

The new Gotthard route : an update on the infrastructure and rolling stock issues

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THE NEW GOTTHARD ROUTE

Der Beobachter

An update on the infrastructure and rolling stock issues

The Gotthard route is in the throes of heavy works associated with the opening of the Base Tunnel. Around Biasca, where the old line and new tunnel alignment join, serious realignment was required and the works were causing serious delays to services in the early summer. This project was completed August 2013 when the junctions north and south of Biasca were completed. The new line from its south portal near Bodio bypasses Biasca station, but with two junctions, north and south of the station. The main junction, with a high-speed double-track turnout, is at Giustizia, between Biasca and Osogna. The two connections create an opportunity for freight trains to be side-tracked through the tracks at Biasca station. Much more is in progress than is at first obvious; resignalling is an example, and extra work to give clearances for 4m high highway trailers. One conspicuous feature of the works in Polleggio, north of Biasca, is a building like an Airport Control Tower. This is known locally as the 'Periscope'. It is the new control centre for all SBB operations between Chiasso and Arth-Goldau, by both new and old Gotthard routes. It will come into operation in April 2014, and will offer work to 160 SBB employees, many from existing offices in Bellinzona. Its interfaces will be to the Control Centres in Olten and Zürich. The fourth SBB centre is in Lausanne, and has no direct connection. The Base Tunnel is signalled with ETCS Level 2 and this is being extended to Castione, so that between there and Brunnen in the north, freight trains can run at 3 minute headways.

Swiss transport policy requires, with the adoption by constitutional vote of the Alpen-Initiative in 1994, that Alpine transit highway traffic be diverted to rail. A flanking 1998 measure defined that in 2011 only 1m HGVs should cross by road, and after the Gotthard Base Tunnel opening, only 650,000 in 2018. This measure is the basis for parliamentary subsidies and for investment to achieve the purpose. In 2010 the count was 1.26m, and had seemed to stick at that level; however in the first half of 2013 there was an 8.5% fall in the number of HGV movements over the Swiss alps with some 574,000 journeys made. Transalpine rail freight in the same period rose by 6.9%. Although this is a welcome improvement it is clear that the opening of the Gotthard NEAT tunnel in 2015 cannot help unless corresponding improvements are made to the clearances on approach routes both in Switzerland, and Italy.

The Swiss Upper House, the Ständerat, approved on 25th Sept. 2013 a motion, which is of major importance in this policy. They voted CHF990m for the so-called 4-metre-corridor. This does not mean 4 m above rails, but a clearance profile (loading gauge), which allows the EU standard road trailer, which has a corner height of 4 m above road level, to be carried on piggyback trains. The Lötschberg base tunnel, its approach routes from Basel and Domodossola, and the old BLS line through Kandersteg, have such clearances, but the route is often at capacity. The north and south approaches to the Gotthard Tunnel and the existing route through Göschenen do not. Although many piggyback and container

trains use the Gotthard route today, they only carry, despite refined low-floor rolling stock, lower-profile road vehicles and bodies. Tank containers and trailers, 'swop bodies' (inland containers), are often 'in gauge', but the great numbers of standard van type highway trailers are mostly 4m high and cannot take the train on the Gotthard route.

Considerable technical progress has been made in the last 20 years, by HUPAC, leasing company AAE and others, to design low-floor stable vehicles, at tolerable cost, with adequate axle-load capacity for heavy loads, and authorised speeds (120 km/h) and braking performance, adequate for pathing on busy lines. Tolerances have to allow for sway and bounce, and clearances on curves. It is not enough. There remains a major challenge in the infrastructure, and the Ständerat's vote foresees CHF710m expenditure in Switzerland, and CHF280m for measures in Italy. The lower house must now approve it; they had authorized CHF940 million. Foreseen are some 160 sites where signals, platform awnings, bridges and subways must be modified, plus some 20 tunnels. Of these the biggest task is to build a new Bötzing Tunnel, costing CHF350m, parallel to the present one, between Schinznach and Effingen. Substantial work will be needed on the Axen line (Brunnen – Flüelen), earlier set aside because a new alignment, later dropped, had first been planned. Now it cannot be ignored. Completion of the work is planned by 2018, because the new Monte Ceneri tunnel will not be complete until then, so preventing high profile loads in any case. Despite lengthy debates, in the end a coherent policy with subsidy for intermodal trains and corresponding infrastructure improvements, is the only way; and success is not guaranteed. The Alpen-Initiative also prohibits any further increase in highway capacity, such as a second Gotthard road tunnel. In the meantime, at peak periods, congestion is out of control, with constant political pressure from the road transport lobbies.

Passenger trains on the route will be in a higher speed range, with trials at 230kph starting in December 2013 in the west tunnel between Faido and the south portal. A further problem on the Gotthard route is that the Class 470s, the notoriously unreliable Pendolino units, which should be taken out of service by 2014, will now soldier-on for another year. The World Exposition in 2015 in Milano will demand capacity that the SBB and Trenitalia do not have, so surviving units have been given a 'soled-and-heeled' overhaul and sent out again. Regular travellers on the route though are all too aware of their repeated failures and it is common for delayed northbound workings using Class 470s to be terminated at Arth-Goldau, to allow them to catch up on their return schedules. The NEAT Tunnel will open in 2016 and by this time SBB is expecting to run its Class 610 Pendolinos, including those newly ordered as a stop-gap while waiting for the planned new fleet of non-tilt high speed trains now on order. It is hoped that the business will follow expectations – the current 6 to 7 million passengers per year are expected to grow with the new tunnel to over 20 million. 