits to create railway infrastructure for transshipment terminals near the border.⁶⁸

The Polish network plays a key role in the routes from Jagodzin and Mościsko to Poland, and from there on to Germany and the Netherlands.

In this context, it is also appropriate to consider the role of Ukrzaliznytsia, which is a monopoly on the domestic market and acts as a basic infrastructure carrier and coordinator of intermodal flows. It provides access to tracks, border operations, and the formation of container

trains, while private companies focus on terminal logistics, service, and organization of international routes. At the same time, the company sets a strategic goal to become a leader in the container transportation and terminal services segment. In 2023, the work of the Lisky CTS branch was optimized, 500 new fitting platforms were built (total fleet – 4,439 units), the terminal network was expanded, and digital services were introduced, in particular, a single window for customers. Regular intermodal routes provide connections to the ports of Constanta, Gdansk, and Izmail, and container trains to Gdansk were launched together with UZ Cargo Poland; another example of flexibility was the organization of a piggyback train during the border blockade. Thus, Ukrzaliznytsia not only performs the role of an infrastructure operator but also actively develops its own terminal and container segment as part of strategic integration into European logistics chains.⁶⁹

Therefore, the market has a complementary model: the state carrier provides the transport base, while private operators offer flexibility, processing speed, and service development. Despite the expansion of the terminal network, the constraints remain nodal. The capacity is determined by the time required for border processing and the ability to receive and dispatch trains promptly. After the active construction of new terminals, a second level of constraints has arisen – the "last mile": short access tracks, limited station openings, a shortage of shunting personnel, and logistical delays after transshipment.

⁶⁷ https://ukrtsa.org.ua/wp-content/uploads/2024/07/Tr_tech.pdf.

⁶⁸ <https://surl.it/iavssz>

⁶⁹ https://www.uz.gov.ua/press_center/up_to_date_topic/624194.



The corridor is gradually moving from a mass transportation model to an intermodal one, where the speed of cargo turnover and the synchronization of rail, road, and administrative processes become decisive. In these conditions, border nodes function as dry ports, and efficiency depends on the coherence of operations rather than only on the physical expansion of infrastructure.⁷⁰

Thus, after 2022, the Polish-Ukrainian railway corridor has transformed from a peripheral border connection into a strategic artery of Ukraine's foreign trade and a key element of integration into the EU logistics system. Despite institutional consolidation within the TEN-T framework and the development of intermodal infrastructure, the systemic limitations remain nodal factors: different track widths, consistent control procedures, and infrastructure "bottlenecks" at border stations and in the "last mile". The growth in transportation volumes and the diversification of cargo confirm the steady reorientation of flows toward the railway, but further capacity expansion depends less on increasing the number of trains than on optimizing border procedures, synchronizing intermodal operations, and modernizing nodal infrastructure.

Investment Sequencing and Risk of Misalignment

Ukraine's integration into the EU transport system within the updated TEN-T policy is not only about large-scale investments. It is equally important in the sequence in which they are made. In corridor logic, capacity is determined not by the best section, but by the weakest link. If infrastructure, terminals, and procedures develop unevenly, the system works more slowly than it could. The updated EU Regulation on the Development of the Trans-European Transport Network (TEN-T) (Regulation (EU) 2024/1679) enshrines the corridor approach, which means that it is not a single object that is assessed, but the entire chain – node approaches, the node itself, the cross-border section, terminals, digital and customs procedures.

There are several risks of misalignment. The first type of risk occurs when investments are concentrated on one node, for example, a border station, but approaches to it or

⁷⁰ <https://www.railinsider.com.ua/ukrзалізнична-дала-поради-для-зменшення-часу-простойу-вагонів-на-кordonі>.

operational processes do not change. In this case, there is a "bottleneck movement": delays shift to the adjacent area, and the total time spent passing the corridor is not significantly reduced. The European Investment Bank, in its strategy for integrating the Ukrainian and Moldovan railway systems, emphasizes that priority should be given to projects that create network effects and improve the functioning of the entire system, rather than a single facility.⁷¹

In January 2025, with support from the European External Action Service (EEAS / EU), a modernized train inspection point was opened at the Mostyska II station – the project was implemented with parallel funding from the CEF and the European Investment Bank. It was publicly stated that the relocation and modernization would allow for a doubling of capacity and bring the inspection to 30 trains per day (from 15). For this Polish-Ukrainian railway joint, the network effect is especially important due to different track widths (1,520 mm / 1,435 mm), limited terminal performance, time spent on customs and border procedures, and a lack of full digital integration of data exchange. Without a parallel solution to these issues, modernizing a single element will not yield a stable increase in throughput.

The second risk is launching a large-scale infrastructure project without a clear understanding of how it fits into the operating model. The documents of the EIB and the European Commission (2023) consider the extension of the 1,435 mm gauge in Ukraine toward Lviv as an element of the TEN-T but emphasize the operating model. This is the construction of an 80 km track on the Mostyska II-Sknyliv section with a total cost of about EUR 190 million (CEF covers EUR 73.5 million). However, the mere presence of a track does not guarantee an economic effect. For the investment to work, it requires sufficient terminal infrastructure, coordinated capacity allocation, digital interoperability, harmonized border procedures, and a clear commercial service model.

The World Bank, in its Rapid Damage and Needs Assessment, also emphasizes that infrastructure investments must be accompanied by institutional and operational reforms, the recovery effect will be limited.⁷² If terminals, last mile, and procedures are not prepared in parallel, there is a risk that the new infrastructure will be underutilized or operate below capacity.

The third risk is long investment cycles of railway projects with no quick results. The TEN-T regulation provides for a phased approach: first, the elimination of bottlenecks; then, structural expansion; and a completed core network by 2030. If short-term solutions (Solidarity Lanes) are not implemented in parallel – simplifying procedures, digitalizing documents, optimizing schedules, and implementing joint control – the effect will be delayed for years, as shown by the 24% increase in transport needs in the RDNA (2026). For example, Ukrainian plans for the reconstruction and electrification of the Kovel-Yahodyn–state border section are estimated at UAH 12.37 billion, with funding starting in 2026 and a multi-year expenditure schedule. This means the "big effect" can be delayed.

Within the framework of Solidarity Lanes, the European Commission focused on quick operational solutions to support exports, even before large infrastructure projects were

⁷¹ *Strategia integracji systemów kolejowych Ukrainy i Mołdawii z UE. 2023 r.* <https://jaspers.eib.org/files/library/2023/strategy-for-the-eu-integration-of-the-ukrainian-and-moldovan-rail-systems.pdf>.

⁷² Zaktualizowana ocena potrzeb Ukrainy w zakresie odbudowy i rekonstrukcji na opublikowana w roku 2026: <https://www.worldbank.org/en/news/press-release/2026/02/23/updated-ukraine-recovery-and-reconstruction-needs-assessment-released>.

completed. The sequence of investments is a practical management tool: it depends on the correct order of decisions and whether they will have a real effect.

A separate risk is the competition between passenger and freight transportation in areas of limited capacity. The TEN-T recognizes the need to coordinate capacity allocation in cross-border sections. In European practice, passenger trains are often given priority in the schedule. If the capacity of a node or border area is limited, it can reduce the available "windows" for cargo. Therefore, investments should be accompanied by transparent rules for allocating slots, demand forecasting for both transportation modes, and common KPIs for transit time and reliability. Without this, a conflict of interest may arise, with both economic and political dimensions.

TEN-T and the CEF instrument provide financing for cross-border projects. For Poland, the integration of Ukrainian flows is an economic opportunity (in terminal and logistics services) but also a risk of infrastructure overload. Instead, for Ukraine, it is a matter of stable access to the EU market. The commercial winner will be the one who combines infrastructure investments with improving the quality of service – processing speed, predictability, and reliability.

Impacts and Joint Actions (Poland/Ukraine)

For Poland, the rail-intermodal direction is both an economic opportunity and a political risk. The possibility is that, with large volumes (20.8 million tons in 2024), Polish companies can earn not only on the "passage of cargo" but also on services such as transshipment, warehousing, forwarding, container services, and integration into EU supply chains.⁷³

The risk is that if the stations at the junction of different track gauges operate unevenly, if investments in railway infrastructure and border crossings on both sides are not made, and if border services are not strengthened. The economic situation is easily politicized (queues, accusations, demands for restrictions). This hits both Polish business and Ukrainian exports. For Ukraine, the central effect is reliable and predictable access to the EU market. Transport liberalization means carriers and cargo owners can build delivery schedules without constant insurance against border chaos.

These investments should be accompanied by transparent rules for slot allocation, demand forecasting for both modes of transport, and common performance indicators regarding transit time and reliability.

Three rules that reduce the risk of misalignment:

- 1. The parity of decisions on the nodes (if one side reinforces the infrastructure and procedures, the other must synchronize, and the queue moves).**
- 2. Priority on reliability and variability, and not only on nominal throughput;**
- 3. Investments in terminals and standard track should go hand in hand with last-mile decisions and procedures. Then projects like Mostyska II-Sknyliv really become a business driver, not an infrastructure declaration.**

⁷³ *Miesięczny przegląd zintegrowanego zarządzania granicami na Ukrainie, 2025.*
https://english.europewb.org.ua/wp-content/uploads/2025/02/Overview_2025_01.pdf.

CHAPTER VI

Ports and Maritime Access: The Role of Polish Ports for Ukrainian Trade

The full-scale Russian invasion of Ukraine led, in the first months of the war, to a blockade of all its seaports on the Black Sea. These ports had been of critical importance to the country's economy. Before 2022, they accounted for roughly two-thirds of Ukraine's total goods exports. The blockade was temporarily lifted from August 2022 to July 2023, during which the Black Sea Grain Initiative—brokered by the UN and Turkey—was in operation.⁷⁴ It enabled the export of agricultural products from the ports of the so-called Greater Odesa (Chornomorsk, Odesa, and Pivdennyi). However, Russia withdrew from the agreement, prompting Kyiv in September 2023 to establish a new maritime corridor covering the same three ports.⁷⁵ By December 2023, this route was already handling higher volumes of agricultural exports than during the peak months of the grain deal. Moreover, it allowed not only food exports but also imports and shipments of other goods. Its continued operation, like Ukraine's ports more broadly, depends heavily on the security situation in the Black Sea and the effectiveness of Ukraine's naval capabilities. At the same time, the ports of Greater Odesa remain frequent targets of Russian attacks.

Before Russia annexed Crimea in 2014, Ukraine had 18 seaports. As a result of the war, it lost control of several of them, including Mariupol, Berdiansk, and Skadovsk, with Mariupol being the most strategically significant. Although three other ports—Kherson, Mykolaiv, and Olvia—remain under Ukrainian control, they are not operational due to their proximity to the front line. Before the war, Mykolaiv was the second-largest port in Ukraine in terms of cargo throughput and played a major role in the country's export system.

In spring 2024, container traffic to the ports of Greater Odesa resumed, although volumes remain limited.⁷⁶ Even before the war, container handling constituted only a modest share of total cargo turnover compared to bulk goods. Overall, Ukrainian ports handled around 1 million TEU annually, with nearly two-thirds of that volume concentrated in Odesa. During the first two years of the war, Ukraine's main export category—agricultural products—was redirected to alternative ports, including Romania's Constanța, Polish ports such as Gdańsk, Gdynia (the country's largest grain port), Szczecin, Świnoujście, as well as the smaller bulk port in Kołobrzeg, and also to ports in Rotterdam, Hamburg, Duisburg, and Rostock. This shift highlighted the crucial importance of rail capacity and border-crossing infrastructure, as well as the strong demand for grain wagons needed to sustain these export flows.

Among foreign ports, the largest volumes of Ukrainian grain were handled in Romanian ports—Constanța, Galați, and Brăila. Between March 2022 and June 2023, these ports processed around 20 million tonnes of grain.⁷⁷ As for Polish seaports (the four largest—Gdańsk, Gdynia, and the Szczecin–Świnoujście complex), precise statistics are lacking.

⁷⁴ 'Black Sea Grain Initiative' United Nations, [un.org/en](https://www.un.org/en).

⁷⁵ S. Matuszak, *Ukraine: the new Black Sea corridor is a success*, OSW, 22.12.2023, osw.waw.pl/en.

⁷⁶ *Ukraine to resume Ro-Ro and container shipping*, World Cargo News, 26.03.2024, worldcargonews.com.

⁷⁷ *Five European countries will extend ban on Ukraine's grain*, PBS News, 19.07.2023, pbs.org.

Still, estimates suggest that approximately 3 million tonnes of grain were handled there between July 2022 and June 2023. According to the Port of Gdańsk, by the end of 2022, more than 1.1 million tonnes of Ukrainian goods had been exported through the port, including 800,000 tonnes of steel products and 300,000 tonnes of grain, mainly maize, destined for Scandinavian markets.⁷⁸

The large volumes of bulk cargo from Ukraine in Polish ports translated into substantial revenues for terminal operators, rail carriers, and freight forwarding companies.

In the port of Kołobrzeg, for example, cargo—specifically from Ukraine—was once again transported to the quays by rail for the first time in years. In 2023, throughput at the port increased by 55% year-on-year, largely driven by the handling of Ukrainian maize and barley. The large volumes of bulk cargo from Ukraine in Polish

ports translated into substantial revenues for terminal operators, rail carriers, and freight forwarding companies. However, a gradual decline in Ukrainian grain transshipment through Polish ports began in 2023, following the Polish government's decision to allow only transit of such goods through the country, as well as the growing share of exports handled by the ports of Greater Odesa. According to UZ, in 2025, a total of 5,322 wagons carrying Ukrainian grain—equivalent to 322,000 tonnes—were delivered to Poland, representing a 77% decline from 2024.⁷⁹ Currently, the largest volumes of Ukrainian grain transported by rail pass through border crossings with Hungary (567,000 tonnes in 2025) and Slovakia (457,000 tonnes), while the lowest volumes are recorded at crossings with Romania (around 100,000 tonnes).

Although there was initially strong interest from Ukrainian companies in investing in Polish grain terminals, this interest diminished as transshipment volumes shifted back toward Ukrainian ports. Nevertheless, Polish ports—while still maintaining sufficient capacity for grain handling—are continuing to prepare for the further development of this cargo segment. For instance, the Gdańsk Agro Terminal is currently under construction at the Port of Gdańsk. Beyond the widely discussed grain shipments, Polish ports have also handled Ukrainian iron ore, steel, and coal. According to Metinvest, approximately 940,000 tonnes of such cargo were transported through Polish ports in 2023.

In contrast to bulk cargo, Gdańsk plays a particularly important role for Ukraine in terms of containerized imports. According to data from the Baltic Hub in Gdańsk—the largest container terminal on the Baltic Sea—it handles between 200,000 and 300,000 TEU annually for the Ukrainian market, accounting for up to 40% of that market.⁸⁰ Gdańsk's position is driven by its rapid growth, an extensive network of shipping services, and well-developed intermodal connections toward Ukraine. Some shipping lines have resumed services to the ports of Greater Odessa, including the world's largest operators—MSC, Maersk, and CMA CGM—as well as Turkish carriers specializing in short-sea shipping. Although container throughput in Ukrainian ports has been growing dynamically—from around 130,000 TEU in 2024 to 216,000 TEU in 2025—it remains nearly five times lower than before the invasion.⁸¹ It is also worth noting that MSC holds a 49.9%

⁷⁸ Port Gdańsk: Awansowaliśmy na drugie miejsce na Bałtyku, Rynek Infrastruktury, 07.02.2023, rynekinfrastruktury.pl.

⁷⁹ W ubiegłym roku do Polski wjechało ponad 5300 wagonów ze zbożem z Ukrainy, Ceny Rolnicze, 14.01.2026, cenyrolnicze.pl.

⁸⁰ S. Baniak-Stachowiak, *Global shipping operator MSC is building bridgeheads in western Ukraine*, OSW, 22.10.2025, osw.waw.pl/en.

⁸¹ Ukrainian seaports nearly achieved planned cargo turnover in 2025', APK Inform, 15.01.2026, apk-inform.com.

stake in the German logistics company HHLA, which, among other things, operates the Container Terminal Odesa (CTO).

Jednak cieśnina Bosfor nakłada pewne ograniczenia, uniemożliwiając przepływ największych kontenerowców, podczas gdy statki tego typu mogą zawijać do portu w Gdańsku. Ponadto Gdańsk znajduje się około 800 km od Lwowa, do którego przeniosła się znaczna część ukraińskiej działalności gospodarczej, odległość ta jest porównywalna z odległością między Lwowem a Odessą. To sprawia, że polskie porty stanowią potencjalnie bardziej efektywne rozwiązanie dla ładunków przeznaczonych na zachodnią Ukrainę.

However, the Bosphorus Strait imposes certain limitations, preventing the largest container vessels from passing through, whereas such ships can call at the Baltic Hub. Additionally, Gdańsk is located approximately 800 km from Lviv, to which a significant portion of Ukrainian business activity has relocated—a distance comparable to that between Lviv and Odesa. This makes Polish ports a potentially more efficient option for cargo destined for western Ukraine. The growth of container traffic serving the Ukrainian market has been made possible by direct and regular intermodal services—primarily rail connections—from the Baltic Hub to terminals located in Mostyska (operated by MSPED), Medyka (Freightliner), Dębica (Medlog, a subsidiary of MSC), Sławków (served by Maersk and Fortis), which lies at the junction of broad-gauge (1,520 mm) and standard-gauge lines, as well as Hrubieszów (ZIK Sandomierz) and Szczeczeszyn (CTL).⁸² Intermodal services from the Baltic Hub are also being developed by PCC, Laude Smart Intermodal, and Loconi Intermodal, with the latter two cooperating with a Ukrainian operator and PKP LHS for Maersk services.⁸³ Container transport is becoming increasingly important for PKP LHS, traditionally focused on bulk cargo, as it leverages its broad-gauge infrastructure and terminals in Wola Baranowska, Zamość Bortatycze, and Szczeczeszyn. The estimated transit time from the Baltic Hub to final destinations in Ukraine is around 5 days, largely due to border control procedures and train queuing.

⁸² Kalendarz pociągów, Baltic Hub, baltichub.com [access: March 1, 2026].

⁸³ Ruszyło połączenie intermodalne z Baltic Hub na Ukrainę, Rynek Infrastruktury, 4.12.2025, rynekinfrastruktury.pl.



CHAPTER VII

Airports and Airspace Access: The Role of Ukrainian airlines and airspace for global tourism and air transport

Before the full-scale invasion, Ukraine's aviation sector played an important role in the country's transport, export, and service infrastructure. In 2021, Ukrainian airports served over 16.2 million passengers, and domestic airlines transported 9.3 million passengers and 81.8 thousand tons of cargo and mail. The industry employed 28 airlines and 19 airports and airfields, totaling about 16,000 employees. Exports of air transport services reached USD 1.7 billion, and, in general, the sector accounted for approximately 1% of the country's gross domestic product. Ukrainian carriers operated regular flights to 42 countries worldwide, indicating a high level of integration of the national air market into international transportation.⁸⁴

After the airspace was closed in February 2022, the aviation market suffered a sharp collapse. In 2022, only about 2 million passengers were transported, all during January and part of February before the start of active hostilities. Further airline operations were almost outside Ukraine. In 2022, Ukrainian carriers transported 980 thousand passengers and 64.1 thousand tons of cargo; in 2023, 422.1 thousand passengers and 42.7 thousand tons; and in 2024, 480 thousand passengers and 31.4 thousand tons.⁸⁵ Thus, passenger traffic volumes decreased more than thirty times compared to the pre-war level.

The financial results of air carriers reflected the industry's structural crisis. In 2022, the largest losses were suffered by Wind Rose airline — UAH 1.6 billion (approximately USD 49.5 million), SkyUp — UAH 596.7 million (approximately USD 18.4 million), and Skyline Express — UAH 464.7 million (approximately USD 14.4 million). Some companies adapted by refocusing on international operations, wet leasing, or cargo transportation. In particular, SkyUp in 2023 received a profit of UAH 305 million (about USD 8.0 million), Skyline Express — UAH 171 million in 2024 (around USD 4.5 million), and Antonov Airlines — almost UAH 3 billion in 2023 (approximately USD 79.2 million). In fact, the industry has moved from a passenger model to an export model of aviation services.⁸⁶

Infrastructure losses have become one of the largest among the transport sectors. As of November 2024, direct losses are estimated at approximately USD 2 billion. 19 out of 35 airfields have been damaged, including 12 civilian ones⁸⁷. The actual suspension of domestic and international flights from the territory of Ukraine meant the transformation of the aviation function from an element of the transportation market to

⁸⁴ <https://avia.gov.ua/wp-content/uploads/2023/03/%D0%9F%D1%96%D0%B4%D1%81%D1%83%D0%BC%D0%BA%D0%B8-%D1%80%D0%BE%D0%B1%D0%BE%D1%82%D0%B8-2021.docx?muK2QPJGsDoj=gVeXr29D2Gx>.

⁸⁵ https://cfts.org.ua/articles/dlya_vidnovlennya_roboti_aeroportiv_znadobitsya_minimum_tri_misyatsi_intervyu_z_golovoyu_derzhaviasluzhbi_2177.

⁸⁶ https://www.slovoudilo.ua/2025/02/20/infografika/biznes/doxody-ta-zbytky-ukrayinskyx-aviakompanij-povnomasshtabnoyi-vijny#google_vignette.

⁸⁷ https://kse.ua/wp-content/uploads/2025/02/KSE_Damages_Report-November-2024-UA.pdf.

a component of defense and humanitarian logistics. Ukrainian aircraft operate under contracts with the UN and the World Food Program, and Antonov Airlines, even after the loss of the *Mriya*, has performed over 260 international flights carrying critical cargo.⁸⁸

In parallel, the process of fulfilling European integration obligations under the Common Aviation Area Agreement with the EU is underway. The agreement provides for harmonizing legislation, opening the transportation market, recognizing certificates, integrating into the Single European Sky system, and implementing safety, competition, and environmental standards. The process of harmonizing the regulatory framework with the European Union's aviation legislation is also ongoing; however, the updated list of acts for implementing the EU-Ukraine Common Aviation Area Agreement has not yet been approved. Ukraine has already achieved partial approximation to the EU provisions on the provision of air services and insurance; however, in the field of airport *acquis*, it is necessary to ensure further harmonization of rules, in particular on slot allocation (including the creation of an independent coordinator), the establishment of airport charges, and the organization of ground handling.⁸⁹

Despite the limitations, Ukraine partially complies with the *acquis*. The country remains a member of Eurocontrol, conducts certification and oversight of operators even when operating abroad, and has implemented certain provisions of EU Regulation 2018/1139.⁹⁰ At the same time, the requirements for the Single European Sky, air navigation technologies, and part of the regulatory infrastructure have not yet been met.⁹¹

An important feature of the aviation sector is that, unlike rail or road infrastructure, it largely depends not on the length of the network, but on the availability of certified operators, equipment, and regulatory compatibility with international standards. A significant part of the Ukrainian aircraft fleet, personnel, and certifications continue to operate outside the country, and oversight and certification are supported by state authorities even during airspace closures. This means that after the skies open, the resumption of transportation will depend primarily on safety conditions and airport conditions, rather than on the restoration of the entire logistics system from scratch, as is the case with other modes of transport⁹². Thus, **aviation has the potential to be one of the first sectors of the economy to restore international mobility and business activity after the end of the war.**

However, part of the Ukrainian aviation business has, during the war, structurally integrated into foreign jurisdictions. Several airlines relocated operations abroad, obtained foreign operator certificates, and built business models based on ACMI leasing and charter services for international partners. For example, SkyUp received a Maltese operator certificate and now performs most flights for European carriers. At the same time, Windrose operates aircraft under wet-lease contracts from Moldova, and Skyline Express launched operations in Poland. In some cases, new airlines were even established abroad, such as Bees Airline in Romania, after the loss of the Ukrainian certifi-

⁸⁸ https://cfts.org.ua/news/2025/06/11/antonov_airlines_nagorodili_za_vnesok_u_rozvitok_svitovogo_rinku_nadvazhkih_ta_velikogabaritnikh_perevezen_83195.

⁸⁹ https://enlargement.ec.europa.eu/document/download/17115494-8122-4d10-8a06-2cf275eecd7_en?filename=ukraine-report-2025.pdf.

⁹⁰ https://cfts.org.ua/articles/dlya_vidnovlennya_roboti_aeroportiv_znadobitsya_minimum_tri_misyatsi_intervyu_z_golovoyu_derzhaviasluzhbi_2177.

⁹¹ https://cfts.org.ua/articles/maybutne_neba_ukrani_ta_svit_infrastruktura_rozmova_z_gen_direktorami_aviakompaniy_ta_ekspertami_galuzi_2145.

⁹² <https://nv.ua/ukr/project/ukrajinska-aviaciya-stan-riziki-ta-potencial-rozvitku-u-voyenni-chas-50534869.html>.

cate. This creates a risk that part of the aviation market may remain externally based even after the reopening of Ukrainian airspace, potentially slowing the full restoration of domestic air transport activity.⁹³

Thus, **the war did not lead to the aviation sector's disappearance, but to its profound transformation. The pre-war model of mass passenger transportation effectively ceased to exist, while a model based on the export of aviation services and specialized international operations emerged. The sector preserved human capital, engineering competencies, and contractual presence in global markets, creating the pre-conditions for a relatively rapid operational recovery once the airspace is reopened.** However, due to the relocation of part of the aviation business abroad, the recovery of traffic does not automatically imply the restoration of the national aviation market in its previous structure. Therefore, post-war policy should focus not only on rebuilding airport infrastructure and implementing the EU aviation acquis, but also on creating economic and regulatory incentives for airlines to re-establish operational bases in Ukraine. Full integration into the European aviation market will depend on both physical reconstruction and the successful reintegration of operators into the domestic aviation ecosystem.

⁹³ <https://thepage.ua/ua/news/yaki-ukrayinski-aviakompaniyi-pracyuyut-za-kordonom-v-2024-roci>.



CHAPTER VIII

Strategies for Polish Transport and Logistics Companies

There is significant potential for cooperation between Polish and Ukrainian companies in the TSL sector, but it should be based on fair and balanced competitive conditions.

Polish rail carriers have reported a lack of predictability in UZ's slot allocation for entry into and exit from Ukraine, as well as limited transparency in managing cross-border rail traffic. Ukrzaliznytsia currently maintains a dominant position in the Ukrainian market and plays a decisive role in shaping the network of connections and timetables, prioritizing its own operations on cross-border routes.

In line with EU requirements, the company should undergo unbundling—similar to reforms implemented in other accession countries—and be divided into separate entities responsible for infrastructure management, property assets, and passenger and freight operations. While this is a complex undertaking during wartime, the Ukrainian government has formally committed to these reforms within the "Ukraine Plan 2024–2027", with a target completion date of 2027. Opening the rail market would ultimately benefit the Ukrainian economy. In Poland, around 150 companies hold railway operator licenses, one of the highest figures in the EU after Germany.⁹⁴ Since 2024, UZ Cargo Poland has also been licensed to operate on the Polish market.⁹⁵ Although its current market share remains limited, it has expanded its activities to countries such as Lithuania, Romania, Slovakia, and Hungary. The company has also focused on fuel transport to Ukraine—a profitable segment that Polish carriers have so far struggled to develop.

Another issue negatively affecting cooperation is the need to address institutional risks, including transparency and corruption in Ukraine, which have been identified as structural challenges for entities such as UZ and the customs administration. These issues are often linked to systemic factors, such as overemployment and low wages within the sector. Strengthening these institutions and combating corruption are among the key requirements set by the EU in Ukraine's accession process. In response, UZ has introduced a dedicated anti-corruption program.⁹⁶ These efforts are also part of a broader reform of Ukraine's customs code, aimed at aligning it with EU standards.

With the planned construction of a standard-gauge rail line on the Mostyska–Sknyliv (near Lviv) section, expected to be completed by 2027, it will be essential to ensure the smooth functioning of PKP LHS. In the past, this has not always been adequately guaranteed by the authorities in Kyiv⁹⁷. The LHS line plays a crucial role for both the Polish and Ukrainian economies, transporting approximately 9–10 million tonnes of car-

⁹⁴ Liczba licencjonowanych przewoźników wzrosła do blisko 150, Kolejowy Portal, 16.01.2026, kolejowyportal.pl.

⁹⁵ Ukrainian Railways Cargo Poland otrzymała licencję na przewozy kolejowe w Polsce, Intermodal News, 28.06.2024, intermodalnews.pl.

⁹⁶ Anti-corruption office, UZ, uz.gov.ua/en.

⁹⁷ See: S. Matuszak, K. Popławski, *Running on European tracks. Modernising the rail network in western Ukraine during wartime*, OSW Commentary, 26.02.2024, osw.waw.pl/en.



go annually, primarily imports from Ukraine—mainly iron ore—which currently account for around 75–80% of total volumes. The Hrubieszów–Izov border crossing, managed by PKP LHS, handles the largest cargo volumes, followed by standard-gauge crossings such as Medyka–Mostyska, Dorohusk–Yahodyn, and Werchrata–Rava-Ruska.

As new transshipment terminals continue to emerge in western Ukraine—at the interface between standard- and broad-gauge rail networks—Polish transport and logistics companies should also consider investing in such facilities on Ukrainian territory. For example, the Polish intermodal operator Laude is already pursuing such plans through its Ukrainian subsidiary, which transported over 100,000 TEU in 2024.⁹⁸ Several international companies are also investing in terminal infrastructure in western Ukraine. Among them is the shipping line MSC, which, through its subsidiary Medlog, acquired in 2025 a 50% stake in N'UNIT—an operator of intermodal terminals in Kharkiv, Dnipro, Lviv regions, and Vyshneve (near Kyiv)—as well as a 25% stake in the Container Terminal Mostyska (CTM), located near the Polish border.⁹⁹

Additionally, HHLA—an operator of container terminals in ports such as Hamburg, Odesa, Tallinn, and Trieste, in which MSC holds a 49.9% stake—completed the acquisition of a 60% stake in the Eurobridge Batiovo intermodal terminal in 2025, which is now operating as HHLA Eurobridge Batiovo in a joint venture with Ukrainian investment company Fortior Capital, located near the borders with Hungary and Slovakia. The strong interest of foreign investors in Ukraine reflects the growing demand for cross-border freight transport and a broader trend that is likely to intensify: the shift from road to rail transport. This is driven by EU environmental requirements, the higher efficiency of rail transport, and the increasing shortage of truck drivers in Poland and other EU countries, which also affects Ukrainian companies.

Competition from Ukrainian road carriers, as well as the growing and widespread shortage of professional drivers, clearly shows that the model of road transport operations should gradually evolve—shifting away from long-haul routes toward so-called “last mile” delivery and cooperation with intermodal carriers. In principle, the “last mile” should be carried out within a distance of approximately 300 km from a given intermodal terminal to the final destination. Industry organizations in Poland that bring together road carriers should gradually begin to implement this model. A successful example of such a transformation is the Polish company Miratrans, which has specialized in in-

⁹⁸ Wzrost przewozów intermodalnych Laude w Ukrainie, Rynek Infrastruktury, 28.01.2025, rynekinfrastruktury.pl.

⁹⁹ S. Baniak-Stachowiak, *Global shipping operator MSC is building bridgeheads in western Ukraine*, OSW, 22.10.2025, osw.waw.pl/en.

ternational road transport for years. Still, it is now also developing intermodal transport and operates its own terminal in Krzewie near Łódź. Road transport is highly sensitive to market changes and, for example, becomes less cost-effective than rail transport during periods of high fuel prices.

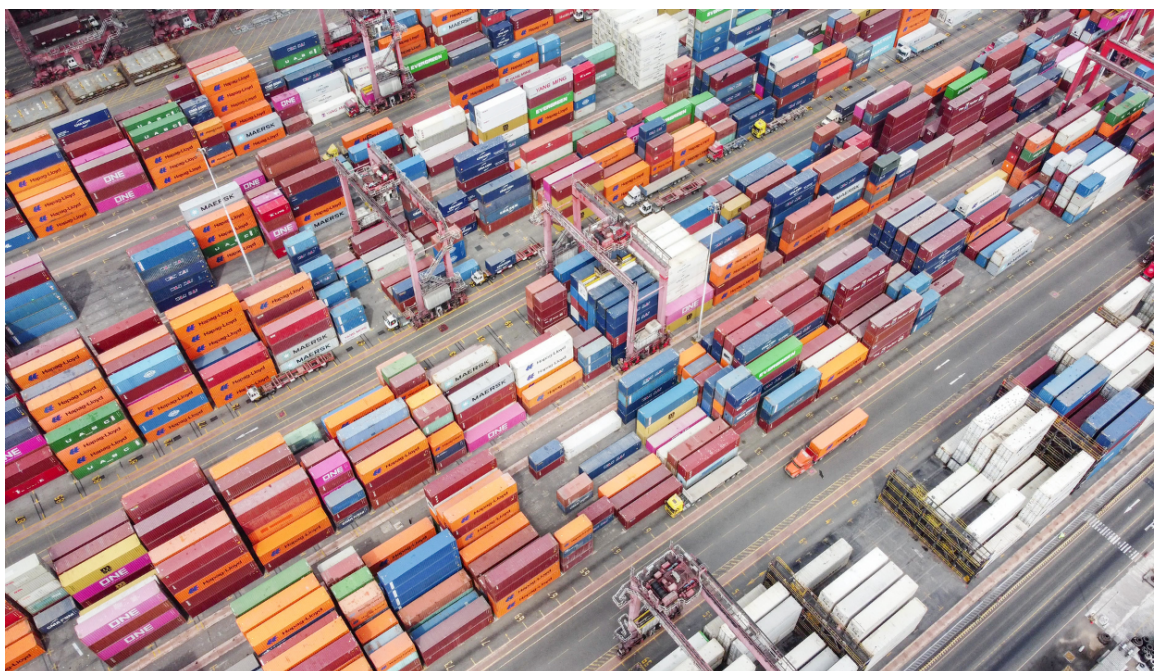
These developments should encourage Polish firms to invest in terminal infrastructure in eastern Poland as well. One example is the expansion of the Euroterminal in Sławków, announced by the Polish government in 2025, located at the junction of broad-gauge (LHS) and standard-gauge lines, with an estimated value of PLN 200 million.¹⁰⁰ The project includes the construction of a new terminal, additional tracks, and warehouse facilities. Recently, additional investments in intermodal terminals in Poland have also been announced, aimed at handling cargo to and from Ukraine. One such project is the terminal of the CLIP Group in Zabrze, which is co-financed by Poland's National Recovery Plan (KPO) and has received investment from the Polish Development Fund (PFR).¹⁰¹ The terminal's capacity is expected to reach 312,000 TEU annually. The investment is scheduled for completion in the second half of 2026. Another example is the operator PCC Intermodal's investment in a terminal in Ropczyce, near Rzeszów. It will be situated directly along the Kraków–Rzeszów–Lviv railway line and the A4 motorway. The project is co-financed by EU funds and is expected to begin operations by 2029.¹⁰²

At the same time, Polish companies facing barriers to expanding their operations in Ukraine should report these challenges to the Ministry of Infrastructure. Issues related to ensuring a level playing field and addressing corruption should also be raised during the EU accession negotiations. However, successful negotiations will require a shared performance monitoring framework, as border capacity is a shared function of both sides and unilateral improvements have only a partial effect.

¹⁰⁰ Euroterminal Sławków strategiczną inwestycją wzmacniającą krajową i europejską infrastrukturę transportową, *Gospodarka Morska*, 26.05.2025, gospodarkamorska.pl.

¹⁰¹ PFR współfinansuje budowę terminala intermodalnego dla CLIP Group w Zabrzu, PFR, 10.04.2026, pfr.pl.

¹⁰² PCC Intermodal zbuduje nowy terminal w Ropczycach, *Intermodal News*, 30.03.2026, intermodalnews.pl.



CHAPTER IX

Outlook 2026–2030: Scenarios, Risks, and Opportunity Map

Scenario Set and Key Assumptions

In the 2026–2030 perspective, transport relations between Poland and Ukraine will be shaped by factors related to the war, the pace of Ukraine's integration with the EU, the availability of funding for infrastructure investments, and the capacity and modernization of border infrastructure. The first of these factors remains fundamental. A potential end to the conflict would open the way for Ukraine's EU accession and large-scale reconstruction. Conversely, a prolonged war would delay both processes.

On this basis, the following scenarios can be outlined:

Scenario 1: Structured integration with the EU, intensive infrastructure investment, and regulatory alignment

Implementing required reforms and gradually adopting EU legislation would enable Ukraine to advance its accession process. Provided that no major adverse circumstances arise (such as an economic downturn in the EU or a lack of political support among some member states), this process should be accompanied by continued financial support from the EU and institutions such as the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD) for infrastructure projects. Infrastructure development would support the expansion of trade between Ukraine and the EU and the growth of intermodal transport, including the construction of additional transshipment terminals in western Ukraine, the further development of standard-gauge rail lines (beyond the Mostyska–Sknyliv and Uzhhorod–Chop sections), and continued increases in cargo handling operations. These developments would primarily benefit Ukrainian TSL companies and Ukrzaliznytsia.

This scenario would create a more predictable and rules-based environment for cross-border transport between Poland and Ukraine. For the Polish transport sector, this would mean not only higher trade volumes and stronger demand for logistics, terminal, warehousing, forwarding, and port services, but also a gradual reduction of the regulatory uncertainty that has so far distorted competition, especially in road haulage. Although competitive pressure from Ukrainian operators would remain significant, deeper integration would offer a clearer framework for enforcement, market access, and infrastructure planning. In this sense, accelerated integration would reduce reliance on ad hoc political decisions and wartime emergency arrangements, replacing them with more stable, transparent rules.

For Polish road haulage companies, this scenario could improve the business environment in the medium term by reducing regulatory uncertainty and gradually limiting the competitive imbalances and structural asymmetries that have shaped the market since 2022. For Polish rail and intermodal operators, stronger integration would create better conditions for long-term investment, allowing them to benefit from growing cargo volumes and from a more stable role in cross-border supply chains.



Scenario 2: Prolonged conflict and slower integration

If the conflict persists, integration will proceed more gradually, although selected key infrastructure projects—such as standard-gauge rail sections—will still be implemented. Political disputes with EU member states may hinder cooperation, for example, in modernizing major border crossings (both road and rail). On the one hand, the risk of delays in implementing EU-required reforms under the Ukraine Facility instrument, as well as the possible reallocation of EU funds to other priorities, could limit available financing for Ukraine and lead to stricter project prioritization. On the other hand, slower progress in integration and reform implementation may result in irregular funding flows from EU sources. Continued risks related to Russian attacks on Ukrainian seaports could further strain land and border infrastructure with EU countries, especially if modernization efforts fail to keep pace.

Under this scenario, Poland would likely retain an important role as a logistics gateway for Ukraine, but the overall environment would remain far less stable and predictable. Slower integration would mean the continued absence of fully harmonized rules, prolonged regulatory asymmetries, and a stronger dependence of transport flows on current political tensions, border disruptions, and wartime contingencies. For Polish road carriers and rail operators, this would prolong uncertainty in investment planning and preserve many of the tensions already visible in bilateral transport relations. In practice, limiting or delaying the integration process would not neutrally freeze the existing model, but rather sustain a system shaped by temporary arrangements, uneven enforcement, and ongoing exposure to short-term shocks.

For Polish road transport companies, this scenario would likely prolong commercial pressure, as they would continue to operate in an environment characterized by unstable rules, uneven enforcement, and limited market-predictability. For Polish rail companies and terminal operators, the persistence of wartime volatility could sustain short-term demand. Still, it would weaken incentives for long-term investment and make their future position more dependent on temporary disruptions than on durable competitive advantages.

Risk Register and Opportunity Map by Scenarios

Key infrastructure-related risks include insufficient capacity at border crossings with EU member states—particularly with Poland—and delays in implementing major infrastructure projects. From a regulatory perspective, risks include potential delays in adopting EU transport legislation, failure to complete the required unbundling of Ukrzaliznytsia and the liberalization of the rail market, and continued non-compliance with EU rules governing road transport operations (including cross-trade and cabotage restrictions). Another future challenge will be implementing the new EU Customs Code (while Ukraine is still aligning with the current framework, which is expected to be replaced by a new code by 2038).

Additional challenges for Ukraine include the relatively low level of digitalization in logistics processes and a shortage of drivers—an issue affecting EU member states as well. Financial risks also remain significant, including potential reductions in external funding (as seen, for example, in the withdrawal of USAID support, which had contributed to projects such as standard-gauge rail development), rising investment costs due to inflation or underestimation, and exchange rate volatility.

Since the full-scale invasion began in 2022, Poland has strengthened its role as a logistical hub for Ukraine. It is expected that, following Ukraine's eventual EU accession, cooperation in this area will continue to expand. In an accelerated integration scenario, investments in intermodal infrastructure on both sides of the border and the development of logistics hubs in eastern Ukraine become particularly important, supported by the ongoing digitalization of logistics and border processes. In a scenario of more gradual convergence, the focus shifts toward modernizing key transport corridors, such as the Mostyska–Sknyliv line near Lviv, where a major transshipment hub is being constructed.

In more uncertain scenarios, the emphasis moves to enhanced security and buffer storage within Poland. At the same time, if main transport corridors are rerouted, Poland could serve as a gateway for trade flows between Ukraine and the EU, with an increasing role for seaports and new private investments.

Across all scenarios analyzed, several common conclusions emerge: the capacity of the Polish–Ukrainian border remains a key systemic constraint, intermodal transport is expected to grow faster than road-only shipments, and the digitalization of customs processes and supply chain monitoring by companies on both sides will become an essential condition for further growth.



CHAPTER X

Recommendations

Recommendations for Polish authorities

From the Polish perspective, a key issue remains ensuring, at the stage of accession negotiations, that Ukraine provides a level playing field, which involves aligning its regulations with EU standards—particularly in the transport sector—facilitating its integration into the EU and ensuring fair competition, especially in the context of access to the EU market. The Ukrainian TSL sector must comply with the rules applicable to companies in EU member states. This is not simple, as Polish companies from various sectors competing with firms from the old EU-15 have also faced in the past. Still, it is a condition for economic growth and fair competition, which will also benefit businesses.

Moreover, from the Polish perspective, in the context of Ukraine's EU accession aspirations, it is necessary to demand the liberalization of the railway market and to enable Polish carriers to provide services on equal terms in Ukraine, with equal treatment (cases of unjustified financial penalties have occurred).

It is also important for Poland to continue strengthening north–south connections, including those leading from Polish ports to Ukraine, which will impact the development of the local container market and provide an alternative for transporting various goods through Polish–Ukrainian border crossings. These crossings are crucial for the further development of intermodal transport and terminal infrastructure in Ukraine. Consequently, from the Ukrainian perspective, the Polish decision to modernize border crossings will be of significant importance. Transport of goods via rail towards Hungary and Slovakia remains difficult, despite the opening of the Uzhhorod–Chop line in September 2025, because both countries are lagging in implementing rail infrastructure projects, creating less favorable conditions for the development of intermodal transport.

It is necessary to streamline freight transport handling on both Polish and Ukrainian sides of the border, both at rail and road crossings. The capacity of customs services and other inspection authorities (i.e., veterinary, sanitary, phytosanitary, and agricultural and food quality control) should be increased. Moreover, border crossings should be modernized to improve their throughput. Further investments in modern RTG scanners for inspecting loads carried by trains, trucks, buses, and passenger cars, as well as personal scanners to enhance inspections, are also essential.

It would be worthwhile to consider investments by Polish entities—including major state-owned enterprises—in Ukraine, particularly in the development of intermodal terminals and terminal infrastructure in Ukrainian ports. With the construction of standard-gauge railway lines in Ukraine, the trend of increasing transshipment volumes on that side of the border will continue. Therefore, the Polish government needs to support domestic companies in their plans to invest in terminals in western Ukraine, near the Polish border.

Due to frequent border queues, the significant role of road transport in Polish–Ukrainian trade, and the need to ensure the delivery of humanitarian aid and military equipment

to Ukraine, it is worth considering the creation of a coordinated system to streamline road transport operations. The planned pilot of the electronic border traffic management system should be treated as the first stage in building a permanent solution, ultimately interoperable with Ukraine's eQueue system. However, the key issue will not be the launch of the system alone. Still, also its integration with common performance indicators, real-time data exchange, and coordinated management of vehicle flows on both sides of the border.

Recommendations for Ukrainian authorities

To ensure a stable and predictable pathway toward EU transport integration and to maximize the economic benefits of the Poland–Ukraine corridor, the Government of Ukraine should prioritize several key policy and infrastructure actions. A central requirement is strict adherence to the unbundling timeline for Ukrzaliznytsia (UZ), separating infrastructure management from transport operations by 2027 to ensure non-discriminatory market access. This must be accompanied by the continued implementation of UZ's dedicated anti-corruption program and the further alignment of the national customs code with EU standards to reduce institutional risks.

Regarding border management, the eQueue system should be evolved from a unilateral tool into a synchronized "mirror" arrangement that is fully interoperable with the IT systems of Poland and other neighboring EU states. To move toward data-driven governance, both governments should adopt shared KPIs to monitor waiting times and processing efficiency across specific border segments. Moving beyond rough estimates to live operational data will allow for better redistribution of traffic flows during peak periods.

On the infrastructure front, the expansion of standard-gauge rail toward Lviv must be supported by "last-mile" investments in shunting capacity and terminal access to prevent new bottlenecks at rail hubs. Furthermore, the government should ensure contractual stability for international infrastructure projects, avoiding unilateral cancellations that could undermine trust with partners. Maintaining a stable legal environment is vital for securing continued funding from the Connecting Europe Facility (CEF) and other EU instruments.

Finally, the government should continue the gradual harmonization of road transport regulations with EU standards, particularly regarding safety and labor conditions. Addressing these structural asymmetries is critical to reducing political friction and securing the long-term stability of road transport liberalization agreements.

Recommendations for the European Union and International Donors

To support the sustainable integration of Ukraine into the European transport system and minimize friction on the Poland–Ukraine corridor, the European Union and international donors should prioritize funding for projects that resolve systemic bottlenecks rather than isolated assets. Funding instruments, particularly the Connecting Europe Facility (CEF), should ensure that physical upgrades at border crossings are paired with digital and procedural synchronization. Donors should also ensure that standard-gauge rail projects include conditional support for "last-mile" infrastructure and terminal interoperability to prevent shifting bottlenecks further inland and to ensure that new infrastructure remains fully functional within the broader TEN-T network.

The European Commission should take a leading role in bridging the digital gap between Ukrainian and EU border systems. Support should be directed toward evolving the eQueue system from a unilateral tool into a synchronized "mirror" arrangement that is fully interoperable with Polish and other neighboring EU IT systems. Facilitating the near-real-time exchange of customs data through NCTS Phase 5 is essential for creating a single digital identifier for transit, which would significantly reduce the administrative burden on carriers and improve the predictability of supply chains.

Donors should also support the establishment of an independent, binational monitoring framework based on shared KPIs. By funding automated data collection at border crossings, the EU can help shift border governance from anecdotal complaints to evidence-based management. This framework should specifically track waiting times and actual processing durations to provide a neutral baseline for resolving political and commercial disputes. Such data-driven insights are critical for justifying long-term investments and for maintaining political support for the integration process across all member states.

Finally, EU technical assistance should focus on mitigating structural asymmetries in the transport market by accelerating Ukraine's alignment with the EU Mobility Package. Funding should be prioritized for regulatory capacity-building to help Ukrainian carriers meet EU standards for safety, labor conditions, and driver qualifications. Furthermore, EU conditionality should remain linked to the structural unbundling of Ukrzaliznytsia and the implementation of its anti-corruption programs. Providing the technical expertise necessary to manage the separation of infrastructure from commercial operations will be vital for attracting the private investment needed to modernize the corridor.

Recommendations for Business (Polish and Ukrainian Transport & Logistics Firms)

KA renewed approach is necessary in business relations between Polish and Ukrainian companies. It is certainly possible to achieve a win-win situation through mutual sharing of experiences, ultimately building stable supply chains. It is in the interests of both sides to establish stable transport corridors from Ukraine to Western Europe via Poland, as well as from Ukraine to Polish ports (as an alternative to Ukrainian ports, particularly for container transport from the Baltic Hub). It is also necessary to further increase business involvement in developing logistics hubs in eastern Poland that could handle cargo flows to and from Ukraine.

With the development of the standard-gauge network and terminal infrastructure in Ukraine, as well as increased container handling from the Baltic Hub and, in the long term, in connection with EU plans to limit road transport for environmental reasons, intermodal transport (primarily rail) is expected to grow. This should encourage companies to invest on both sides of the border (e.g., through joint ventures), not only in standard-gauge lines but also in the broad-gauge PKP LHS infrastructure on the Polish side, which has the greatest capacity as it is used exclusively for freight transport.

The rail carriers should aim to develop intermodal connections from Polish ports to Ukraine, as well as from Western Europe to Ukraine. To achieve this, it will be necessary to ensure a level playing field in Ukraine, as Polish rail carriers face difficulties conducting transport operations on the Ukrainian side of the border.

In light of strong competition from Ukrainian transport operators, Polish road carriers should form partnerships with intermodal operators in order to focus on “last-mile” deliveries, which would enable them to carry out a greater number of transport operations within a relatively short distance from their home base. The same model should also be implemented in Ukraine.

Instead of competing on the same routes, such as long-haul Polish–EU–Ukrainian corridors, companies should, within cross-border cooperation frameworks, join forces, share assignments depending on which side of the border they operate on, and build joint supply chains based on the door-to-door models.

Companies from both countries should also strive to digitalize logistics and cargo transport processes.



Author:
Anna Sleszyńska

Images: Canva.com, ChatGPT

Fonts used
Poppins, Staatliches



Warsaw Enterprise Institute
Al. Jerozolimskie 30/7
00-024 Warszawa