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Objektyp: **Article**

Zeitschrift: **Swiss express : the Swiss Railways Society journal**

Band (Jahr): **2 (1988-1990)**

Heft 2

PDF erstellt am: **06.08.2024**

Persistenter Link: <https://doi.org/10.5169/seals-855285>

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NEW LINES HOLD THE KEY TO BAHN 2000

Courtesy of Railway Gazette International

On December 6, 1987, Swiss voters gave their approval in a national referendum to Bahn 2000; 57 per cent were in favour, 43 per cent against. This vote clears the way for work to begin on a whole package of infrastructure and rolling stock investment totalling over SFr5bn which will extend through the 1990's.

The principle underlying Bahn 2000 is that trains will be able to run between certain major interchange stations in less than 60 minutes, so that they can all arrive just before the hour and depart just afterwards, thus creating the maximum number of opportunities for quick connections. In this way, journeys can be made swiftly and conveniently all over Switzerland.

Apart from providing extra capacity where it is most needed — between Basel and Olten, for example — Bahn 2000 concentrates infrastructure investment on key links between major stations which at present take just over 1 hour. It includes four new line construction projects as well as a large number of schemes designed to raise the speed, capacity and convenience of existing routes; the latter range from upgrading the Geneva — Lausanne main line for higher speeds to laying an extra track between Zürich and Thalwil to boost capacity.

At the same time the private railways are planning to provide matching improvements to raise capacity and speeds. Schemes range from introduction of hourly fast trains on the Rhaetian Railway from Chur to St Moritz, and from there to Scuol-Tarasp and Tirano, to a 10 minute interval service between Lugano and Ponte Tresa in Ticino.

Every canton has substantial alterations to its local services in prospect, with increased frequencies on such lines as the Bern — Solothurn, Jura, Gruyere and Emmental/Huttwil railways, or route modernisation as intended by the Bern — Lötschberg — Simplon Railway on its Simmental lines to allow half-hourly Zweisimmen — Spiez — Interlaken and Frutigen — Spiez — Thun services.

Higher Main Line Speeds

At present, the maximum speed achieved anywhere in Switzerland is 160 km/h, and even this is a comparatively recent innovation. Upgrading will allow 200 km/h to be achieved in a few places on existing lines as well as on the new lines. Motive power is being designed to run at 230 km/h on the new lines should this be considered desirable in the future.

Shortest of the four new lines to be built in the 1990's is the 10.4 km chord through the 8.4 km Brüttener tunnel between Kloten and Winterthur. This effectively continues the cut-and-cover loop opened in 1980 to serve Zürich's airport north under the mountains to Winterthur, avoiding the need to go through Effretikon.

Earlier plans for new lines in Switzerland focussed on increasing capacity as well as speed between Basel and Olten, where there is heavy transit freight traffic heading for the Gotthard, and also between Olten and Bern where curvature is severe. So it is no surprise to see these two schemes featuring prominently in Bahn 2000.

Work between Basel and Olten consists essentially of two major tunnels: the Wisenberg (12.8 km) between Olten and Sissach, and the Adler (4.7 km) joining Liestal and Muttenz. Between Sissach and Liestal two extra tracks will be laid so that high speeds can be maintained for 29 km. Because trains can be segregated by speed, capacity is more than doubled.

Southwest from Olten to Mattstetten stretches the longest of the new lines, and the only one which strikes out into open country away from existing railways. This will

provide 45 km of high speed running on SBB's principal east-west inter-city corridor, not only allowing the Zürich — Bern time to be brought within the hour from 70 minutes at present, but also releasing capacity on the existing lines for transit freight taking the Lötschberg route across the Alps.

At the western end, the new route will run straight into the Grauholz line which by-passes the busy junction of Zollikofen on the outskirts of Bern. Work on this line started at the end of last year.

Between Rothrist, near Olten, and the junction at Herzogenbuchsee the existing line will be diverted in two places so as to avoid crossing the new line.

Close to Herzogenbuchsee, there will be a junction in the tunnel on the new line, with a branch connection joining the single-track secondary route to Solothurn at Inkwil. Major upgrading of this 10 km line will render it suitable for high speed running, allowing trains from Zürich to reach Biel in under the hour.

Last of the high speed sections is designed to bring the Bern — Lausanne time down from 67 minutes, with a stop at Fribourg, to less than an hour. It involves the creation of 33 km of high speed route to the west of Fribourg, mainly by driving a series of short tunnels cutting off loops in the existing double track route, which will remain in service for local traffic.

Total length of the new lines is 117 km, not counting the 10 km section to be upgraded between Herzogenbuchsee and Solothurn. No less than 48.3 km (41 per cent) will be in tunnel, and much of the rest either replaces or will be built close to existing lines.

Despite the favourable vote nationally, cantons affected by new construction generally opposed Bahn 2000. SBB still has to get powers to acquire the 115 ha of land needed to build these lines, and may face local opposition despite approval of the plan in principle.



SBB Loco Re6/6. No 116677 and Train "Carlo Magno" at Arth Goldau.

Photo: Editor