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**REGIONAL RAILWAYS
IN THE CENTRAL CAUCASUS AND
GEORGIA'S ECONOMIC INTERESTS****A b s t r a c t**

This article examines two regional railway projects, one of which—Kars-Akhalkalaki-Tbilisi-Baku (KATB)—is already reaching completion and the second—restoration of the Abkhazian Section of the Trans-Caucasian Railway (ASTCR)—is still being discussed at the political level.

The article also looks at such important aspects of both projects as construction or restoration cost, financial and freight turnover, profitability, direct and indirect economic benefits, and social effects. It also gives recommendations for improving these regional railway transportation projects.

KEYWORDS: *railway, regional cooperation, the Central Caucasus, conflict resolution, investments, transport corridors, KATB, ASTCR.*

Introduction

The Georgian economy has undergone enormous changes during the twenty years of its independence.¹ Since the beginning of the 1990s, railway routes in the Central Caucasus² have, for many, primarily political, reasons, been essentially disrupted. The conflicts that erupted at the beginning of the 1990s and continue to this day have remained an insurmountable obstacle to social and economic integration and the development of certain countries and the region as a whole.³

The prospects for restoring transport routes in the Central Caucasus are being examined not only from the commercial and social and economic angle, but primarily in the security context.

The geopolitical reality that has developed today in the Central Caucasus offers certain advantages for Georgia. In particular, the other two Central Caucasian countries (Armenia and Azerbaijan) only have access to European and world markets through the Black Sea via Georgia. It is important to note that land communication between strategic partners Azerbaijan and Turkey and Russia and Armenia is also only possible via Georgia.

The Kars-Akhalkalaki-Tbilisi-Baku (KATB)⁴ track and the Abkhazian Section of the Trans-Caucasian Railway (ASTCR), hypothetically to be restored, are of particular significance among the major international infrastructural projects in the Caucasus.

Main Technical Specifications of the Projects and Construction and Restoration Cost

KATB is to go into operation in 2014 and will link the railway systems of Azerbaijan, Georgia, and Turkey. The 178-km Akhalkalaki-Marabda section (for comparison, the ASTCR is 190 km long) must be reconstructed to implement this project, which will raise its throughput capacity to 17 million tons of freight (the ASTCR's to 10 million tons) a year, while its speed will be increased to 140-150 km an hour (the ASTCR's to 80 km/h). A 104-km railway section must also be built, 75 kilometers of which will run through Turkish territory, and 29 kilometers through Georgian.

Based on preliminary estimates, during its first year of operation, KATB plans to transport 2-3 million tons of freight, with a gradual increase to 8 million tons a year⁵ (the ASTCR freight traffic would be, at most, four million tons⁶). It must be stressed that KATB (just like ASTCR) is intended for transporting freight, and at the current stage does not envisage the conveyance of passengers. If KATB can be used for passenger transport, this will make the project much more attractive.⁷ However, unfortunately, none of the projects are giving this question due attention.

¹ See: V. Papava, *Economic Reforms in Post-Communist Georgia: Twenty Years After*, Nova Science Publishers, New York, 2013.

² See: E. Ismailov, V. Papava, *The Central Caucasus: Essays on Geopolitical Economy*, CA&CC Press, Stockholm, 2006; Idem, "A New Concept for the Caucasus," *Southeast European and Black Sea Studies*, Vol. 8, No. 3, 2008.

³ See: J. O'Loughlin, V. Kolossov, J. Radvanyi, "The Caucasus in a Time of Conflict, Demographic Transition, and Economic Change," *Eurasian Geography and Economics*, Vol. 48, No. 2, 2007, pp. 135-156.

⁴ See: V. Papava, "Zheleznaia doroga Kars-Akhalkalaki-Tbilisi-Baku i razvitie Dzhavakheti," in V. Papava, E. Metreveli, T. Abashidze, I. Zhvania, A. Kitiashvili, *Dzhavakheti. Vyzovy i perspektivy*, GFSIS, Tbilisi, 2013, p. 17, available at [<http://gfsis.org/media/download/library/articles/papava/javakheti.pdf>].

⁵ See: Ibidem.

⁶ See: N. Mirimanova, V. Amiryanyan, G. Bayramov, B. Baratelia, L. Zade, K. Hovsepian, F. Rasulov, V. Charaia, *Rehabilitation of the Railways in the South Caucasus*, International Alert, London, 2013, p. 21, available at [www.international-alert.org/resources/publications/rehabilitation-railways-south-caucasus-vol1-en].

⁷ See: L. Viskushenko, "Zh/d Kars-Akhalkalaki-Tbilisi-Baku: za i protiv," *Kavkazsky uzel*, 23 January, 2007, available at [<http://www.kavkaz-uzel.ru/articles/107100/>].

Azerbaijan extended Georgia a loan of \$775 million to build the Georgian section. The first installment of \$200 million was issued for 25 years at a 1% interest rate, while the second installment of \$575 million was for 25 years at a 5% interest rate.⁸ So the total cost of KATB increased from the initial \$600 million to \$1.2 billion.

In order to estimate the cost of the ASTCR, experts from International Alert drew up an original methodology of cost assessment. Taking the KATB and Tuapse-Adler projects as an example, they developed a method for classifying the physical state of different sections of the railway based on the data collected⁹:

- category 1—operating at full capacity and requiring running maintenance (\$0.1 million for 1 km);
- category 2—operating at partial capacity and requiring both running maintenance and capital;
- repairs for certain sections of track (\$0.4 million);
- category 3—not operating and requiring capital repairs (\$1 million);
- category 4—completely wrecked and requiring restoration (\$1.5 million);
- category 5—new construction (\$2 million).

The technical state of all the sections of the rail road was assessed on the basis of visual inspections, an analysis of the technical documents, and interviews with experts (see Table 1).

Table 1

Restoration Expenditure on the Psou-Inguri Section of the KATB Track

Section of Track	Distance, km	Category of Restoration Work	Restoration Expenditure, \$m
Psou-Sukhumi	102	3	102
Sukhumi-Ochamchira	54	4	81
Ochamchira-Inguri	34	5	68
Psou-Inguri	190	3, 4, 5	251

Source: N. Mirimanova, V. Amiryan, G. Bayramov, *et al.*, op. cit.

It is interesting that the data collected with this approach differ significantly from the estimates of Georgian experts from AO Georgian Railway and Abkhazian (along with Russian) experts (see Table 2). The reason for this impressive difference could be the disparity both in the direct expenditures on building this facility and in the indirect expenditures (that is, the existence of corruption schemes).

⁸ See: A. Salaeva, "Nazvany sroki sdachi v ekspluatatsiiu zheleznodorozhnoi magistrali Baku-Tbilisi-Kars," 1 NEWS. AZ, 13 June, 2013, available at [<http://1news.az/economy/20130613115109319.html>].

⁹ See: N. Mirimanova, V. Amiryan, G. Bayramov, *et al.*, p. 8.

Table 2

**Comparison of the Restoration Expenditure
on Different Sections of the ASTCR**

Section of Track	Distance, <i>km</i>	Cost Estimate, Abkhazian (and Russian) Experts, \$ <i>m</i>	Cost Estimate, Georgian Experts, \$ <i>m</i>	Cost Estimate, International Alert Experts, \$ <i>m</i>
Psou-Sukhumi	102	—	—	102
Sukhumi- Ochamchira	54	—	18.7	81
Ochamchira-Inguri	34	—	54.2	68
Psou-Inguri	190	350-400	73	251

S o u r c e: N. Mirimanova, V. Amiryanyan, G. Bayramov, *et al.*, op. cit.

Transport Routes and Financial and Freight Turnover of KATB and ASTCR

If we keep in mind that laying the railway track under the Bosphorus (that is, the Marmarai project), which could be joined to KATB and further via the Baku (Azerbaijan)-Aktau (Kazakhstan) rail and maritime route to China, is at the completion stage, KATB could become part of the shortest railway linking Asia and Europe.¹⁰

As for the ASTCR, it could become the shortest route for joining the western part of Russia and the north of Eastern Europe with the Central Caucasus, Turkey, and Iran. In so doing, Georgia could become a link both in the West-East (and vice versa) direction, as well as in the North-South (and vice versa) direction. It should also be noted that the ASTCR is a necessary link for building a railway around the Black Sea.

According to the estimates of experts, while the trade volume between China and Europe currently amounts to \$500 billion, by 2020 this volume will increase to \$800 billion. In view of this trade growth between China and Europe, Kazakhstan is interested in corresponding trade flow passing through Kazakhstan and from the port of Aktau through the Caspian Sea to Baku. Kazakh grain producers are showing a particular interest in the launching of KATB since they hope to export wheat to Turkey and Europe via this railway.¹¹

The agreement between Uzbekistan and Turkmenistan on use of the transport potential of the route linking China with Turkey through the Caucasus is also of immense importance. This particularly applies to implementation of the Navoi-Turkmenbashi-Baku-Tbilisi-Akhalkalaki-Kars transportation project.¹²

¹⁰ See: A. Kasianov, "Zheleznaia doroga Kars-Akhalkalaki-Tbilisi-Baku (KATB)," *Lenta novostei*, 13 March, 2013, available at [http://referat.forum2x2.ru/t20-topic].

¹¹ See: *Ibidem*.

¹² See: *Ibidem*.

Assessment of the potential sectors of the Georgian economy that will directly or indirectly participate in the trade turnover of the ASTCR and KATB must be based on the real opportunities and needs of the Georgian economy. It should be kept in mind that the contemporary Georgian economic model is based less on increasing production and more on stimulating consumption.¹³

Despite the slow, instable and unbalanced growth of the Georgian economy over the past two decades, clear progress is nevertheless obvious. In just the past ten years (from 2003 to 2012), Georgian export has increased five-fold, while import has risen even more, by seven-fold. The only decline in growth was seen in the crisis year of 2009, the year following the Russian-Georgian war (see, Table 3).

Table 3

Georgian Export and Import of 2004-2012, \$bn

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Export	0.646	0.865	0.936	1.232	1.495	1.133	1.677	2.189	2.377
Import	1.844	2.487	3.674	5.212	6.301	4.500	5.257	7.057	7.842
Total	2.490	3.352	4.610	6.444	7.796	5.633	6.934	9.246	10.219

S o u r c e: National Statistics Office of Georgia, available at [www.geostat.ge].

However, if we show Georgian export products not in millions of American dollars, but in tons of freight, we will see that the indices are not as impressive. Despite the opinion of some experts that, if restored, the ASTCR will have difficulty keeping up with the freight flow of Georgian wines and mineral water, the studies show that opening rail communication with Russia will essentially not play any particular role either for Georgian businessmen or for the ASTCR itself, for example:

- wine—325 wagons (1 wagon for 40,000 bottles of wine), or 7-8 rolling stocks, would be needed to transport 10 million bottles of wine a year (this is the current maximum quota of Georgian wine to Russia)—this would load the railway for one day;
- mineral water—the railway would operate for just one week when exporting 50 million liters (55,000 tons);
- vegetables and fruit—exporting a volume of 200,000 tons of vegetables and fruit (almost the whole of the country's export harvest) would require two to three weeks of railway operations.¹⁴

In other words, Georgia's export potential is too small to support the ASTCR and KATB projects. Freight flows are drawn not because of the operating railways, but because of their profitability and the potential of the economies involved in the project.

The negative social and economic consequences of implementing the ASTCR and KATB projects can be seen in maritime and automobile freight transport, the revenue from which is much higher and able to provide jobs for ten times more people. In particular, opening ASTCR and KATB

¹³ See: V. Papava, *The Main Challenges of "Post-Rosy" Georgia's Economic Development. Experts Opinion*, No. 4, GFSIS, Tbilisi, 2013. P. 4-5, available at [http://gfsis.org/media/download/library/articles/Expert_Opinion_ENG_4.pdf].

¹⁴ See: N. Mirimanova, V. Amiryan, G. Bayramov, B. Baratelia, L. Zade, K. Hovsepyan, F. Rasulov, V. Charaia, op. cit., p. 20.

rail communication is not advantageous for the Georgian ports (Poti and Batumi) for the following reasons:

- Most of the freight going north-south and west-east (and vice versa) that makes use of the services of the Georgian ports will no longer need them after rail communication appears that is capable of transporting freight without additional reloading (which leads to an increase in the transportation cost);
- Due to the tough competition of the ASTCR and Georgian ports, the revenue and number of jobs at the port will decrease, as well as Georgia's state budget revenue. While the advantages from the ASTCR will be much less in terms of all parameters;
- KATB, the second project, will also cause a decrease in revenue and jobs at the port.

Opening up railway traffic with Russia is currently not advantageous for the automobile freight transport sector for the following reasons:

- it would cause job losses in the automobile freight transport sector (300–400 jobs with an average salary of \$1,000 a month);
- it would decrease companies' annual revenue by approximately \$5 million and then lead to local companies being pushed out by foreign companies (Turkish, Azeri and Armenian).¹⁵

Moreover, switching from freight traffic (50,000 tons) to rail transportation would reduce Georgia's budget revenue by approximately \$2 million a year (railway revenue at 50,000 tons of freight amounts to less than \$200,000). If these 50,000 tons of freight are transported by automobile freight transporters, the sector is capable of providing at least 300 jobs, while the railway will not create even a dozen new jobs.¹⁶

According to in-depth case studies of some of the largest industrial plants in Georgia (Rustavi Azot, Zestafoni Ferrous Alloy Plant, and HIPP-Georgia), it transpired that these plants are functioning with 100% of their production capacity using all the raw material available and cannot step up production. Let us take a closer look at these examples:¹⁷

Based on a closer look at the situation at Rustavi Azot (RA), it was concluded that the restoration of the ASTCR would not stimulate an increase in production or its reorientation to new (Russian) markets for the following reasons:

- RA already has stable sales markets, including foreign, for its production;
- RA is already operating at high turnovers, virtually at full capacity, and a future increase in production will be tied to huge investments that the plant is still not ready for;
- Due to the high competition and keeping in mind that the business of mineral fertilizers in Russia is one of the chief sectors in the Russian chemical industry, with an annual turnover of more than US\$10 billion (production volume of 18.79 million tons of fertilizers (2011), exporting RA production to Russia has little prospect.

The reasons why the Russian market is not of interest to HIPP-Georgia are as follows:

- 95% of its products are exported and it already has stable sales markets;
- there are no additional resources (Georgian fruits) to increase production;
- production capacities are already at a maximum.

¹⁵ See: *Ibid.*, p. 30.

¹⁶ See: *Ibid.*, p. 31.

¹⁷ See: *Ibid.*, pp. 26-31.

The lack of interest of the Zestafoni Ferrous Alloy Plant in exporting ferrous alloy to Russia stems from the following reasons:

- up to 100% of all products are exported and have stable sales markets;
- production is already operating at full capacity;
- it is not planned to further grow the plant to increase production.

Profitability of the ASTCR

According to Table 4, at an estimated project cost of \$400 million (assessment of Russian experts), it is unlikely, to put it mildly, to give a return, since the pay-back term would be 250 years with a freight turnover of 3 million tons a year, or 26 years with a freight turnover of 10 million tons. However, the last freight scenario does not seem feasible since the profitability threshold of 10 million tons a year remains unattainable for this railway. According to some experts, under the most optimistic freight scenario, it does not seem feasible to ensure more than four million tons a year, and this is assuming that all the potentially interested countries are incorporated: Turkey, Iran, Armenia, Georgia, and Russia.¹⁸

Table 4

**Profitability Assessment of the Psou-Inguri Railway
(at an estimated restoration cost of \$400 million)**

Volume of Freight Traffic, million tons	Quantity number of containers	Rate of Profit, %	Net Profit, \$m	Profit, %	Pay-back Period, number of years
1.0	50,000	—	—	—	—
3.0	150,000	6	1.4	0.4	250
5.0	250,000	9	3.5	0.9	111
8.0	400,000	10	6.2	1.6	63
10.0	500,000	20	15.6	3.9	26

Source: N. Mirimanova, V. Amiryanyan, G. Bayramov, *et al.*, op. cit.

Table 5 shows that at an estimated cost of \$251 million (assessment of International Alert experts), the Psou-Inguri project is still not attractive, since the pay-back period would be 200 years with a freight turnover of 3 million tons a year, or 16 years with a freight turnover of 10 million tons a year.¹⁹

¹⁸ See: N. Mirimanova, V. Amiryanyan, G. Bayramov, B. Baratelia, L. Zade, K. Hovsepyan, F. Rasulov, V. Charaia, op. cit., p. 21.

¹⁹ See: *Ibid.*, p. 18.

Table 5

**Profitability Assessment of the Psou-Inguri Railway
(at an estimated restoration cost of \$251 million)**

Volume of freight traffic (millions of tons)	Quantity (number of containers)	Rate of profit (%)	Net profit (US\$ million)	Profit (%)	Pay-back period (number of years)
1,0	50 000	—	—	—	—
3,0	150 000	6	1,4	0,5	200
5,0	250 000	9	3,5	1,4	71
8,0	400 000	10	6,2	2,5	40
10,0	500 000	20	15,6	6,2	16

S o u r c e: N. Mirimanova, V. Amiryanyan, G. Bayramov, *et al.*, op. cit.

After analyzing the potential of this railway and the possible interest of the various sides concerned, it can be stated that the ASTCR is economically unprofitable.

At the same time, due to the low expenditures (\$26.5 million) of the Georgian side taken separately (without the Abkhazian section), it can be said that this project is entirely profitable and fits the parameters of railway return (however, not one of the separate sections of the railway can function without restoration of the entire track). At the average cost for transporting one ton of freight, with corresponding coefficient rates on the Georgian section of the rail road, it can be calculated that²⁰:

- Under the most pessimistic scenario of 1 million tons of freight a year, the expenditures of the Georgian side of \$26.5 million would be paid off in 8 years;
- At an average load of 5 million tons in less than 20 months;
- At a maximum load of 10 million tons (due to the fact that the through capacity of the Georgian railway amounts to 30 million tons a year, 20 million tons of which are already being used, the maximum freight flow on the ASTCR cannot exceed 10 million tons) in less than a year.

This conclusion was made on the basis of data collected by AO Georgian Railway, from which it became clear that with an increase in freight flow of 1 million tons, the Georgian railway will earn an average of 21 million lari (18 million lari on transportation and 3 million lari on servicing the station) or 5.5 million lari (\$3.3 million) net profit.

Direct and Indirect Economic and Social Effects for Armenia

From the very beginning, Armenia has had a negative attitude toward the KATB railway project, since it felt that it would be more economically feasible to relaunch the already existing Kars-Gumri

²⁰ See: *Ibid.*, pp. 8, 18.

track that has been out of commission since April 1993 after Turkey closed the border with Armenia (in solidarity with Azerbaijan).²¹ It is widely thought that KATB will lead to Armenia's complete isolation and that supposedly after taking a pro-Armenian position, Washington has decided that American companies will not participate in financing this project.²² To be fair, it should be stressed that KATB cannot aggravate Armenia's isolation, since Armenia, even without KATB, did not participate and is not participating in any of the freight traffic or commodity turnover among Azerbaijan, Georgia, and Turkey.²³

Restoration of the ASTCR, on the contrary, is aimed at integrating Armenia into the regional project. The calculations presented by Armenian experts show that this project is entirely profitable for Armenia (see Table 6), providing that Armenia does not invest anything in the construction of this railway project.

Table 6

**Change in Transport and
Storage Component of Product Cost—Tekhut Quarry**

Indicator	Current Value	Growth Potential
Number of workers	180	1,200 -1,300
Annual production volume	12,000 tons	95,000 -100,000 tons
Chief export markets	Belgium, Germany	Russia, Belgium, Germany
Accompanying production	—	Sulfuric acid, mineral fertilizers
State budget tax revenue, excluding income tax	\$4.8 million	\$40-45 million

Source: N. Mirimanova, V. Amiryanyan, G. Bayramov, *et al.*, op. cit., pp. 34-37.

The Armenian segment of the railway is in working condition and does not require capital investment. As a result, restoration of the railway is *a priori* desirable for Armenian exporters and importers, who currently have to use two major ports (depending on the time of year and the destination): the seaport of Poti (Georgia) or of Bandar Abbas (Iran) along with additional railway and truck transportation services, which raises the price of the end product and lowers its competitiveness.

Switching to a single transport system, that is the ASTCR, could save businessmen 20% of their transport costs, on average, and probably change the trade balance structure of Armenia. In 2012, approximately 20% of Armenian exports went to Russia, while exports to the EU countries made up 40% of total exports.²⁴

²¹ See: N.Z. Mosaki, "Proekt zheleznoi dorogi Baku-Tbilisi-Kars," Middle East Institute, available at [http://www.iimes.ru/rus/stat/2007/22-05-07a.htm].

²² See: G. Oganessian, "Zheleznodorozhny proekt Kars-Akhalkalaki-Tbilisi-Baku v kontekste turetsko-gruzinskikh interesov," *21-y Vek*, No. 3 (23), 2012, p. 73.

²³ See: S. Sarukhanian, "Zheleznaia doroga Kars-Akhalkalaki-Tbilisi i ee regionalnye perspektivy," *Globus*, No. 4, 25 April, 2013, available at [http://www.noravank.am/rus/articles/security/detail.php?ELEMENT_ID=7041].

²⁴ See: N. Mirimanova, V. Amiryanyan, G. Bayramov, *et al.*, op. cit., pp. 31-34.

By avoiding high servicing tariffs in the “Kavkaz” seaport (Russia) it will be theoretically possible to increase the percentage of the Armenian-Russian and decrease the percentage of the Armenian-European trade turnover.

Nevertheless, the increase in export or import is not always determined only by transport expenditures. Such important aspects as product quality, tariff policy, market structure, competitiveness of the export commodity, and many other factors play just as important a role in trade between the two countries.

Direct and Indirect Economic and Social Effects for Abkhazia

The Abkhaz economy is geared toward Russia and consists mainly of the export of services (tourism) to Russia. However, due to the insignificant volume of this export, freight traffic will not yield a significant economic effect, so it is not a key factor for Abkhazia. Abkhazia does not have its own freight necessitating railway transport. Road freight traffic with Russia and maritime relations with Turkey fully cover freight transport of Abkhazia.

As there is no developed manufacturing of goods in Abkhazia, it would not be able to ensure the efficient and profitable operation of the Abkhazian railway. Therefore, restoring the railways could be viewed only in terms of transit traffic, which would allow the Abkhazian railway to obtain the transit duties.²⁵

Conclusion

Building new transport routes in the Central Caucasus is prompted by the new dimensions of partnership both in the regional and global format. As a result, Georgia is gradually turning into a regional transport hub.

It is another matter just how beneficial this process is for Georgia, both in the short and long term, which is the topic of an independent study. The fact that after the KATB track is launched the business potential of Georgian ports will deteriorate is an example of a short-term negative effect, while KATB will also provide direct rail freight traffic with Europe, which will give Georgia additional economic advantages in the long term. As for the second large-scale project, the ASTCR, which is still only under review, studies show that there are essentially no economic stimuli for implementing this project at the moment.

It is important to note that the points of reference for Georgia in implementing a particular regional project are its own strategic, social and economic, political and other interests of Georgia. It is from this viewpoint that decisions should be made in Georgia regarding the implementation of the above-mentioned railway projects.

²⁵ See: *Ibid.*, p. 19.