Zeitschrift: Swiss express : the Swiss Railways Society journal
Herausgeber: Swiss Railways Society
Band: 5 (1997-1999)
Heft: 3

Artikel: High speed trains to Switzerland. Part 1
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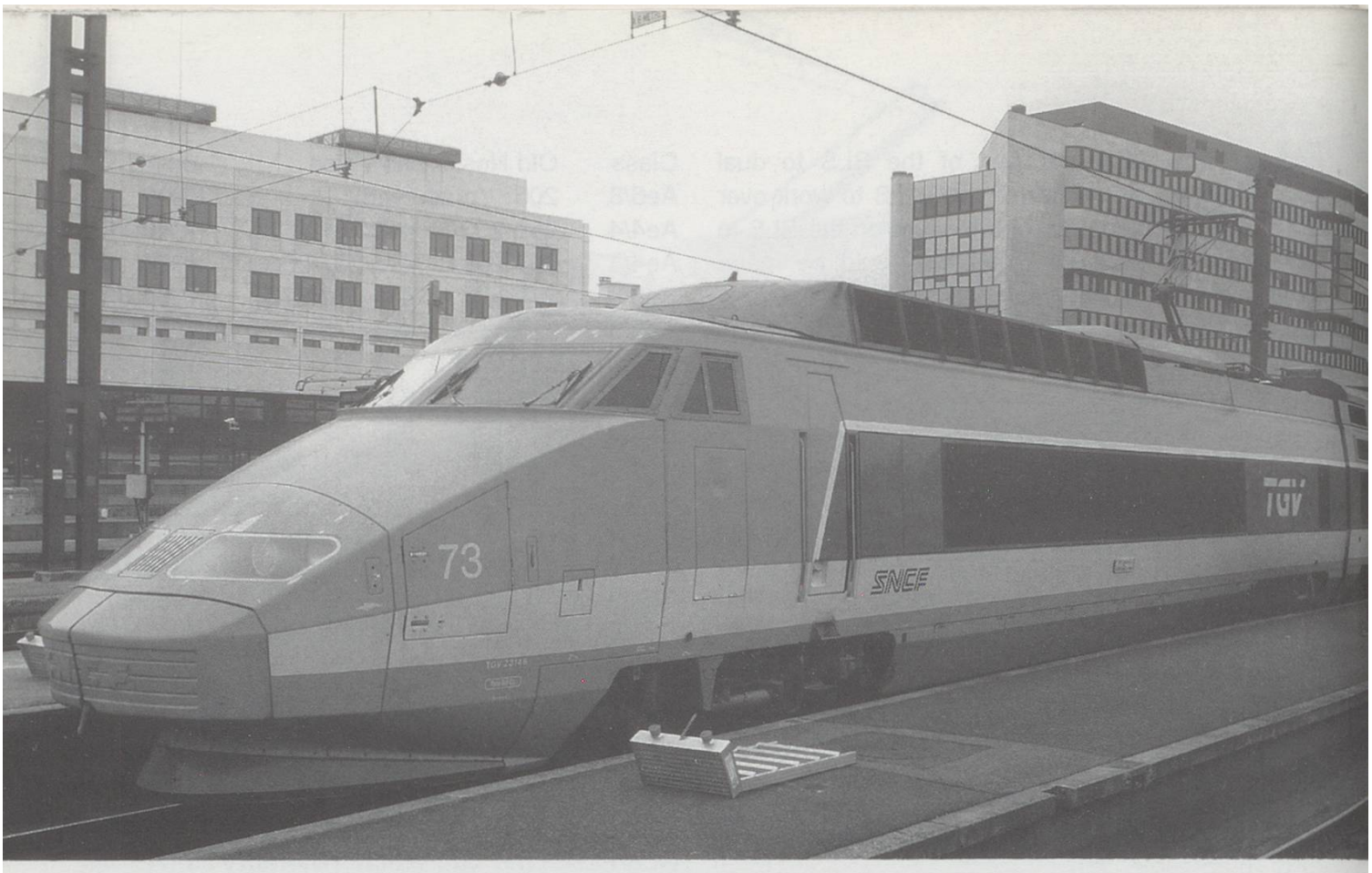
DOI: https://doi.org/10.5169/seals-854489



High Speed Trains to Switzerland - 1

Swiss railway operators are justifiably proud that they already operate three of Europe's prestigious high speed trains. Commencing with this issue ***Peter Marriott*** *reviews the expanding European high speed rail network including the TGV, ICE and Cisalpino trains and their current services.*

In the UK the main railway theme is still "will privatisation work"? Whilst commercial and financial considerations are also of paramount importance for railway operators throughout Europe the building of high speed lines and new trains has not been put "on hold" to the extent that has left BR services well and truly in the 1980's compared with its European counterparts.

European overview

A Europe-wide network of high speed lines is gradually being expanded to compete with air and road competitors. Various high speed lines are operational, some are under construction and many still at the drawing board stage. Regrettably some which were at the planning stage have, because of financial considerations, already been cancelled for the foreseeable future e.g. TGV Picardie and TGV Limousin lines. Countries including France, Germany, Italy and Spain already have high speed lines. These are supplemented by the Channel Tunnel and its planned high speed link to London (possible opening 2003).

The latest high speed trains include German ICE (Inter City Express), French TGV, Swedish X2000, Italian Pendolino, Spanish AVE and the tri-country Eurostar. Tilt trains, double deck TGV's and Thalys further add to the range of rolling stock which makes the future for European rail travel look positively exciting. Compared to South West Trains slam door stock the level of comfort on these trains is most inviting!

There are however various difficulties to be overcome before an integrated European rail network is fully established. These are;

- different power supplies
- various signalling methods
- varying standards of rolling stock technology
- broad, standard and narrow track gauges.

The first of these is being overcome by building rolling stock with several voltage capabilities (e.g. Eurostar and Thalys sets), the

Opposite page: A TGV train in Paris waiting to leave for Lausanne.
Above: A Cisalpino train in Lausanne.
Photos: Peter Marriott

second by installing various signalling equipment within the motive power (Eurostar sets carry equipment for Railtrack, Channel Tunnel, SNCB and SNCF routes) and thirdly rolling stock is being built to more pan European standards/ requirements. The final hurdle of the larger gauge track used in Spain, Portugal and the Soviet Union is being remedied, where possible, by the building of new standard gauge lines if the traffic warrants the cost. Other obstacles to the building of the new high speed lines are of a different kind. For example in Germany environmental groups endeavouring to protect rare species of birds have delayed the building of a new stretch of high speed line for a considerable period of time.

Different countries have various solutions to the raising of finance for the new lines and trains - these usually combine a mixture of national, local, investors and EC injections of capital.

High speed lines towards Switzerland

Because of the gradients and the lack of long straight sections in Switzerland overall journey times on Swiss rail services are rather slow. Whilst some rebuilding of lines and new routes will reduce journey times there is little scope in such a small country (with rather challenging physical landscape!) for the a high speed rail network. The double track line between Mattstetten and Rothrist and the AlpTransit tunnels will be built for 200 km/h passenger train running but tilting trains rather than new tunnels and straightened track appear to be the way forward for faster rail journeys within the Swiss borders.

SBB's InterCity 2000 programme also includes tilting train sets which will substantially reduce travelling times on Switzerland's winding lines. 24 tilting seven carriage trainsets have already been ordered by SBB (from Adtranz, Schindler and Fiat-SIG) with an option for a further 12. The prototype is intended to be tested during 1998.

There are various high speed lines under construction at this time which when complete will reduce overall journey times to and from Switzerland. These include;

- The 88 km Belgian high speed line (Belge LGV) which is intended to be opened in December 1997. It will reduce the 3 and a quarter hour Eurostar journey between Brussels and London to about 2 hours 35 minutes. This will have a useful impact on journey times for those using rail to travel to Switzerland via Eurostar, Brussels and Germany.

Above: An ICE train approaching Spiez station
Photo: Les Heath

- The Channel Tunnel Rail Link (CTRL) is expected to be completed by 2003. It will reduce London to Paris/Brussels journey times by 30 minutes.
- The building of the 180 km Koln - Frankfurt Neubaustrecke has been commenced and is intended to be opened by 2001. It will cut the Koln/Frankfurt rail journey in half to one hour benefiting rail passengers to and from Switzerland using the London/Brussels/Koln/ Basle route.

The sum total of just these three improvements would be to reduce the current 10 hour London to Basle (via Eurostar and Brussels) journey time by two hours. Unfortunately this will not be fully possible until 2003 at the earliest!

The high speed trains that currently operate within Switzerland are;

- The SNCF **TGV** (Trains a Grande Vitesse) that run between Paris and Bern/Lausanne/ Brig/Zurich
- The **ICE** (Inter City Express) flagship trains of the DB providing, amongst others, the EC Thunersee service between Interlaken and Berlin
- Since September 1996 the **Cisalpino** (Alpine Pendolino) tilting units that have operated between Zurich/Basel/Bern/Geneva and Milan.

It is worth mentioning in passing that Milan has become one of the centres for European high speed train operation. It is the terminus of the Cisalpino ETR 470 services from Geneva and Bern/Basle/Zurich together with stablemate ETR 460s on the Rome and Lyon routes. ETR 500 also operate the internal Rome services. SNCF TGV units are utilised for EuroCity services to and from Paris.

The information in these features has been obtained, in part, from official TGV, ICE and Cisalpino booklets which were kindly supplied by Hansueli Kunz and Peter Senn of the BLS. For those readers interested in learning more about Europe's high speed railway network I suggest Platform 5's book High Speed in Europe by David Haydock as the first source of information with current developments covered in the monthly magazines; Modern Railways and Todays Railways.

The following three parts of this series will provide some details of these trains. For the December 1997 issue we start with the TGV. In the two subsequent issues we shall move onto the ICE and then Cisalpino units.