

Gold coast EMUs : this is the story of two classes of rolling stock, which were probably the nearest in concept to the UK view of EMUs that Switzerland had before the introduction of the ICNs in 1999

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Gold Coast EMUs

Neil Wheelwright



SBB RABDe12-12 Nos.1110 and 1106 departs from Meilen.

All photos: Neil Wheelwright

This is the story of two classes of rolling stock, which were probably the nearest in concept to the UK view of EMUs that Switzerland had before the introduction of the ICNs in 1999.

The Gold Coast (also known as the right bank) is the name given to the northern side of the Zürich See which, with its south facing aspect, became – and still is - the place to live for the up and coming professional classes from the City. This generated a need for rail access to Zürich with a line opening on 14th March 1894 that ran from Zürich Stadelhofen, via Tiefenbrunnen, to the lakeside towns of Meilen and Stäfa and terminated at Rapperswil. In the city this was extended from Stadelhofen through Letten tunnel and across the Limmat to the Hauptbahnhof (HB) on 1st October 1894. The line was single track with frequent passing places. Although doubling commenced in March 1962 the line still has several sections of single track.

As the population grew, so did the need for more and larger trains. The line was electrified from 15th May 1926, with the initial electric service being operated by Fe2/2 baggage motors hauling trains often known as the 'Workers Pullman'. An early timetable shows journey times of 68 to 77 minutes for end-to-end, all-stations trains. In order to further increase capacity, and to speed up the service, a series of 20 three-car EMUs were built between 1965 and 1967. These introduced a new, more frequent and faster, timetable on 26th May 1968. These EMUs earned the nickname 'Mirage' after the French Dassault fighter jet, then in use by the Swiss military, because of their rapid acceleration that enabled the all-stations end-to-end journey time to be reduced to 56 minutes.

The units built by SWP/FFA/SAAS/BBC, with some funding from Kanton Zürich to support an improved service, were designated RABDe12/12 indicating that all twelve axles were motored, a first for Switzerland and suggesting the type of performance they hoped to achieve. The livery was also new, being all-over wine-red. They were 73.3m long and their weight was 170t. The one-hour power rating was 2440kW with a maximum speed of 125kph. Seating configuration being 72+1 tip-up in each driving car and 56 first class seats (in four abreast configuration) in the centre car giving 146/56 capacity. They had a gangway within the set and it was possible to run with up to four EMUs coupled in multiple using automatic couplers. The pantograph was above the baggage area on the centre car. In winter 1990/91 coupling heaters were installed to improve reliability of un/coupling of units. Four units were involved in collisions in 1971. Two units were re-created out of the surviving vehicles and renumbered so that the fleet became 1101-1118. The 'Mirages' were used predominantly on this line, albeit with regular forays to other lines, in particular on the route to Linthal via the south side of the lake.

The introduction of the Zürich S-Bahn, opened on 27th May 1990, led to the Rapperswil via Meilen service being taken over by the DPZ sets (a Class 450 loco/baggage vehicle with three push-pull coaches), along with the closure of the Stadelhofen to HB via Letten line which was replaced by the tunnel through to the Zürich HB Museumstrasse underground

platforms. The 'Mirage' EMUs were then moved to Zürich S-Bahn route S3 (Dietikon to Wetzikon via HB) to which they had only previously strayed on occasion. May 1998 brought the end of their use on S3 after which they were not fully utilised, being used as extras on other routes pending a decision on refurbishment. After much deliberation, and comparison of various options for their use or replacement, SBB decided that the most cost-effective one was for the units to be given a thorough R4 refurbishment. This took place between 1997 and 2000 and included: fitment of outward swing doors; updated interior including lengthwise luggage racks; reduced baggage/parcels space creating 'self-service' cycle racks; removal of the narrow door in the middle coach; introducing one-person-operation capability; asbestos removal, and a thorough technical update. The units were painted in NPZ livery and renumbered as RABDe 510 000-017 (end cars numbered 510 100-135, centre cars 510 200-217). Conversion of one first class seating bay to second class with seats which could be folded to allow carriage of wheelchairs, altered seating capacity to 48 1st class and 150 2nd class. Refurbishment of the first unit (1106) began in January 1996 and this took a year.

Use after refurbishment was mainly on the S16 route between Zürich Flughafen and Herrliberg-Feldmeilen (on the Gold Coast) via HB, with extensions southwards to Rapperswil and northwards to Effretikon. S16 was extended in December 2006 from here to Thayngen (SH) via Winterthur. In February 2001 bad luck struck again and an accident between units 010 and 013 led to a single unit (013) being made out of the remnants. However, the refurbished units did not last very long. Delivery of the Class 514 double-deck S-Bahn multiple units was completed by the end of 2007 and marked the death knell for the 'Mirage' EMUs. However, they were kept on to provide extra capacity for the Swiss hosting of the European football championships during 2008. They were all withdrawn by the end of that year, the last service being on 9th December marked by a small ceremony held at Zürich HB. Initially, ten units were put into store and four were scrapped in early 2009. However, the last unit was scrapped in July 2010. A ride in one of these units ended



TOP: SBB RABDe8-16 No.2002 in the gold and purple livery at Tiefenbrunnen.
 MIDDLE: SBB RABDe12-12 No.1103 at Stadelhofen.
 RIGHT: SBB RABDe12-12 Nos.101 and 1113 at Zürich HB.



with my only Swiss train accident, which was a low speed buffer stop collision in Zürich HB in 1986!

The second design of EMU used on the Gold Coast line was the RABDe 8/16 units numbered 2001-2004. These trains were built 1974-76 as prototypes for the planned S-Bahn. They were painted in a unique violet and yellow livery, leading to their nickname '*Chiquitas*'. How this came about is uncertain as the word in Spanish means '*little girl!*'. The four-car sets were formed of two identical powered driving cars with pantographs (RBe4/4II 4001-4008) plus one 2nd class coach (B 3001-3004), and a 1st class and parcels coach (AD 2001-2004).

The units were built by SIG/SWS/SWP/SAAS with a weight of 149t and a length of 100m and had a gangway within the set. One-hour power rating of 2250kW provided for a maximum speed of 125km/hr. Seating capacity was 54 1st and 224 2nd class. Automatic couplers allowed for multiple operations within type. Use of aluminium made a four-car set lighter than the three-car '*Mirage*' units. However, experience of building lightweight cars was limited and these units were known to flex vertically causing problems with the doors and also the early use of thyristor electronics was not very successful, giving another cause of unreliability. They were usually seen in pairs on Zürich HB to Rapperswil services and were designated as Class 511, although this was not carried and the number was subsequently reused. They were taken out of service in 1989 following a newspaper campaign around their unreliability, replaced by two sets of seven coaches with an RBe4/4 at each end.


After a period in store, some of it in Glarus, they were used from the May 1990 summer timetable between Winterthur and Stein am Rhein. Two units, Nos. 2001 and 2003, were painted in NPZ livery, the first in summer 1990. However, they were withdrawn from this route in autumn 1992 to allow replacement by NPZ units to allow one-man operation. One unit was in service with the MThB from October 1993 (formed as three-car RABDe8/12, omitting the second-class coach) pending arrival of new stock then on order. At least two different units were used. Overall unreliability had ensured that no further units were built and

TOP: SBB RABDe12-12 No.510010 in the Winterthur carriage sidings.

MIDDLE: SBB RABDe12-12 No.510116 and RBe4-4 540040 outside Rapperswil.

LEFT: SBB RABDe12-12 No.1116 departs from Wetzikon.

they proved to be one of the SBB trains with the shortest service life. The 'Chiquitas' were officially withdrawn at the end of September 1997 with the first delivered to a scrap merchant just before that Christmas.

These two classes represent SBB's first generation of EMUs at a time when they were otherwise firmly wedded to locomotives and the flexibility of the electric railcars (e.g., RBe4/4) even to the extent of the first S-Bahn trains being a locomotive plus coaches in a push-pull formation. It is intended that future articles will cover the SBB's second generation of EMUs being introduced for seemingly all types of passenger train. 

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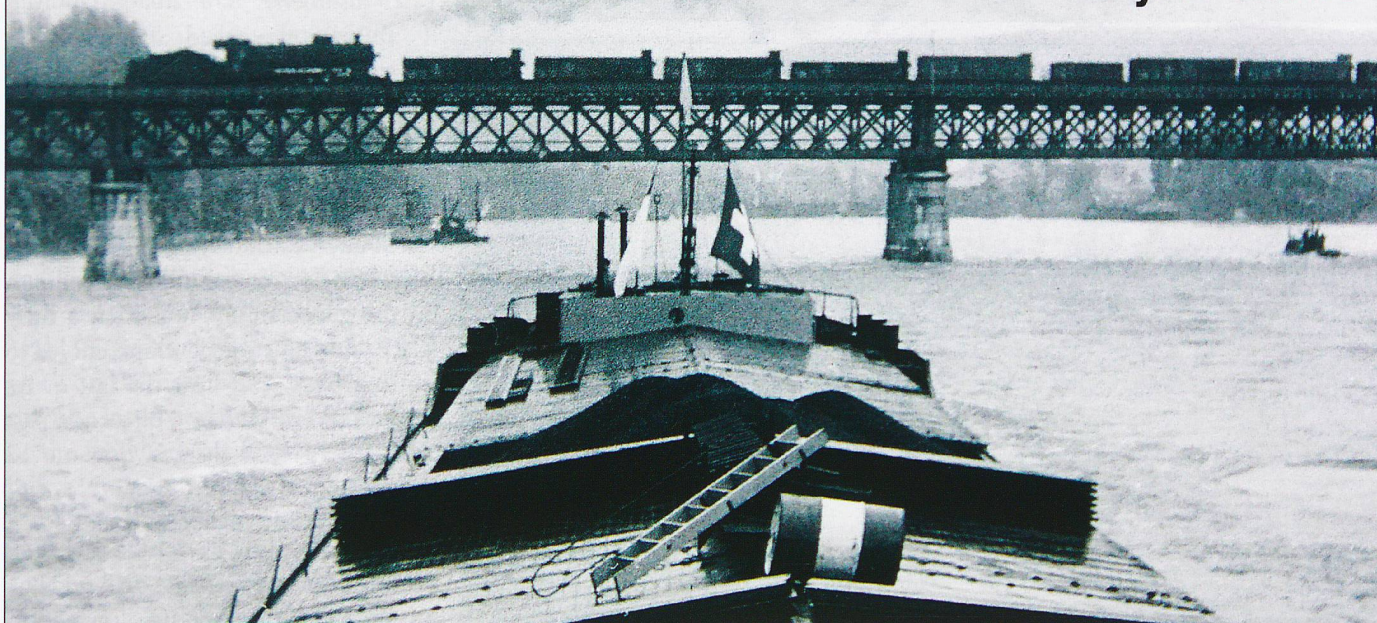
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The Basel Hafenbahn – Part 1

Bryan Stone



A harbour transfer freight with C5/6 on the Verbindungsbahn bridge in the 1940s.

Photo: Basel City Archive

Photos: Bryan Stone except where shown

There is in Basel today a heavily used private railway, which few ever see, that serves the Rhein harbours. It is nearly 100 years old, so it's time the SRS looked at it. But first, the Rhein harbours in Basel: what and where are they? It is a long history, dating from pre-Roman times, but although boats have navigated the Rhein above Basel, and downstream to the North Sea, for at least 2,500 years, the present docks have only a short history. This concerned two principal locations in the city, St Johann and Kleinhüningen, and a further point upstream, at Birsfelden.

There is today a busy city corner on the Rhein in Basel, still called 'Schifflande' - the landing-place. This refers not to today's passenger boats, which greet tourists there, but the historic meeting place of road and river, in continuous use since the opening of the Gotthard route to Italy in the 13thC. Archaeology has shown that before that it was a major European crossroads, also for routes to the Roman port. These came from the Alps via Aventicum, present day Avenches, and the Romans had followed the paths of the Celts. But when the first steam paddleboats came up the river in the 1830s they lay

alongside on the left bank further downstream, passenger steamers behind the Three Kings Hotel, colliers in the St Johann district. They were necessarily small, for the river below Basel was not dredged and had many shallows and meanders, making navigation dangerous and unpredictable.

The St. Johann River Quays

The opening of the Strasbourg – Basel railway in 1844 put an end to these ventures. In 1870, with the Prussian invasion of Alsace, the French rail lines became the Alsace-Lorraine State Railway (A-L). The St Johann quarter, northwest of the city centre, on the west bank, soon became an industrial area, with the city gasworks and other premises between the Alsace railway and the river. Inevitably, after 1905 as the river was made navigable above Strasbourg, the first quays were built along the riverbank to handle gas-coal from Germany.

Rail connection to these quays came as an extension of sidings from the A-L line, first built by the Basel City authorities, to develop the industrial area. These were first worked from Basel by locomotives and personnel of the Swiss