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# SWITZERLAND'S OTHER RAILWAYS AN INTRODUCTION TO THE SWISS URBAN TRAMWAYS

# Zurich. VBZ. Verkehrsbetriebe der Stadt Zurich

## By N.P. Wheelwright

The VBZ – known locally as the "Zuri Linie" is by far the largest and most complex of the Swiss Systems. It is also one of the largest transport concerns, as in 1980 it rated third behind the SBB and BLS in terms of revenue.

During the period 1896 to 1931, small public transport companies in the Zürich area such as the: Elektrische Strassenbahn Zürich, Zürcher Strassenbahn Gesellschaft, Industriequartier Strassenbahn Zürich, Zentral Zürichbergbahn Zürich, Strassenbahn Zürich Hongg, Albisgütlibahn, Limmital Strassenbahn and the Zürich Oerlikon Seebach Bahn were absorbed into the Städtische Strassenbahn Zürich which in 1950 became the Verkehrsbetriebe der Stadt Zürich.

It is unique in having recently witnessed the opening of two major extensions, which brings the system length to over 68.5 Km. The VBZ also saw several closures, including the route to Dietikon from Schlieren in 1928, to Schlieren itself in 1955 and the original route to Schwamendigen from Oerlikon in 1931. The route length of the system slowly decreased until the last closure took place in 1964, after that remaining static until Route 4 was extended from Hardturm to the edge of a large housing estate at Werdhölzli in 1976, being the first major use of completely reserved right of way. The VBZ system is wholly double track with predominantly street running and has almost no catenary style wires overhead.

In order to avoid conflict with other road users much of the system is segregated by road markings or a raised curb, with much being made of traffic management, i.e. pedestrianisation and the diversion of major traffic flows away from the tram routes. The trams and other public transport, have automatic priority at most controlled junctions.

February 1986 saw the opening of the Schwamendigen route extensions along with a major recast of the network. The lines were opened amid many well patronised festivities inspite of the heavy snow showers, the event being helped in part by the fact that the VBZ had declared the day a "Null Tarif" occasion.

The extension runs in a tunnel from Milchbuck to Schwamendigen Platz where the two routes – number 7 and 9 – diverge. The northern branch (9) travels on to Hirzenbach and the southern branch goes to Bahnhof Stettbach (7), the latter station being currently built as part of the Zürich S-Bahn network although as yet not open to SBB traffic. The tunnel, the first urban tram tunnel in Switzerland, is notable since it was not originally designed as such. The tram tunnel was agreed by referendum to be built as part of the Zürich U-Bahn and was to be built under the motorway tunnel. The construction went ahead but a later referendum overturned the U-Bahn system agreement. This left a tunnel with island platforms at three intermediate stations, which could only be used by the VBZ if left hand running was adopted. This has been accomplished by means of a "Rollover" partly in tunnel at Milchbuck, and by a crossover on the level beyond the tunnel exit at Schwamendigen. The tunnel section is also unique in having full multiple aspect safety block signalling, which means that only tramcars fitted with appropriate safety equipment are allowed beyond Milcbbuck. The routes beyond Schwamendigen are on double track roadside reservations - occasionally grassed - with traffic control at side road crossings.

Further U-Bahn tunnels were built under the shopping arcade at the Hauptbahnhof and it is these that will be used by the extension of the SZU Bahn under the river Sihl from its current terminus at Selnau. The Forchbahn (FB) shares VBZ route 11 from the VBZ Rehalp terminus to its own terminus at Bahnhof Stedelhofen. This includes sections of street running with the FB operating on the lower VBZ voltage.

A curiosity is the Seilbahn Rigiviertal, which became part of the VBZ in 1975. This is included within the VBZ fare structure, whereas, the Dolderbahn ex-funicular and the Poly Bahn funicular, both of which remained independent, are not.

VBZ rolling stock is quite varied, with many older Swiss standard bogie cars and trailers remaining in service today, although plans are well in hand to withdraw quite a number of them over the coming years. The best of these models are being overhauled and can be seen in service on routes 4, 5 and 6. An allocation of the older stock remains in service on routes 3 and 10 but will be replaced when new stock becomes available.

A newer batch of bogie cars and trailers can now be seen on route 10 as they are cascaded from route 9. Interestingly these were designed for conversion to double sided – but still single ended driving control – operation. There is a large fleet of double articulated cars which are unusual as they are fitted with three bogies. Part of the batch consists of non driving powered cars intended for use as second cars in a multiple unit operation. These units can be seen on routes 2, 7, 13 and occasionally on routes 4 and 5, and on route 3 when fitted with trailers or as single units on route 8.

Zürich's newest design is the Tram 2000, conceived as a single articulated tram although a non driving bogie version has been built for the rear portion for use on route 9. The design uses the latest electronics, most noticeable in the characteristic "whining" sound. The first batch included some non driving articulated cars currently in use on routes 11 and 14, whereas the second batch delivered in 1986/87 can be identified by the higher backed seating used. Single cars recently replaced the bogie cars on route 15 and will eventually appear on route 8, the earlier batch being named after the Gemeinde of the network area and carry the respective coat of arms.

A couple of the tram stops are notable for their shelters and the one at Bellvue contains a cafe, providing an excellent place to watch the trams. Paradeplatz, Hauptbahnhof, Central and Bellvue are the busiest points on the network along with the route via Bahnhofstrasse.

The VBZ operates a very sophisticated computerised monitoring system providing the controllers with up to date information on tram locations on each route, along with the amount of time a unit is either late or early. The time information is also relayed to the tram driver for him to take the appropriate action if required as well as providing certain standard messages without having to resort to the use of the radio.

The new central works – built in 1975 – is located at Altstetten, route 2 Grimselstrasse, and is responsible for the maintenance of all BVZ vehicles as well as doing the major overhaul work on the cars of the Polybahn funicular (owned by a large Swiss Bank). A point worth noting is the roof is dedicated for use as a multi storey public car park, encouraging the Park and Ride principle.

The VBZ operates out of 7 depots as well as the central workshop, with the most interesting from the photographer's point of view being the open sidings at Kalkbreite. This depot on route 2 and 3 contains a variety of stock during the off peak hours and snowploughs in the wintertime. The depot at Escher Wyss Platz, at the junction of routes 4 and 13, includes the PW depot where some departmental stock is often visible. Another PW depot at Hardturm on route 4 normally has a departmental tram on site.

The VBZ works fleet is also becoming standardised as Swiss standard bogie cars become available for conversion work, which consists of flattening the front to accomodate the snowplough, repainting in green and yellow, fitting a single arm pantograph and new safety equipment. The Zürich S-Bahn will make a dramatic change to the local railway services throughout the Canton, as the local policy is for the transport systems to complement each other. Hence the extension to Bahnhof Stettbach and the extension of the SZU. The VBZ will be improving the services to match the new rail services, but no major network changes are planned although traffic flows may alter. With the commencement of the S-Bahn, the fare systems for all modes of transport within the Winterthur and Zürich areas will combine.

Thus the future of the VBZ tram network is secure although no significant extensions can be expected. The local government has proposed that most of the forthcoming investment should go into extending the trolleybus network, very much in the role of serving the tangential traffic flows.



The Schwamendigen extension - see text.

Photo: P.J. Pike



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