

Zürich's underground railway

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Zürich's Underground Railway

Unknown to most visitors (and residents of Zürich in the second decade of the 21st Century) Switzerland's biggest city once had its own underground railway that operated for over 40 years. This was not a vast public passenger system like those in other European cities such as London but, like the one that also operated in London, it was a dedicated operation run by the postal authorities to link their major operating centres. This little-known railway was opened in 1938 and made its last run on 11th October 1980. The line was just some 340m long and linked the city's main postal operations centre at Shilpost, opened in 1928, with the Post Office on Zürich Hauptbahnhof that distributed mail by rail all over the country. Even in the 1930s delays caused by road traffic were already becoming a problem in the centre of the city and this short line was seen to be a key means to speed-up the movement of mail (it did not carry people) between the two main postal operational centres.

The 600mm gauge line was fully automated from the outset with electrical equipment supplied by Maschinenfabrik Oerlikon. The line was electrified using 3-phase AC at 220V delivered through copper wires mounted on insulators set between the tracks. Each 2-axle car had a 3.5hp motor to propel it through the tunnel at a speed of about 16kph, whilst as they approached the two end stations a smaller 1hp motor took over reducing the speed to around 1kph. The transition from one speed to the other occurred in a short, powerless section of track where as one motor disengaged automatically the other one engaged. Apparently, this transition was not always successful and cars occasionally entered the end sections too fast, resulting in considerable damage. At the Hauptbahnhof end there was a lift supplied by SWS Schlieren that allowed the cars to be hoisted from the basement to the



main station floor. Operation of the railway was very simple using push buttons as in a lift. With these buttons the car could be sent to the other end, or called from there. To prevent the car from being called to the other end while being loaded, gates were installed that had to be closed to permit movement.

In 1958, after 20 years of operation, a major upgrade was implemented that replaced the 3-phase supply with a DC one that powered a drive system similar to those used on cable cars. Two 2.5hp motors connected in series were installed into the cars, and these had to be mounted vertically due to the restricted space available. A new electromagnetic braking system was introduced, whilst to monitor the proper functioning of the speed

reduction when approaching each end, recently developed photocells were introduced. During its lifetime the system operated 23-hours/day, making five runs/hour in each direction, with a closure for maintenance between 04.00 and 05.00. An end-to-end trip took 96 seconds and a complete run, including elevating the car to the upper floor of the Hauptbahnhof, would take 4 minutes and 25 seconds. The cars were painted in typical Swiss postal yellow livery and postal employees maintained the entire system. The majority of the tunnel length included a walkway for this maintenance access. At its closure an airport-style baggage handling system replaced the railway. One of the cars has been preserved at the PTT Museum in Bern where, for some unknown reason, it sports the cantonal badge of Luzern at one end and Zürich at the other!

The information in this article is partly based upon one written by the late Hans Waldburger that was originally published in Schweizer Eisenbahn-Revue in 1980 and translated for us by Bruno Wasler. Additional input includes information from the PTT Museum, Boyd Misstear, and from various Internet sources. ☐



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