

Tamar Dolbaia

Professor

Ivane Javakhishvili Tbilisi State University

E-Mail: tamar.dolbaia@tsu.ge

Giorgi Kvinikadze

Associate Professor

Ivane Javakhishvili Tbilisi State University

E-Mail: giorgi.kvinikadze@tsu.ge

Georgia's Transport System as a Factor of Sustainable Development

Abstract

The paper discusses the transit potential of Georgia, the types of transport involved in transit activities, and transport infrastructure as a factor in the country's sustainable economic development. The paper examines opportunities arising from the country's favourable geographical location at the junction of Europe and Asia and the newly emerging geopolitical landscape, which could turn Georgia into a regional transport hub in the South Caucasus and Central Asia.

Keywords: transit, transport, international transport corridor, Georgia, regional hub.

Introduction:

After the collapse of the Soviet Union, in the 1990s, the West had high hopes for the inclusion of post-Soviet countries in the world integration processes through international transport corridors, and that is why, at the initiative of the European Union, the TRACECA project was created in 1993, and Georgia became part of the Europe-Caucasus-Asia transport corridor. Since then, Georgia has been trying to firmly establish its role as a transit country on the world stage.

Currently, several international transport corridors pass through Georgia, and all types of Georgian transport are involved in transit and import-export operations. However, the scale of cargo turnover and the degree of interest

in routes passing through Georgia vary depending on the world's geopolitical and geoeconomic circumstances.

Georgia's transport infrastructure and legal framework largely ensure the development of transit potential. However, management is dispersed, hindering the development and implementation of a unified transit policy.

There are no attractive tariffs in Georgia. Georgian railway tariffs and seaport fees are significantly higher than those of other Black Sea ports and Azerbaijan railways.

Corridors passing through Georgia have lost potential transit cargo over the years, which flows to competing corridors because the corridor countries cannot agree on a single tariff.

Currently, due to sanctions imposed on Russia, the Russo-Ukrainian War, and the war in the Middle East, the role and importance of the international corridors passing through Georgia have increased again, as cargo flows have shifted from corridors passing through Russia to alternative routes, including Georgia.

In those circumstances, the geopolitical advantages of Georgia were also highlighted, including China's expressed interest and the European Union's desire to diversify cargo flows to reduce dependence on Russia. However, the difficult relations with Russia due to the violation of Georgia's territorial integrity prevent Georgia from becoming an important regional transport hub.

Methodology

Given the multidimensional nature of the research question, a mixed-methods design was selected. The research used critical analysis of scientific literature and documents, secondary-source analysis, and qualitative methods.

The search for scientific sources was primarily carried out through scientific databases. The following documents were analysed: annual reports of government institutions, Georgian ports and railways; Legislative acts on the implementation of transport and transit activities. The secondary data were mainly obtained from the official site of the National Statistics Office of Georgia and the Ministry of Economy and Sustainable Development of Georgia.

Qualitative research - Key Informant Interviews (KII) were conducted with representatives of government structures. The sample size was 8 respondents; the average interview duration was 1 hour. The research was conducted in accordance with research ethics standards. During the interview process, audio recordings were made. After fieldwork was

completed, transcripts were prepared for analysis, and the audio recordings were destroyed. The analysis was conducted using qualitative methods.

Results

Georgia is a post-Soviet country with a population of 3,736 million (Geostat, 2024a) and GDP of 34.2 billion USD (Geostat, 2024b).

Georgia's transport and logistics account for 6.5 per cent of the country's GDP (Geostat, 2024b).

Georgia's transport infrastructure has been modernised over the last decades.

The importance of Georgia as a transit country has increased since the tax system, customs and border crossing procedures were simplified, actions were taken to promote trade, and the quality of services was improved. All of this contributed to the country's inclusion in the global economy and to the deepening of international ties.

However, this is not enough. The transport network needs further development and the creation of a unified South Caucasus transport network, which is not easy due to the difficult terrain and ongoing military-political conflicts.

The main types of transport systems of Georgia - railway, road, sea and pipeline transport are intensively involved in transit shipments. Only air transport carries small transit cargo, which is then transported by road to Armenia and Azerbaijan.

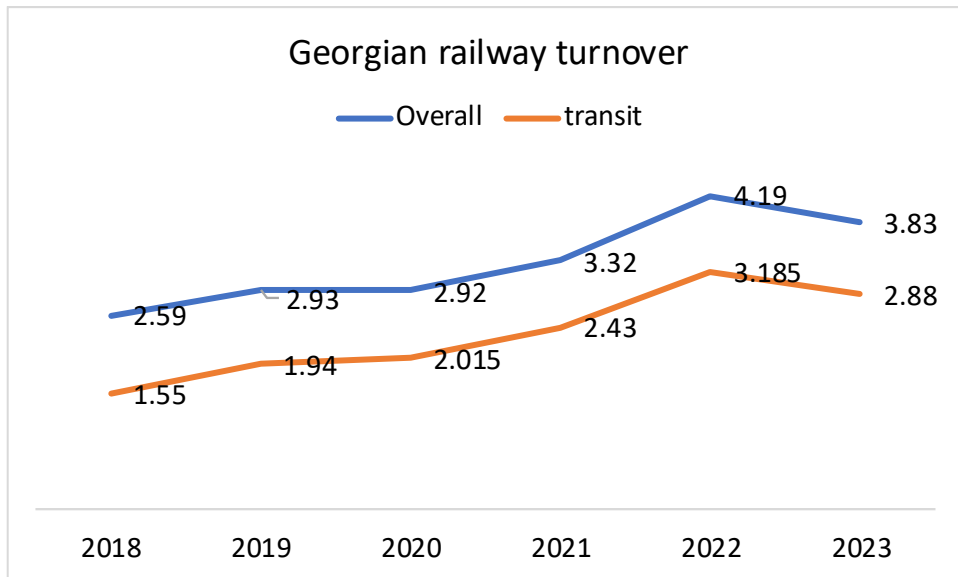
Georgian railway: The first railway in Georgia was laid in 1871. In 1883, the Baku-Tbilisi-Batumi railway was opened, through which Baku's oil was exported from Batumi port to the world market. In 1949, it became part of the Soviet Union's unified railway network, and in the 1980s, it reached its peak freight turnover of 38 million tkm (Jaoshvili, 1996).

During the period of independence, the amount of cargo transported by railway reached its peak in 2006 at 22.6 million tons. Since then, the cargo turnover of Georgian Railways has decreased, and in 2018 it was 2,571 million tkm. The reasons were high tariffs and a shift in cargo flows. This trend continued until 2021, when the cargo turnover became 3.3 million tkm. In 2022, the highest rate in years was recorded at 4.19 million tkm, which was 1.6 times the rate in 2018.

At the same time, the turnover of transit cargo more than doubled from 1.5 million tons in 2018 to 3.18 million tons in 2022.

The share of transit cargo in the total cargo turnover increased from 59.8% in 2018 to 75.9% in 2022.

Table N1: Georgian Railway turnover



Source: Ministry of Economy and Sustainable Development of Georgia

This increase is driven by higher cargo volume in the "Middle Corridor".

73.4% of the total volume of transported transit cargo falls into three commodity groups: coal, natural gas, crude oil and petroleum products - 30%; iron, manganese, non-ferrous metals, mineral fertilisers, etc. - 26.3%; cereals, raw sugar, beverages, tobacco, etc. - 17%.

The geography of the total volume of transit cargo in 2023: a) according to destination countries was as follows: 11.3% - Turkey, 8.8% - Netherlands, 6.2% - Italy, 5.2% - China; b) From the countries sending cargo: 6.1% - Brazil, 5.7% - Kazakhstan, 2.4% - China, 2.0% - Turkey, 1.7% - USA.

The Baku-Tbilisi-Kars railway connects the railway networks of Georgia, Azerbaijan, and Turkey and serves as a corridor from Asia to Europe. Cargo turnover is 6.5 million tons, which is expected to increase to 17 million tons. This line is figuratively called the "Iron Silk Road", and this is the "Middle Corridor" in which Turkey is very interested.

The main challenges for the development of railway transport in Georgia are: increasing the share of railways in cargo transportation, attracting container cargo, developing intermodal infrastructure and reducing transit time.

Road transport is an important component of Georgia's transport system, given the country's terrain and short transport distances, and it is especially important for a mountainous country with regions where the railway cannot reach.

After Georgia became part of the Europe-Caucasus-Asia transport corridor, international highways E60, E70, and E117 pass through its territory.

The cargo turnover of road transport increased from 29.4 million tons in 2013 to 32.5 million tons in 2022. The share of transit cargo is significant. However, statistical material is very difficult to obtain. According to experts, we only know that approximately 448,335 trucks passed through Georgia's transit corridor in 2022, which is 1.2 times the previous year's figure.

Road transport competes with rail and sea transport and attracts cargo due to short distances, variable rail tariffs, and unpredictable ship movements.

Sea transport in Georgia: The modern port system includes several harbours and terminals. These are Batumi and Poti ports, as well as Batumi, Supsa and Kulevi, i.e. Black Sea terminals.

The capacity of the Batumi port is 18 million tons, the container terminal is 100,000 TEU, and the oil terminal is 15 million tons.

Compared to 2013, the cargo turnover of Batumi port decreased from 8.3 million tons to 4.7 million tons in 2022. Instead, container cargo has increased sharply from 72,123 TEU in 2013 to 119,471 TEU in 2022.

The cargo turnover of Batumi port includes export-transit cargoes, such as oil from Azerbaijan and scrap metal from Armenia. Import-transit cargoes are intended for Azerbaijan, Armenia and Central Asia (Batumi Sea Port, 2024).

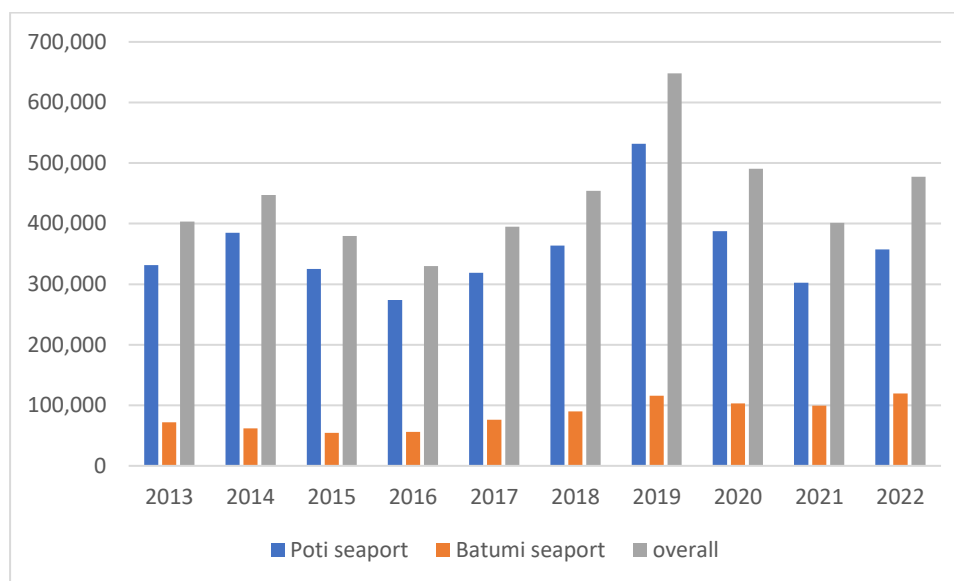
The capacity of the Port of Poti for liquid cargo is 9 million tons, and for dry cargo, 2.3 million tons. The container terminal's capacity is 400,000 TEU.

Batumi and Poti ports are connected with Varna (Bulgaria) and Chornomorsk (Ukraine) by ferry.

The maximum amount of processed cargo at Poti Port in 2014 and 2019 was 8.6 million tons. Before and after that, it fluctuated between 6 and 7 million tons, and in 2022, it processed 7.7 million tons of cargo.

The largest share of container cargo processed in Georgian ports is at Poti port: 331,324 TEU in 2013 and 357,623 TEU in 2022. The maximum cargo turnover was reached in 2019 - 531,735. 40.5% of cargo is in transit to Azerbaijan, Armenia, and Central Asia (APM Terminals, 2024).

Table N2: The total amount of containers processed in Georgian seaports (TEU)



Source: Ministry of Economy and Sustainable Development of Georgia

In the Black Sea basin, Georgian ports are the most expensive due to the cost of ship service, high tariff and long waiting time at the berth. In order to increase the attractiveness of Georgian ports, it is necessary to: establish fixed tariffs for cargo delivery, reduce the waiting time of ships, establish regular traffic of container trains and introduce services based on the Single-window system (SWS).

Pipeline transport: Georgia is the transit area of the world energy market for the export of oil and gas from the Caspian Sea to Europe.

The first oil pipeline in Georgia was built between 1897 and 1907 from Baku to Batumi, and its purpose was to transport Baku oil from the Batumi port to the European market.

During the period of independence, Georgia's role in transporting oil and gas from Asia to Europe was further deepened, and in 1999, the Baku-Supsa, i.e. Western Route Export Pipeline (WREP) was opened, in which Chirag oil flows from the Sangachal terminal to the Supsa terminal. The capacity of the Supsa terminal is 1 million barrels, and the output is 5 million tons.

To increase the supply of oil from the Caspian basin to the world market, the Baku-Tbilisi-Ceyhan (BTC) oil pipeline was laid from the Chirag-Gunashli field in Azerbaijan to the Mediterranean port of Ceyhan in Turkey. The capacity is 1.2 million barrels of oil per day. There is a notion in the West that this project will leave Russia out of the game, although oil and gas have been flowing from these deposits to Novorossiysk through a pipeline for a long time.

Gas transit in Georgia is occurring through the South Caucasus (SCP) and North-South (NSGP) gas pipelines.

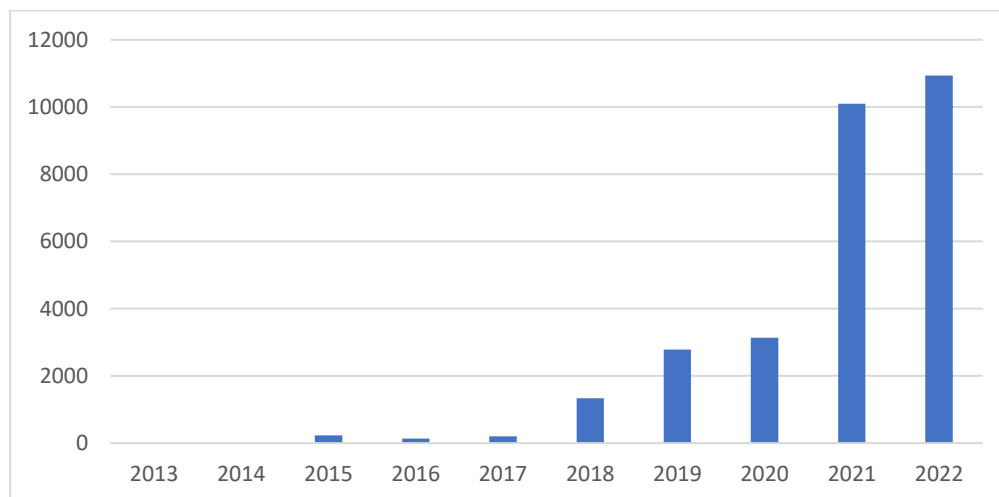
Gas is supplied through the South Caucasus, Baku-Tbilisi-Erzurum pipeline (in operation since 2006) to Turkey from the Shah Deniz field in Azerbaijan, with a capacity of 20 billion cubic meters.

The North-South gas pipeline, which supplies Armenia with Russian natural gas, has a capacity of 12 billion cubic meters per year.

The "Middle Corridor" (TITR), which transports cargo from China to Europe through Georgia, has become particularly relevant compared to the other international corridors passing through Georgia.

Statistics show that in the first 8 months of 2022, 1.3 million tons of cargo were transported on the Trans-Caspian international transport route, which is 2.5 times higher than in 2021. As for container shipment, it increased from 228 TEU in 2015, to 10,936 TEU. This increase was reflected in an average 7-10% increase in cargo flows in Georgian ports as well as in the railway. Despite the fact that the uniform tariffs of the "Middle Corridor" from Kazakhstan to the ports of Georgia are twice as high as those of its competitor, the "North-South" Corridor (INSTC) the pipeline transport will turn the Georgian corridor into the "energetic corridor".

Table N3: the total amount of containers (TEU) shipped through the Middle Corridor from China to Georgia and vice-versa



Source: Ministry of Economy and Sustainable Development of Georgia

In the Black Sea basin, Georgian ports are the most expensive due to the cost of ship services, high tariffs, and long waiting times at the berth. To increase the attractiveness of Georgian ports, it is necessary to: establish fixed tariffs for cargo delivery, reduce ship waiting times, establish regular container train traffic, and introduce services based on the Single-window system (SWS).

Pipeline transport: Georgia is a transit hub for the world energy market, facilitating the export of oil and gas from the Caspian Sea to Europe.

The first oil pipeline in Georgia was built between 1897 and 1907 from Baku to Batumi, and its purpose was to transport Baku oil from the Batumi port to the European market.

During the period of independence, Georgia's role in transporting oil and gas from Asia to Europe deepened, and in 1999, the Baku-Supsa, i.e., Western Route Export Pipeline (WREP), was opened, through which Chirag oil flows from the Sangachal terminal to the Supsa terminal. The capacity of the Supsa terminal is 1 million barrels, and the output is 5 million tons.

To increase oil supply from the Caspian basin to the world market, the Baku-Tbilisi-Ceyhan (BTC) pipeline was built from the Chirag-Gunashli field in Azerbaijan to the Mediterranean port of Ceyhan in Turkey. The capacity is 1.2 million barrels of oil per day. There is a notion in the West that this project will leave Russia out of the game, even though oil and gas have been flowing from these deposits to Novorossiysk via a pipeline for a long time.

Gas transit in Georgia is occurring through the South Caucasus (SCP) and North-South (NSGP) gas pipelines.

Gas is supplied to Turkey via the South Caucasus, Baku-Tbilisi-Erzurum pipeline (in operation since 2006) from the Shah Deniz field in Azerbaijan, with a capacity of 20 billion cubic meters.

The North-South gas pipeline, which supplies Armenia with Russian natural gas, has a capacity of 12 billion cubic meters per year.

The "Middle Corridor" (TITR), which transports cargo from China to Europe through Georgia, has become particularly relevant compared to the other international corridors passing through Georgia.

Statistics show that in the first 8 months of 2022, 1.3 million tons of cargo were transported on the Trans-Caspian international transport route, which is 2.5 times higher than in 2021. As for container shipments, they increased from 228 TEU in 2015 to 10,936 TEU. This increase was reflected in an average 7-10% increase in cargo flows at Georgian ports and on the railway. Despite the fact that the uniform tariffs for the "Middle Corridor" from Kazakhstan to Georgia's ports are twice as high as those of its competitor, the "North-South" Corridor (INSTC), the pipeline transport will turn the Georgian corridor into the "energetic corridor".

Table N3: the total amount of containers (TEU) shipped through the Middle Corridor from China to Georgia and vice versa

Source: Ministry of Economy and Sustainable Development of Georgia

Conclusion

1. Several international transport corridors pass through the territory of Georgia, and all types of Georgian transport are involved in transit and import-export operations. However, the scale of cargo turnover and the degree of interest in the roads passing through Georgia vary depending on the world's geopolitical and geoeconomic circumstances.
2. Georgia has a claim to be the "sea gate" of the South Caucasus because it has a unique strategic location among the countries of the South Caucasus due to its access to the Black Sea. The two countries in the region, Azerbaijan and Armenia, conduct a significant portion of their foreign economic relations through Georgia's ports.
3. Georgia's transport infrastructure and legal base more or less ensure the development of transit potential. However, the absence of a unified state transit policy prevents effective management of the process. Georgia's transport system does not offer attractive tariffs. Railway tariffs and port fees are significantly higher than those of other Black Sea ports and the Azerbaijan Railway.
4. The volumes of cargo transported through the ports and terminals of Georgia have been decreasing over the last decade, however, due to the ongoing military conflicts in the Middle East and Ukraine and the sanctions imposed on Russia, the demand for cargo transportation through the transit corridors passing through Georgia has increased dramatically.
5. China became an important partner for Georgia, with which a free trade agreement was signed, as well as a memorandum on development and cooperation within the framework of the "One Belt - One Road Initiative". China is also interested in the "Middle Corridor" passing through Georgia.
6. The interests of the "TRACECA" and "Chinese Initiative" corridors, passing through Georgia, are conflicting in some cases. The European Union does not like the development of the "Chinese initiative", as it believes that it will prevent the establishment of stability in Eurasia through the democratic rules of the West.
7. "Middle Corridor" has a special importance for the sustainable economic development of Georgia. It can attract significantly more cargo, which will contribute to increased revenue for the country's budget. However, the "Middle Corridor" is not equally important to the countries involved, as their economies are less dependent on transit. The corridor also faces infrastructure problems, mismanagement, and security concerns; however, it is a good alternative for countries seeking to avoid Russian transit.
8. The growth and sustainable development of Georgia's economy depend on the efficient use of the transit function. Georgia should offer regional

players a well-developed transport infrastructure, high-quality services, and low costs to become a regional logistics hub.

References

APM Terminals. (2024). *Our company*.
<https://www.apmterminals.com/en/about/our-company>

Batumi Sea Port. (2024). *Tariffs*.
<https://www.batumiport.com/services/tariffs>

Charaia, V., Papava, V., & Wang-Bull, W. (2018). China–Georgia economic relations in the context of the Belt and Road Initiative. *Proceedings of the Georgian National Academy of Sciences*.

Dolbaia, T. (2017). Initiative of China: “One Belt – One Road” and perspectives of Georgia. In *Economic and Social Development: Book of Proceedings* (pp. 70–77).

Dolbaia, T. (2023). *The Belt and Road Initiative and perspectives of Georgia*. In *Chinese modernization and development of the Silk Road*. Beijing. ISBN 978-7-5227-2610-6

Georgian Railway. (2024). *Freight operations*.
<https://www.railway.ge/satvirtos-gverdi/>

Geostat. (2023). *Statistical yearbook of Georgia 2023*.
<https://www.geostat.ge/ka/single-archive/3406>

Geostat. (2024a). *Population and demography*.
<https://www.geostat.ge/en/modules/categories/316/population-and-demography>

Geostat. (2024b). *Gross domestic product (GDP)*.
<https://www.geostat.ge/en/modules/categories/23/gross-domestic-product-gdp>

Jaoshvili, V. (1996). *Population of Georgia*. Tbilisi State University.

Ministry of Economy and Sustainable Development of Georgia. (2023). *Transport*. <https://www.economy.ge/?page=ecopolitic&s=20>

Roads Department of Georgia. (2024). <http://www.georoad.ge/>