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North-South Building Works

S'Murmeli reports on creating a '4m corridor'

Re6/6 No. 11646 '*Bussigny*' hurries a freight through Pfaffikon SZ at 13.20 on 20.09.16 *Photo:* Carl Smart

At present, on the 270km Gotthard route between Basel and Chiasso, in the aim to create a '4m-corridor' some 20 tunnels are being enlarged or rebuilt. Some 80 locations require adaptation of platform roofs, catenary and signal installations, and some over-bridges need attention.

What is a '4m-corridor'? By European mainland comparisons, Switzerland had historically a restrictive loading gauge (the cross-section profile defining maximum dimensions of vehicles admitted). Much has been improved progressively for passenger purposes, as higher speeds and bigger vehicles made demands. However, the Lötschberg and Gotthard routes are heavily dependent on freight traffic, for which clearance needs are more complex. Forget please, the expression 'Bern Gauge' often used in the past in Britain for Continental vehicles; the UIC had a series of load gauge classes, different everywhere and often going back to the old private railways. Whether a new wagon or load could pass often needed serious tests, both stationary and moving, when a wagon sways and bounces, and overhangs curves. The EU is working on Technical Standards of Interoperability, which in this and other fields will lead towards harmonisation.

Switzerland has determined by law (with the Alpine Initiative, already 20 years old) to favour transfer of Alpine transit cargo from road to rail. Intermodal traffic, containers, swap bodies and piggyback are a recognised means of facilitating road to rail transfer and are already very successful (see previous articles in *Swiss Express* on HUPAC and its competitors). Overseas shipping containers also pass in large numbers. Intermodal load units however, despite ingenuity in wagon building, cannot all be carried; some are too high. The standard European road goods vehicle is 4m high above road level. Increasingly, inland containers and swap bodies, and trailers offered for rail haulage, are to this standard. Regrettably the problem was ignored for financial reasons for too long, as while the Gotthard Base Tunnel (GBT) was being built other problems dominated. Finally CHF710m were approved to create the '4m corridor', has been accepting that the large load units are inevitable. There was also the need to decide what the future development of rail freight vehicles may be, given their constraints of speed, axle load, length, etc. as these parameters, along with structure, suspensions and wheel size, determine the height of the load surface. All this dictates future loading gauge needs and that is why the twenty tunnels on the Gotthard route are being rebuilt. There is also an obligation, as the EU gradually gets its Trunk Route Network together, that requires all participating countries to meet the same standards.

The biggest single job in Switzerland is to build a new 2.7km long Bözberg tunnel through the Jura at Schinznach. The old tunnel, built in the 1870s, is too restrictive and Jura geology is unstable, so minor modifications are no longer possible. This new double track tunnel will cost CHF350m, with the former bore becoming an emergency service tunnel and is due to open in 2020. In the meantime the GBT is already open and we can see how left and right hands were not really together in the past. The Lötschberg Base Tunnel is also part of a '4m corridor' from Basel to Italy, but is already at capacity limits. The '4m corridor' on the Gotthard route has already waited too long and now these essential works naturally add to the existing unpunctuality, disturbances and disorder of north-south traffic. Associated with this is that the line between Cadenazzo and Luino in the Ticino is to be closed all 2017 for substantial rebuilding. This line is heavily used by HUPAC and others, for access to northern Italian industry, and diversions via Chiasso or the BLS Simplon route, both already at full stretch, will not help.