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# MONTREUX MUSINGS

4 Articles about historic transport in this area of Switzerland

## Territet-Glion Funicular

Michael Farr



ABOVE: An original car is preserved at the lower terminus. RIGHT: Territet-Glion at the half way passing point. Photos: Michael Farr

Today's Territet-Glion funicular is the result of an ambitious plan by Nicolas Riggenbach to conquer with a five-stage funicular, the summit of Rochers-de-Naye, which broods over Montreux. Riggenbach designed the rack system which was laid between twin metre-gauge tracks that ballooned out at the halfway point so the two cars, connected to each other by rope, could pass. Power was originally provided by water, the tank under the top car being filled, while the bottom car was emptied. When ready to depart the car attendants blew whistles, the brakes were released and the cars moved slowly away. A similar process still operates the Lynton and Lynmouth Cliff Railway in North Devon.

A few days before the official opening on 19th August 1883, Riggenbach showed his faith in his rack system by standing on the platform of the top car, detaching it from the cable and letting it down using only the braking system. Thousands of people turned out for the spectacle, many even climbing onto house roofs for a better view;

one of those spectators was Victor Hugo. With safety demonstrated, the funicular opened, the second in Switzerland after the Giessbachbahn which had begun operation in 1879.


Though having no claim to be first, for many years the T-G held the record for steepness with a gradient in parts of 57% (greater than 1 in 1). The funicular climbed from Territet, whose station adjoined the Jura-Simplon main line, at 391m to Glion at 689m. In the event Riggenbach's original plan for a five-stage funicular was sidelined for a conventional rack railway from the funicular's top terminus to Rochers-de-Naye, which opened with steam traction in 1892. The funicular's importance was reduced when in 1909 electric trains of the Montreux-Glion railway began to operate, climbing partly in tunnel through the upper suburbs of the lakeside town. The top section of the railway to the Naye summit was electrified in 1938 allowing railcars to work through from the main line at Montreux.



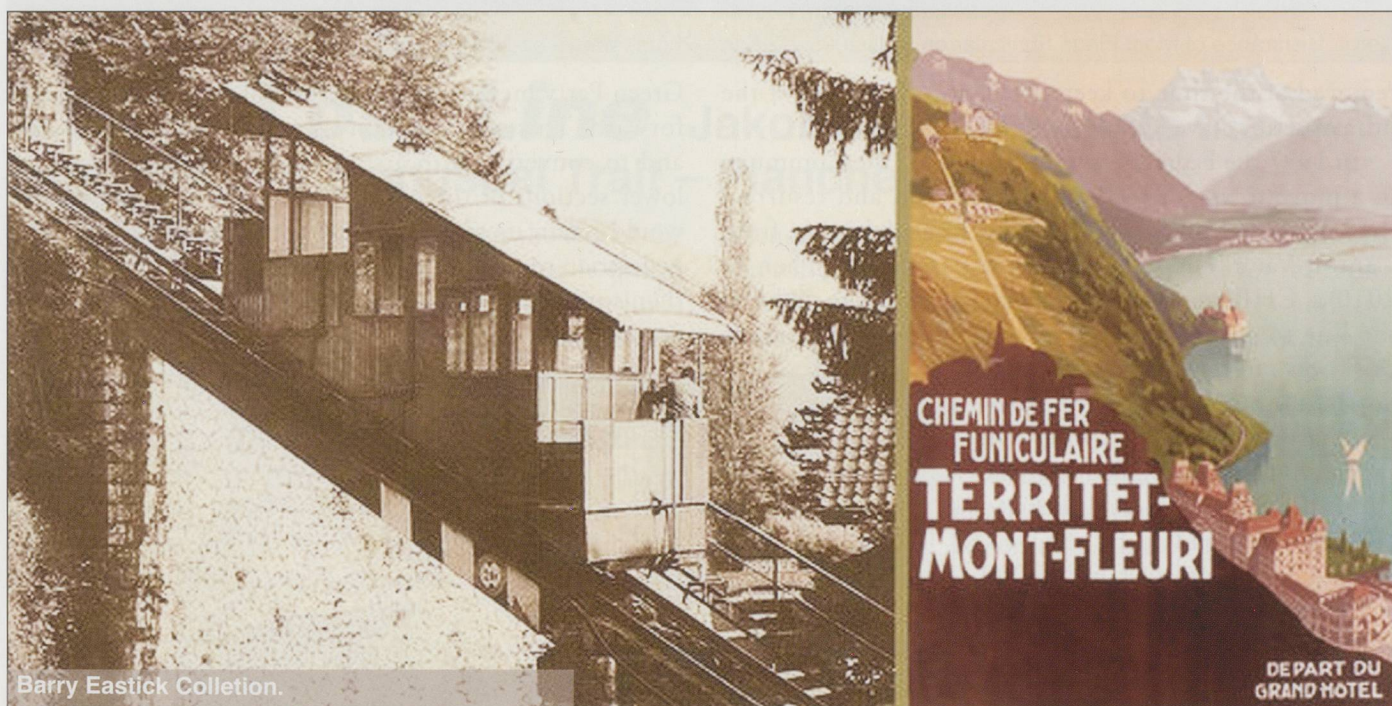
The Territet-Glion funicular continued to operate on water power until 1973 when it was closed for modernisation. The new cars built by Gangloff operated with electricity which allowed automatic operation; the system used was the first in Europe. At the same time the twin tracks were replaced by a single line with a passing loop at the halfway point, requiring platforms only on the left hand side (going up). One of the original wooden bodied cars was plinthed in the former right hand platform at Territet.

Further modernisation took place in 2009 with improvements to the cars (which were repainted in the new GoldenPass colours), and a metal stairway was laid alongside the track to allow passengers to evacuate in an emergency. *One is reminded in the commentary of the film "Railway with a Heart of Gold", about the Talylyn Railway in early preservation days, "A long, exhilarating mountain walk ahead"!* A new intermediate station, Collonge-funi has been opened, at which cars



Territet-Glion Funicular. *From a Barry Eastick postcard travelling in either direction stop on request; coincidentally, this serves an area formerly accessible via the Mont Fleuri funicular described below.* 

## **Territet-Mont Fleuri** Der Beobachter reports on the 'last chance' for this 'ghost' funicular



**T**he Montreux suburb of Territet was once home to two funiculars running up the steep slopes above the community, linking it to the hotels and villas overlooking Lac Genève that developed at the end of the nineteenth century. The longer one up to the community of Glion still operates, but its shorter companion that was built to serve a hotel at Mont Fleuri carried its last passengers in 1992. It legally still exists, although its cars are long gone and only stubs of track remain at either terminal. It is a complex situation. The 422m line that climbed 200m at gradients of some 50% (1 in 1), was opened in 1910 and unusually at the beginning it also

served five locations on a 'Stop when requested' basis en-route. The beginning-of-the-end really came when the former grand hotel fell on hard times and was finally transformed into a girl's boarding school in 1987. Previously, in 1981, the Commune of Montreux became involved with the operation of the funicular that had seen a steady decline in its usage, and working with the MOB a new 25 person passenger car was commissioned, along with one of the older cars being made into a flatbed balance vehicle. Continuing lack of use of the facility finally caused the service to be 'temporarily suspended' in September 1992, and whilst some equipment was





Territet entrance of Mont Fleuri Funicular on 31/3/2005. M.Farr

removed at the time to keep it secure, other parts of the infrastructure have 'disappeared' over the years.

In 1997 the Federal Government joined the Commune in a move to spend CHF5.2m to rebuild and resurrect the line, but this bid also required financial input from Canton Vaud, and this refused to participate. Then in 2010 a CHF4m proposal was put forward to convert the line to an inclined elevator but for various reasons this was never taken forward. So in Autumn 2014 the BAV (Federal Office of Transport) and the Municipality, decided that the current situation of unauthorised abandonment had to be resolved. To this end a sum of CHF85,000 has been suggested as the cost of a study to consider three different scenarios: either formalising the abandonment; rehabilitation of the operation on the current alignment or extending the line to serve an increased catchment area in an effort to improve its potential. The line has many supporters who would like to see its resurrection, but it is also subject to a body of opinion in Montreux, and on the Municipal Council, who believe that even spending money on a study would be a waste of public funds. At the end of last year the

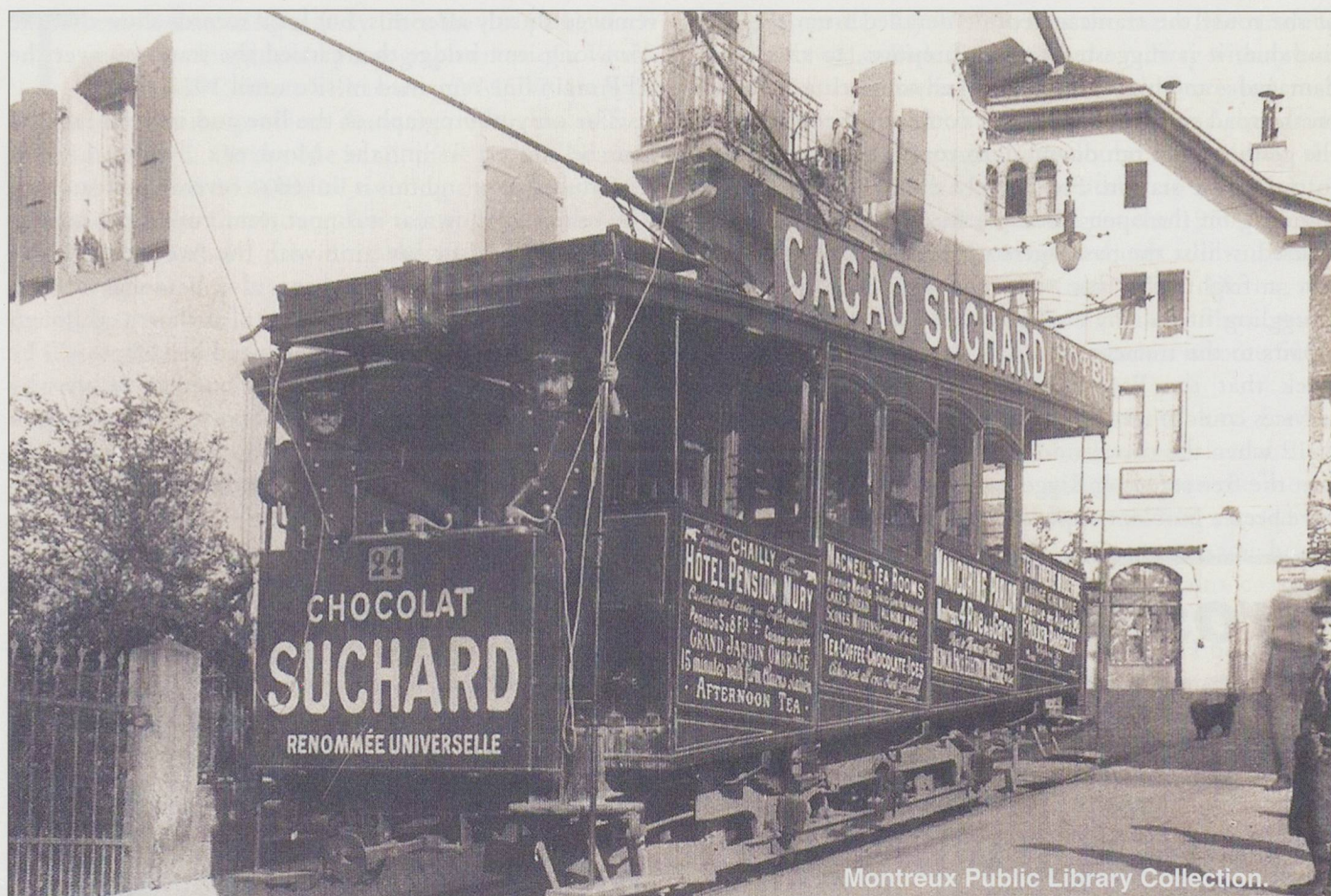


Photos above and below courtesy of 'Wikipida Commons'.

Green Party members on the Council put a fourth option forward. This was to retain ownership of the track bed and to convert it into a stairway linking the upper and lower sections of the community. Their idea is that this would retain its transport purpose whilst offering a safer pedestrian route between the two parts of the community than currently exists, and keep the route in place for other options in the future. +







## Long Lost Line Jakob Jäger recounts the short life of the unusual Trait – Planches line.

As Montreux developed as a resort at the end of the 19thC in the era of the Belle Époque, it spread south-eastwards towards Territet across the slopes that ran down to Lac Genève. One of these new suburbs was Les Planches and its residents looked to the pioneering electric tramway of the Vevey Montreux Chillon (VMC) Company, which had opened along the lakeside road in 1888, to provide them with transport into Montreux and beyond. The nearest railway station was also at the bottom of the hill at Territet. This was before the 800mm-gauge rack railway from Montreux to Glion (subsequently extended to Rochers de Naye) opened in 1909. At first a funicular was proposed, to run from the Avenue du Casino at Trait, (with its tram service) up the hill to Les Planches but for various reasons this proposal never gained ground. What was then developed was unique. It was a metre-gauge rack street tramway that climbed at a gradient of 14% (1:7) and ran for some 392m following the alignment of today's Avenue des Planches. The Riggerbach rack was allowed to be mounted in the surface of the street, although not between the two running rails, but adjacent to one of them. Few details exist but it is assumed that this was next to the kerbside one, in order to minimise the potential for other vehicles to come in contact with the rail. By not being laid centrally it apparently became obvious, once running commenced, that this was a flawed


arrangement that had an adverse effect on operations. Electrification was at 550V dc and to allow for the return of the current this used two contact wires and two trolley-poles on the tramcar. It appears that it drew its power from the VMC supply at Trait. Only one CFeh2/2 tramcar, with a 'funicular-style' stepped seating arrangement, was apparently supplied. This was built in Germany by Singer in Berlin and Busch in Bautzen; weighed 9.6t; was supplied with three 22kw motors; one on both adhesion axles, and a further one for the rack drive. Contemporary accounts also describe both a complex chassis and braking arrangements.

Operations commenced on the 6th July 1898 but it was clear that this vehicle was quite experimental in concept, and also underpowered. By February 1899 problems were such that the tramcar was returned to the manufacturers to be re-engined, bringing its total power up to 78kw, and it was not until the following May that the vehicle returned to resume service. It is understood that the normal travel time to climb the 52m rise to Les Planches was 3 minutes, with the vehicle reaching a max speed of 9kph. The tramway then proceeded to quietly serve its local community although, as later events showed, traffic had presumably declined after Les Planches gained its station on the Glion line with a direct service to Montreux CFF. Then in 1912 disaster struck. Whilst on one trip on the upper part



of the route the tramcar became derailed from the rack line due, it is suggested by local reports, to this being damaged – an obvious danger linked to it being mounted on the road surface. The vehicle could not be stopped on the gradient and ran downhill to come to a halt crashing into the base station. Fortunately the two crewmembers standing on the open front platform were only slightly injured, whilst the passengers seem to have escaped with just a fright. By this time the small company was struggling financially and lacked the means to fund the repairs to the tramcar, and the complete overhaul of the track that the Federal Authorities demanded before services could resume. Formal closure came in November 1912 when the concession was withdrawn. It is assumed that the free standing Riggerbach rack, that must always have been a problem to pedestrians as well as vehicles, was

removed shortly after this, but local records show that the 25m long iron bridge that carried the tramway over the CFF main line remained in-situ until 1918.

The only photograph of the line and its tramcar that can be traced is in the Montreux Public Library reproduced here and this is linked to several local sources. The vehicle is shown at its upper terminus on the Avenue des Planches at the junction with the Avenue du Midi. Remove the tram and nothing else here has altered substantially for the buildings are still as shown, although some doors and windows have changed in 103 years! The car appears to be quite substantially built, probably why it was underpowered at the beginning. It is interesting to note that at least one of the many adverts that cover the bodywork was in English – for 'Macneil's Tea Rooms'. 

## ***Crossed wires – and surviving the consequences***

**John Jesson is intrigued by some complex electrical engineering**





Tramways crossing railway lines are not particularly common, but this old photograph taken of a Vevey-Montreux-Chillon-Villeneuve (VMCV) tram at Territet, shows the problem that arises when the railway line is electrified. On the one hand, there is the CFF main line railway with 15,000V ac running through its wires, on the other the tram route that was electrified at 600V dc with its overhead providing the power. In this case some engineering ingenuity solved the problem by installing a moveable tram wire.

Across the level crossing, the tram overhead contact is not a wire, but four contact bars, each bent up at both ends to allow a smooth transition by the tram current collector. Two semi-circular hoops that are pivoted at their top ends surround each of the railway overhead contact wires. When the crossing is required for railway use, the hoops can be pivoted so that the tram contact bars are raised away from and above the railway contact wire. The four contact bars are each supported at one end by the semi-circular hoops and at the other by a long hanging support. From here on though the operation is less clear. The action of pivoting the hoop pushes one end of the contact bar away from the 15 kV contact wire and raises it above the level of the railway pantograph. The hanging support at the other end appears to be pivoted so that the bottom end (connected to the contact bar) is also pushed away from the 15 kV wire. However, as this hanging support is nearly twice as long as the depth of the hoop, the end result is that the end of the contact bar is dropped below its normal level. There seems to be some sort of operating mechanism connected to the hanging supports, but what this does is unclear. Although there is another known photograph of a tram using the crossing, it would be very helpful to see what the tram contact bars looked like when the crossing was set for trains. I have tried to show the complex layout on the accompanying diagram.

There is quite a lot of ironmongery involved in the whole set-up, something that would not please today's environmental lobby! The high-voltage lines for the railway are supported by a cross girder, itself carried by two masts on opposite sides of the road. There are two additional masts (one out of the picture) at the other two corners of the junction. These are connected to the other masts on the same side of the railway by other girders and these, in-turn, support a long diagonal girder, supported halfway by supports from the first cross-girder. There seems to be additional ironwork across the road at the left of the picture and this is probably for the operating mechanism. The small cabin on the left probably contains the controls.

The tramline at this point was re-electrified in 1913 to the system shown, when the complex original 1888 electrical system of the Vevey-Montreux-Chillon tramway was replaced at the time of its merger with the Chillon-Byron-Villeneuve tramway to form the VMCV. This was some eleven years before this section of the CFF main line through Montreux went under-the-wires in 1924, so this photograph must have been taken after this latter event.

The present day layout now has the main line running above the road, which dives under the railway with a short section of dual carriageway. Although increased road traffic flows were probably one reason for the grade separation of the crossing, no doubt maintaining the complex electrical arrangements added to the need for change. The trams ceased running in the 1950s but the VMCV's modern articulated trolleybuses still run under wires as they follow the old tram route. During the reconstruction the basic station seen behind the crossing disappeared, whilst today's Territet station is some 500m further east of the old crossing point.

It would be interesting to learn of any further electrified tram/train crossings similar to this layout. I am aware of the former crossing at Suhr where the metre-gauge Wynental-und Suhrentalbahn (WSB) crossed the SBB, but here the overhead wires were at the same height and were 'dead' for both operations, with trains 'coasting' through the short crossover with their pantographs lowered to prevent the potential for arcing. I believe that this is still the case at nearby Oberentfelden where both lines still cross on another WSB route.

*I would like to thank the editor for his contribution to this article. The photo is in the Montreux Public Library Collection.* 