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Planning and Constructing the Autobahn Network in Germany during the Nazi-Period: Styles and Strategies*)

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The planning and constructing of the *Autobahn* network in Germany during the Nazi period of 1933 to 1945 has not been pursued with a uniform style or strategy. In this context, this paper identifies different styles and, sometimes even inconsistent, strategies.

For our study, we explored the journal “Die Strasse” (The Road) from the years 1934 to 1939 in the library of the University of Karlsruhe. This journal was edited by Todt, the head of the German *Autobahn* project. This journal was the leading one on the subject of road construction and motorized transport in the years 1934 till 1939.¹ But this journal not only presented sound scientific papers on road building, traffic and transport history, but also contained a curious mixture of obtrusive NS-propaganda.

In addition, we evaluated the journal “Die *Autobahn*” which preceded “Die Strasse,” and can be found in the library of the University of Hannover. Since 1932, the HAFRABA newsletter² was entitled “Die *Autobahn*” and was issued 12 times per year. In 1933, the editors of the newsletter switched political support to Hitler, since he was the most important promoter of the *Autobahn* idea. The July edition in 1933 showed Hitler on the front page. In the year 1934, the number of issues nearly doubled from 12 to 22. When on 18 August 1933 the HAFRABA association was compulsorily dissolved and incorporated into the project company GEZUVOR - *Gesellschaft zur Vorbereitung des Reichsautobahnbaus* (Company for the Preparation of *Autobahn* Construction)³ the GEZUVOR became the editor of “Die *Autobahn*”. The chief editor of “Die *Autobahn*”, Kaftan, remained in his function until the end of the year 1934.⁴ Then publishing was stopped and the head of the *Autobahn* project, Todt, published his own journal “Die Strasse” with 24 issues per year and a reduced number of issues between 1940 and 1942. This journal started publishing by August 1934 so that for the remaining months of 1934, both journals, “Die Strasse” and “Die *Autobahn*”, appeared simultaneously. Since the year 1935,

¹ An index of the contents of the issues of the journals “Die Strasse”, “Die *Autobahn*” and “Hafraba Mitteilungsblatt” can be found on my web site:
www.ibwl.uni-kassel.de/vahrenkamp/history_mobility/history_mobility.htm

² For the HAFRABA and further research on the *Autobahn* project see my book: Auto-Mobilität - Die Hafraba und der Bau der Autobahnen in Hessen 1933 - 1943, Darmstadt 2007

³ Die *Autobahn*, issue 9, 1933, p. 7-9

⁴ In Todt’s journal “Die Strasse” Kaftan had no influence furthermore. Only once, at the opening of the first *Autobahn* route from Frankfurt a.M. to Darmstadt in May 1935, he was allowed to publish a retrospect: „Hafraba“ – Ein Rückblick, in: Die Strasse, issue 9, 1935, p. 321s. This was the only time when the HAFRABA project was mentioned in Todt’s journal. Kaftan published his memoirs about the *Autobahn* project in 1955: Kaftan, K.: Der Kampf um die Autobahnen, Berlin 1955

the title “Die Autobahn” also appeared as a subtitle on the front pages of “Die Strasse”. The evaluation of the journals mentioned is supplemented by research in various archives.

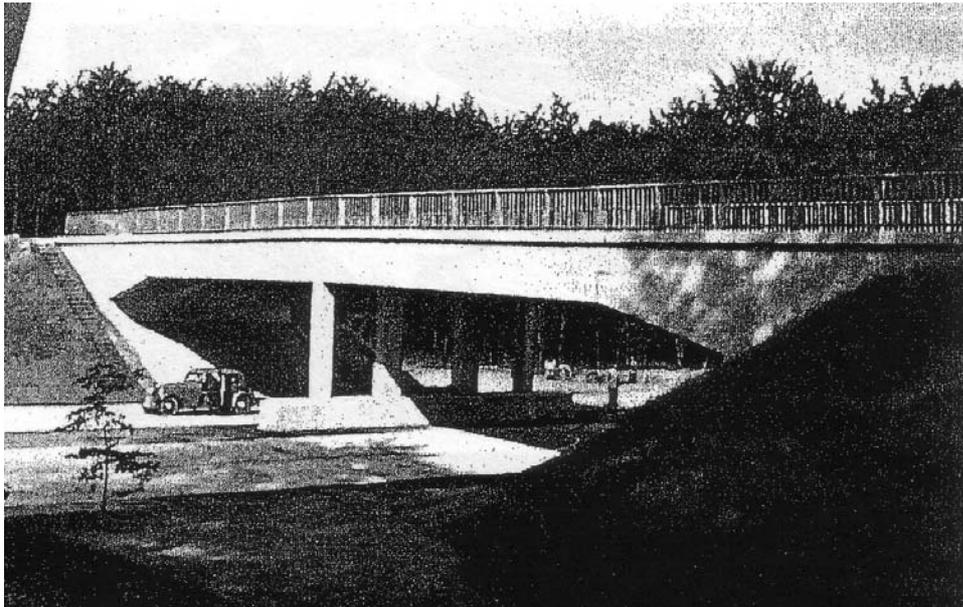
1. Styles

1.1

When the Nazis started the *Autobahn* project in September 1933, they relied on blueprints of the forerunners of the *Autobahn* project, the Society for the Promotion of the Hamburg-Frankfurt-Basel *Autobahn* (HAFRABA). To start without delay, the Nazis took the engineering design of the HAFRABA without great changes.⁵ The *Autobahn* was built as straight lines in a raw engineering approach. Bridges crossing the *Autobahn* were constructed in a functional manner without any attempt to realize some principles of an aesthetic design. The following picture 1 depicts such a bridge.⁶

⁵ See the file Autostrasse Hamburg – Frankfurt – Basel 1930-1934, MA6289, Institut für Stadtgeschichte Frankfurt(Main), and Kreuzer, B.: Tempo 130 – Kultur- und Planungsgeschichte der Autobahnen in Oberösterreich, Linz 2005, p. 30

⁶ From: Bauwerke der Reichsautobahn Darmstadt – Mannheim, in: Die Strasse, 1935, p. 748



Picture 1: Functional bridge crossing the Autobahn Darmstadt - Mannheim

Following the early HAFRABA blueprints also meant that the modern *Autobahn* followed the old layout of the railway dating back to 1850:⁷ a direct link between the cities of Heidelberg and Mannheim and, in the middle of this link, a junction with the line to Darmstadt, which was directed in the middle of the land strip to the right of the Rhine valley.

1.2

Later in the planning, different routes were designed to include the principles of landscaping. These routes are:

- Frankfurt a.M. – Kassel,
- Karlsruhe – Stuttgart, and especially
- Munich – Salzburg

The *Autobahn* was perceived as a modern transportation network and the design was supposed to express this view. So the *Autobahn* was meant to contrast with the nearly one hundred-year-old railways. Unlike railway lines, which cut through hills or crossed valleys on raised dams and which therefore stand out from the landscape as technical constructions, the principle of landscape aesthetics demanded that *Autobahns* should be adapted to the landscape. The head of the German *Autobahn* project, Todt, developed together with the Munich landscape architect Seifert, the

⁷ Reichsverkehrsministerium (Ed.): Hundert Jahre deutsche Eisenbahnen, 2nd edition, 1938, p. 32

concept of landscaping and tried to implement it into the *Autobahn* project. In his careful study, Zeller showed that Todt adopted his concept of landscape aesthetics from the parkways in the USA.⁸ Already in his first letter to Seifert, Todt formulated the principle that the road of the *Autobahn* should not appear inside the landscape like an embankment of a railway.⁹ In the 1920s, the conservation movement criticized the layout of the railway network designed 70 years ago. At Lake Starnberg the railway took a course close to the shore, so that the public had no access to it.¹⁰ In a letter dated 12 April 1936, Seifert criticized the restrictions the railway put on the shore of Lake Constance.¹¹

The idea of landscape aesthetics was so highly developed that *Autobahn* sections hugged valleys and mountains with many narrow curves. In numerous contributions in the nazi press and in the literature this adoption of the line to the hills is connected to the concept of “swinging lines” (cf. picture 5). But this view is simplified. Controversy and disagreement between Todt and Seifert lasted for many years, with Todt preferring lines with 4 km-long parts of straight lines and Seifert the swinging lines.¹²

Furthermore, the principle of landscape aesthetics demanded that *Autobahns* were also laid over countless summits with gradients of up to 8%. This gradient of 8% is all the more surprising as Todt – the leader of the *Autobahn* project who exercised dictatorial power – made the decree on 12 December 1933 to the *Reichsautobahn* Company, “Guidelines for *Autobahn* Planning”,¹³ and stated that gradients of 5% or more should be avoided as much as possible. Some months later Todt changed his mind and admitted gradients of more than 5% in routes leading through hills, on the

⁸ Thomas Zeller: *Straße, Bahn, Panorama – Verkehrswege und Landschaftsveränderung in Deutschland 1930 bis 1990 (Street, Railway and Panorama – Traffic Tracks and Change in Landscape)*, Diss. München, Campus Verlag, Frankfurt 2002,

⁹ Letter on 23 November 1933, Archiv des Deutschen Museums, München, Seifert Nachlass, NL 133/056

¹⁰ Wolfgang Pusch. „Die „Entdeckung“ des Würm- oder Starnberger Sees und die Folgen“, in: *Landpartie. Museen rund um München*, herausgegeben von Landpartie, Munich 2002, p. 180-199, here p. 189.

¹¹ Bundesarchiv, Vol. NS26/1188

¹² See Todt's decree on 12 December 1933 on the principles of construction, in: Bundesarchiv R 4601, Vol. 5001 and A. Seifert: *Schlängelung?*, in: *Die Strasse*, issue 18, 1936, p. 582f

¹³ in: Bundesarchiv Berlin R 4601, vol. 1263, p. 65-70

grounds that passengers in the cars could get an impression of the beauty of the landscape.¹⁴

However, steep gradients on hills significantly reduced the effortless and risk-free practicability of the *Autobahn* for automobiles. In the section Frankfurt a.M.-Kassel the *Autobahn* term "Kassel hills" was born – mountains that are still feared by motorists today, especially in winter. Truck drivers on the section Göttingen-Bad Hersfeld who wish to avoid the Kassel hills still use the road B27 along the rivers Werra and Fulda – which raises justified doubts about the sense of the routing in terms of traffic engineering. The Rimberg¹⁵ service station on the *Autobahn* Frankfurt a.M. – Kassel was located at the top of a mountain, providing a wonderfully panoramic view – but at the price of a steep ascent that represents a grave threat to road safety. The service station is located 500 meters above sea level, the highest point of the road in Hesse, and the ascent is especially hazardous in winter. On the other hand, it would have been easy to bypass the Rimberg by laying this section of the road 500 meters further to the east, which shows the special orientation of planning observation points.

The bridges of the *Autobahn* project were a special aspect upon which the Nazis wished to express their power and their plans for a long-lasting empire. Monumental *Autobahn* bridges¹⁶ were embedded in the concept of landscape aesthetics¹⁷ and

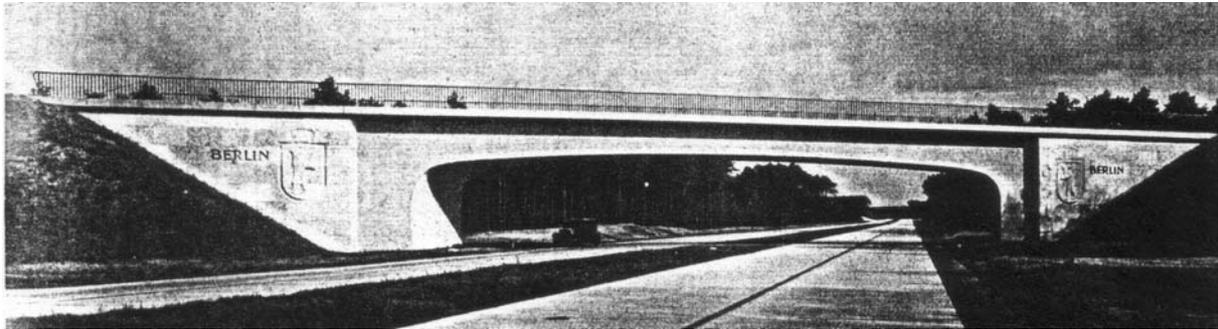
¹⁴ Letter of Todt to Gesellschaft Reichsautobahn on 20 February 1934, in: Thüringisches Hauptstaatsarchiv Weimar, C234, p. 24

¹⁵ The service station has already been planned in 1935, but only built in 1949, see Bundesminister für Verkehr (Hersg.): HAFRABA – BundesAutobahnen Hansestädte – Frankfurt – Basel, Bau Verlag, Wiesbaden and Berlin 1962, p. 123

¹⁶ See Karl Schaechterle: Die Gestaltung der Wegüberführungen über die Reichsautobahn, in: Die Strasse, issue 8, 1934, p. 239s. Further: numbers 8 and 23 of the journal "Die Strasse," published by Todt, volume 1935, that focussed on *Autobahn* bridges, as well as numbers from later years. Further: *Ernst Vollbehr*: Arbeitsschlacht (Battle of Labor) – Fünf Jahre Malfahrten auf den Bauplätzen der „Strassen Adolf Hitlers“, 2nd edition, Berlin 1938. Vollbehr was a comrade of Todt during World War I and in 1933 was hired by him to follow the construction of the *Autobahn* as a painter, whereby he understood *Autobahn* construction as a battle in a war, as Vollbehr wrote in the introduction. Of the 40 4-colour paintings reproduced in his book, 31 deal with bridges. In a strong contrast to the theme "Battle of Labor" his pictures are peculiarly empty of people. Workers are hardly visible, if at all. In terms of its print run, the book enjoyed a wide circulation, as up to 50,000 copies were printed in the second edition in 1938. A study of the bridges was made by R. *Stommer*: Triumph der Technik –Autobahnbrücken zwischen Ingenieuraufgabe und Kulturdenkmal, in: R. *Stommer* (Ed.): Reichsautobahnen – Pyramiden des Dritten Reiches, Marburg 1982. See also the study on bridges in E. Schütz und E. Gruber, Mythos Reichsautobahn, Berlin 1996, 2nd edition 2000.

¹⁷ Also in the USA bridges played a role in the parkways. See the ornaments of Jugendstil at the bridges of the Merrit Parkway, in: Bruce RADDE: The Merrit Parkway, Yale University Press 1996

were supposed to stand out as symbols of eternity, thus increasing the prestige of the Third Reich.¹⁸ Picture 2 depicts a bridge crossing the Berlin *Autobahn* circle.¹⁹



Picture 2: Bridge crossing the *Autobahn* circle Berlin

In this regard, it is hard to avoid the impression that monumentality was imposed with no regard for construction costs. Landscape aesthetics and monumentality were prime goals that took priority over economic efficiency and safe driving. But ironically, the monumental aspect of the bridges hid some severe technical defects in the construction of the bridges, which have been discovered by researchers in later times.²⁰ The Nazis had speeded up the construction of the bridges at the expense of their stability and of road safety to cope with the goal set up by their propaganda to complete 1000 km *Autobahn* every year from 1936 on.

However, *Autobahn* bridges had to be different from bridges used in the railway network to underline the modernity of the concept of the *Autobahn* and the deep rivalry between *Autobahn* and railway. In the first period of railway building in the 19th century, bridges were constructed out of stones and concrete in the form of the stone arch viaducts. But after 1880, the time where steel became a relatively cheap material, the railway bridges were mostly constructed out of rods of steel enabling a

¹⁸ The monument aspect was emphasised several times. In 1934 the GEZUVOR (society to prepare the *Autobahn*) section head *Becker* provided some unintentional comedy when he compared the construction of the *Autobahns* with that of the pyramids in Egypt, see *Becker*: "Von der HAFRABA zur Reichsautobahn" in: *Kasseler Post* on 18th March 1934, p. 3 (Universitätsbibliothek Kassel, Hessischer Lesesaal). At the inaugural ceremony of a section near Dresden on 26th June 1937, Hitler said that the *Autobahn* would still be standing in a thousand years, see *Kasseler Post*, 27th of June 1937, Stadtarchiv Kassel.

¹⁹ Usinger, Carl: *Der Berliner Ring der Reichsautobahn*, in: *Die Strasse*, issue 6, 1937, after p. 148

²⁰ The bridge Wommen in the section Bad Hersfeld-Erfurt had sunk down in the ground by 10 cm and had to be reinforced with concrete after the reunification of Germany in the 90s. I owe this hint to my colleague Wolfgang Jäger, Münster. The bridge over the river Werra at Hannover'sch Münden in the section Göttingen-Kassel did not smooth the steep ascent to the hill at the end of the bridge, so that buses touched down the street with their body.

greater span (trussed girder bridges and arches through bridges). And passing the rods, the passenger in a railway wagon can realize that he is crossing a bridge, cf. picture 3.



Picture 3: The Railway Bridge crossing the River Rhine in Cologne in 1910²¹

The modern concept of *Autobahn* bridges that the Nazis had implemented is a construction with steel girders crossing a valley.²² The driver does not realize that he crosses a bridge and he has the impression of flying over a valley, cf. picture 4.

²¹ Archive of Deutsches Museum Munich, image no. 10283

²² Schaechterle: Reichsautobahnen und Stahlbrückenbau, in: Die Autobahn, issue 19, 1934, p.909-911



Picture 4: Bridge Crossing Valley Aula close to Bad Hersfeld²³

This feeling of flight was expressed by the bridge architect Paul Bonatz,²⁴ who wrote seven articles for Todt's journal. But the use of steel girder bridges was stopped at the beginning of the armament period, 1936-1939, to save the scarce steel and bridge designers returned to the form of the stone arch viaducts.²⁵

However, to construct monumental bridges is not a uniform principle, even in sections which are directed at the principle of landscaping. In the section Frankfurt a.M. – Kassel, one sees many bridges constructed in a functional manner.

The most famous example of adopting the *Autobahn* to the landscape and to include touristic highlights is the *Autobahn* section Munich – Salzburg via Lake Chiem – a topic about which numerous articles were published in the Nazi press.²⁶ Not much research has been carried out on this topic until now.²⁷ To adopt this route into the

²³ Helmut Woite: Brücken der Reichsautobahn Göttingen-Kassel-Bad Hersfeld, in: *Die Strasse*, issue 15, 1939, p. 483

²⁴ Dr. Todt und seine Reichsautobahnen, in: *Die Baukunst*, March 1942, p.51, cited according to *Franz Seidler*: Fritz Todt, Bublies Verlag, Beltheim-Schnellbach 2000, p. 112

²⁵ Schaper, Gottwalt: *Stahlsparende Baustoffe und Bauweisen im Sinne des Vierjahresplans*, in: *Die Strasse*, p. 465-568, issue 16, 1937

²⁶ Todt's journal "Die Strasse" reported 36 times between 1934 and 1938 on the *Autobahn* Munich - Salzburg. The preceding journal "Die Autobahn" had reported 7 times on this subject between 1933 and 1934. See also *Reichsautobahn München - Salzburg*, Berlin 1936, publisher Volk und Reich

²⁷ See my paper: *Automobil Tourism and Political Propaganda – Constructing the Munich – Salzburg Autobahn 1933-1939*, in: *Journal of Transport History*, Vol. 27, issue 2, Manchester University

landscape, Todt made special efforts toward the route Munich – Salzburg. For the first time in the *Autobahn* project, he hired the landscape architect Alwin Seifert who already shared Todt's views (see above).

In the plans of the Munich – Salzburg route, one can identify the strategy to combine the following tourist highlights on which Woerner already gave an outline as early as September 1933:²⁸

- To make the recreational areas Lake Tegern, Lake Schlier, Lake Seeham and Bayrisch Zell accessible, the southern route was chosen via Holzkirchen instead of the northern route via Grafing. So the length of section Munich-Salzburg increased by 20 km from 102 km to 122 km.
- The Munich-Salzburg *Autobahn* runs over the bridge spanning the river Mangfall²⁹ and provides a view of the church at Weyarn with the world-famous Annunciation group by Ignaz Günther.
- Ascent from the Leizach valley on the hill Irschen giving a tremendous view of the Alps.
- On the Hill Hüttenkirchen a wonderful panoramic view of Lake Chiem.
- To bypass the moor in the south, the route is closely directed at the southern shore of Lake Chiem resulting in panoramic views over the lake.
- Nearby Salzburg the route is directed south to reach the tourist destination Bad Reichenhall.

Seifert described this *Autobahn* route in the following enthusiastic words: “The increase of the beauty of the landscape on the route from Munich to Lake Chiem, which seemingly could not be surpassed, is summarized in the view of the endless expanse, reminding one of the pictures of Adalbert Stifter”.³⁰ The following picture 5 shows this panoramic view from the *Autobahn* over the expanse to the Alps at Rosenheim.

Press, 2006 and my paper: Die Chiemsee-Autobahn. Planungsgeschichte und Bau der Autobahn München – Salzburg 1933-1938, in: Oberbayerisches Archiv, Vol. 130, 2006

²⁸ Woerner, Anton: Die Reichsautobahn München – Salzburg, in: Die Autobahn, issue 9, 1933, p. 10-12. On the tourist aspects of the *Autobahn* project see my paper: Automobile tourism and political propaganda - constructing the Munich – Salzburg *Autobahn* 1933 – 39, in: Journal of Transport History, Vol. 27, issue 2, 2006

²⁹ There have been many reports on the construction of the bridge in the journal Die Autobahn.

³⁰ Seifert, Alwin: Die landschaftliche Eingliederung der Strecke, in: Die Strasse, 1935, issue 12, p. 446s.



Picture 5: View over the expanse to the Alps at Rosenheim³¹

Hitler had a strong preference for the Munich – Salzburg route because he had his country estate “Haus Wachenfeld” in the county Berchtesgaden, close to Salzburg. This estate itself developed into a significant tourist destination,³² with Hitler personally involved in the planning process, and - as the Bavarian section of the *Autobahn* project company GEZUVOR communicated - he was the originator of the idea of the Munich – Salzburg *Autobahn* route.³³ As Windisch-Hojnacki has shown, Hitler selected the models for bridges and service areas³⁴ and, with Todt, he often inspected the progress of construction.

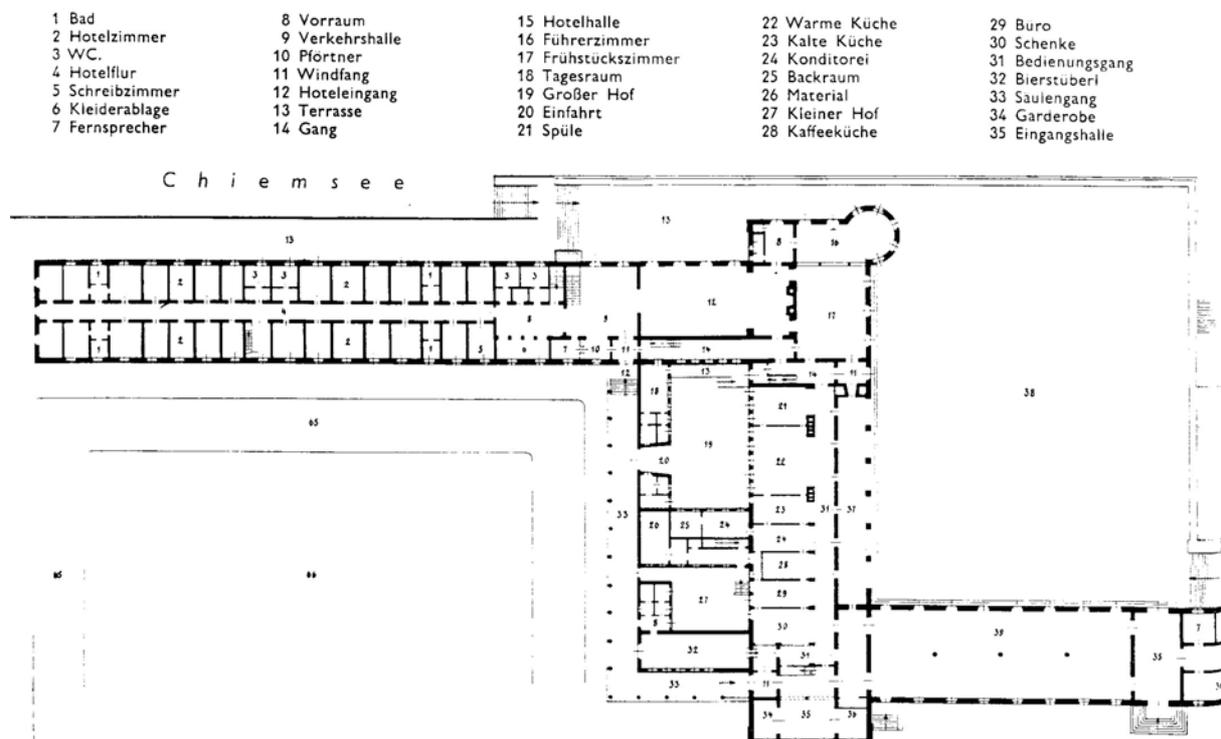
³¹ From: Ebers, Edith: *Natürlicher Landschaftsraum und künstliche Raumgestaltung an der Straße*, in: *Die Strasse*, issue 15, 1936, p. 468-471, here p. 469

³² See the remark on Hitler's country seat, in: *Reichsautobahn München - Salzburg*, Berlin 1936, publisher Volk und Reich, p. 20. The health resort Bad Reichenhall partly explained its popularity by the nearby country seat of Hitler, in: *Die Strasse*, 1935, appendix p.29. The NS-party press *Völkischer Beobachter* reported on 24th of August 1934 that each day several thousand people pass by the country seat.

³³ Circular letter of the Bavarian section of the *Autobahn* project company GEZUVOR to construction companies and stone suppliers on 14th of September 1933, in: *Thüringisches Hauptstaatsarchiv Weimar*, C235, p. 21

³⁴ Claudia Windisch-Hojnacki: *Die Reichsautobahn – Konzeption und Bau der RAB, ihre ästhetischen Aspekte, sowie ihre Illustration in Malerei, Literatur, Fotografie und Plastik*, Diss. University of Bonn, 1989, p. 97, 147

To support tourism, an attractive service area at the shore of Lake Chiem was built with great expense, including a hotel and a restaurant designed in the traditional style with a terrace. Actually, the restaurant was built on piles in the water. When the restaurant opened on 27 August 1938, it attracted many visitors. On one of the first Saturdays, nearly 6,000 cups of coffee were sold.³⁵ Picture 6 depicts a groundplan of the hotel and restaurant. In the service area at Lake Chiem, Hitler had a reserved room for a break on his journeys to Berchtesgaden (cf. picture 6).³⁶



Picture 6: Groundplan of the Hotel and the Restaurant at the Service Area Lake Chiem³⁷

The great importance of this route for Hitler explains the intensive efforts that went into completing the work. The construction of the route started on 21 March 1934 at Unterhaching close to Munich with great propaganda and Hitler as a speaker.³⁸ Roughly one year later, on 29 June 1935, the route of 25 km already reached

³⁵ Anton Grüb: Reichsautobahn -Raststätte am Chiemsee, in: Die Strasse, issue 7, 1938, p. 217 and Hafen, Peter, op. cit., containing photos and the groundplan. The restaurant is used by the US Army since 1945 and no present photos exist.

³⁶ Hafen, Peter: Das Rasthaus am Chiemsee, in: Die Strasse, issue 22, 1938, p.702-708

³⁷ Op. cit. , p. 706

³⁸ Die Autobahn, 1934, p. 168. For propaganda reasons at this date 22 sections were started all over the Reich simultaneously conducted by Goebbels, see the letter on 12th of February 1934 from the Thüringen section of the propaganda administration in Berlin to the President of the state Thüringen, in: Thüringisches Hauptstaatsarchiv Weimar, C234, p. 19

Holzkirchen – an exit for the important tourist destination Lake Tegern, where also high-ranked Nazi leaders had their country estates. Only less than one year later, on 24 May 1936, the route already reached the city of Rosenheim, close to the tourist area of Lake Chiem. Table 1 summarizes the openings of the first route segments from 1935 until 1936 in the Reich.³⁹

Route	Length in km	Date of Opening
München - Holzkirchen	25.0	29 June 1935
Holzkirchen - Weyarn	7.0	11 January 1936
Weyarn - Rosenheim	33.0	24 May 1936
Rosenheim - Siegsdorf	35.0	17 ^t August 1936

Table 1: Opening of the first route sections of the Munich – Salzburg *Autobahn* route from 1935 till 17 August 1936

1.3

A strong preference can be shown in directing the *Autobahn* through woods and across hills and mountains (mostly covered with woods), but to avoid, if possible, open landscape in plains and valleys cultivated by farmers. In contrast to lines of the railway, the *Autobahn* did in no case follow rivers in valleys. This way of planning lines can be shown in the lines Frankfurt a.M. – Kassel, Karlsruhe – Stuttgart and Bad Hersfeld – Weimar. The justification for this policy has not yet been clarified. A study of the decrees of Todt in the years 1933 and 1934 did not reveal a decree for this policy.⁴⁰ It might be that this policy minimized conflicts with the organization of farmers, but at the expense of rational goals of transport policy in the *Autobahn* network. As convincing as this explanation seems to be, there are statements of Todt indicating that the interests of the farmers should not be a severe obstacle in planning the route of the expensive high performance network of the *Autobahn*, which was seen itself to be important for the economic development in the future.⁴¹

But the policy to direct the *Autobahn* through woods had one distinctive advantage: According to Shand's interpretation, landscape aesthetics could balance out the extremely modern concept of the *Autobahn* with the backward-oriented Nazi ideology

³⁹ Data from Statistisches Jahrbuch für das Deutsche Reich, 1936, p. 198. On 17th of August 1936, altogether 5 sections were opened simultaneously at the end of the Olympic Games in Berlin, whereby propagandists were relying on the international press corps that had gathered in Berlin to cover the Olympic Games.

⁴⁰ Bundesarchiv Berlin R 4601, vol. 5001 and 5002

⁴¹ Letter of Todt to Reichsautobahngesellschaft on 27th of July 1934, in: Bundesarchiv Berlin R 4601, vol. 5002

of the folk.⁴² In other words, the woods could “hide” the *Autobahn* and thereby avoid confrontation with the rural environment of the farmers who might be seen working with horses and not with motorized tractors at that time. Farmers played a central role in the nostalgia of Nazi ideology⁴³ and they should be shielded from the *Autobahn*, went the thesis.

2. Strategies

2.1

One strategy that can be evaluated in the *Autobahn* project is the support of **local traffic**. The official grounds for the law of 27 June 1933 to establish a federal *Autobahn* company specifies that one of the tasks of the *Autobahn* is to “transport traffic over long distances”.⁴⁴ However, to support local traffic was not an explicit goal of the planning process. One often has posed the question as to why Germany built the *Autobahn* despite the fact that the country was barely motorized. Compared with the USA, Germany had only 1/15th of the vehicle density per capita in 1933.⁴⁵ But in Germany there was a great demand for local traffic which the *Autobahn* could serve. The support of local traffic can be shown by the Frankfurt a.M. – Darmstadt – Heidelberg – Mannheim *Autobahn* route, where the cities are separated by short distances of between 15 km and 30 km, like pearls on a necklace, such that motorized local traffic between these towns could be handled over the *Autobahn*. This support was a great desire of the motorists at that time who were confronted with narrow and overcrowded roads, as well as slow traffic via villages.⁴⁶

The support of local traffic by the *Autobahn* project can be demonstrated by the Munich – Salzburg route. The planning process of this route evolved as follows: From the city of Munich high weekend traffic originated, considering that one motor vehicle (including motorcycles) per 24 inhabitants made Munich the German city with the

⁴² J. D. Shand, “The Reichs *Autobahn*: Symbol for the Third Reich”, in: *Journal of Contemporary History*, vol. 19, 1984, p. 189-195

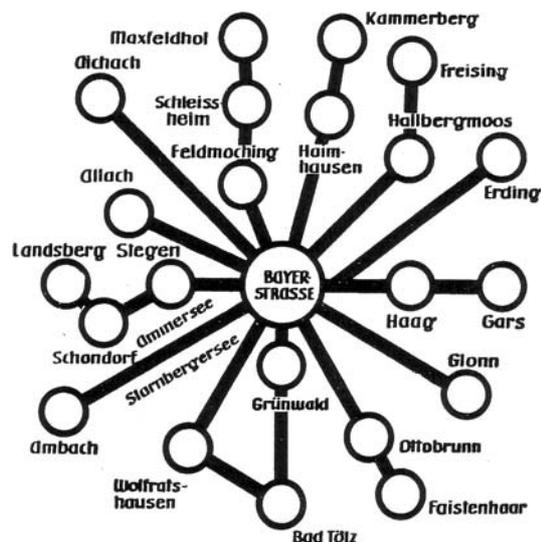
⁴³ G. Corni: *Hitler and the Peasants*, New York 1990

⁴⁴ *Die Autobahn*, Heft 7, 1933, p. 2

⁴⁵ American highway engineers complained in the 30's: „Germany has the roads while we have the traffic“, see Bruce E. Seely: *Visions of the American Highway, 1900-1980*, in: *Hans-Liudger Dienel und Helmuth Trischler* (Hersg.): *Geschichte der Zukunft des Verkehrs*, Frankfurt 1997, p. 260-279, here p. 269

⁴⁶ See for example *Elsaesser*: *Städte an den Hafraba-Strassen – III. Mannheim*, in: *HAFRABA-Mitteilungsblatt*, number 5, 1930, p. 7-9, where he describes the route from Heidelberg to Mannheim

highest vehicle density in 1932 (compared to Berlin with one per 38 inhabitants).⁴⁷ In addition to individual motor vehicles, there were 13 bus routes run by the German Post Company - leading to tourist destinations in the countryside. In 1934, about 700,000 people traveled on these buses. The Post reported that the most groups of people on the weekends headed for the destinations of the Inn River, Bad Tölz, Grünwald, Wolfrathshausen, Lake Starnberg and Lake Ammer.⁴⁸ Picture 7 shows the destinations around Munich which could be reached by these bus routes.⁴⁹ One can observe that the important destinations in the eastern region of Munich, such as Lake Tegern and Lake Chiem were not covered by the bus routes. Woerner described the eastern region as hardly accessible.⁵⁰ So from the tourist point of view, there was a need to develop the eastern part with a high-performance road system.



Picture 7: The arterial bus routes from Bayer-Strasse in Munich (main station) in the surrounding areas of Munich in 1934

And in fact, in Munich, plans for the *Autobahn* to Lake Chiem were primarily based on the expected weekend traffic. According to Kaftan, too many visitors from Munich were placing an excessive burden on the road to Lake Starnberg on weekends, and alternative tourist destinations were sought in consultation with the construction

⁴⁷ Statistisches Jahrbuch für das Deutsche Reich, 1933, p. 159

⁴⁸ Der von München ausgehende Kraftpostverkehr, in: Die Strasse, 1935, appendix p. 33.

⁴⁹ Op. cit.

⁵⁰ Anton Woerner: Die Reichsautobahn München – Salzburg, in: Die Autobahn, issue 9, 1933, p. 10-12, containing a personal record of Woerner and a portrait photo.

industry.⁵¹ However, with the train there had been long travel times from Munich to important tourist destinations in the eastern region of Munich. Woerner estimated that it would take 5 hours to travel from Munich to the famous ski region Reit im Winkl by rail, compared to only 1.5 hours by car on the *Autobahn*.⁵² Although a promoter of car transport, Woerner did not exaggerate the long travel time of 5 hours from Munich to Reit im Winkl by rail, since a screening of the railway schedule of the year 1934 in the archive of the German Railway in Nuremberg reveals: From Munich main station the train ran to Traunstein (duration 1.5 hours), and then there was the connecting train to Ruhpolding (duration 50 min) as well as the connecting train to Reit im Winkl (duration 70 min). In addition, there were waiting times at the stations.

Woerner was the owner of the Munich-based building company Sager & Woerner - where Todt was employed as chief engineer - and he was the head of the Bavarian section of the *Autobahn* project company GEZUVOR.⁵³

Although built to support local excursion traffic from Munich, the *Autobahn* section from Munich to Lake Chiem was officially named “Munich – Salzburg,” to stress the long distance. But ironically, it was not possible for German tourists to visit Salzburg in Austria because, beginning in 1933, the Nazi government provoked a deep conflict with Austria and had put heavy restrictions of travelling into Austria in order to prevent German currency flowing into the country. Every German tourist had to pay 1,000 Mark as a “charge” for leaving Germany.⁵⁴ So, in the summer of 1933, German travel agencies had to switch rapidly from Austrian destinations to German sites in Bavaria in their offers of tourist packages, which included train or bus transportation. In this new tourist market, Ruhpolding – close to Salzburg – became a desirable destination accessible by train.⁵⁵ In order not to serve as a reminder of the embarrassing policy to prevent German tourists from visiting Austria, the journal “*Die Autobahn*” and Todt’s journal, “Munich – Salzburg” was partly substituted by the obscure term “Munich – border” during the years 1933 and 1936.⁵⁶

⁵¹ K. Kaftan, op. cit. , p. 153

⁵² Anton Woerner, op. cit.

⁵³ *Die Autobahn*, issue 9, 1933, p. 8s., issue 10, 1933, p. 21

⁵⁴ This restriction was valid between June 1933 and August 1936, see Reichsgesetzblatt, I, 1933, p. 311. I owe thanks to my colleague Hasso Spode for this hint.

⁵⁵ R. Roßmann: *Mythos Bayern*, Munich 2002, p. 83, and Gabriele Holzer: *Verfreundete Nachbarn Österreich – Deutschland*, Vienna 1995, p. 67

⁵⁶ The journal “*Die Strasse*” reported 18 times on the route “Munich – border” during 1935 and 1936

In 1937, a traffic count carried out on the *Autobahn* to Lake Chiem at the counting point Ramersdorf (the starting point of the *Autobahn* in a suburb of Munich) throughout the month of June, showed the amount of local traffic. The peaks of about 100% on weekends were caused by excursion traffic on Sundays.⁵⁷ The weekend traffic on Whit Holiday in 1938 (Saturday evening before Whit Holiday midday till Tuesday after Whit Holiday at midnight, both directions) resulted in the following figures in Table 2.⁵⁸ The sum of 45,071 vehicles at the counting point between Ramersdorf (Munich) and Hofolding represents the second highest traffic next to the route Cologne – Düsseldorf, compared to the other 27 counting points of the *Autobahn* network in Germany. When one assumes one person on a bike, two on a car, 20 on a bus and 1 on a truck, one derives the number of about 100,000 persons traveling in both directions at the counting point close to Ramersdorf. So one can estimate about 50,000 persons traveling on the *Autobahn* out of Munich to make an excursion on Whit Holiday 1938 being equivalent to the remarkable figure of 6% of the population of Munich.

Point of counting	Motorbikes	Automobiles	Busses	Trucks	Total
between Ramersdorf (Munich) and Hofolding	13,217	29,984	835	1,035	45,071
between Bergen and Siegsdorf	9,172	16,445	676	344	26,637

Table 2: Traffic on Whit Holiday 1938 of the *Autobahn* Munich - Salzburg

Similar figures for Whit Holiday 1939 have also been presented by Hoffmann.⁵⁹

2.2

The second strategy was to support the access to the central parts of some cities from the *Autobahn*, as in Munich, Mannheim, and Heidelberg: The *Autobahn* ended close to the center. But on the other hand, we find also the opposite strategy: The

⁵⁷ For the data see Hoffmann, Rudolf: Die Entwicklung des Kraftverkehrs auf Reichsautobahnen und Reichsstrassen, in: Forschungsgesellschaft für das Strassenwesen (publisher): Strassenbau-Jahrbuch 1937-1938, Berlin, Verlag Volk und Reich, 1938, p. 29-42, here p. 32s. From the dates the days of the week have been computed with Microsoft Excel. Hoffmann reported that at the counting point Ramersdorf the traffic is counted continuously by a "special order", p. 31

⁵⁸ Hoffmann, Rudolf: Der Kraftverkehr auf deutschen Strassen zu Pfingsten 1938, in: Die Strasse, 1938, issue 12, p. 388-392

⁵⁹ Hoffmann, Rudolf: Der Kraftverkehr auf deutschen Strassen zu Pfingsten 1939, in: Die Strasse, 1939, issue 11, p. 377-380

Autobahn is far away from the city as in the case of Stuttgart and in the industrial districts of the Ruhr cities.

2.3 The strategy can be evaluated to support long-distance connections between cities without contact to cities closer to the route. This is the case for the Frankfurt a.M. – Kassel route. It is also conspicuous that the section that was actually built is designed as a **trunk road connection** between Frankfurt a.M. and Kassel and thereby rules out local traffic between the medium-sized towns. The connection between the two Hessian towns Marburg and Giessen with Kassel provided for in the old HAFRABA route was dispensed with completely, while the two Hessian spa resorts Bad Hersfeld and Bad Nauheim, that were of only minor importance in this period, were connected. Once again, this emphasizes the importance attached to the tourist aspects of road routing. This routing also makes it clear that *Autobahn* construction did not completely and in every respect serve to meet specific transport needs.

The same can be observed on the Frankfurt a.M. – Cologne route which leads 100 km through a land strip which is only barely populated. The question can be posed as to why the Frankfurt a.M. – Cologne route runs on the right side of the river Rhine and not on the left side, where the cities Cologne, Bonn, Koblenz and Mainz could have been connected.

3. Conclusion

This paper has shown that in the *Autobahn* project, different styles of construction were pursued and that different strategies prevailed. Principles to adopt to the landscape are discussed. Some questions are open to further research, as to, for example the layout of the routes through wooded areas and across hills.