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Chronology of a Project of the Century
Milestones in the Construction History up to 2010

1947

Carl Eduard Gruner, engineer and urban planner from Basel, sketches the visionary idea of a Gotthard Base Tunnel as an element of a rapid transit system.

1960s

In 1963, the Swiss Federal Government establishes a committee for a "Railway Tunnel through the Alps". It evaluates various base-tunnel solutions and in 1970 recommends construction of a Gotthard base tunnel from Erstfeld to Biasca.

1970s

A new committee is set up to review the proposed variants again. However, political disagreement between the proponents of the Gotthard, Simplon and Splügen routes, as well as an economic recession, block the tunnel project.
In 1971, the Swiss Federal Council assigns to Swiss Federal Railways (SBB) the task of elaborating the construction project for the Gotthard base route Erstfeld-Biasca to allow rapid implementation of construction work. The construction project is presented in 1975.

1980s

In 1983, the Swiss Federal Council concludes in a report that a new rail link through the Alps is "not urgent". In 1986, new evaluation studies investigate variants for a continuous flat route from the northern edge of the Alps to the southern border of Switzerland. After formal consultation with the cantons, in 1989 the Federal Council decides on implementation of a so-called "network variant", which proposes a combination of a Gotthard base tunnel, a Lötschberg base tunnel, and a Hirzel tunnel to provide a link to eastern Switzerland.

1992

May 2

In the Through Traffic Agreement with the European Union, Switzerland commits to providing the agreed traffic capacities.

September 27

The Swiss electorate accepts with a 64% majority the federal government's resolution to construct the Swiss Rail Link through the Alps (AlpTransit Decision). This forms the basis for planning and constructing the NRLA Gotthard and Lötschberg axes.

1993

September 1

Swiss Federal Railways (SBB) takes over the AlpTransit project organisation from the Federal Office of Transport (FoT) and thereby also the responsibility for the AlpTransit Gotthard project. This comprises the Gotthard base route from Arth-Goldau to Lugano and the integration of eastern Switzerland. SBB undertakes to present preliminary projects within the specified cost budget.

October 4

Groundbreaking ceremony for the Piora exploratory bore system: the position, extent and geological-hydrogeological characteristics of the Piora syncline will be investigated. The purpose of the exploratory bores is to determine the geotechnically most favourable route for the Gotthard Base Tunnel.

1994

February 20

The Alps Initiative is accepted in a referendum. Protection of the Alps is included in the Swiss constitution.

1995

April 12

The Federal Council accepts SBB's proposals for the Gotthard Base Tunnel route between Erstfeld and Bodio and the overground section between Bodio and Giustizia. The future tunnel system for the Gotthard Base Tunnel is decided: two single-track railway tunnels will be constructed which are connected by around 180 cross passages so that each tunnel can provide a rescue space for the other tunnel. There will also be two multifunction stations, at Sedrun and Faido, whose purpose includes allowing trains to change tunnels or to make an emergency stop in case of an incident. The tunnel system will have a total length of 153.4 kilometres.

June 27

The Federal Office of Transport and Energy, (today's Federal Department of the Environment, Transport, Energy and Communication, DETEC), sets up the interdepartmental task force "Funding Public Transport" (FöV). In its report "Constructing and Funding the Public Transport Infrastructure," the self-financing of the NRLA is called into question.

October 3

The planning authorisation procedure for the individual sections of the Gotthard Base Tunnel between Amsteg and Bodio and the overground section between Bodio and Giustizia is initiated. Work begins on the construction project.

1996

March 31

The exploratory bores from the tunnel face of the Piora exploration tunnel strike sugary water-saturated dolomite of the Piora syncline.

April 15

Construction work starts on the intermediate heading at Sedrun: this marks the start of preparatory and exploratory work for the Gotthard Base Tunnel. The AlpTransit Visitor Centre at Sedrun is also opened: an information room is installed to provide information to the public.

April 24

The Federal Council decides how to proceed with regard to constructing and financing the public transport infrastructure. It decides to implement the NRLA project in phases. Of the total project that was approved in the referendum of 1992, on the Gotthard route only the base tunnels under the Zimmerberg, Gotthard and Ceneri will be built, and for some of its length the Lötschberg Base Tunnel will be single-track only. Most of the approach routes that have been planned up to this date, including the Hirzel Tunnel, are shelved.

June 26

The Federal Council presents its report "Construction and Financing of the Public Transport Infrastructure" (FinöV) to the Swiss parliament. In addition to the NRLA, the investment program of 30 billion Swiss francs includes three other major public transport projects: Rail 2000, noise-abatement measures, and integration of Switzerland into the high-speed networks of its neighbour countries.

1997

January 30

The first exploratory bore has traversed the Piora Syncline at the level of the exploratory tunnel and encounters rock of the Gotthard massif to the north. At this point, the Piora syncline is 250 metres wide and consists of water-saturated sugary dolomite under high hydrological pressure.

February 1

With the groundbreaking ceremony for the exploratory tunnel at Sigirino, exploration of the geology under the Ceneri begins.

October 20

Following the resignation of the long-serving SBB head of the AlpTransit project, Peter Zuber, his responsibilities are temporarily taken over by his deputy, Peter Zbinden.

1998

March 20

The Swiss parliament approves the report "Construction and Financing of the Public Transport Infrastructure" (FinöV) with its modified construction programme and its financing concept. The total investment amount for all major projects is 30 billion Swiss francs. The NRLA project comprises the base tunnels under the Gotthard, Lötschberg, Ceneri and Zimmerberg, and a link from eastern Switzerland joining the Gotthard route near the Lake of Zurich. The projects will be financed to

55% from the heavy road vehicle tax, 19% from a 0.1 percentage point increase in value added tax, 10% from customs duties on fuels, and the rest from loans.

May 8

The exploratory work on the Piora syncline is complete. The results are a cause for optimism. At the level of the base tunnel, the rocks of the Piora syncline are solid, dense and dry, and can be excavated with a tunnel boring machine or by drilling and blasting.

May 12

AlpTransit Gotthard Ltd is established. It is created from the AlpTransit department of Swiss Federal Railways (SBB), which was formerly responsible for planning the Gotthard route of the NRLA. The company is a wholly owned subsidiary of SBB with share capital of 5 million Swiss francs. Peter Zbinden is appointed CEO.

September 27

In a national referendum, the distance-related heavy road vehicle tax (LSVA) is accepted. This opens up the possibility of improving the position of the railways in the transport market.

November 29

With a majority of 63.5%, Swiss voters accept the government proposals for the construction and financing of the public transport infrastructure.

1999

February 4

At Sedrun the first blast for sinking the 800-metres-deep main shaft takes place. The shaft will provide access to the tunnel-level construction site.

March 30

DETEC officially authorises the Gotthard Base Tunnel. The tendering process for the construction work on the Amsteg, Sedrun, Faido and Bodio sections can begin. The planning approval process for the northernmost Erstfeld section of the tunnel is still pending with DETEC.

November 4

On the construction site at Amsteg, first blasts are performed for driving the 1.8-kilometres-long access adit. These represent the official start of construction of the Gotthard Base Tunnel north of the Alps.

2000

March 1

At Sedrun, the shaft sinkers complete the 800-metres-deep main shaft down to the level of the future Gotthard Base Tunnel.

July 10

With a first blast at Bodio, construction work at the Ticino end also begins. As a first step, a 1.2-kilometres-long bypass tunnel is constructed.

2001

June 13

The first two major construction lots are awarded. A single consortium is awarded the contracts for construction of the 15-kilometres-long Bodio-Faido section as well as the 14-kilometres-long Faido-Sedrun section using tunnel boring machines. The contracts also include construction of the multifunction station at Faido.

August 30

At Bodio, excavation of the first kilometre of the 57-kilometres-long Gotthard Base Tunnel is completed.

2002

January 23

The first annual film about construction of the world's longest railway tunnel is presented to the public.

March 6

At Faido, following completion of the access adit down to the starting point, construction work on the multifunction station begins.

November 7

On the construction site at Bodio, the first tunnel boring machine starts driving through the 15 kilometres of rock to Faido.

2003

March 26

The Pollegio Visitor Centre at the south portal of the Gotthard Base Tunnel is opened. It contains an exhibition about the project and serves as the starting point for guided tours of the construction site.

May 27

On the north side of the Alps, the first tunnel boring machine starts driving from Amsteg. To reach Amsteg the main drive of the machine, which weighs 177 metric tons, is loaded onto a barge at Lucerne and shipped over Lake Lucerne to Flüelen.

June 26

At Sedrun, the boring machine, with a weight of 250 metric tons, intersects the second 800-metres-deep vertical shaft. This is at a distance of 32 metres from the main shaft and equipped with a lift system for the vertical transportation of heavy loads.

August 19

At Amsteg, the second tunnel boring machine also starts driving through the 11.4 kilometres of rock to Sedrun.

September 10

It becomes apparent that the assumptions underlying the financing concept that was decided in 1998 are too optimistic. As an immediate measure, the Federal Council proposes a further redimensioning of the NRLA: the projects for the Zimmerberg and Hirzel tunnels are shelved.

December 9

In Cologne, the Research Association for Underground Transportation Facilities (STUVA) awards its annual prize to the Swiss NRLA project. The project is praised for the innovative impetus it gives to the European transport network and tunnel construction worldwide.

2004

July 19

Work begins on the north portal of the Gotthard Base Tunnel at Erstfeld. Construction work is therefore now in progress on all five sections of the tunnel.

December 16

The two tunnel boring machines, Gabi I and Gabi II, have cut through half the distance between Amsteg and Sedrun. A total of more than 40% of the entire 153.4-kilometres-long tunnel system of the Gotthard Base Tunnel has been excavated.

2005

June 22

The Federal Council releases the authorised credit for construction of the Ceneri Base Tunnel.

July 20

Underground visits to the tunnel construction site at Faido are offered.

August 30

Half of the tunnel system of the Gotthard Base Tunnel has been excavated. To date, half of the work has been performed with tunnel boring machines and half by drilling and blasting.

September 21

In the Sedrun section, AlpTransit Gotthard Ltd uses a new technique of rock support for the first time. To counteract the enormous rock pressure in the Tavetsch Intermediate Massif, deformable steel rings are inserted. Thanks to the new technique, the constructionally difficult Tavetsch Intermediate Massif North can be sucessfully traversed.

2006

June 2

With the foundation-stone laying ceremony at Camorino, south of Bellinzona, construction work for the Ceneri Base Tunnel officially begins. Together with the Gotthard Base Tunnel, the 15.4-kilometres-long Ceneri Base Tunnel between Camorino and Vezia, near Lugano, will create the future flat rail route through the Alps.

June 6
First breakthrough by a tunnel boring machine in the Gotthard Base Tunnel: just under four years after starting out from Bodio, the tunnel boring machine reaches the multifunction station at Faido. The breakthrough takes place with a minimal horizontal deviation of 5 cm and a vertical deviation of slightly under 2 cm.

2007

March 29

Change in the top management of AlpTransit Gotthard Ltd: CEO Peter Zbinden retires after 15 years of commitment to the NRLA project. His successor as CEO is civil engineer Dr. Renzo Simoni, a graduate of the Swiss Federal Institute of Technology (ETH), Zurich.

September 11

At Sigirino, first blasts for the access adit mark the start of excavation work for the Ceneri Base Tunnel.

October 17

Breakthrough between Sedrun and Amsteg: breakthrough in the west tunnel of the Gotthard Base Tunnel takes place nine months earlier than planned.

December 4

On Saint Barbara's Day, the patron saint of miners, tunnel driving begins in the Gotthard Base Tunnel at Erstfeld. Driving will be done with the two overhauled tunnel boring machines that already cut the Amsteg section.

2008

March 14

The Gotthard Base Tunnel information and visitor centre by the north portal at Erstfeld is opened. Similar to the visitor centres at Sedrun and Pollegio, it informs the interested public about the NRLA project.

April 29

The work contract for the railway infrastructure systems is signed in Lucerne. It covers the implementation planning and installation of the railway infrastructure systems in the Gotthard Base Tunnel as well as on the approach routes of the existing railway network. The contract for 1.69 billion Swiss francs is the largest construction lot awarded by AlpTransit Gotthard Ltd.

September 16

For implementation of the NRLA, the Swiss parliament authorises a total credit of 19.1 billion Swiss francs (price level 1998, excluding inflation, value added tax and construction interest costs). Of this

amount, 13.157 billion Swiss francs are for the Gotthard and Ceneri base tunnels of the Gotthard route. The financing gap that has existed since 2004 is thereby closed.

October 15

In the east tunnel of the Gotthard Base Tunnel, the geologically challenging zone of the Piora syncline is completely cut through and thereby mastered for the first time.

2009

February 3

The Piora syncline is also successfully mastered in the west tunnel of the Gotthard Base Tunnel.

May 18

First work for installation of the railway infrastructure systems of the Gotthard Base Tunnel starts at Biasca.

June 11

The main lot for the Ceneri tunnel is awarded. It covers driving the two 11.5-kilometres-long single-track tunnels of the Ceneri Base Tunnel from the intermediate heading at Sigirino.

June 16

Breakthrough is achieved between Erstfeld and Amsteg. With horizontal and vertical deviations of less than 1 centimetre, the second-to-last breakthrough in the Gotthard Base Tunnel is achieved with very high accuracy.

December 18

In both tunnels between Amsteg and Sedrun, and in the west tunnel between Bodio and Faido, the concrete shell construction is complete. More than 40 kilometres, or over one third, of the Gotthard Base Tunnel are ready for installation of the railway infrastructure systems.

2010

March 10

An official first blast at Sigirino marks the start of the main driving work for the Ceneri Base Tunnel. The two tunnels, each running both north and south, will be excavated from the installations cavern at Sigirino.

April 12

At the future south portal of the Ceneri Base Tunnel in Vezia, blast-driving to the north begins.

June 25

At the south portal of the Gotthard Base Tunnel, installation of the railway infrastructure systems begins in the west tunnel between Bodio and Faido. By 2012, the 16-kilometres-long section will be completely equipped with railway infrastructure systems which include the railway track, catenary, electric power supply, telecommunications and safety systems.

October 15

World record under the Gotthard: the first final breakthrough takes place between Sedrun and Faido. The entire 57 kilometres length of the Gotthard Base Tunnel has been completely cut in the east tunnel.

2010-2017

Installation and test operation of the railway infrastructure systems.

2017

Scheduled opening of the Gotthard Base Tunnel for commercial operations.

2019

Scheduled opening of the Ceneri Base Tunnel for commercial operations.