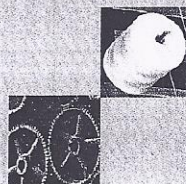


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St. Gotthard Railway Line and its Transport Route
Predecessors – A Feasibility Study for a UNESCO
World Heritage Site

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INTRODUCTION

In 2008 the Albula- and Bernina Railway Line in Switzerland line became a UNESCO World Heritage Site. In the same year the cantons of Uri, Ticino and Swiss Federal Railways started a feasibility study whether the St. Gotthard railway line could be a world heritage site, too.¹

The committee came to the conclusion that the St. Gotthard Railway Line and its transport route predecessors may qualify.² The committee proposed complementing the railway line with the preindustrial transport routes from the 1300s up to the building of the railway line. The comparison with the alpine railways Albula-Bernina and the Semmering show that these three railway lines are different projects each with a very specific meaning. The Albula- and Bernina Railway Line is an outstanding project of transport history which shows in an exemplary way the use of the railway to overcome the isolation of settlements in the Central Alps early in the 20th century, with a major and lasting socio-economic impact on life in the mountains. The Semmering Railway Line is the first railway line of the world crossing a mountain range by tunnel and gaining altitude by a meandering layout of the line. The St. Gotthard Railway Line and its transport predecessors are standing for an international transport route connecting Germany and Italy which is operated by Switzerland. The railway line itself stands for the most difficult transalpine railway line which was realized in the railway age until World War I.³ The longest tunnel and the access routes to the main tunnel with their helical tunnels are outstanding and unique infrastructures whose monuments still can be seen today. The Gotthard transit landscape also includes preindustrial transport routes which are well preserved at specific places. St. Gotthard Railway Line stood and still stands for a Swiss service for Europe.

OUTSTANDING UNIVERSAL VALUE

The transit landscape St. Gotthard consists of a unique succession of a long cultural and technological development which is closely connected with the national identity of Switzerland. It encompasses a period of 800 years from 1200 up to now. It exemplifies a unique interdependency of a cultural development within a natural landscape. Relevant parts of this succession of the alpine transit landscape are still visible. But these layers are witnesses of a completed development. The mule track from the 13th century is history since the opening of the road in 1830. The transalpine highway opened in 1980 and succeeded the road which was modernized up to then.

The planned start of operation of the railway base tunnel in 2017, which again will be the longest railway tunnel of the world, follows the first railway line opened in 1882. The historical railway line, the remains of the first road and the mule path with their accompanying infrastructure buildings are history and monuments of outstanding universal value and should be protected, preserved and validated.

There are transalpine crossings which date back to the Romans such as the Brenner, the Reschen and the Great St. Bernhard Pass. The Brenner Pass even does encompass a complete succession of all means of transportation from Roman times up to the highway including a planned railway base tunnel. Since the integration of Tyrol in the Habsburg Empire in the 14th century it lacks the connection of fostering a political identity. In addition it does not feature a succession of relevant historical remains from all transportation periods. In the late Middle Ages the valleys Uri and Schwyz were directly subordinated to the German Emperor. He intended to have a direct influence on the St. Gotthard pass and did not implement a reeve such as the Habsburg family, the most powerful rulers in the region at that time. In connection with the surrounding allied towns such as Lucerne, Zug, Zürich the Schwyz and Uri valley on the Gotthard Pass could form a confederation with a sense of identity which came into existence as early as in the 15th century.⁴ The running and the protection of the St. Gotthard pass was an important economic and political backbone developing a "Swiss" identity. The intention to control the Gotthard pass was supported by the lack of interest of the German Emperor and the Habsburg family. For them it was a pass of secondary importance. The German ruler preferred the easier Brenner Pass; the Habsburg family concentrated its interest on its growing main land in the east of Europe. In the second part of the 19th century Switzerland was surrounded by large nation states such as the German Empire, France, the Kingdom of Italy, and the Austrian-Hungarian Empire. The railway line through neutral Switzerland was in the interest of Germany and Italy. Switzerland got the function of a neutral transport service provider through the Alps. The St. Gotthard Railway Line, opened in 1882, very quickly became the most important transalpine crossing and the economic and political backbone of the Swiss Federal State founded in 1848. At the end of the 19th century Switzerland began to call itself the "Gotthard State".⁵ Together with the banking system the railway transit line was the most important trump card in World War II not being occupied by the Axis Powers.⁶ In order to hinder occupation the Swiss army heavily fortified

the Gotthard massif. Already few years after the opening of the railway line the Swiss army had started to build fortifications securing the railway line. The first fortification was built in 1888 near the southern tunnel portal in Airolo. Since the erection of the first fortification many such buildings followed. Each stands for a technological development. The latest fortifications built in the 1960s were constructed to withstand a presumable atomic attack.

From a technical point of view the railway line can claim several records such as having had the longest tunnel of the world (15 km) and an outstanding example of the construction of the railway ramps connecting the tunnel with the Swiss railway network. By the means of several helical tunnels the railway line could gain the necessary height reaching the main tunnel on the height of 1100 m above sea level. Other outstanding cultural highlights are the road from 1830 through the Tremola Gorge on the southern slope of the Gotthard Pass, the remains of the mule path and the 1830s road through the Schöllenen Gorge on the northern slope of the pass which was first crossed in length in the 13th century.

AUTHENTICITY AND INTEGRITY

The opening of the railway tunnel in 1882 from Göschenen to Airolo changed the transit landscape on a large scale. On the one hand the railway line was inspired but did not follow the mule path and the road. On the other hand the landscape and the transportation infrastructure between Göschenen and Airolo with the Pass on 2106 m above sea level were downgraded to local importance. The highway tunnel was built at the same place than the railway tunnel in 1980. It means that relevant parts of the mule path with its infrastructure or its remains still can be seen on the pass route between Göschenen and Airolo. There are bridges, churches, hospices and relevant parts of the path itself which were preserved. In the valleys north and south of Göschenen and Airolo the mule path mostly disappeared. It was superimposed by the 1830s road which was built on top of the mule path. Only some hospices, churches, bridges which were built in connection with the mule path still exist. The 1830s road was modernized in the 1980s. Little historical structure has been left on both slopes to Göschenen and Airolo. Only the way it is integrated in the landscape is still historical. Between Göschenen and Airolo many parts of the 1830s road is still in existence. After World War II a new road over the pass was built which did not follow the 1830s road. It means that there still are unpaved parts of the 1830s and cobble stone road from the first half of the 20th century.

Because the 1830s road between Göschenen and Airolo did not follow the mule path either, relevant parts still exist, too.

The railway line with its technical development is well preserved. It shows the original integration in the landscape of the 19th century. Tunnels, walls, avalanche protection infrastructures, railway stations, railway guard houses are mostly well preserved. This succession of the infrastructure exemplifies the railway as a machine laid out in the landscape.⁷ On this 19th century layer, as it is typical for a technical monument such as railways, several layers of a historical development can be observed.⁸ In the 1920s the line was electrified. Water power plants, overhead installations for the traction system, building for the transformation of the electric current, maintenance building for the underground telephone system were added. Between 1920 and 1970 steel bridges were changed in concrete arched bridges. After World War II the running of the line was automatized. All these measures allowed transporting a multiple of goods and people than in the 19th century. It shows that the line built in the 19th century was planned farsighted.

POTENTIAL

With the opening of the base tunnel in 2017 the first railway line will signify a completed historical development. Nevertheless the line will be kept in operation. The need of modernization will diminish strongly. It will serve Göschenen and Airolo and will be kept in running condition for the maintenance of the base tunnel. Dangerous goods will not be allowed to be transported through the new tunnel with its length of 57 km. The maintenance of the avalanche protection infrastructure will be continued because they also serve the road, the highway and the villages. A UNESCO World heritage site would help to develop the valleys as touristic sites because they loose part of their transit economy.

CHALLENGES

In 2008/2009 the committee "Transit landscape St. Gotthard" consisting of the cantons Uri, Tessin and Swiss Federal Railways assessed in a study of feasibility that it is worthwhile applying for a World Heritage Site. The Swiss federal government, represented by the Federal Office of Culture, also agrees with this conclusion but decided to wait putting the transit landscape on the Tentative List until 2014. The Federal government does not want to add sites on the list during its presence in the World

Heritage Committee. In addition the Federal Government asks Swiss Federal Railways to develop the way the railway line shall be used and simplified after the opening of the base tunnel. These possible simplifications of the infrastructure should not damage its historical value. In the meantime the cantons Uri and Tessin are obliged to implement space planning measures assuring the integrity the historical monument within the transit landscape. All these terms and conditions do no question the quality of the unique transit landscape. At the moment it lacks a leader who precedes the projects such as Rhaetian Railways did with the application of the Albula-Bernina line as a UNESCO World Heritage Site. Maybe there is a possibility finding a leading organization within the initiative San Gottardo 2020 developing the region as a touristic hot spot by the four cantons Uri, Tessin, Wallis, Graubünden engaged in.

¹ Kilian T. Elsasser. Ist die Gotthard-Bergstrecke ein Weltkulturerbe? *Industriekultur* 1/2007

² Rolf Höhmann. Internationales Vergleichsgutachten Kandidatur UNESCO-Weltkulturerbe Verkehrswege Gotthard, San Gottardo Via delle Genti, Darmstadt, 2008 (inedited)

³ ViaStoria and Kilian T. Elsasser. Der direkte Weg in den Süden. Bau und Betrieb der Gotthardbahn. Zürich, 2007

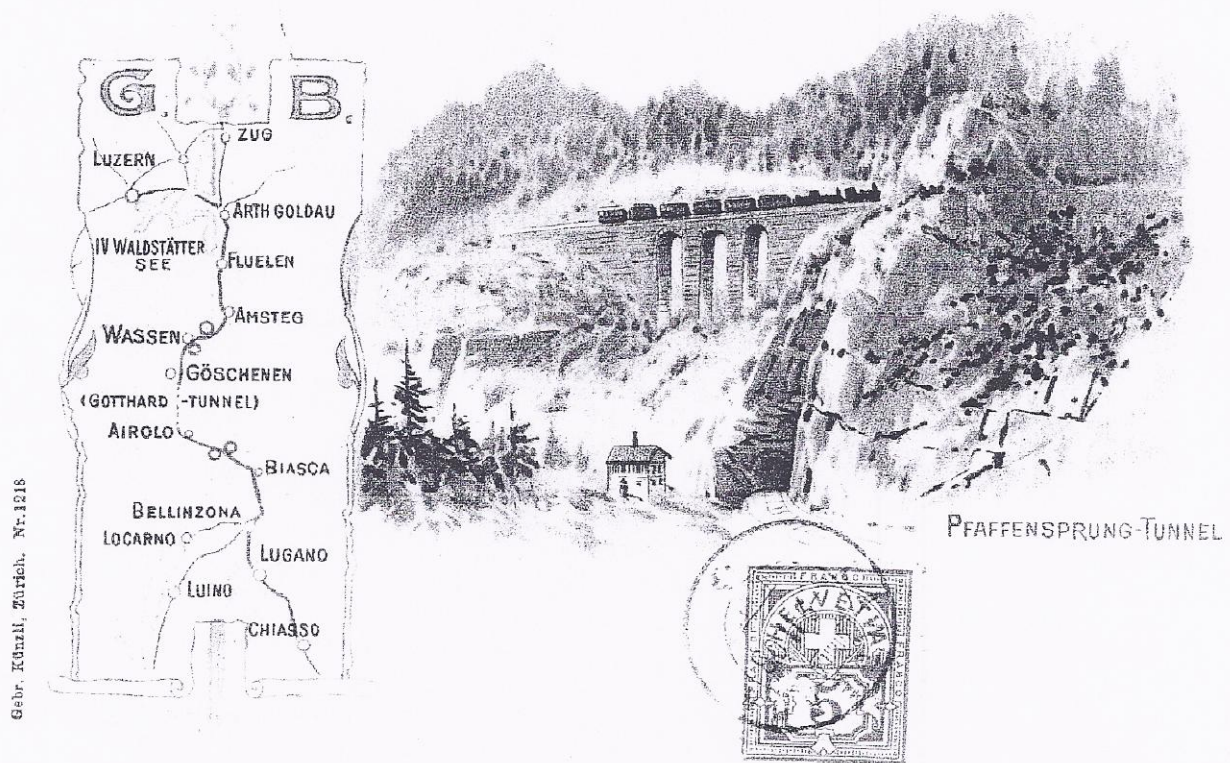
⁴ Roger Sablonier. Schweizer Eidgenossenschaft im 15. Jahrhundert. Staatlichkeit, Politik und Selbstverständnis, In: Josef Wiget (ed.) Die Entstehung der Schweiz. Schwyz, 1999

⁵ Guy P. Marchal and Aram Mattioli. Nationale Identität – allzu Bekanntes in neuem Licht, in: Guy P. Marchal and Aram Mattioli (ed.). Erfundene Schweiz Konstruktionen nationaler Identität. Luzern, 1992

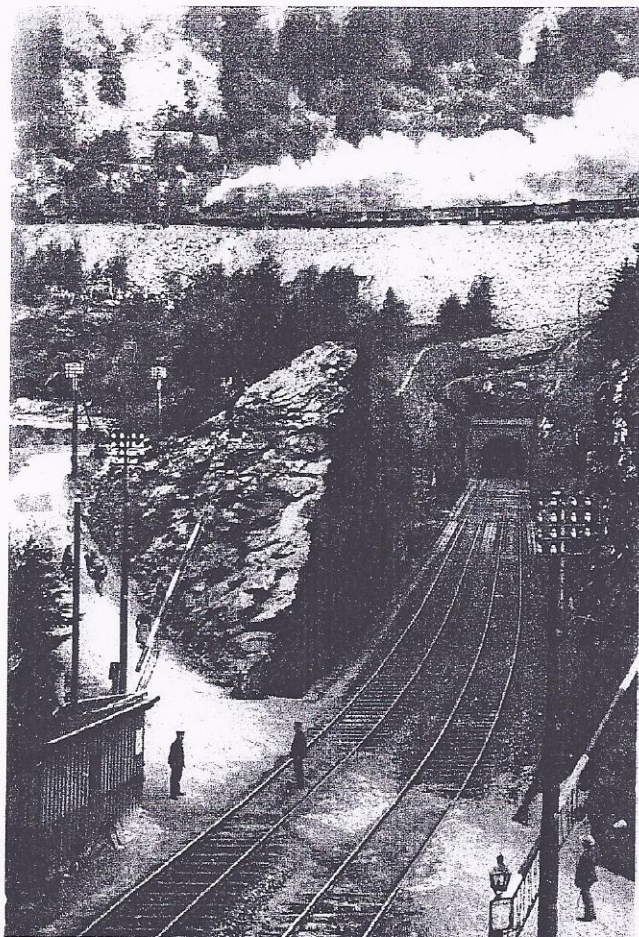
⁶ S. p. 230–242. Mario König und Bettina Zeugin. Die Schweiz, der Nationalismus und der Zweite Weltkrieg. Schlussbericht der Unabhängigen Expertenkommission Schweiz – Zweiter Weltkrieg. Zürich, 2002

⁷ Kilian T. Elsasser and Toni Häfliger. Verkehrslandschaft Gotthard, In: Werk, Bauen, Wohnen. 09, 2010

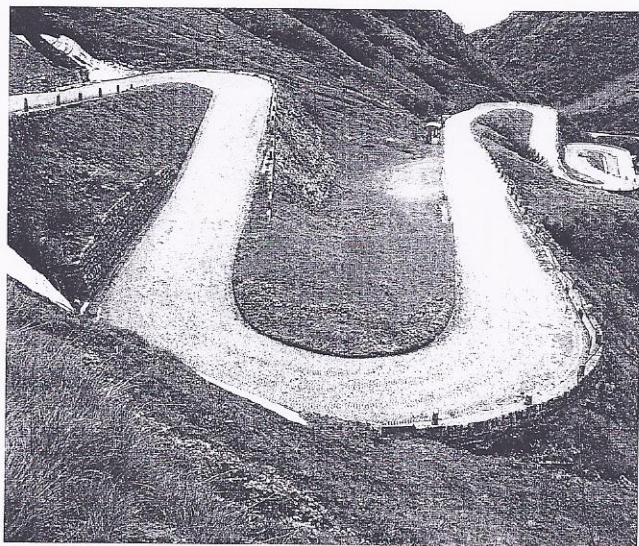
⁸ ICOMOS, Railway World Heritage Site Project, Summary Paper by Anthony Coulls, Institute of Railway Studies, National Railway Museum, York, November 1997.



The Gotthard railway line was planned as an international line connecting Germany and Italy. The section from Erstfeld to Biasca shall become a UNESCO World Heritage site. It is the part of the line where the railway line starts to climb to the tunnel with its helical tunnels. (photo: Roland Arnet)



With the Freggio helical tunnel on the southern slope the railway line gains around 80 m in height. The picture from around 1900 also shows the 1830s road in the foreground. (photo: Roland Arnet)



The impressive road was built through the Tremola gorge from Airolo to the Gotthard pass on the southern side of the pass. The cobble stone were added in the first half of the 20th. (photo: Kilian T. Elsasser)



The mule track from Hospental to the Gotthard pass on the northern side still had little impact on the landscape. Comparing with the Brenner Pass (1400 meter above sea level) it can be seen that passing the Gotthard with a height of 2100 meter was a challenge. (photo: Kilian T. Elsasser)