

DEVELOPMENT OF THE TBILISI RAILWAY LINE **POLICY PAPER**

The Importance of Rail Line for Urban
Planning: Preserve or Relocate



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INTRODUCTION

This document provides a complex assessment of the mainstream opinions and approaches concerning the Tbilisi rail line through the lens of urban planning and city development.

The Tbilisi railway line, which serves either freight or passenger transfer, crosses the city and divides into the north-east and the south-east parts. The Railway infrastructure, which covers the land of 80 hectares, was built in Soviet times and is mostly obsolete nowadays. The majority of its territory isn't utilized for railway-related purposes, some parts of the land are privatized, some buildings are either abandoned or rented out by the Georgian Railway. This whole infrastructure includes certain territories of Gldani, Nadzaladevi, Didube, Chughureti, Isani, and Samgori regions.

The idea of relocating the Tbilisi railway line emerged many years ago. The intention was to use the freed-up territory for other city planning and developmental purposes. To that end, in 2010, the construction of the Tbilisi bypass railway line started, but in 2013, due to some emerging miscalculations, the project was terminated.

Notably, urban planning specialists were not engaged in the decision-making process regarding the railway line transfer, meaning that the decision was not assessed from the broader urban planning and city development perspectives. Multidisciplinary assessment and analysis of the advantages and disadvantages of such a significant and consequential project for the city hasn't been conducted. Potential repercussions for the city's spatial layout weren't adequately assessed either.

PROBLEM ANALYSIS

It is hazardous to resume construction of the Tbilisi railway bypass project primarily because the rail line passes by the Tbilisi Sea and the distance from the reservoir is just 800-900 meters. This poses significant environmental challenges and at the same time, deteriorates the city planning capacity of the surrounding area. The project suffers from other disadvantages, such as long declivity of the route and the necessity to use electric locomotives, hence reducing carrying capacity.

To avoid hazardous freight transfer in the city center, it's essential to find alternative routes. Transferring the freight carrier rail line to the bypass route would be reasonable if all the necessary safety measures are considered and put in place, including environmental concerns.

On the one hand, it is important to eradicate the threat of transferring unsafe dry or liquid bulk commodities through the city center, while on the other hand, it's no less crucial to preserve the local water reservoir and environmental or urban planning value of the surrounding territory. It is vital to examine potential environmental and safety concerns and assess related risks. Unfortunately, such a comprehensive analysis hasn't been conducted.

A more viable alternative would be to transfer the railway infrastructure to another and safer route – close to the city bypass highway. This idea has emerged in the initial phase of the discussion but was eventually neglected. In this scenario, the Tbilisi Sea recreation area is preserved, which is an appropriate and smart option considering Tbilisi's current environmental condition and the lack of green spaces.

Relocating the freight railroad to the further city bypass route is reasonable primarily because it doesn't compromise the Tbilisi Sea's recreational function, doesn't deteriorate surrounding agricultural lands and generally, maintains the city planning capacity of the Tbilisi Sea area. Regrettably, this option hasn't been chosen as an alternative project. Sizeable financial resources have already been spent on building the Tbilisi bypass railway project infrastructure. However, due to the risks mentioned above that bear a high probability of significant economic and ecological damage, the construction was halted and hasn't resumed since then.

Georgia has the capacity to connect its neighboring countries and regions through railway lines. Connecting rail lines can even reach Europe, through Turkey. In the long run, it's also reasonable to consider the possibilities of positive change in some currently problematic strategic directions as well.

More attention should be paid to the opportunity of developing passenger carrier rail lines that either connect Georgian cities with each other or integrate Georgia into the international railway network system. Decisions that confront development opportunities must be resisted. Construction of the passenger carrier railroad is a strategic issue, related to the country's spatial layout and its strategic development. Neglecting the role and the needs of the capital city in the framework of the railway infrastructure might eventually damage the developmental interests of the whole country. It's unacceptable to make nearly irreversible decisions in this regard. This excludes the chance or extremely limits the opportunity for improvement in the future.

Nowadays, the connection between the capital and the other cities is mostly maintained through highways, using private cars, minibuses or buses. The railroad could encourage inter-regional mobility and strengthen intercity connections. Support for the development of the railway transportation system is one of Georgia's commitments envisaged in the EU-Georgia Association Agreement. The number of tourists visiting

either the capital or other Georgian cities is steadfastly increasing every year. They have to travel by either busses or rented cars. Tourists' and local citizens' dependence on auto transportation leads to severe traffic problem either in Tbilisi or outside the capital. The prevalence of vehicles increases the risk of car accidents, and the prevalence of gasoline-powered vehicles leads to severe air pollution. Hence, the development of the railway system can significantly improve the city's environmental condition, make mobility safer, and increase access to many locations of the country.

Undoubtedly, relocation of passenger carrier railroad to the city bypass route will worsen transportation access and compromise the travelers' comfort too as it will lose the connection with the city center. Additionally, the railroad will become disintegrated to the general intracity transportation network.

On May 23, 2018, in the framework of the Tbilisi Brownfield Land Project implemented by the Tbilisi Municipality and the World Bank, conducted the presentation of the study on Tbilisi railway bypass project. The presentations, followed by the discussions and working meetings, were attended by Tbilisi City Hall representatives, urban planning experts from the World Bank, specialists working on land-use planning, representatives of the Georgian railway and business sector. The World Bank study argued that keeping the passenger railroad line in the city is essential. During the discussion, the Georgian Railway management hasn't raised any opposing opinions or arguments. Furthermore, it was noted that in light of this scenario, the construction of some connecting tunnels in the city center was also worth considering.

Generally, developing the two separate freight and passenger carrier lines is a widespread and well-experienced practice worldwide.

One of the major arguments supporting the transferring the railway line out of the city center is that the whole railway infrastructure occupies around 80 hectares and if freed, this area will potentially be better utilized for multifunctional business and community space. This will undoubtedly lift up some pressure on the Tbilisi historic center imposed by the intensive and chaotic development and construction projects, which have already deteriorated urban fabric and the quality of life in the capital. This argument is appealing though it doesn't contradict the option of keeping only passenger railway line in the city center.

The idea of relocating the railway infrastructure to the city suburb is also reinforced by arguing that the current rail line crosses the city into two parts, weakening the connection between these two.

In case the freight carrier rail line, together with its business and enterprise infrastructure, is transferred to the bypass route, while the passenger carrier rail line stays in the

city center, the overall space the railway occupies in the city center will significantly narrow down and cross-connections will anyways simplify. In the majority of world cities, where the train station serves the passengers in the city center, the connection between two sides of the rail line is ensured through tunnels.

In the photographs below, such connections are depicted on the example of Amsterdam. The passenger carrier rail line and the train station in the center of the Netherlands capital serves around 250 000 local and international travelers daily. These photos also demonstrate that essentially every type of road is constructed around the rail line: bike lanes and pedestrians' pathway, car roads, and public transportation infrastructure.

Another argument supporting the relocation of the rail line from the city center to the suburb highlights the following advantages: reduced noise and improved environmental situation. Actually, if the freight carrier railroads are separated from the passenger carriers and remain in the city center, the city's ecological situation will not worsen. Currently, passenger-carrying capacity doesn't exceed ten carriages. Despite the potential increase in passenger flow, comfortable contemporary trains are actually quiet and environmentally friendly. The Georgian Railway is already partnering with one such company, namely Stadler, which produces modern railcars. In the future, all passenger carrier lines should consist of such modern and comfortable carriages.

The vacated space previously occupied by the freight railroad infrastructure should not be utilized for residential purposes. This territory should primarily be developed as a recreational green space, followed by the business and commercial zones and residential areas. Such a spatial layout of the city will provide its residents with peaceful and secured living conditions.





Amsterdam, The Netherlands. The photo depicts 1000 meters radius of the central railway station. A connection channel between two sides of the city divided by the railroad corridor is ensured through the underground tunnel.

Passenger carrier railway line generally occupies nearly 4-5 hectares. After transferring the freight carrier rail line from the city center, the territory of 75 hectares will be freed up - a perfect opportunity for a new multi-function space to be developed instead. Therefore, keeping the passenger carrier rail line in the city doesn't contradict the opportunity of developing a new multi-function space in the city center. Actually, the opposite. This will positively affect the future development of the city center with its sustainable transport network infrastructure.

In the scenario in which the passenger carrier rail line is removed, two dead-end stations in Didube and Navtlughi emerges. This will further complicate the transportation network, confuse the transition points, enlarge the crowd, worsen the quality of travel

and access to the city center. The number of passengers taking cabs or other auto transport to access the city center will aggravate the traffic and air pollution. It's possible and even desirable to integrate S-bahn type trains in the passenger railway within Tbilisi agglomeration, covering Natakhtari, Mtskheta, Tbilisi, Rustavi, and Gardabani. Such integration of stations, it might be Didube, Central or Navtlughi stations, facilitate transfers between the same level platforms of either inter-city or S-bahn type trains.

Transfer of passenger carrier rail line from the city center to the suburbs automatically leads to the cancelation of the passenger train station in Tbilisi center, leaving only suburban train station there. This is an immensely negative change and therefore quite unacceptable - a passenger arriving on the Central Station should appear in the heart of the Tbilisi transportation network, where the railway and both metro lines intersect. The potential for such remarkable configuration shouldn't be dismantled – it will undoubtedly negatively affect urban mobility in Tbilisi and will complicate intracity connections too. Besides, actually, three stations will be necessary to function: Didube and Navtlughi Stations for passenger carriers and the Central Station for suburban trains. On the one hand, this leads to an unreasonable increase in expenditures; on the other hand, a significant downgrade of the service and comfort for travelers.

Existing railway lines unite some industrial zones and connect so-called brownfield lands. This should be a sufficient precondition for further development and exploitation of these territories. The utilization of brownfield lands is crucial for the city. Transferring the railway from industrial zones and brownfield lands will disconnect them from the city and hence, negatively affect their future development.

Polycentric development is very tremendously important for Tbilisi. It is one of the prerequisites of sustainable development for a livable city. Pulling out passenger railroad from the city directly contradicts developmental views of the future and will definitely backfire. The railway line can facilitate the connection between northern, central, south, and south-eastern industrial zones in the polycentric city, while metro lines don't cover them all. By integrating into the metro network, the railway can actually address the gaps the metro network leaves. Therefore, the passenger carrier rail line is incredibly convenient and necessary for the city.

To summarize, many urban planning goals can be achieved by keeping the passenger carrier rail line in the city center and relocating only the freight carrier railroad to the bypass route.

Transfer of unsafe and hazardous cargo will bypass city dwellers and hence will cause no harm for Tbilisi residents.

The transportation system of the divided city will easily reintegrate around the thin passenger carrier rail line.

Ecological problems will significantly reduce as modern trains are environmentally friendly and less noisy.

Rail lines should integrate into the transportation network and intersect two major metro lines on the central railway station. It is essential for the accessibility and connectivity of the city.

Relocation of the freight carrier rail line will encourage the revival of currently degraded territories along the route. Likewise, relocation of the passenger railway will lead to increased traffic and will entirely downgrade the value and appeal of these territories.

Trains can transfer the largest flow of passengers and hence represent potentially the most sustainable means of transportation. It would be enough to connect Tsothe Dadiani street to George Bush street and Kakheti Highway through the Central Station along Gedevanishvili and Saingilo streets. A detailed study needs to be conducted to identify spots that require a tunnel connection.

Relocating the freight transit railway line and its surrounding industrial zones to the bypass route will free up around 75 hectares of land. It will be reasonable and even necessary to develop a recreational zone on the vacated territory, significantly improving the city's environmental condition. That's why it is essential to maintain such a sustainable transportation system in the city center, which will integrate it into the general transportation network and, most importantly, connect with both metro lines.

CONCLUSION

Relocating the passenger carrier railroad to the city bypass route is extremely unreasonable and will have significant long-term negative consequences either from the city development or strategic and operational perspectives.

It contradicts modern international and European approaches aimed at developing sustainable intracity, suburban and intercity railway transport systems.

It is essential to maintain double-tracked, in some cases even quadruple tracked rail lines crossing the city on the Central Station that connects Tbilisi's two metro lines. According to preliminary estimates, such a rail line will take up around 5 hectares, while the rest of the 75hecters freed up by pulling out the freight transfer rail line should provide an opportunity to develop as a new multi-function space of the city. Therefore, it's not necessary to relocate both passenger and freight carrier lines together. This project provides the perfect opportunity to develop a new Tbilisi center with improved environmental conditions and a sustainable transportation network integrating different parts of the city.

In the future, when financial resources are available, Didube and Navtligi stations should become connected through train lines in the tunnel and underground platforms, though through the maintenance of the central station. Such spatial layout in New York and Brussels, frees up more land that could be utilized for other purposes.

Removing the passenger transit train line from the city downgrades the strategic importance of Georgia's railway, which itself can be a tremendously important urban development factor for the city.

Such a decision also deprives the city of a sustainable transportation system and belittles the importance of intracity railway transit.

It also reduces urban development opportunities and capacities for Tbilisi, which in the future might become irreversibly damaging either financially or strategically.

Such an approach is also nowhere near appropriate for Tbilisi. Quite the opposite - It will deprive Tbilisi of the chance to develop a multifunction center and business-enterprise territory, which is the perfect opportunity for the regeneration of brownfield lands.

Internal city mobility will also worsen, and the transit duration will prolong, as the access to a certain location will require multiple transits for a passenger. This will put additional pressure on the other means of transportation and city roads, which are always already overloaded.

Maintenance and operation of two railroad lines in the city center will be inconvenient and costly for the Georgian Railway.

