Heading for new heights

A historical journey

FLØIBANEN

...perfect moments for 90 years

The construction period

More than 20 years passed from the idea of the Fløibanen Funicular was first proposed until it opened in 1918. Political disagreement and instability in Europe made realisation of the project difficult.

Work on planning the route began in 1914. The location of the top station was decided in advance since the funicular was to lead to the planned Fløirestauranten restaurant.

A transport bridge with trolleys that ran on rails was built down to the harbour area of Vågen in order to dispose of the rock excavated from the tunnel at the bottom station. Down at the harbour, the rock was transferred to barges. The work was scheduled to take a year and a half, but World War I led to problems recruiting enough labour and to a shortage of materials. The great fire of Bergen on 15 January in 1916 compounded these problems.

The rails, which came from Switzerland, were a year delayed. The cars, which came from war-torn Germany, did not arrive until a year after the funicular was originally scheduled to open. They were ordered at a fixed price in German marks in 1914. When they finally arrived, the German currency was so devalued that the cars cost virtually nothing in real terms.

Udsigt fra Fløien

1918-1940

A success right from the start

After several weeks of test runs, the Fløibanen Funicular opened to the public on 15 January 1918. The funicular ran continuously all afternoon, and it soon found its way into the hearts of the people of Bergen.

The Fløirestauranten restaurant, which opened in 1925, was designed by architect Schou, who also designed the funicular's station buildings. It was Bergen's finest restaurant for many years.

The first cars had two open and two closed carriages, with two small platforms at each end. Each car could carry 65 passengers. In the engine room at the top of the funicular was a 95-horse-power electric engine, enough power to allow the funicular to travel at a speed of two metres a second.

In the engine room, the operator controlled the speed of the cars. The drivers gave the all clear signal to the operator using a signalling pole. It stuck out of the window and struck a signal wire that hung over the railway. When the driver of the one car was ready, he gave one signal, while the driver of the other car gave two signals when he was ready. Unfortunately, the system often led to cars being started while one of the drivers was still on the platform selling tickets.

1940-1945

Occupation and upswing

Mount Fløyen was strategically important to the German occupying forces during World War II. Using Russian prisoners of war as labour, they built many bunkers and anti-aircraft positions, and all the supplies were transported on the Fløibanen Funicular. The windows were removed to create more space and passengers often had to sit on piles of materials. Two compartments in each car were reserved by the Germans at all times.

For the people of Bergen, the war meant a perennial shortage of goods in the shops, a dearth of cultural events and strong restrictions on moving outside the city. With little else for the locals to spend their money on, traffic on the funicular doubled between 1941 and 1943. This put it in financial position to cover the costs of the wear and tear caused by the German transport of materials.

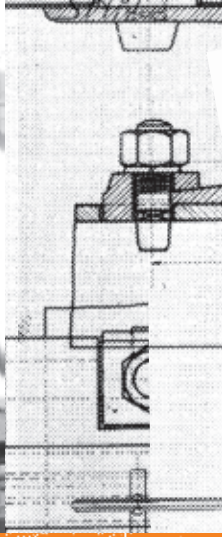
Cars in the national colours

Not until after the occupation was the one car painted blue and the other red. Until then, they had both been the natural brown colour of wood. The funicular now had all the appearance of a national symbol with the shining white bottom station and the red and blue cars. And these colours, reflecting the red, white and blue of the Norwegian flag, came to characterise the Fløibanen Funicular.

The number of passengers remained high and stable after the war, and the railway's capacity was nowhere near big enough. Major renewal work started. In 1950, the cable wheels were replaced and a new engine was installed, allowing the speed to be increased from 2 to 3.3 metres a second.

In 1954, the original cars from 1918 were replaced by new modern cars, which were longer than the old ones and had room for ten more passengers per trip. As a result, queues were no longer a problem except on special occasions, and the funicular set a new traffic record of 818,000 passengers the following year.

In addition to the increased speed, the engine could now be controlled from the drivers' cabins. Instead of the old signalling poles, a new telephone system was introduced. There was no longer a risk of the cars driving off without a driver in place.



1960-1980

Stable traffic despite the new age of the private car

In the 1960s, private cars became more and more common in Norway, and for many people the Sunday drive was a new and exciting alternative to the funicular.

Nonetheless, traffic on the funicular remained stable and its financial situation was sound. The cars from 1954 were replaced already in 1974 by cars that were more in the line with the demands of the age with respect to design and comfort. The new cars could carry 80 passengers. Unfortunately, the cars had been built a few centimetres too wide and they bumped into the platforms, which had to be widened slightly before the railway could start running again.

The braking system had also been replaced a few years before, resulting in more comfortable braking. The comfort associated with a trip on the Fløibanen Funicular had improved significantly.

One million passengers

Extensive upgrading of the funicular's technical systems started in 1987. The engine was replaced by a new 190-horsepower one. The main brakes and the electrical system in the engine room at the top station were replaced. In the cars, the drivers' consoles were replaced by a new digital system.

The last technical installation from before the opening in 1918, an old fuse panel, was also replaced at that time. And with that, the decline in the number of passengers was reversed.

The restaurant was taken over by its current proprietors in 1992, and a year later the passenger record from 1960 was finally beaten. A major refurbishment and extension of the bottom station was completed in 1997, and two years later, the number of embarking passengers passed one million for the first time.

2000–2007

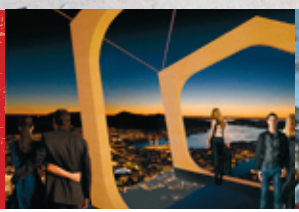
More and more exciting

During the last decade, more than NOK 100 million has been invested in improving Mount Fløyen and the Fløibanen Funicular as an experience.

The 28-year-old cars were pensioned off in 2002 and replaced by today's Rødhette (Little Red riding Hood) and Blåmann (literally Blue Man). The new cars have more comfortable seating, bigger windows and glass roofs. Consequently, passengers can enjoy panoramic views that make the ride up and the ride back down more enjoyable than before.

But it was not only the machinery, safety and the cars that had been upgraded – the funicular was also given a new graphic profile, new uniforms and a new ticketing system. Even the tracks were replaced. Part of the old tracks actually stemmed from the original funicular in 1918.

The steps at Mount Fløyen were opened in 2007, making the viewing area and the familiar, much-admired view even better for visitors.



The next major project is now on the drawing board. Behind the top station, Fløibanen wants to build a visitor centre that will hopefully be completed in 2010. There, visitors will be able to enjoy experiences that will vary with the four seasons.

When autumn arrives, the centre will become an autumn market selling local products and offering exciting culinary experiences. And in winter, it will host a Christmas market and winter activities. Spring is festival season and that will also be reflected in the new building.

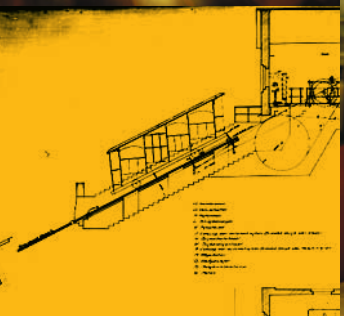
The efforts to improve the Mount Fløyen experience seem to be really appreciated and the funicular is constantly setting new records, most recently in 2007 when there were 1,190,000 passengers. Passengers appreciate the improvements that ensure that the Fløibanen Funicular remains Bergen's most popular attraction.

Like two pearls on a string

The principle behind the Fløibanen Funicular has always been the same: two cars on each end of a cable and an engine at the top station. There is a section of double-track halfway up that allows the cars to pass each other. Since Rødhette and Blåmann not only share the same track but also the same cable, Rødhette cannot go up unless Blåmann goes down at the same time, and vice versa.

From the cars, the cable glides on a pulley system along the track to the engine room at the top station, where it enters a groove at the top of a large wheel. This is the drive wheel, which is connected to the much smaller wheels in the engine. The cable goes round the drive wheel from the top and then straight ahead to the bottom of the next wheel, the lead wheel. The two big wheels form a figure eight. The cable runs through four figure eights before it re-enters the track and runs down to the second car.

It is this system that makes Fløibanen so safe. While the weight of the upper car is used for all it is worth, it is the transmission from the engine that powers the funicular. When the engine is in neutral, the engine's main brake is triggered, keeping the cars stationary. The engine also has a safety brake that is activated if anything abnormal occurs.



The cars have one more safety feature. They have brake flaps above the wheels that drop down and lock the wheels to the rails if the speed becomes too high or someone pulls the emergency brake. There has not been one serious accident on the Fløibanen Funicular in all the 90 years it has been in operation.
The Fløibanen Funicular in brief:

- The top station is 320 metres above sea level, 302 metres above the bottom station.
- The route is 844 metres long. It increases from a gradient of 15 degrees at the start to 26 degrees at the steepest.
- The rail gauge is exactly one metre.
- There are three intermediate stations en route: Promsgate, Fjellveien and Skansemyren.
- Rødhette and Blåmann were designed by industrial designer Espen Thorup. Each of the cars weighs 11 tonnes and can take 100 passengers.
- The cable is 950 metres long, 40 mm thick and it has a breaking load of 66.5 tonnes. When full, the cars weigh 19 tonnes.
- It is powered by a 315 kW engine at the top station.
- The normal speed is 4 metres a second.
- The trip from the bottom to the top station usually takes seven minutes.
- The Fløibanen Funicular runs every day, all year round.

★ TIBE REPUBLIC K3112 Juli 08 Foto:Atelier KK/UBB, Svein Bringsdal, Pål Hoff

Have a nice trip!

www.floibanen.no

FLØIBANEN
...perfect moments for 90 years