SWOT Analysis of Georgian Railway Projects

A. Poti Port Railway Station

In Poti port the containers are unloaded from the vessel and conveyed by trucks to inland terminals where the containers are loaded on railways cars.

For bulk cargo and liquid it is 100% by rail and in this case the wagons are loaded directly on the berth.

The Railways manage the railway operation inside the port area and the locos belong to them.

The distance between the Port and the Railway station is about 1 km. The Station has 12 tracks in the arrival area (plus 2 under construction) and 8 tracks in the departure area.

The station has automatic switches controlled by remote.

When freight forwarders have to dispatch containers, they ask the Railways to collect the containers. Thereafter the train is composed with the wagons coming from the different inland terminals. Composed trains then go from the station directly to the container terminal of Tbilisi or to final destination.

The present traffic is:

- 1 pair of train/day for container (max capacity 3-4 pairs of container train/day).
- 9-10 pairs of train/day for bulk (including also oil 3-4 pairs)

The access railway to the station has low speed.

The maximum capacity is 20,000 T cargo/day, equivalent to about 300 pairs of wagons.

In terms of trains, since also the empty wagons/containers (mainly coming from Tbilisi) must be considered, the maximum capacity is 15 pairs of trains.

Maximum number of wagons per train is 40, but usually there are 36-38.

The capacity of the station is limited by the track sections that connect the different area of the station (arrivals, departures, waiting tacks).
In the next paragraphs, each of the single point listed and named in the Table is described.

**Strengths**

S1. The station is well connected to the railway network.

S2. The switches command system of the railway station is electric, so switches could be moved by an operator in the cabin. This leads to a faster management of the station than a manual command one.

S3. Actually the station is working at a low percentage of maximum capacity. Every problem which could occur to a train (and particularly delay in forming operation) implies a higher occupation time in the station.

This is however not difficult to manage since free tracks are available and a lot of additional trains could be operated, so the station is not a barrier for traffic increase.

S4. Rail transit times Poti – Tbilisi have improved from an average of 5 days down to 1 day to 11/2 days maximum.
Weaknesses (Barriers)

W1. Custom operations are performed in inland terminals for containers and in the port for wagons.

W2. The access from the main railway line to the port station is performed at a low speed level.

W3. The bottleneck of the station arises from the composition of the tracks which connect the different areas of the station (arrivals, departures, waiting tracks).
Opportunities

O1. In the existing port a new berth for container is under construction. Also a new berth for grain will be constructed.

O2. The modernisation project to upgrade the line Tblisi – Poti/Batumi to a speed of 120 km/h is at a pre-feasibility stage.

O3. The need for the shippers to reduce transport costs spurs them to send cargo by train rather than by trucks.

Figure 3: Poti Container Dock Under Construction

Threats

T1. Block trains from/to Georgia would improve the rail traffic thanks to a faster and cheaper service, but the traffic nowadays is too low.

T2. Due to altogether low containerized import volumes and for security reasons, single container units are not accepted for on-carrage by rail (whereby they are diverted to Ukrainian ports)

T3. The lack of wagons remains a risk if traffic resumes at a higher level.

T4. Within Georgia, rail tariffs and transit-times for import containerized cargoes remain insufficiently competitive versus the trucking ones. Meantime cheap tariffs for raling standard box rail-cars down to the ports discourage exporters from containerizing cargoes at their premises (all the more as exports consist in heavy goods)

T5. The obligation made to the user of pre-booking platforms with a few days notice also restricts the use of rail carriage for import containers since berthing and handling dates cannot always be forecasted, especially during the winter

T6. Cargo volumes will remain low if the world economic crisis goes on.
B. Poti – Azerbaijan border railway

The Poti – Azerbaijan border railway line is about 356 km long. From Poti to Senaki the line is single track, from Senaki to Samtredia double track. From Samtredia to Zestaphoni it is double track. From Zestaphoni to Khachuri only 4 km are single track while the remaining section is double track. There is a double track from Khachuri to Tbilisi and from Tbilisi to the border. From Samtredia a single track goes to Batumi (97 km).

The line is equipped with semi-automatic blocking system.

The critical section is between Zestaponi and Khashuri (about 64 km of line) where the maximum gradient is 2.9% and the minimum radius is 170m. In the same section there is a small part with single track (about 4 km) which limits the capacity of the line.
In the next paragraphs, each of the single point listed in the table is described.
**Strengths**

S1. The railway modernization plan that GR intends to implement will erase a part of the weaknesses mentioned hereafter. The Zestaponi – Khashuri section is the limiting one with regard to the maximum weight that each train could bring along the line.

S2. The Tbilisi by-pass will eliminate the bottleneck into the Capital junction.

S3. The double track on the line allows a high level of train capacity per day on the line. The only single track section, however, decreases the capacity of the section and, consequently, that of the entire line.

S4. The electrification of the line is a system which allows to locomotives to pull heavier train than diesel locomotives. This corresponds to a low level of costs (if traffic is not too low) and a high level of train capacity per day on the line.

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**Weaknesses (Barriers)**

W1. The change of locomotives is an operation that requires a lot of time and increases the global costs of transportation. It is sometimes due to operational rules that are not related to technical reasons. In this case, the abolition of the change of locomotives stops will reduce transit time of about 30' per change. Costs will be reduced owing to the savings connected with less drivers, locomotives and rolling stop usage, less personnel and depots in the stations, etc.

W2. The too low maximum speed increases the global cost of transportation due to the higher time that personnel and machines have to be used and reduce attractiveness of transportation by railway mode. To increase the maximum speed on the whole line a railway modernization plan is required that will analyze and solve infrastructure problems such as over-age of permanent way, lack of sub soil load-bearing and so on.

W3. The single track from Samtredia to Poti prevents the increase in the number of trains. See also next point.

W4. Some sections bear traffic near to their maximum capacity. From GR data, it is possible to divide the sections of line from Poti to Azerbaijan border in two classes: the first class has a spare capacity of minus than 20 good trains per day; the second class has a spare capacity of more than 40 good trains per day. In the first class the following sections are included: Poti – Samtredia and Zestaponi – Khashuri, the other sections are all in the second class. No other classes exist. Accordingly, the two sections of the first class constitute the barriers for an increase in the traffic in the whole line.

W5. Almost all the line has a semi-automatic blocking system, except the Tbilisi – Gori section that has an automatic blocking system. Contrary to automatic type, semi automatic type does not allow to send more than one train between two stations.
Opportunities

O1. The recent railway tariff liberalization decided by the Ministry could lead to an increase in the traffic with the implementation of more “market oriented” tariffs.

O2. The decrease in the bureaucracy performed by the Ministry could simplify procedures and increase traffic on the railway network.

Besides, the strong anti-corruption measures taken by the Georgian Government have brought about a lot of changes in the behavior of state-run administrations such as the railways causing many users to turn to rail transport. This shift from road transport has increased with the greater availability of rolling stock induced by the crisis.

O3. The new connection to Turkey will increase both local freight traffic and transit traffic from/to Azerbaijan.

O4. Georgian legislation adjusted to international laws has the same effect as in points O1 and O2.

O5. Shippers need to reduce the volume of cargo sent by trucks from Europe to Asia in order to decrease the transport costs which spur them to use the rail mode.

Figure 6: Freight Station Near Poti

Threats

T1. Sometimes the rolling stock from Azerbaijan is not in an acceptable condition, so time is wasted to change the wagons or to reduce the speed limit of the trains. This leads to a higher transport cost and a longer transit-time.

T2. Border custom procedures are too long both on Azerbaijan and Georgian side with delays of up to 3 hours on each side and the current obligation for Azerbaijani importers to attend their cargo upon crossing of the border depending on the type and value of their goods. If not reduced, these could lead to a permanently high transport global cost for the shippers.

T3. The construction of the new highway could lead to a shift of the traffic from railway to road.

T4. It seems there is a wrong perception abroad of the political and economical situation in Georgia. This situation could deter investors and traders.

T5. Azerbaijan is going to change power supply voltage from 3 kV DC to 25 kV AC. This will render the change of locomotive at the Azerbaijan border necessary whereas now this change is only due to the organization of service. Furthermore it is possible to reach agreements in order not to perform the change reducing then drastically the border crossing time.

T6. The carriage of out-of-gauge parcels is mostly impossible due to the bridge gauges which result in entire contracts being lost by the Central Corridor to competing routes.

T7. As they are based on cargo customs code which are not unified across the TRACECA Corridor, it takes a long time to obtain rail quotations for cargoes meant for destinations beyond the Caspian Sea.
T8. Rail quotations to Central Asia are highly uncompetitive versus other corridors due to, at least, 4 reasons:

* there is no consensus between the TRACECA countries on tariff matters and rebates to be applied for transit cargo,

* rail tariffs in the Central Corridor are 'naturally' high due to the mountainous character of the landscape,

* GR, being obviously unable to guarantee the availability of wagons belonging to Central Asian countries at the time of shipment, is giving rates based on the use of GR wagons which include the return of the empties to their depots in Georgia

* the conditions of carriage, delivery at final destination (including description of available technical facilities) and liability of the various involved parties remain unclear for the users

T9. The absence of global rail freight operators in Georgia is a major difficulty which reflects in the fact there are no block container trains with the exception of the Poti-Kamir Blur line (run by Armenian interests) and the Poti-Baku service dedicated to the exclusive transportation of NATO cargo meant for Afghanistan (run by the German company POLZUG and the Georgian-Kazakh Silk Road Group).

T10. Trade and therefore cargo volumes will remain low if the world economic crisis goes on

T11. The lack of dialogue between GR and its Azerbaijani counterpart on commercial matters (and their corresponding legal and regulatory framework) is a major hindrance to the development of rail transport along the TRACECA Central Corridor and further across the Caspian Sea into and from Central Asia.

Figure 7: Georgian Railway Line