

Interreg



CENTRAL EUROPE

European Union
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TAKING
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YOUMOBIL Online course
April 26, 2021, on-line



Railway stations - reinvention process



Zuzana Grúňová

Know your BUILDING



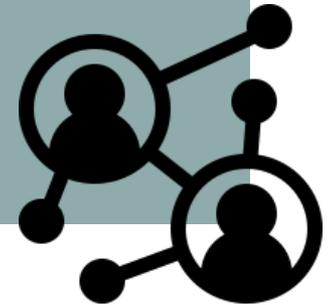
- How big (area, volume, arrangement of spaces)?
- What state?
- Material?
- Construction system?
- Monument / historic building?

Know your CONTEXT



- Spirit of a place "genius loci,,
- The character of architecture, urbanism
- Possibility of connection, superstructure, extension ..
- Legislation and function regulations
- Transport connections and access, parking
- Possibility of strengthening by connecting with attractions in the area

Know your COMMUNITY



- Population density / number
- Age, educational structure, way of life, cultural background, customs and traditions
- What characteristic / group, activity do I want to support?
- Resources and funding opportunities

DOCUMENTATION

Know your BUILDING



Plan of Work (published by the Royal Institute of British Architects RIBA)

- 0 - Strategic definition.
- 1 - Preparation and brief.
- 2 - Concept design.
- 3 - Developed design.
- 4 - Technical design.
- 5 - Construction.
- 6 - Handover and close out.
- 7 - In use.

https://www.designingbuildings.co.uk/wiki/RIBA_plan_of_work

Preparatory documentation

- Assessment of construction and technical condition - building survey
- Structural Assessment Report
- Humidity survey and proposal of remediation measures
- Specialized research of historic buildings or monuments

Concept

- Architectural design

Developed design

- Documentation for building permit

Technical design

- Documentation for construction

After construction

- Documentation of completed construction

DESIGN IS MULTIDISCIPLINARY

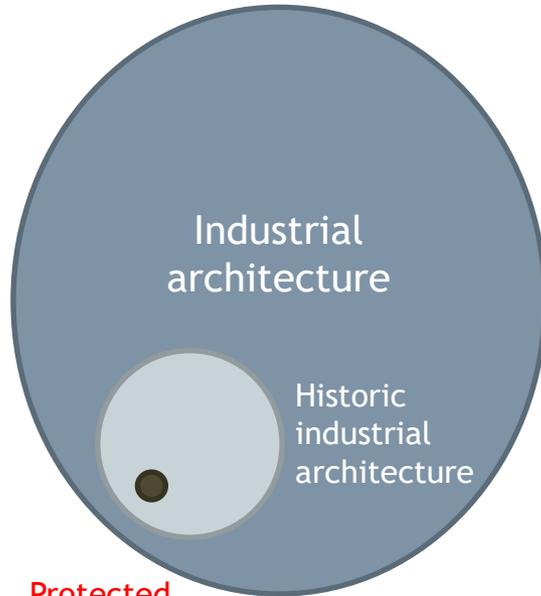
- **Architect** - overall layout, aesthetics, project control and management.
- Chartered **Architectural Technologist** - technological design of a project and management.
- **Structural engineer** - Stability, efficiency and buildability.
- **Services engineer** - interior comfort and performance.
- **Landscape architect** - surroundings.
- Architectural **technologist** - detail drawings and specifications.
- **Quantity surveyor** - costs and budget control.
- **Suppliers and manufacturers** - products and materials.
- **Specialist designers** and others - lighting designers, acoustic consultants ...a lead designer, a design manager, design co-ordinator, lead consultant, project manager, client advisers, and so on.



...choosing a professional is a sensible choice and a choice mostly required by legislation.

An amateur sculptor who tried to restore a decapitated statue of the baby Jesus has been panned after her work left the son of god looking more like Lisa Simpson. Local artist and amateur sculptor offered to step in to help after the statue in her Canadian town of Sudbury was damaged by vandals.

INDUSTRIAL HERITAGE



Protected monuments

The term “**industrial heritage**” can be used to denote *technical equipment, buildings and anthropogenic geomorphological features which originated in connection with the process of industrialization.*

“**technical monument**” - with a simplification and imprecision - monuments associated with mining, manufacturing industry, transport or storage.

Could be legally protected / or not

Witness to technical development, a trace of the historical past of the city, connection with important personalities of the city / region, a reminder of the historical period



CHARTER FOR THE INDUSTRIAL HERITAGE 2003

“the buildings and structures built for industrial activities, the processes and tools used within them and the towns and landscapes in which they are located, along with all their other tangible and intangible manifestations, are of fundamental importance.

They should be studied, their history should be taught, their meaning and significance should be probed and made clear for everyone, and the most significant and characteristic examples should be identified, protected and maintained, in accordance with the spirit of the Venice Charter, for the use and benefit of today and of the future.”

In the international context, a fundamental document focusing on the definition, documentation, values and protection of industrial heritage is the Nizhny Nagil Charter for the Industrial Heritage formulated in 2003 by the International Committee for the Conservation of the Industrial Heritage (TICCIH, est. 1978).

- universal value
- social (evidence of the lives of ordinary people, strengthening awareness of identity)
- technical and scientific (the history of manufacturing, engineering and civil engineering)
- aesthetic (architecture and urban planning).
- value as a landscaping factor - production processes which have survived from an earlier era, unique “site typologies or landscapes”



VALUES OF INDUSTRIAL HERITAGE



- the traditionally conceived art-historical, architectural and urbanistic values
- **preserved complete and intact technical equipment**
- **traces of former operations**
- **typological value**

A monument may be evaluated as important even if its heritage value does not incorporate traditionally conceived values (or if traditional values are only partially present).

Letovice, water tower of the Northern State Railway, the 1840s. This was one of two core strategic railway lines in the Habsburg Monarchy; funded by the state, it connected the major port cities of Hamburg and Trieste. The Northern State Railway was connected to the privately-owned Emperor Ferdinand Northern Railway (Kaiser Ferdinands-Nordbahn). a standardized design was a two-floor water tower - 14 different locations along the line. The only surviving example of this design, though the wings have been rebuilt. Photograph Michaela Ryšková, 2016.



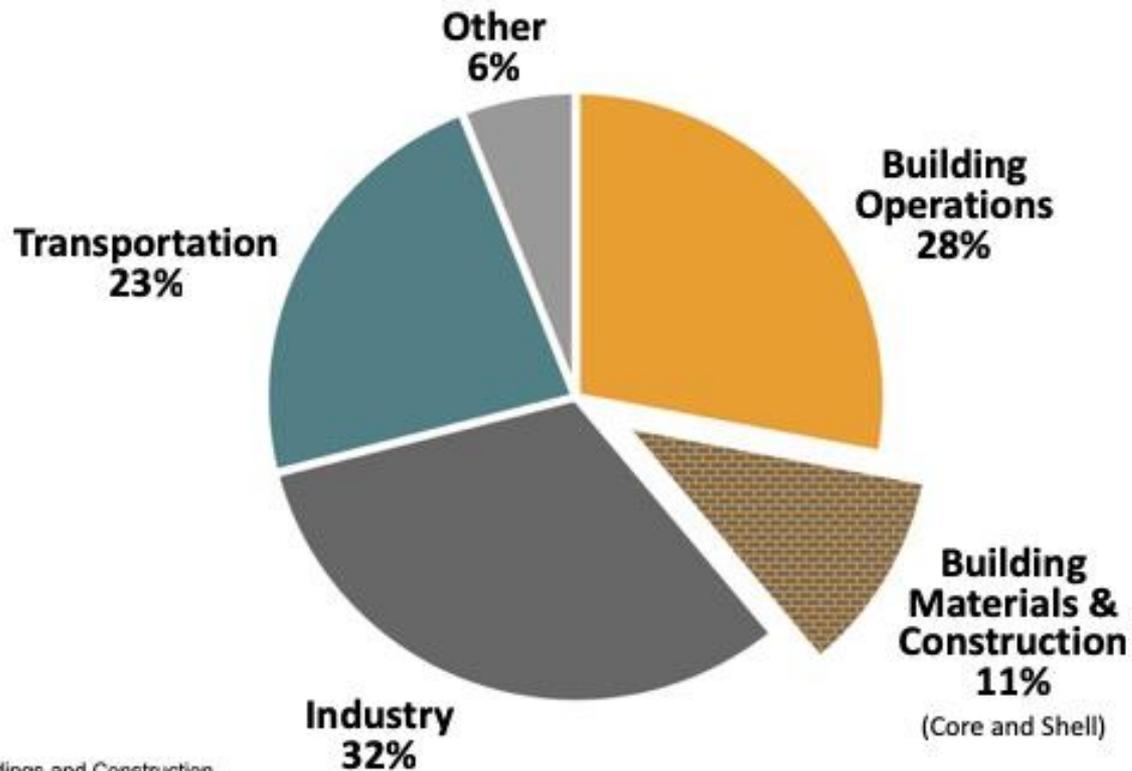
Building carbon footprint (CO₂) is the total amount of greenhouse gases produced throughout the life-cycle of a building. It includes emissions from energy use (operational carbon) and materials (i.e. embodied carbon, capital carbon)

Life-Cycle Assessment (LCA) acts the industry standard methodology in quantifying the CO₂ footprint of a building.

Each building is the sum of built-in energy, material, work .. it is not ecological to demolish all this.



Global CO₂ Emissions by Sector



Source:
Global Alliance for Buildings and Construction.
2018 GLOBAL STATUS REPORT.



MEASUREMENT / DRAWING



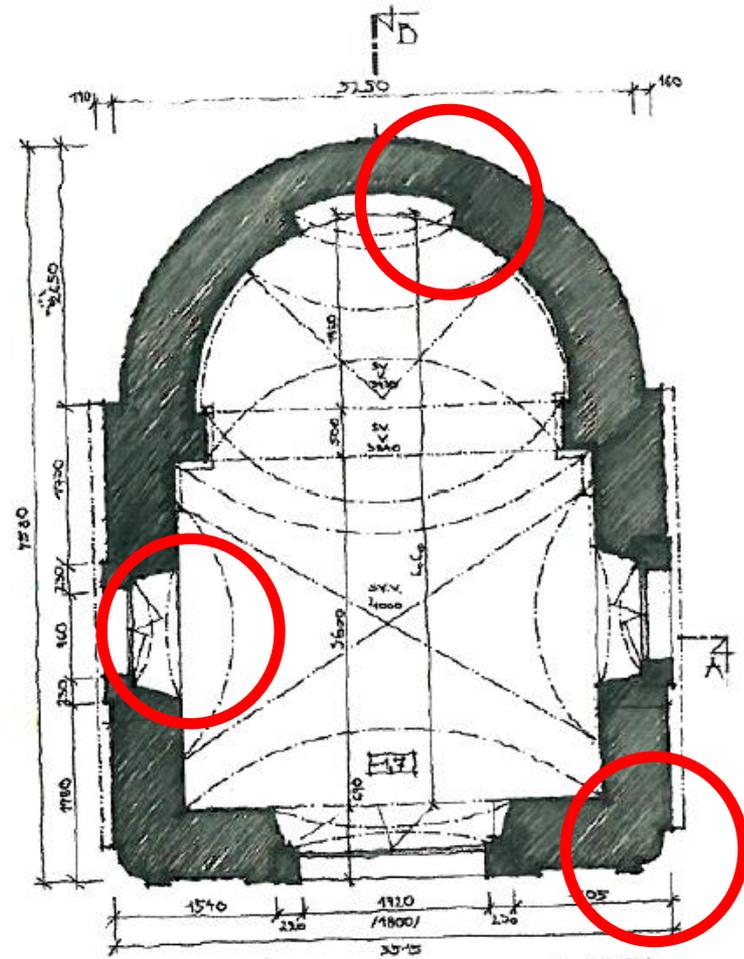
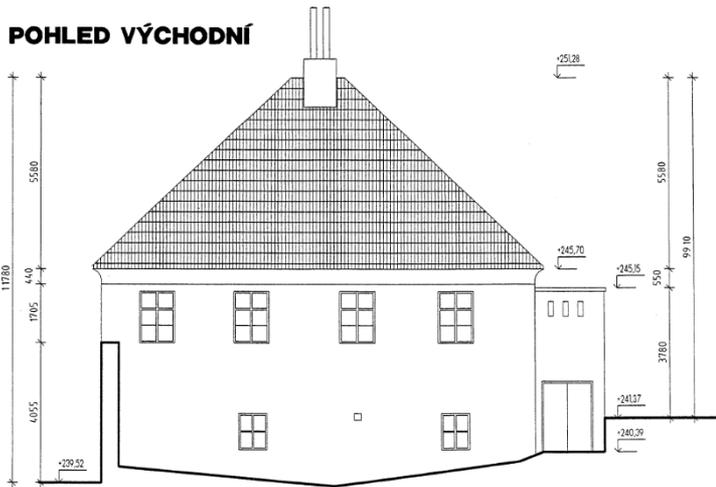
Documentation is the process of recording what is seen in physical (digital) form = drawing.

It must be implemented **accurately and clearly** that **interpreting** will not lead to errors, distortions, destruction of architectural values.

IMPACT

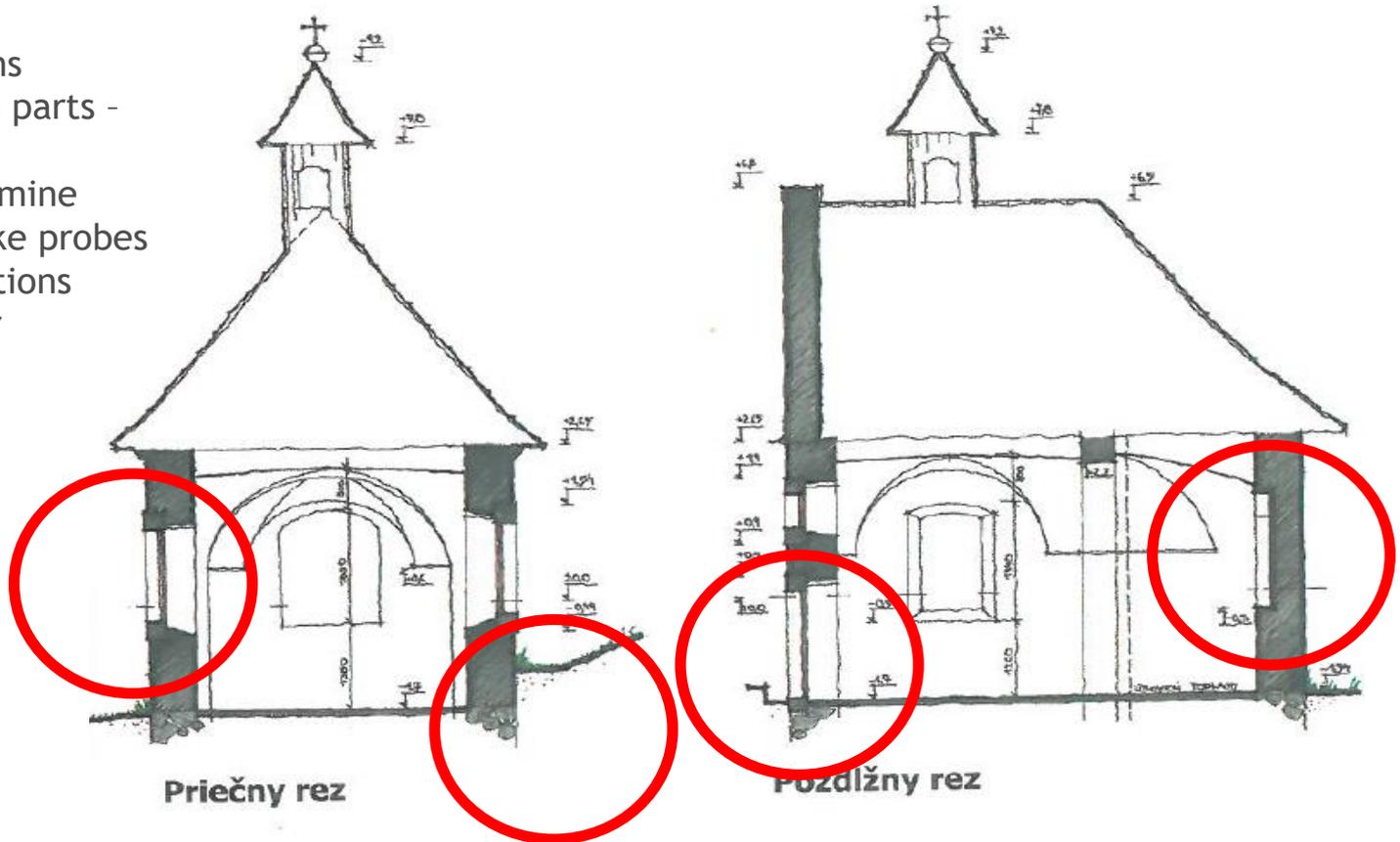
construction interventions, further stages documentation, identifying the need and places for further interventions

QUALITY OF DRAWING



QUALITY OF DRAWING

- missing parts / inaccessible spaces
- missing dimensions
- incorrectly drawn parts - ignorance
- impossible to examine
- impossible to make probes
- atypical constructions
- changes and later corrections



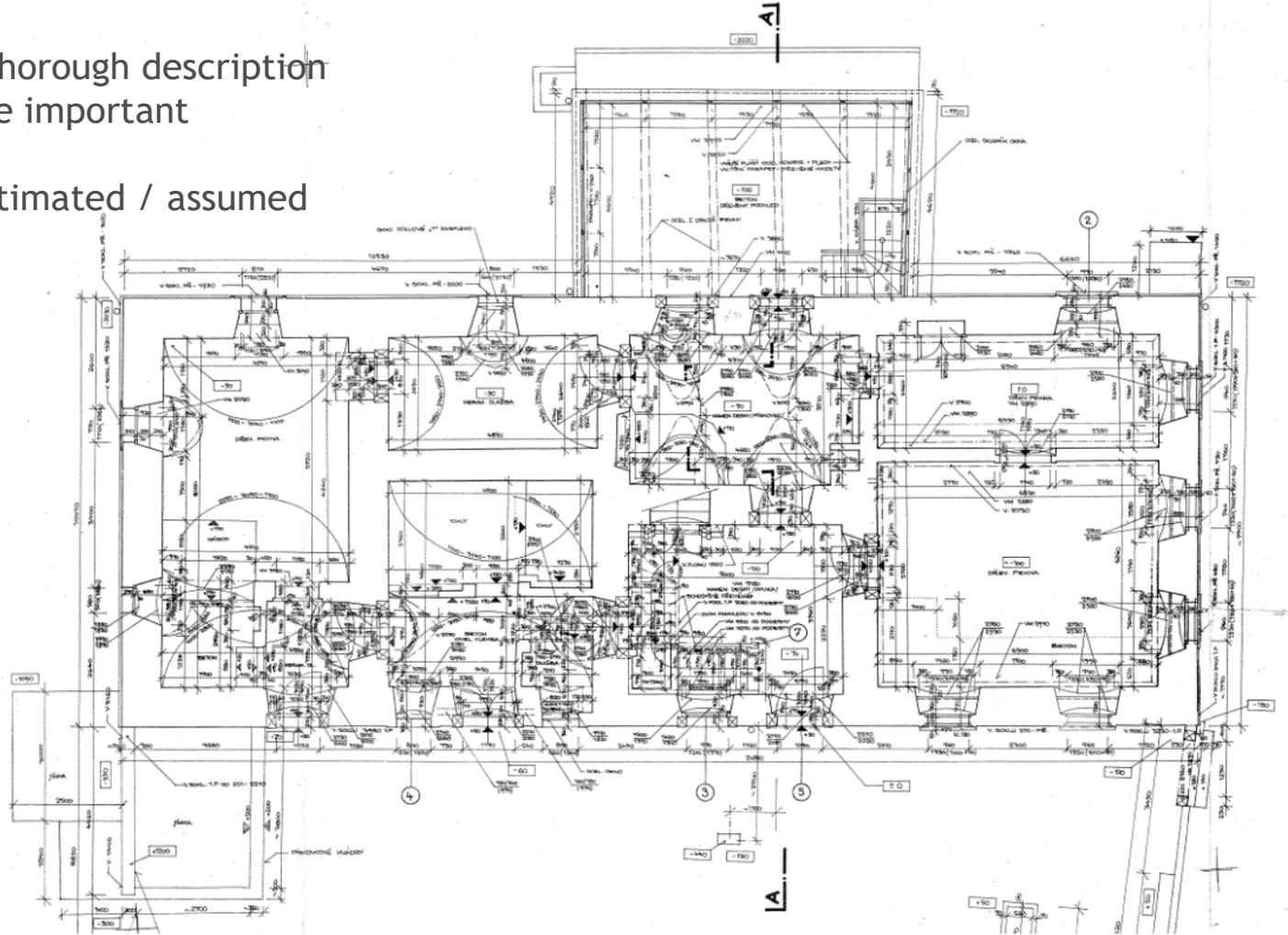
Priečny rez

Pozdĺžny rez



QUALITY OF DRAWING

- Appropriate scale
- Plenty of details / thorough description
- drawing all available important information
- do not draw only estimated / assumed constructions



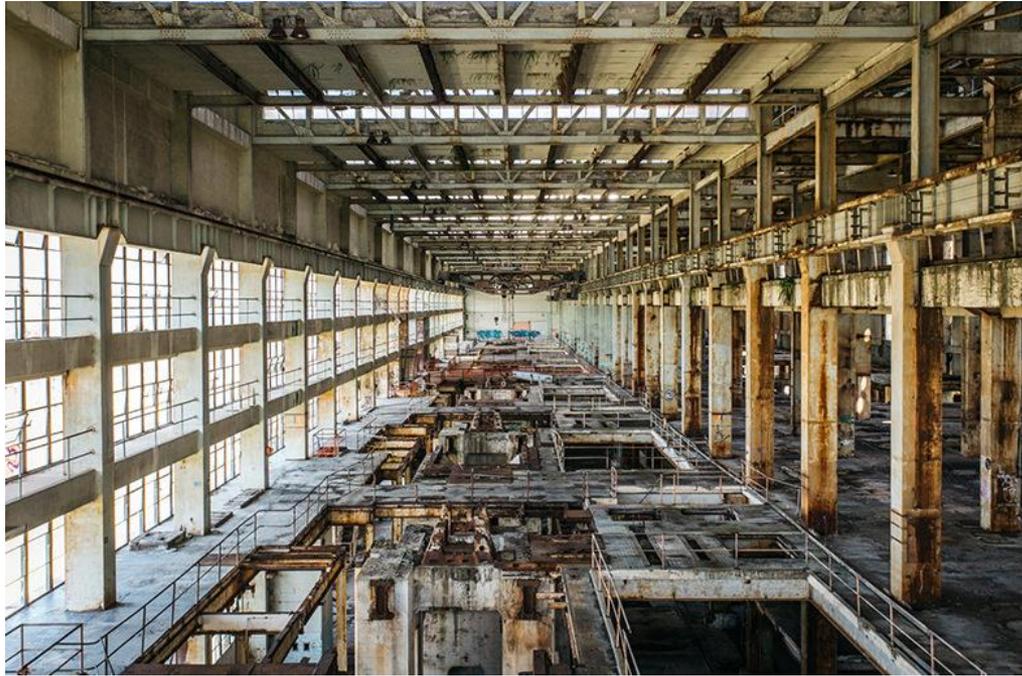
SAFE, ACCURATE AND EFFECTIVE



- All available information studied beforehand = elements, specific constructions, possibility of historic background, archive information
- Knowledge of the condition of building-safety, insurance, hygiene protection
- Appropriate equipment - tools, hygiene + first aid, lights, appliances...
- In case of ABANDONED buildings or REMOTELY SITUATED BUILDINGS - Someone knows where I went and when I would come - emergency contact.



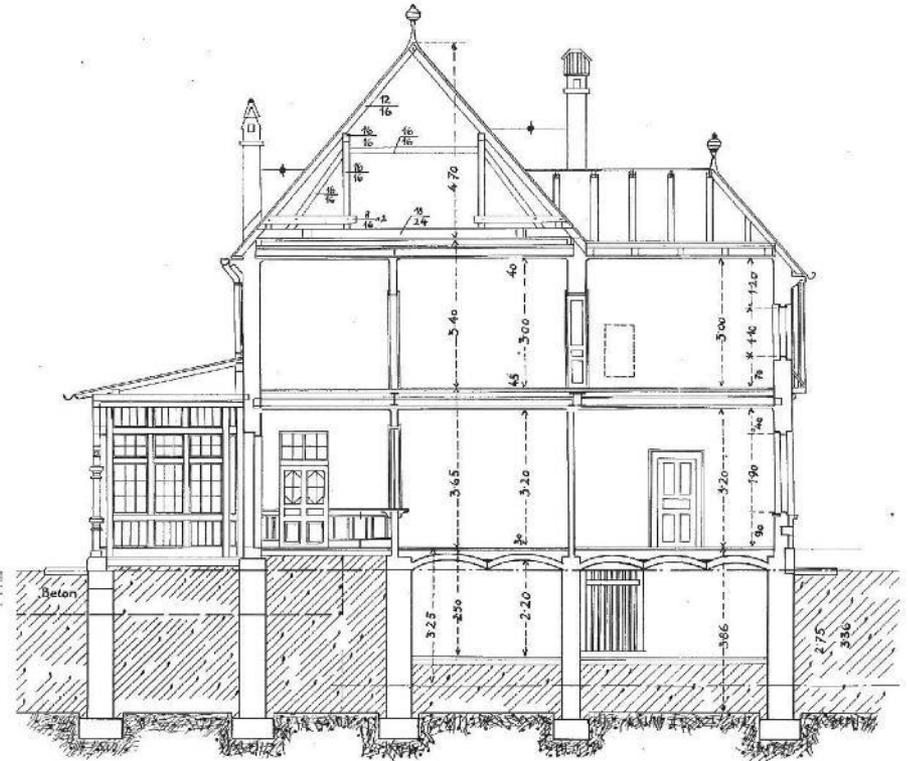
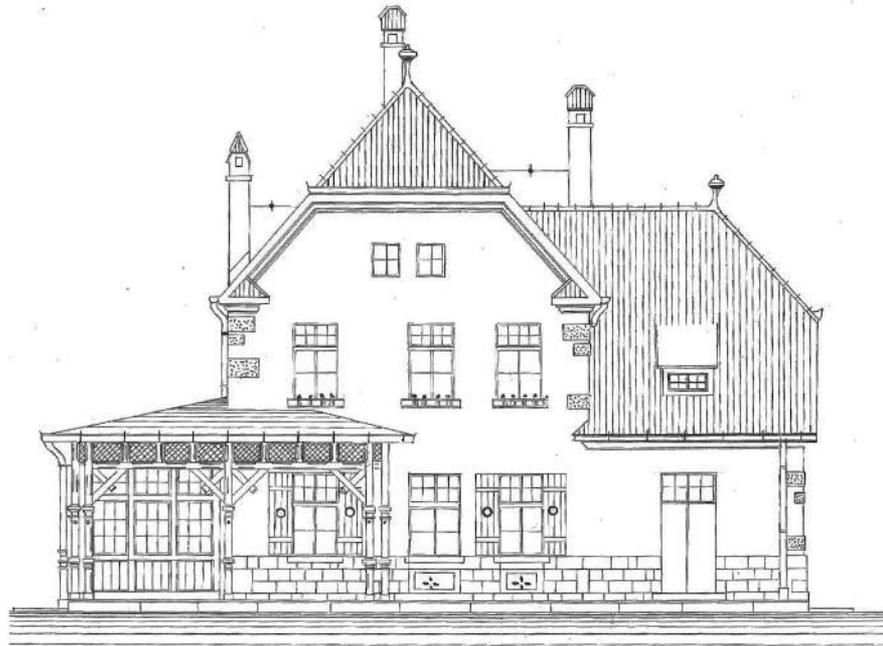
SAFE, ACCURATE AND EFFECTIVE



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HISTORIC DOCUMENTATION



HISTORIC PLANS



Residential colony of the Košice-Bohumín railway, Žilina after 1870 - 8 buildings, each with 4-5 families.

Type - railway companies often tried to make efficient use of money and time.

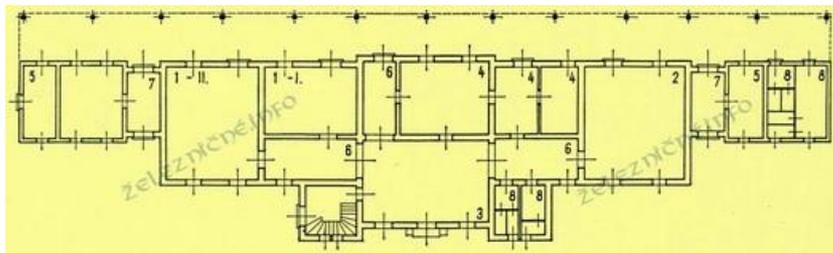
Buildings were often created as types, each with its own project documentation.

According to the requirements - the importance of the station, the volume of traffic, the number of passengers .. an appropriate station with other buildings was built.

e.g. apartments for staff, resp. spaces for overnight stays of train crews. According to typical projects, separate residential houses for railway workers or entire colonies were also built in larger railway stations (junctions). According to typical projects, warehouses, depots, heating plants, waterworks and construction sites were also built.



HISTORIC PLANS



MÁV style
station Filákovo
Slovakia

For example in Slovakia:

StEG - Austrian railway style - buildings on the line from Bratislava to Štúrovo, from Trenčín to Žilina, in Ponitrie region on the line Palárikovo - Veľké Bielice, on the line Štúrovo - Levice and Čata - Šahy.

KBŽ - station buildings on the private Košice-Bohumín railway.

MÁV - Hungarian railway style - station on the line (Pest -) Salgótarján - Lučenec - Zvolen - Vrútky, Sátoraljaújhely - Michalany - Humenné - Medzilaborce - Lupkóv, lines Bánréve - Filákovo, Jesenské Tisovec and Bánréve - Dobšina.





Pozsony - Pressburg - Prešporok = Bratislava
1904

Bratislava 1919

StEG style station
Bratislava Slovakia and
its transformations

50s - 60s

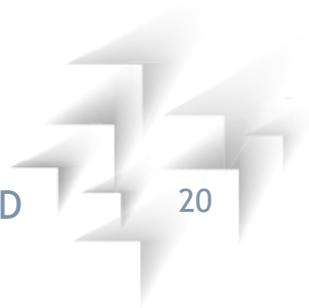


now



PHOTOS

- Always better more than less (distance, expenses, complexity ... = direct ratio of the number of photos)
- Always start with the overall shot and only THEN detail
- Take pictures of the paper / inscription between shots - **what, where, when**
- Go back and take pictures in a different light / different time
- Record EXACT color
- Use a ladder, an elevated position
- Mobile photos are helpful, but insufficient



PHOTOS

- Where is it? When was it photographed? Who did the probe? ... if it's a probe
- What was photographed? The ceiling? Two walls?



PHOTOS

The type of light, the direction and the angle of the photo are important. Trassology, structure, surface texture, damage ...



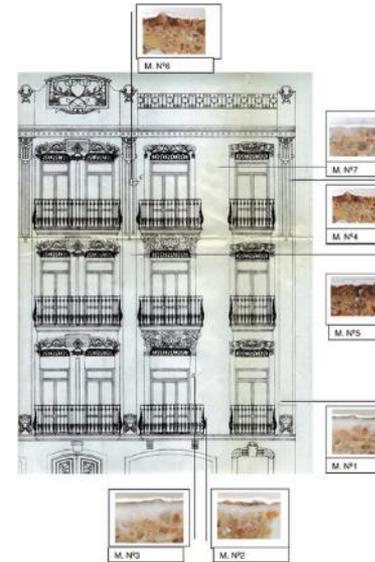


**pictures in a
different light /
different time**

Oblique light increases
plasticity - more clearly
identifiable interventions /
problems, different
construction stages, etc



Record EXACT color calibration cards

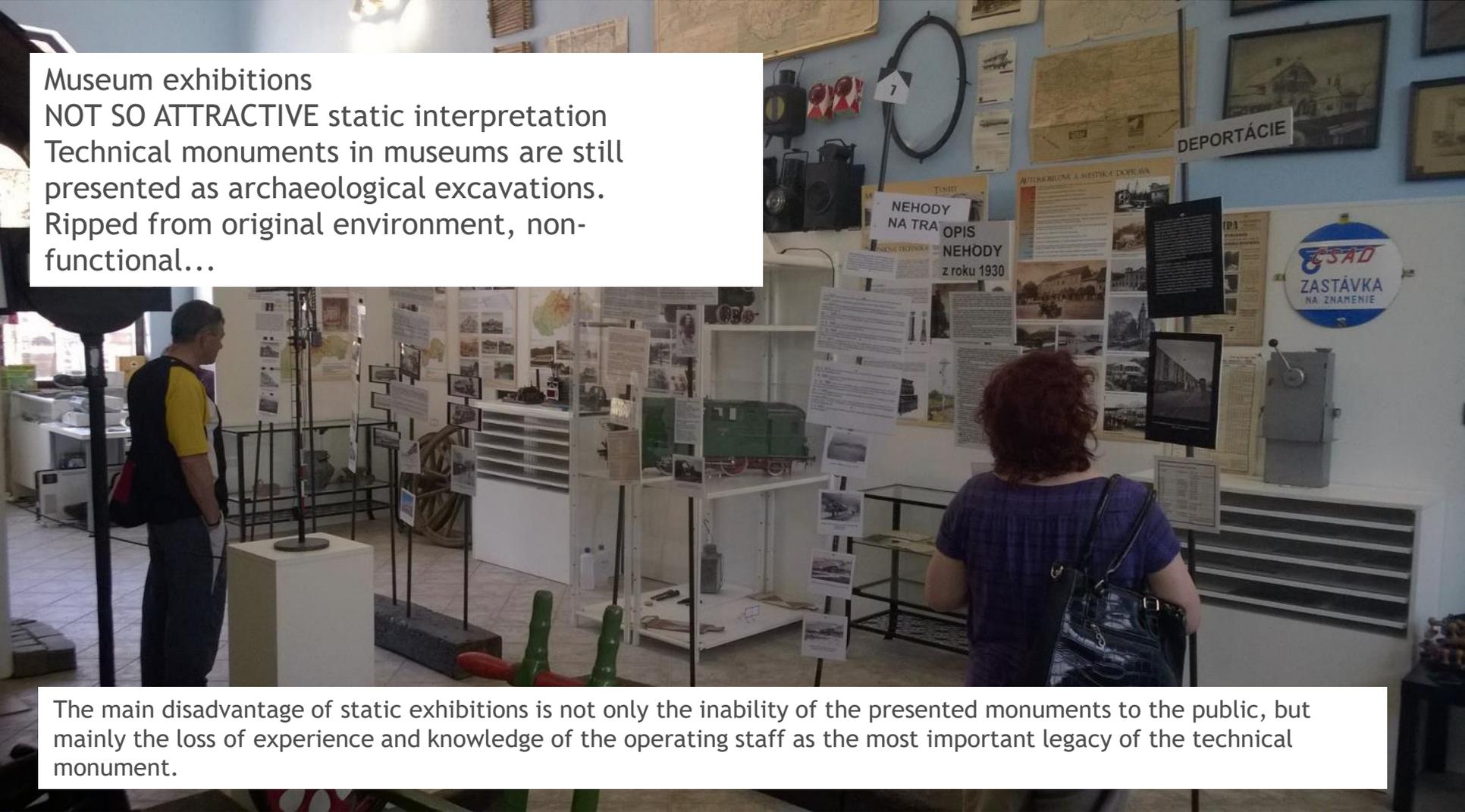


BUILDING SURVEY



STATIC EXHIBITION

Museum exhibitions
NOT SO ATTRACTIVE static interpretation
Technical monuments in museums are still
presented as archaeological excavations.
Ripped from original environment, non-
functional...



The main disadvantage of static exhibitions is not only the inability of the presented monuments to the public, but mainly the loss of experience and knowledge of the operating staff as the most important legacy of the technical monument.

<https://kotp.sk/2007/09/05/ochrana-a-vyuzitie-nielen-zeleznicnych-technickych-pamiatok/>



DYNAMIC EXHIBITION

Dynamic exhibition = machines in the original possible environment and functional .. but often only 1-4 times a year

If the machine stops working, all experience and knowledge is lost within one generation and must reappear..

...we know about the machine when it was made, maybe who made it and what it did, but how it was used ?

...not to mention that information on the accompanying technologies used in maintenance will also be lost



[ÚVOD](#) [O NÁS](#) [AKTUALITY](#) [MUZEÁLNE KOĽAJOVÉ VOZIDLÁ <<](#) [AKCIE SPOLKU](#) [KONTAKT](#)





Summer school Výhrevne Vrútky 2005 - Teaching in the locomotive. (photo: Jozef Kiss)

Dynamic interpretation with active visitor involvement

- the main engine and force is the phenomenon of experiencing intense experiences
- offer also other - additional activities
- necessity - to provide standard services - food and accommodation
- helpful and informed staff
- clean and accessible sanitary facilities

FUTURE (?)

tourist - museum railway - functional transport between attractive places + information and experience from a historical machine



THE HORSE RAILWAY STATION IN BRATISLAVA

1836



The oldest building built in Slovakia in connection with the railway - the building of the horse railway station in Bratislava at the intersection of Legionárska and Krížna streets.

- the beginning of the construction of this building dates back to 1836.
- Steampowered from 1873

Reconstructed car of the Linecko-Budějovická line on a renewed horse railway section in Austria



The other station in Svatý Jur



RUŽOMBEROK - RAILWAY STATION

1871





Pohronská Polhora (1895)



Velká
Lomnica /
Studený
potok (1895)



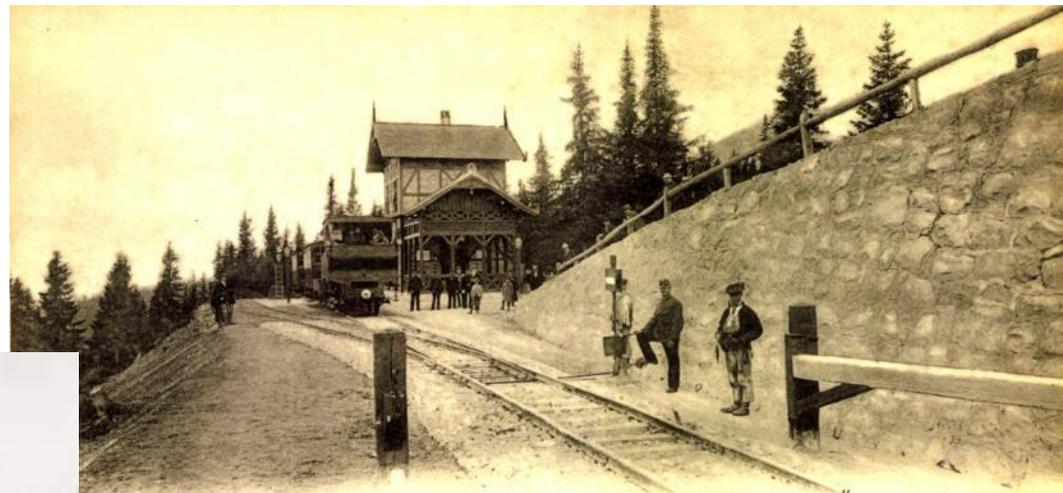
<http://www.pamiatky.sk/po/po/Details?id=14704>

<http://www.pamiatky.sk/po/po/Details?id=11012>

TATRANSKÁ ŠTRBA - SOLISKO

Apr 7, 2020

The Railways of the Slovak Republic (ŽSR) will reconstruct the cog railway in the section between Štrba and Štrbské Pleso.



Verlag C. Schröter, Breslau.
Lichtdruck A. Fabian & Comp., Breslau.
1904.

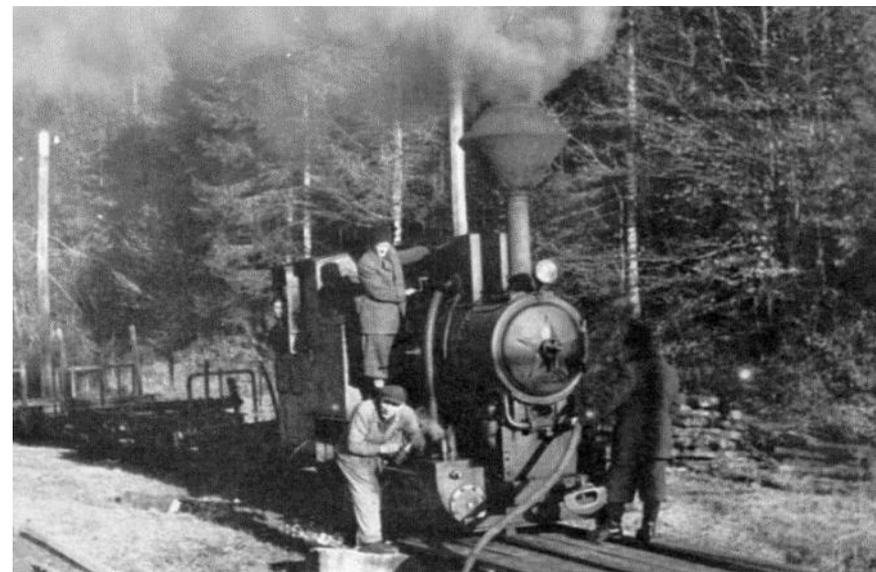
Csorba tó, felső állomás.
Obere Station beim Csorba-See.



<https://spis.korzar.sme.sk/c/22378448/zeleznice-obnova-ozubnicu-strba-strbske-pleso.html>

L'UBOCHŇA FOREST RAILWAY

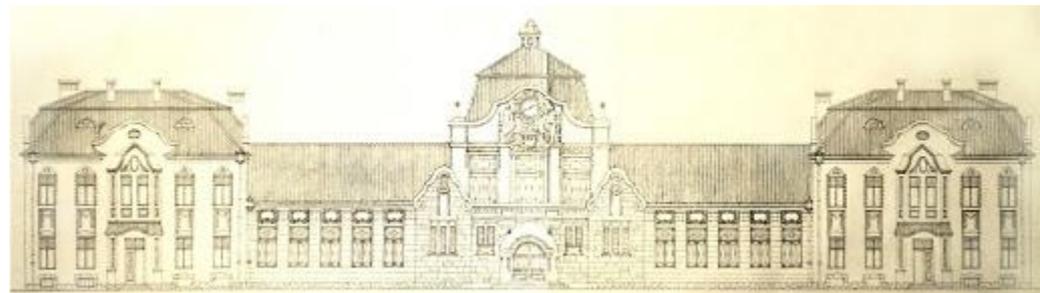
1904 - 1966



<https://www.railpage.net/zabudnuty-unikat-lubochnianska-lesna-zeleznica/>

KEŽMAROK RAILWAY STATION

1911



KÚTY - STATION AND WATER TOWER

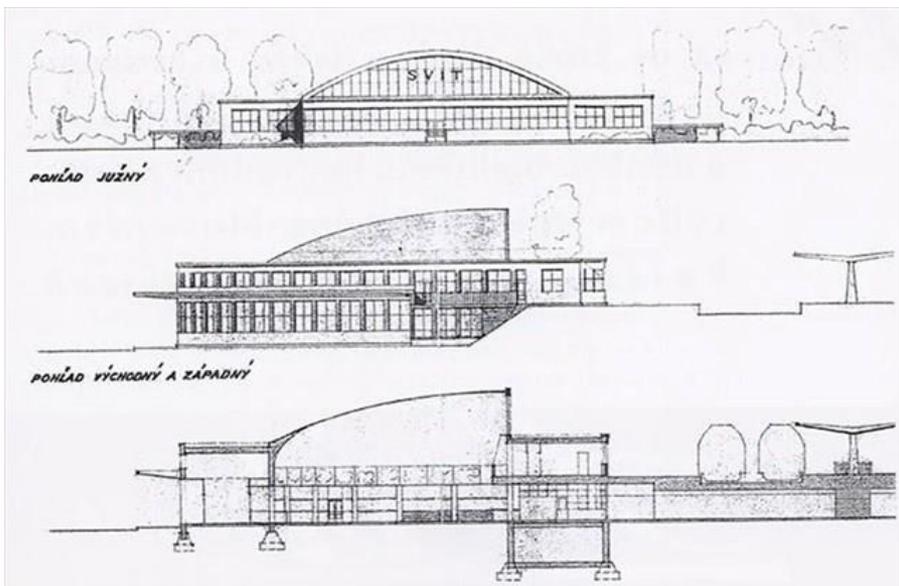
1931 - 1934.



<https://www.ciernediery.sk/vodojem-zeleznicna-stanica-kutoch/>

SVIT

1931 - 1934.



Negotiations are currently underway on the further use of the railway station for organizing cultural and social events.

<http://www.pamiatky.sk/po/po/Details?id=23957>

TRENČIANSKE TEPLICE

1941



Town Trenčianske Teplice want to buy this abandoned station (2011) to renovate it for the historic tram line.

The railway station in Trenčianske Teplice was built in 1941. The railway itself between Trenčianská Teplá and Trenčianske Teplice has been in operation since 1909. It is a rarity among Slovak railway lines, as it was the first publicly operated electrified line in Slovakia. It is about 5.5 kilometers long.



<https://imhd.sk/tn/doc/sk/18325/Premavka-trencianskoteplickéj-elektrický-pocas-Velkonocnej-nedele-21-4-2019#gi140068>



<http://www.pamiatky.sk/po/po/Details?id=5521>

<http://photoplus.sk/portfolio-items/stanica/>

LEOPOLDOV

1872-1883



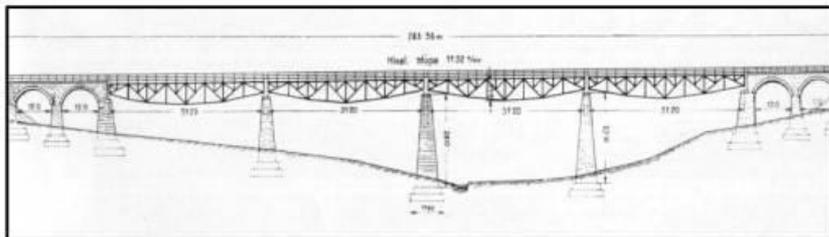
<http://www.pamiatky.sk/po/po/Details?id=2674>



TAKING COOPERATION FORWARD



RAILWAY BRIDGES - MONUMENTS



Hanušovce nad Topľou

1941 - 1943

viadukt Hlibovec / Bystriansky 92,80 m

Hanušovský viadukt 389,90 m

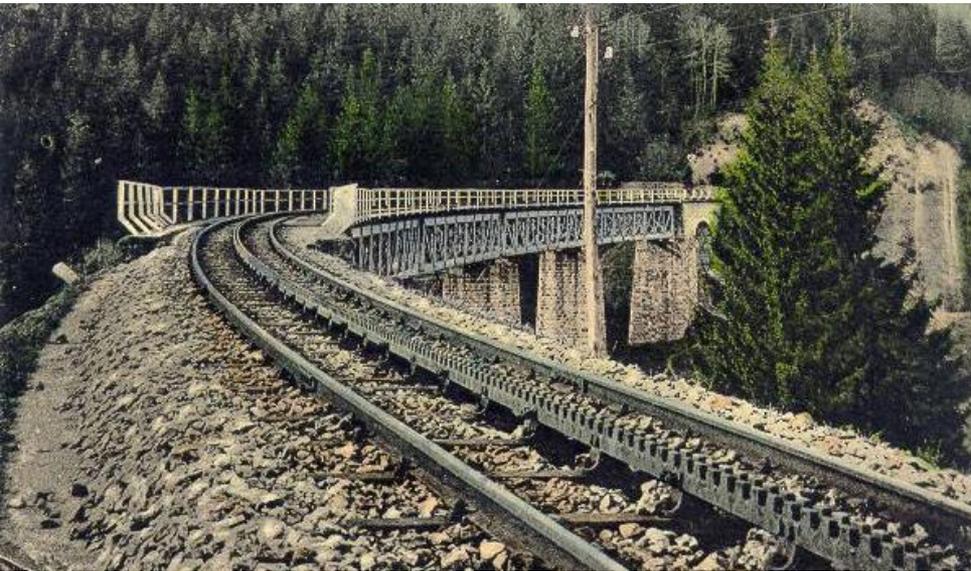
Hrabovecký viadukt 271,12 m

Pavlovský viadukt 193,10 m



<https://www.ciernediery.sk/viadukt-v-hanusovciach-nad-toplou/>

RAILWAY BRIDGES - MONUMENTS



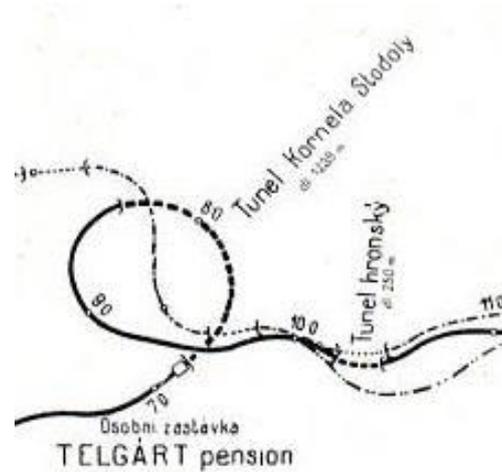
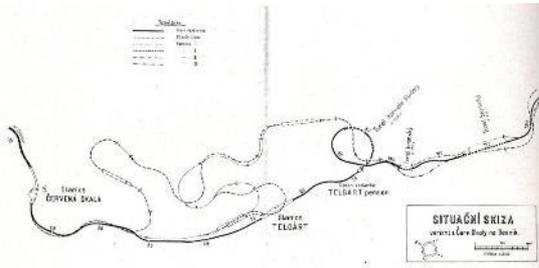
Tisovec 1896 Devil's bridge

The Devil's Bridge - between the Tisovec - Bánovo and Zbojská stations, the only one of the large bridges preserved in its original state on a unique cogwheel section from 1896 until today. On October 4th 2014, a steam train set off for the first time in fifty years along the cogwheel railway line from Tisovec to the Zbojská mountain pass. Today, this line with its gauge of 1 435 mm has become unique in Europe thanks to its steam train. From 2015, you will be able to travel on a steam train from May to October on the first Saturday of the month along the Tisovec - Zbojská section.



<https://slovakia.travel/en/the-railway-track-pohronska-polhora-tisovec>

RAILWAY BRIDGES - MONUMENTS



Telgárt Loop and bridge

The Hron valley from Červená Skála has a considerable rise, so it was necessary to develop the railway line in order to maintain the slope conditions. Several alternatives have been considered. In the end, an alternative with the most remarkable construction was realized. It is a spiral loop in Telgárt about 2.3 km long, which overcomes the height difference of 31 m.





Metodika hodnocení a ochrany průmyslového dědictví z pohledu památkové péče / Methodology for the Evaluation and Protection of Industrial Heritage from the Perspective of Heritage Management

Miloš Matěj, Michaela Ryšková

CZ:

<https://www.npu.cz/publikace/Methodika%20hodnoceni%20a%20ochrany%20prumysloveho%20dedictvi%20z%20pohledu%20pamatkove%20pece.pdf>

EN:

<https://www.npu.cz/publikace/Methodology%20for%20the%20Evaluation%20and%20Protection%20of%20Industrial%20Heritage%20from%20the%20Perspective%20of%20Heritage%20Management.pdf>

KUBÁČEK Jiří, Ing., a kol.: Dejiny železnic na území Slovenska, ŽSR, Bratislava, 1999,

KUBINSZKY Mihály: Régi magyar vasútállomások, Corvina Kiadó, Budapest, 1983, (*historic plans for MÁV style buildings*)

RAPCO Pavol, PhDr. a kol.: 125. výročie železničnej trate Budapešť - Lučenec - Zvolen, Mestský úrad v Lučenci, ŽSR, 1996.





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