

**Zeitschrift:** Swiss express : the Swiss Railways Society journal  
**Herausgeber:** Swiss Railways Society  
**Band:** 5 (1997-1999)  
**Heft:** 9

**Artikel:** Private railways in Switzerland. Part 16  
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**DOI:** <https://doi.org/10.5169/seals-854559>

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## Private Railways in Switzerland

- 16 by Brian Hemming

The theme of the selection in this issue is urban light railways. Some people would classify these private railways as tramways, but in each case the companies are quite clearly railways in Swiss terms because, if for no other reason they appear in the railway section of the Kursbuch.

The three railways covered are the Forchbahn, which serves Zürich, the Trogener Bahn which serves St. Gallen and the newest of the three the Tramway Sud-Ouest Lausannois serving

*Above: Be8/8 25+26 built in 1976 in the 'new' terminus at Esslingen on 21/4/98 at the end of its journey from Zürich Stadelhofen.*

*Photo: A.J. Pike OBE*

Lausanne. All operate intensive services, have high passenger levels, and despite their relative uniformity of stock provide much of interest to the enthusiast and tourist alike.

This series is now drawing to a close and should be finished by the end of the year. With a view to future plans, the author would be pleased to hear from any member who has the capability and is willing to produce computerised mapping or draw good line maps of railways.

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## FB Forchbahn

There had long been efforts to open up the Zürcher Oberland to rail transport, but it was not until 1903 that the first metre gauge line, the Wetzikon-Meilen-Bahn (WMB) was opened. This was followed in 1905 by the opening of the Uster-Oetwil-Bahn (UOe). The opening of these lines resulted in a successful initiative to open a line from Zürich Stadelhofen through Forch and Egg to Esslingen where a connection would be made with the UOe. With the obtaining of the necessary finance, the Forchbahn was formed in

1910 and construction commenced for a line to Esslingen connecting with the Zürich tramways (Statischen Strassenbahn Zürich -StStZ, now VBZ) at Rehalp. The line opened on 29th November 1912 with trains working through from Esslingen to Rehalp and forward on the tram tracks to a terminus in Stadelhoferplatz, an overall distance of 16.6km. The line from Rehalp to Esslingen was electrified from the beginning at 1200v DC, whilst on the tramway section the line voltage of 600v DC was used.

Passenger traffic developed rapidly following the opening of the line and by 1915 a new railcar was purchased to supplement the five placed in service in 1912. In 1933 two trams were acquired from the StStZ to enable pendelzug trains to operate between Rehalp and Zollikerberg. After World War II traffic had developed to such an extent that additional stock was required and the first bogie railcars, one of which is now preserved, arrived in 1948. With the closure of the UOe in 1949 and the WMB in 1950, the future of the FB became uncertain particularly as for most of its route it was on the public highway. However, the advantages of the railway were recognised and following the approval by referendum in 1955 of the necessary financing significant modernisation was undertaken. New stock was introduced in 1959 and in 1961 the section between Rehalp and Zollikerberg was doubled. The transfer of the FB to reserve track continued apace and with the exception of a short section at Zumikon was completed through o Esslingen by 1970. Also in 1970 a new depot and workshops was opened at Forch. In order to cope with the ever increasing traffic and deal with the bottleneck at Zumikon, a new 1758m underground section of double track line was opened in 1972 between Waltikon and Neue Forch. In 1976 the first of a new generation of rolling stock arrived in the form of the Be8/8 double units which were identical in their essential components to the Zürich "Tram 2000" vehicles. The numbering of these, and subsequent vehicles of the same type, is unique in that each car carries an individual number. Passenger numbers continued to grow during the 1970's which resulted in the doubling of the track between Zollikerberg and Waltikon in 1978, whilst four new driving trailers (with pantographs) were placed in service in 1981. Further Be8/8 railcars arrived in 1981 and 1986 and the fleet was brought up to its present strength by the purchase in 1993 eight single ended Be4/4 railcars.

From its opening the FB carried both passenger and freight traffic; the latter consisting mainly of agricultural and dairy produce for Zürich. There were transfer facilities at Stadelhofen whilst at Esslingen connection was made with the UOe until that line was closed in 1949. The increase in passenger traffic led to

the transfer of all freight traffic to road transport in 1966.

The route of the FB from the terminal at Zürich Stadelhofen quickly joins the VBZ and follows tram route 11 as far as Rehalp. Here the tram route branches off to its terminus whilst the FB continues and quickly takes on the character of a light railway. The line has climbed more or less continually since leaving Stadelhofen and is still doing so when it enters the tunnel beneath Zumikon in which there are stations at Zumikon and Maiacher. After emerging and coming to Neue Forch the line singles and reaches its summit at Forch. Onwards from here to it descends through the rural affluence of the Zürcher Oberland before reaching the new station at Esslingen.

The current timetable is quarter hourly throughout the working day between Stadelhofen and Forch. This is extended to Esslingen at peak periods but is reduced throughout to half hourly at other times. The FB maintains one of the original 1912 trams and a trailer which as well as being used on special duties can also be seen quite regularly in use as a service vehicle.

Length: 13.3 km (excluding tramway tracks)

Gauge: 1000 mm

Voltage: 1200v DC (600v DC on tramway)

Maximum gradient: 68‰

Depot: Forch

Works: Forch

Nearest SBB station: Zürich-Stadelhofen

Kursbuch table: 731

Powered Stock (livery: reddish orange and cream, historic vehicles: blue & white)

Class	Numbers	Built
CFe2/2	4*	1912
Xe4/4	9	1948 (1982)
CFe4/4	10*	1948
BDe4/4	11 - 14	1959
BDe4/4	15, 16	1966
Be8/8	21+22 - 25+26	1976
Be8/8	27+28, 29+30	1981
Be8/8	31+32	1986
Be4/4	51 - 58	1993

\* historic vehicles



Above: BDe4/8 25 built in 1977 near St. Gallen SBB Bahnhof on its way to Trogen, 30/10/94.

Photo: A.J. Pike OBE

## TB Trogener Bahn

The Trogener Bahn is the steepest adhesion railway in Switzerland. Construction commenced in 1902 and it was opened in July 1903 from the Bahnhofplatz in St. Gallen to Trogen using street running throughout. Within St. Gallen it shared the tram tracks of the local tramway and used a line voltage of 600v DC. Outside the city limits the line voltage was 750v DC. Such was the popularity of the line that the proposed freight services had to be delayed by three months due to the wagons being used as open passenger vehicles. In 1908 an extension of the line was proposed from Trogen through Heiden to Walzenhausen but this did not materialise.

In connection with the rebuilding of the Bahnhof in St. Gallen, the city authorities built a new terminal station for the Trogener Bahn and the Appenzeller Strassenbahn (now Appenzellerbahnen) which is still in use today. It is adjacent to the main line station and was opened in 1914. In 1921 the line voltage outside

the city limits was increased to 750v DC and again to 1000v DC in 1928.

By the end of the World War II the TB was in urgent need of modernisation, whilst at the same time the tram routes in St. Gallen were being converted to either bus or trolley bus operation. Two independent reports recommended that the TB should be retained and modernised. As part of this scheme, and over a twenty year period, most of the trackbed was moved to a reserved area at the side of the road; the only street running remaining being within St. Gallen and a short section at Speicher. The modernisation scheme resulted in the introduction of three new railcars in 1952-3 which were supplemented in 1963 by the purchase of a further three modern cars from the Lausanne Tramways. These latter vehicles were withdrawn in 1978 and sold to an Austrian private railway following the purchase of five new two car units.

The TB trains commence at the terminal station



at St. Gallen, which is adjacent to the main line station, and run through the streets of the city for a distance of 1.7km before reaching the reserve track at Schülerhaus. It is within this street section between Spisertor and Schülhaus that one of the steep inclines on the railway (75‰) occurs. The line climbs steadily, including two more 75‰ inclines before reaching its summit (935m) at Schützgarten some 7.2km from St. Gallen. On this climb there are some magnificent panoramic views of the Bodensee. From Schützgarten the line drops through Speicher before short climbs to Bendlehn and Gfeld prior to reaching the terminus at Trogen. With the exception of most of the section within the St. Gallen city area the line is single throughout. There are passing loops at the stations Notkersegg, Schwarzer Bären, Vögelinsegg, Speicher and Bendlehn

A half hourly service operates on the line throughout the day until late in the evening. This is augmented to quarter hourly at peak periods. As well as serving local communities and being a commuter route, the TB also provides access for leisure activities in the Trogener region in both winter and summer. Freight is carried but this represents only a small percentage of the income

Above: BDe4/8 21 built in 1975 alongside St Gallen SBB Bhf. and not far from reaching its own terminus station shared with the (now) Appenzellerbahnen.

Photo: A.J. Pike OBE

of the TB which is largely provided by its one million plus passengers per annum.

Length: 9.8 km  
 Gauge: 1000 mm  
 Voltage: 1000v DC  
 Maximum gradient: 75‰  
 Depot: Speicher  
 Works: Speicher  
 Nearest SBB station: St.Gallen (adjacent)  
 Kursbuch table: 859

Powered Stock (livery: orange & cream)

Class	Numbers	Built
BDe4/4	6 - 8	1952-53
BDe4/8	21 - 25	1975-77
Xrotm2/2	72	1974



## TSOL

### Tramway du Sud-Ouest Lausannois

The tramways in Lausanne closed on 3rd March 1963, and it was not until a little over 28 years later that Lausanne again had a tramway, albeit in name only. Lausanne is perched on the hillside above the northern bank of Lac Lemane. It is a bustling city and is blessed with an excellent transport system run under the auspices of Transports publics de la région lausannoise S.A. (TL).

It had long been an ambition to have a rapid transport link between the south west suburbs of Lausanne and the city centre, and the decision in 1968 to move both the University and the Polytechnic College to Dorigny and Ecublens respectively acted as a catalyst for the promotion of such a scheme. The existing transport facilities were shown to be inadequate to meet the needs of these new developments, and in 1980 a study was undertaken by TL following approaches from the University authorities. In the same year another study was undertaken to assess the feasibility of introducing a tram route to serve the site at Dorigny. In 1981 two proposals were put

*Above: TSOL train at Flon, Lausanne terminus, November 98. The station provides a level connection with the Lausanne Ouchy rack line.*

forward: "The Littorail" proposed extending the Lausanne-Ouchy (LO) line from Ouchy to Dorigny, whilst "The Flonrail" was for a line from Flon to Dorigny. In both cases it was suggested that they be further extended to either Morges or Renens. A further proposal in 1982 to divert the CFF lines closer to the University and Polytechnic was thought to be impractical.

In 1983 the Vaud authorities stepped in to the arena and provided funding for a major study. Thirteen different alternatives were proposed of which two, a dedicated trolley bus route or a modern tramway/light railway, were selected. The latter was favoured by the Canton and following studies between 1983 and 1985 authority was granted, subject to finance of 133 million francs being obtained, for the construction of a light railway which would be ready for trial running in 1989. The route had been protected since September 1984, and the necessary finance was arranged by December 1985.

A 50 year concession was granted by the Confederation in 1986 for a line between

Lausanne Flon and Renens. After consultation construction work commenced in the spring of 1988 and on 27th September of the same year the company Tramway du Sud-Ouest Lausannois S.A was formed. Although planned for opening in the autumn of 1990, the service actually commenced at the introduction of the new timetable in June 1991.

The whole of the TSOL line is single throughout, and over its 7.76 km journey from Flon to Renens has 13 intermediate stops during its journey time of 20 minutes. All stations have passing loops with the exception of Provence, UNIL-Sorge and Bassenges. Both termini have two terminal lines each with a capacity for a two unit train and having two platform faces to enable passengers to join and leave the trains on different sides to speed up loading and unloading. Flon is an enclosed station and the TSOL platforms are at right angles to those of the LG and LO. On leaving Flon the line descends in tunnel before emerging at the first stop, Vigie. It then passes over the CFF main line to the west of Lausanne and continues to descend to the lowest point of the line at Mouline (4.08km). A gentle climb brings the line to EPFL where are located the workshops and depot of the TSOL as well as the control centre for the whole line. After EPFL the line turns sharply to the right before running parallel to l'avenue du Tir-Fédéral before making a further right turn and dropping into Renens parallel to the CFF. Although not suitable for electric operation a physical connection with the CFF does exist at Renens.

An intensive service is operated on the TSOL

with trains every 10 minutes during the day and every 15 minutes in the evening on weekdays. The 10 minute interval is extended to 12 minutes on Saturdays, whilst on Sundays the intervals change to 15 and 20 minutes respectively. The TSOL carries no freight traffic, but it has its own works vehicles for track maintenance. An interesting aspect of the operation of the line is the fact that the railcars have an auxiliary diesel engine - hence their Bem classification. This facilitates movements throughout the depot at EPFL which is not totally electrified.

Since its opening the TSOL has been an enormous success; a fact which was reflected in the need to purchase an additional five railcars in 1995. As for the future consideration may be given to extending the TSOL to Morges, whilst the Grand Conseil Vaudois has granted a credit of 2.5 million francs for the study into a possible rapid transit line to the north east of Lausanne.

Length: 7.76 km

Gauge: 1435 mm

Voltage: 750v DC

Maximum gradient: 60‰

Depot: EPFL

Works: EPFL

Nearest SBB stations: Lausanne (via LO/LG), Renens (shared)

Kursbuch table: 203

Powered Stock (livery: light blue & white)

Class	Numbers	Built
Xm	098.292	1957
Tm	238.291	1977
Bem	558.201-212	1990
Bem	558.213-217	1995

## POSTMARK CORNER

The December 1998 edition of the 'Swiss Express', had an interesting paragraph on the Riffelalp Tramway which closed as a result of the fire which burnt out the Riffelalp Hotel on 6th May 1961. Postal facilities had been available from the Hotel and a nice cancellation had been in use since 1st September 1960. With such a short period of use and not a great deal of mail being processed in the Hotel, this cancellation is far from common. Lucky members will have got postcards with one of these cancellations. Perhaps with the reopening of the Hotel postal services will be restored at the same time and a new cancellation will appear - but now with a post code number as well!

