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GOTTHARD....STAYING?

Following the articles in Swiss Express Nos. 104 & 105 Paul Jans-Kach, Roger Ellis & John Jesson offer a few further facts and observations



Southbound IR train climbs toward the Gotthard south of Amsteg.

PHOTO: Jakob Jäger

Capacity and operational constraints.

Firstly, some freight traffic will not be permitted through the base tunnel because of the nature of their loads, usually hazardous materials, yet this is an important flow on the trans-alpine corridors. Secondly, the speed differential between the passenger services travelling at 200kph and freight services at around 140kph will restrict throughput, especially the lorry transporter trains which are even more speed-restricted due to their smaller wheels. Apparently it will require more power to send a freight through the base tunnel than it does to traverse the mountain route, partly because of the advantages of regenerative braking in putting power back into the system, and partly because of the piston effect of a train in a single-track tunnel.

Northbound IR train speeds through Wassen's closed station.

PHOTO: Jakob Jäger



The IR services on the mountain route will still be necessary as they serve several purposes. Transport to and from the various communities between Erstfeld and Biasca (either directly or by means of the connecting buses); leisure transport to and from walking and holiday destinations and tourist traffic; as well as providing the only regular means of crossing the mountains between Göschenen and Airolo. Although the IR services during the week are not particularly well-loaded over the mountain section, the weekend sees the normal fixed-formations sometimes strengthened to 14 coaches. As the Autobahn tunnel regularly operates a queuing system at weekends, the addition of rail-replacement road coaches would not be viewed with favour, either by the passengers or other road users.

Quadruple-headed freight climbs north through Giornico.

PHOTO: Jakob Jäger



In addition, there is a current plan to further develop Andermatt's resort potential with the provision of more than 3000 extra beds.

It is always advisable to have a fall-back position if something goes wrong. Whilst it is probable that the Swiss would deal with the consequences of a fire in the base tunnel more efficiently than Eurotunnel, the fact remains that damage to the infrastructure would take time to repair. Each of the twin, single-track, base tunnels, is divided into three sections however, even if just one of the six sections was closed, this would severely restrict capacity. Without retaining the Gotthard mountain route the closest alternatives are the Lötschberg mountain route and the Lötschberg base tunnel (itself restricted by virtue of being partly single-track).

The officially estimated figure of 104 train movements a day would allow singling of the mountain route, and it is understood that SBB indicate this would be their intention. However the Swiss Government's long-term objective is that all HGV transit traffic be conveyed by rail through the country. Even a proportion of such traffic (the figure of 40% has been mentioned) would require the retention of the Gotthard mountain route as double-track. It is accepted that the existing flexibility of the mountain route in terms of crossovers and signalling is unlikely to be required once the base tunnel is operational. Removal of some of the crossovers, especially those between stations, would save money whilst the maintenance of certain crossovers is problematic, as was shown a couple of years ago with two derailments, within a few weeks in the Biaschina of trains crossing between tracks, so their abolition would have several advantages.


Although correct to say that local traffic has all transferred to the roads, this has not prevented a few of the TiLo local services from being extended north of Biasca. In fact, some of the closed stations on the south ramp are quite well-placed for the communities they used to serve, particularly Ambri-Piotta, Rodi-Fiesso, Lavorgo and Bodio. It is quite possible that some effort might be made to resurrect a local service once the line-capacity allows the potential for this through the removal of the IC/EC services and some freight.

The existing Gotthard road tunnel will need major repair/upgrading before too long, a project that could take up to 3-years, resulting in the re-introduction of the old vehicle shuttle service between Göschenen and Airolo.

Route clearance for 4m high road vehicles on trains. The Monte Ceneri base tunnel is scheduled for completion in 2019, but clearance for 4m high vehicles on transporters on the Gotthard base tunnel route also requires clearance between Brunnen and

Flüelen. Surprisingly, this has not received a high priority hitherto and the recent refurbishment of the tunnels on that section could be seen as a missed opportunity. It is unlikely that the necessary clearances here could be created before the opening of the base tunnel in 2017, either by means of a by-pass tunnel or rebuilding of the existing infrastructure, although the priority for such a project is now likely to increase. The line between Cadenazzo and Luino may already be cleared for the higher vehicles, but is restricted in capacity by being single-track both in Switzerland and Italy.

The future of Erstfeld. A potential problem for the retention of the mountain route is that the common section between Altdorf and the base tunnel entrance is planned to be signalled with ETCS Level 2. This issue does not appear to have been thought through, as it will limit the types of motive power that will be able to access beyond the new tunnel mouth. Currently the plan is for Erstfeld depot to be handed over to SBB Historic as a continued base for their operations. Their locomotives will need to get to the rest of the SBB system yet none of the Historic fleet is fitted with ETCS, nor are they likely to be. A section of the present Erstfeld depot and loops is currently planned to be a loading area for tunnel maintenance (roughly from alongside the present depot southwards to beyond the small road bridge). This is being objected to because of the noise nuisance close to the village. Instead it is proposed that such a base would be better placed closer to the tunnel mouth where there is little housing. This raises the possibility that the present loops could also be given to Historic, for possible future expansion of their facilities.

Conclusion. Here are some facts, some speculation, and some operational common sense. What will transpire, both as regards the mountain route and Erstfeld itself, is unknown. Politics, which is what will govern much of what finally happens, is not exactly predictable. What is known, though, is that interested parties are doing their best to ensure there is a viable future for the Gotthard mountain route. 

Eventful day at Erstfeld. Service needs dictate routing. Ae 6/6 No.11402 had to use the main line to get round an Re 4/4 that was waiting to bank a train.

PHOTO: John Jesson

