



RAILWAY HERITAGE FOR ENGAGING  
THE YOUNG GENERATION  
**RAIL4V4+V 2023**



Cultural studies platform CULTstore  
Novi Sad, 2025.





RAILWAY HERITAGE FOR ENGAGING THE YOUNG GENERATION  
**RAIL4V4+V 2023**

**Publication Title**

Railway heritage for engaging the young generation

**RAIL 4V4+V 2023**

**Editor**

Prof. Dr Anica Draganić

**Reviewers**

Prof. Dr. Hab. inž. arch. Bartosz M. Walczak, Institute of Architecture and Urban Planning, Lodz University of Technology

Dr Maja Pličanić, associate professor, University of Sarajevo, Faculty of Education Sciences

**Publisher**

Cultural studies platform CULTstore, Stevana Doronjskog 3, 21000 Novi Sad, Serbia

**Design**

Anica Draganić

**Cover and photographs between papers**

<https://rail4v4v.com/railway-heritage-for-engaging-the-young-generation-rail4v4v-2023/>

**Print**

Stella

**Copies**

100

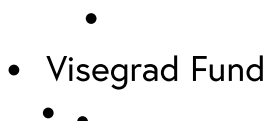
ISBN 978-86-82166-12-2

The book has been published under the Visegrad project Railway Heritage for Engaging the Young Generation RAIL 4V4+V 2023

The project is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.

Action has been funded within the framework of a Joint Project between the European Union and the Council of Europe.

This document has been produced using funds of a Joint Project between the European Union and the Council of Europe. The views expressed herein can in no way be taken to reflect the official opinion of the European Union or the Council of Europe.





RAILWAY HERITAGE FOR ENGAGING THE YOUNG GENERATION

**RAIL4V4+V 2023**

Cultural studies platform CULTstore  
Novi Sad, 2025.

**Authors**

Anica Draganić

Eva Kráľová

Lukáš Beran

Károly Teleki

Maciej Mądry

Mária Szilágyi

Vladimír Hain

## CONTENT

|                                                                                        |            |
|----------------------------------------------------------------------------------------|------------|
| Anica Draganić                                                                         |            |
| <b>RAILWAY HERITAGE FOR ENGAGING THE YOUNG GENERATION</b>                              | <b>7</b>   |
| <br>                                                                                   |            |
| Vladimír Hain, Eva Kráľová                                                             |            |
| <b>TOOLS FOR DEVELOPING/ENHANCING YOUTH AWARENESS TOWARDS RAILWAY HERITAGE</b>         | <b>11</b>  |
| <br>                                                                                   |            |
| Anica Draganić, Mária Szilágyi                                                         |            |
| <b>RAILWAY HERITAGE REVISITED – CRITICAL APPROACHES</b>                                | <b>29</b>  |
| <br>                                                                                   |            |
| Károly Teleki                                                                          |            |
| <b>CHILDREN’S RAILWAYS IN CENTRAL AND EASTERN EUROPE – A HERITAGE WORTH PRESERVING</b> | <b>47</b>  |
| <br>                                                                                   |            |
| Lukáš Beran                                                                            |            |
| <b>BORDER STATIONS: THEIR TYPOLOGY, ARCHITECTURE, AND FATES</b>                        | <b>71</b>  |
| <br>                                                                                   |            |
| Maciej Mądry                                                                           |            |
| <b>RAILWAYS. THE NERVOUS SYSTEM OF INDUSTRY</b>                                        | <b>87</b>  |
| <br>                                                                                   |            |
| Railway heritage catalogue                                                             | <b>101</b> |
| <br>                                                                                   |            |
| <b>CZECH REPUBLIC</b>                                                                  | <b>103</b> |
| <br>                                                                                   |            |
| <b>HUNGARY</b>                                                                         | <b>115</b> |
| <br>                                                                                   |            |
| <b>POLAND</b>                                                                          | <b>127</b> |
| <br>                                                                                   |            |
| <b>SERBIA</b>                                                                          | <b>139</b> |
| <br>                                                                                   |            |
| <b>SLOVAKIA</b>                                                                        | <b>151</b> |





**Anica Draganić**

## **RAILWAY HERITAGE FOR ENGAGING THE YOUNG GENERATION**

Following the results of the previously implemented RAIL4V4+V project in raising awareness about the railway heritage value and importance in the diversification of tourism offer in the V4 + Vojvodina region, the current project focused on encouraging the active participation of youth to make their voice heard on how they could be involved and contribute to railway heritage and its future.

The project RAIL4V4+V 2023 aims to Engage, Connect and Empower young people in railway heritage development through:

- Raising the level of their knowledge about common history, culture, heritage, identity
- Increasing their sense of initiative and participation in society
- Improving their understanding and responsiveness to cultural diversity
- Empowering their creativity and digital skills as crucial players in the innovation of cultural heritage tourism
- Increasing opportunities for their professional development

In line with the aim of the EYY 2022 and the strategic priorities of the Visegrad Group, the main goal is to involve youth in building a more sustainable and inclusive future for underdeveloped areas in V4+V regions.

The novelty of the Project pertains to the following:

- the introduction of novel perspectives in fostering active citizenship among young people and strengthening young people's sense of initiative
- the application of the interdisciplinary methodology in building an international network of professionals and young people interested in heritage

The railway has played a crucial role in the historical development of the V4 region. Its construction in the former Habsburg monarchy began in the 1820s. By the end of the century, it had significantly contributed to mining and agricultural development and the transport of goods. By the beginning of the 20th century, the railway network of the Monarchy reached a total length of over 40,000 kilometres and became one of the most developed networks in Europe. The territory of today's Vojvodina, once a peripheral swampy area of southern Hungary, was integrated into the bloodstream of the Monarchy thanks to the railway.

The development of new means of transport by the end of the 20th century made the railway lose its priority. Today, however, the EU is putting the railway in focus again, recognizing its potential in sustainability, innovation, safety and accessibility areas.

The regional relevance of the project is in the following:

- contribution to raising awareness of the role of railways integrating remote local communities through engaging and empowering young people, in line with strategic priorities of the Visegrad Group in 2023
- capacity building to strengthen the role of the railway in preserving Central European collective identity, in particular through its heritage, both tangible and intangible
- emphasising the regional, cross-border dimension of rail that brings youth closer together, allows them to explore the region in all its diversity, and fosters socio-economic and territorial cohesion

This book represents the final project output, designed as educational and promotional material. It consists of two units. The first scientific part contains five original research papers.

The first paper, titled *Tools For Developing/Enhancing Youth Awareness Towards Railway Heritage* by Vladimír Hain and Eva Kráľová, effectively highlights the role of intergenerational cooperation in fostering youth awareness of railway heritage. It underscores the dynamic nature of cultural transmission, where younger generations actively reinterpret inherited traditions. The integration of interactive tools such as VR, MR, AI, and gamification is presented as a promising strategy for engaging young audiences. Notably, the paper acknowledges bidirectional knowledge transfer, where youth-driven initiatives can revitalise older generations' interest in railway heritage.

Paper *Railway Heritage Revisited – Critical Approaches* examines railway heritage through critical heritage studies, moving beyond traditional preservation to highlight its social, cultural, and political dimensions. Anica Draganić and Mária Szilágyi explore the multifaceted nature of railway heritage, addressing its industrial and architectural significance, adaptive reuse potential, and broader socioeconomic and memory-related impacts. The study advocates for community-driven conservation, integrating digital tools like virtual reality and mapping with sustainable urban planning initiatives. Ultimately, it argues that railway heritage should be reinterpreted as a cultural asset fostering social dialogue, environmental sustainability, and community engagement, ensuring its continued relevance in contemporary urban and cultural landscapes.

*Children's Railways In Central And Eastern Europe – A Heritage Worth Preserving* is a paper written by Károly Teleki, who offers a well-researched historical and contemporary analysis of children's railways in Central and Eastern Europe, effectively situating them within broader discussions on railway heritage and

sustainability. By tracing their origins in the Soviet Union and examining their evolution in post-socialist states, the study provides valuable insights into how these railways have been adapted or abandoned in changing socio-political contexts. The discussion of sustainable operations and revitalisation efforts is particularly compelling, reinforcing the argument for their continued preservation.

Lukáš Beran's paper *Border Stations: Their Typology, Architecture, and Fates* examines cross-border railway stations in the Czech lands, analysing their typology, architecture, and contemporary use after the cessation of customs clearance functions. It categorises these stations into two main types: older stations along major railway lines that continue to serve regular rail traffic and newer stations in remote areas, where their viability depends largely on tourism. The study situates border stations within the broader historical development of railway architecture, contrasting standardised station designs with unique structures built at key junctions, particularly in major cities and border crossings. By tracing their architectural evolution and adaptive reuse, the paper highlights the challenges and opportunities in preserving these historically and functionally significant railway buildings.

The last paper, titled *Railways - The Nervous System of Industry*, expands the perception of railway heritage beyond architecture, emphasising the overlooked industrial infrastructure—sidings, auxiliary facilities, and technical structures—that shaped economic development. Its author, Maciej Mądry, highlights the loss of such sites due to economic transitions and redevelopment pressures, stressing the need for systematic preservation strategies. Through case studies of sites like a coking plant and a sand railway bridge, the paper effectively illustrates the vulnerability of industrial railway heritage. While it compellingly advocates for broader recognition and adaptive reuse, a deeper discussion on policy solutions would strengthen its impact. Overall, it makes a valuable contribution by urging a more comprehensive approach to preserving industrial railway infrastructure.

The second part of the publication has a promotional and educational character, considering that it presents a catalogue of 25 railway heritage sites from five partner countries, which are added to the RAIL4V4+V virtual route from the previous project.



**Ing. arch. Vladimír Hain, PhD., Univ. Assoc. prof.**

Institute of Constructions in Architecture and Engineering Structures, FAD STU,  
Bratislava, Slovak Republic, vladimir.hain@stuba.sk

**Assoc. prof. Ing. Eva Kráľová, CSc.**

Institute of Management STU in Bratislava, Slovak Republic, eva.kralova@stuba.sk

## **TOOLS FOR DEVELOPING/ENHANCING YOUTH AWARENESS TOWARDS RAILWAY HERITAGE**

**Abstract.** The main topic of this paper is developing youth awareness of railways. However, a crucial factor influencing this process is strong intergenerational cooperation. Cultural continuity—whether in relation to railway heritage, specific communities, or society as a whole—can only be achieved through generational transmission.

This process, however, is subject to constant reassessment and selection of cultural elements and values, involving the search for new cultural contexts. Transmission occurs only when the younger generation accepts and adopts the generational legacy passed down by older generations. (Kačírek, 2016)

In formal and non-formal education, there are various possibilities for utilizing modern interactive tools, ranging from photographs, Virtual Reality (VR), and Mixed Reality (MR) to computer games and Artificial Intelligence (AI).

The advantage of these technologies lies in the ability to digitally transfer railway objects into a virtual environment as 3D models, allowing them to be manipulated, animated, and augmented. This integration introduces gamification into the educational process, making learning more engaging and interactive for young visitors.

Practical experience clearly demonstrates that intergenerational knowledge transfer (as well as perceptual awareness) actively functions in the realm of railways and railway heritage. Moreover, this process can be bidirectional: while knowledge and traditions are typically passed from older generations to younger ones, the enthusiasm and initiatives of younger individuals can also stimulate engagement and reactivation among older generations.

**Keywords:** Railway Heritage, Digital Technologies, Non-Formal Education, Gamification, Intergenerational Knowledge Transfer

## **1. INTRODUCTION**

Almost everyone has traveled by train at some point. That first journey is always unforgettable, carrying with it a special charm that lingers in our memories for years. A sense of nostalgia arises when we gaze at old, majestic, yet beautiful locomotives, historic railway stations, and boldly engineered railway bridges.

Locomotives that have long ceased running on their tracks and stations that have found new purposes were once an integral part of the railway network—a network that transformed the lives of people across entire regions. Despite their silence and halted operations, they have lost none of their allure.

Many of these treasures have survived to this day—some preserved in museums and documentation centers, while others, having been repurposed, continue to serve their communities in new ways. Each holds a rich history, a legacy to be proud of. Above all, they live on in people's memories, forming what we cherish as our shared railway heritage.

## **2. WHY THE RAILWAY?**

The railway is more than just a means of transportation—it is a symbol of progress, connection, and transformation. For centuries, railways have shaped regions, economies, and societies, linking distant places, enabling trade, and fostering cultural exchange.

The railway has been an eco-friendly, comfortable, and safe mode of transportation for over 200 years. (Herring, 2005) This year marks the 200th anniversary of the inauguration of the first public railway with permanent steam traction—the Stockton & Darlington Railway in England.<sup>1</sup>

The railway is one of the most remarkable achievements of human ingenuity. Its emergence was the result of numerous partial innovations in science, technology, and industrial processes. Its development has had—and continues to have—a profound impact on the growth and qualitative advancement of numerous economic sectors, regions, and nations, as well as on the lives of individuals.

The railway is a mode of land transportation for both goods and passengers, serving both local and long-distance travel. In a narrower sense, the term "railway" refers to the rail track, while in a broader sense, it encompasses the entire system of infrastructure, equipment, and operations associated with railway transport.

Rail transport operates on a specially constructed artificial roadway equipped with tracks (the railway line), along which vehicles with specifically adapted—typically metal—wheels move. The railway system includes technical facilities designed for rail

---

<sup>1</sup> *The Stockton and Darlington Railway, (S&DR)*, <https://www.sdr200.co.uk/>

transport operations, as well as buildings and spaces dedicated to passenger services and operational personnel.<sup>2</sup>

The efficient operation of the railway requires highly trained personnel with both technical and managerial expertise, ensuring the safety, reliability, and efficiency of the transportation network.

The cross-border integration of railway networks enables the seamless transportation of passengers and goods across multiple countries, adapting to varied geographic and climatic conditions. Railway transport is governed by international agreements that establish technical standards, safety protocols, and operational cooperation to ensure collision-free transit and consistent service quality.



*Fig.1: Photography of railway heritage through the eyes of FAD STU students - The unique Telgárt loop, 2024. Source: Hupková Martina, Telgárt*

By adhering to these agreements and standards, the railway sector contributes to the development of nations not only in terms of technology, industry, and economy but also in education, cultural exchange, and social interactions.

The transfer of railway innovations stimulates progress in various specialized fields, fosters the preservation and respect for traditions, and plays a crucial role in safeguarding shared societal needs—such as environmental sustainability and safety.

Railways also enhance public awareness, promote socio-economic cohesion, and inspire further innovations and international cooperation. As a result, the expansion of railway networks plays an active role in shaping collective identity and spreading civilization across the globe.

---

<sup>2</sup> <https://sk.wikipedia.org/wiki/%C5%BDeleznica>



### 3. THE IMPORTANCE OF RAILWAYS

The development of railways has historically been an iconic indicator of industrial progress. Railways played a leading role in both the First and Second Industrial Revolutions and continue to absorb and integrate advancements from subsequent technological revolutions. As such, they reflect the current state of scientific and technological progress.

History clearly demonstrates that rail transport remains one of the most sustainable, energy-efficient, and safest modes of transportation. Railway networks are typically considered strategic assets for most nations due to their high capacity, safety, and reliability—serving not only civilian purposes but also military logistics, both in peacetime and wartime. Compared to road transport, railways are six times more energy-efficient and produce nine times less CO<sub>2</sub> emissions than road freight and air passenger transport.<sup>3</sup>

However, the restructuring of industries and the growing demand for direct, on-demand goods transportation led to a decline in freight rail transport. Since the late 20th century, the rise of automobile and air transport has contributed to a decrease in both freight and passenger rail transport demand. Nonetheless, energy crises and climate change in recent years have reinforced the need to restore and strengthen the role of railways in both economic and personal transportation. To support this shift, the European Committee of the Regions (CoR), an advisory body to the EU, has adopted several recommendations, including the promotion of public awareness regarding the role of railways in sustainable development.<sup>4</sup>



*Fig.2: Photo of preserved railway heritage in Slovakia - Viaduct, Tisovec, 2024. Source: V. Hain*

<sup>3</sup> Opinion of the European Committee of the Regions (2020/C 440/25) on the European Year of Rail (2021). In: *Official Journal of the European Union* C440/183. Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020AR2633>, retrieved: January 26, 2025.

<sup>4</sup> Opinion of the European Committee of the Regions (2020/C 440/25) on the European Year of Rail (2021). In: *Official Journal of the European Union* C440/183. Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020AR2633>, retrieved: January 26, 2025.

## 4. PERSPECTIVES ON RAILWAYS

The European Commission has incorporated several recommendations into its programs to strengthen the role of railways. For example, it has expanded the DiscoverEU<sup>5</sup> program for young people aged 18 and, through the Creative Culture program, it has created opportunities for the promotion and collaboration in the field of cultural heritage, including railway heritage.<sup>6</sup>

Additionally, various EU-funded initiatives—such as the Rural Development Program, European Capital of Culture, the Horizon Research Program, and others—indirectly contribute to the improvement, promotion, and enhancement of railway heritage by fostering its presentation within broader cultural and development projects.<sup>7</sup>

In this context, local and regional communities play a key role in creatively and effectively utilizing railway heritage by transforming it into actionable international events, projects, and programs. Several regional development programs also provide support for initiatives and events that promote dialogue, awareness-raising, and engagement among citizens, businesses, and public sector entities, with the goal of increasing the share of passenger and freight rail transport. It is recommended that regions and railway operators undertake joint promotional campaigns, utilizing diverse communication and information channels to raise the visibility of railway stations and rolling stock as cultural media. The aim is to support education, build relationships with passengers, and shape public awareness, ensuring that railways are recognized as a key mode of transportation in the fight against climate change.<sup>8</sup>

## 5. DEVELOPING/BUILDING AWARENESS

The concept of awareness is broad and multifaceted. Across various scientific and practical disciplines, it often carries different or nuanced meanings.<sup>9</sup> In short, awareness refers to a person's ability to perceive and be influenced by facts or situations, shaping their thinking, emotions, will, and actions. It is sometimes associated with sensitivity or susceptibility, though these terms are not always synonymous. While individuals exhibit different levels of awareness, it can be consciously developed and strengthened. Perception is a natural analytical-synthetic process of the central nervous system, structuring sensory inputs into meaningful patterns. It is a subjective means of understanding reality but is far from a passive process.<sup>10</sup>

---

<sup>5</sup> [https://youth.europa.eu/discovereu/rules\\_sk](https://youth.europa.eu/discovereu/rules_sk)

<sup>6</sup> <http://eduma.sk/4ve-akademia-vnimavosti/>

<sup>7</sup> <https://eurofondy.gov.sk/fondy-eu/partnerska-dohoda-sr-na-roky-2021-2027/>

<sup>8</sup> <https://eur-lex.europa.eu/legal-content/SK/TXT/HTML/?uri=CELEX:52020AR2633>, retrieved: Jan 26, 2025

<sup>9</sup> **Perception** – general awareness or understanding of something, **Sensitivity** – being receptive or responsive to stimuli, **Receptiveness** – openness to new ideas or experiences, **Awareness** – conscious knowledge or recognition of something, more for example here:

<https://www.google.com/search?client=firefox-b-d&q=perception>

<sup>10</sup> More about for example here: <https://sk.wikipedia.org/wiki/Vn%C3%ADmanie>

Perception is inherently linked to sensation—one cannot exist without the other. People perceive objects and phenomena as wholes, relying on prior knowledge and experience. The more extensive a person's knowledge and experience with a given object or fact, the richer and more complex their perception. Awareness is also influenced by an individual's activation level, motivation, needs, interests, and attitudes, all of which can be intentionally cultivated.



*Fig. 3: Photography of railway perceptions through the eyes of young people - student photo competition, 2024. Source: Hanga Kóczán*

### **The Process of Building Awareness**

The development and reinforcement of awareness occur through a structured sequence of activities, including:

- Observation of a fact or situation through all applicable senses—primarily sight, hearing, touch, smell, and occasionally taste.
- Understanding the subject of observation—recognizing causes, connections, and significance, leading to knowledge acquisition and enrichment.
- Conscious acceptance of newly acquired knowledge, integrating it into one's personal worldview. This often leads to mental or physical identification with a community that shares similar perspectives.
- Deliberate personal action in favor of supporting, protecting, or preserving the observed fact, often in collaboration with other community members.

### **Personal Experience as a Key Factor**

Firsthand experience is crucial in building awareness. The process follows a "from experience to knowledge" approach, where an observer (or visitor) gains an understanding not only of a fact's existence but also of its underlying conditions and broader context. In the case of railways, this means recognizing the complex interplay of specialized components—from the unique construction of railway tracks to the purpose-built vehicles, necessary infrastructure, and highly trained personnel. Each of these elements has a distinct function, contributing to a durable, well-designed system. The establishment and operation of railways surpass individual capabilities, yet they provide safe and efficient transportation for large numbers of users across varied distances and terrains. Railways are undeniably a complex socio-technical phenomenon—a public interest system. Their distinctiveness and uniqueness make them an engaging subject of discovery, not only for railway professionals but also for the general public.

### **Building Public Awareness of Railways and Railway Heritage**

The development of public awareness regarding railways and railway heritage is not limited by time or demographics. Various life experiences or personal encounters can serve as a catalyst for interest, prompting individuals to seek more information. Awareness-building can then continue:

- At any time—regardless of age, from childhood to senior years, and across different seasons.
- Anywhere—wherever a railway or an element of railway heritage exists.
- With anyone—who possesses unique insights about railways and railway heritage, beyond general knowledge.

In terms of educational approach, awareness-building primarily occurs through informal education and public outreach initiatives. Activities are often voluntary and may be independent or interconnected, forming thematic events and programs across various locations.



*Fig. 4: Photography from an educational event about railway heritage, 2022. Source: Railway Museum in Bratislava*

Special promotional and presentation events, such as the Night of Museums or the International Year of Railways, bring together varied forms of railway heritage representation within a specific time frame and location. The flexibility and informality of such initiatives create engaging experiences, capturing public interest and inspiring fascination with the world of railways.

## **6. EXAMPLES AND EXPERIENCES**

As previously mentioned, personal experience is often the strongest motivational factor. Today's era is frequently referred to as the digital age, where younger generations—particularly older students and adolescents who are still shaping their worldview—are so deeply connected to digital technologies that anything not available in digital form may seem nonexistent to them. In their perception, if something is not digitally accessible, it simply does not exist.

Railways, on the other hand, are highly tangible, massive, and seemingly unchangeable—in other words, they are perceived as being too "hard" for a generation accustomed to fast-paced digital interaction. The railway does not appear to offer the instant, dynamic digital experiences they are familiar with.

Therefore, to successfully cultivate a positive perception of railways among this demographic, it is crucial to identify and utilize appropriate digital tools that present railway heritage in an engaging and appealing way. By integrating interactive and immersive digital experiences, railways can become more accessible, relatable, and compelling for a generation deeply rooted in the digital landscape.

### **a) Digital Railway Photography**

Digital photography plays a crucial role in documenting, preserving, and promoting railway heritage. It allows for high-quality visualization of railway infrastructure, rolling stock, historical stations, and operational processes, making railway heritage more accessible and engaging to a wide audience.

Through advanced photographic techniques such as HDR imaging, aerial drone photography, and 360° panoramic captures, digital photography enables detailed representation of railway sites and objects, highlighting their architectural, engineering, and historical value.

In the context of education and outreach, digital railway photography serves as an effective tool for engaging younger generations. By integrating railway imagery into interactive platforms, virtual tours, and digital archives, it helps bridge the gap between historical railway heritage and modern digital experiences.

Additionally, social media and online platforms provide new opportunities for railway enthusiasts, historians, and the general public to share and explore railway photography, fostering a global appreciation of railway heritage.



*Fig. 5: Banner student photography competition, 2024. Source: V. Hain*

One effective way to actively involve the younger generation in railway heritage appreciation is through a photography competition. Such competitions provide an interactive and creative platform for young people to explore, document, and interpret the world of railways through their own perspectives.

The Faculty of Architecture and Design of the STU in Bratislava, in cooperation with the company Prolaika, announced a public international student photography competition with the aim of involving young people in discovering railway heritage and developing their photography skills and creativity.

The competition was intended for school students not younger than 16 and not older than 26, secondary art school students, architecture and design students and students by field, including university students from all five project partner countries (Slovakia, Czech Republic, Poland, Hungary, Serbia/Vojvodina), acronym Rail4V4+V 2023.

The conditions of this competition were very simple. Photograph what interests you. An individual with an exclusive series of a minimum of 3 and a maximum of 5 photos could enter the public competition.

A total of 219 photographs were submitted to the competition. The organizers awarded valuable prizes and books to the winners. An exhibition of all awarded photographs was held at the Faculty of Architecture and Design, STU, on June 20, 2024. On this occasion, a ceremonial announcement of the results took place, where diplomas, financial awards, and material prizes were presented as part of the Night of Architecture and Design event.





*Fig. 6: Evaluation of the Photo Competition: A 5-member expert committee + 2 invited experts evaluate individual works, 2024. Source: V. Hain*

A five-member expert committee, along with two invited specialists, thoroughly reviewed and evaluated the submitted works in advance. After 3.5 hours of deliberation, they finalized the rankings and reached the final results.

*Jury's Brief Evaluation: "We were pleased with the high participation of young photographers and the fact that many did not hesitate to travel abroad in search of compelling railway photographs, which was one of the main goals of this competition. It was fascinating to see multiple perspectives on the same locations and structures. The awarded photographs demonstrate exceptional quality, and we believe they will contribute to the promotion of V4 railway heritage among younger generations."*



*Fig. 7: The exhibition of all works in The Gallery Underground at the Faculty of Architecture and Design of STU, 2024. Source: Monika Stacho*

Photography competitions also serve as a bridge between past and present, allowing young people to discover the historical significance and contemporary relevance of rail transport.

### b) Virtual Reality and Digital Presentations of Railway Heritage

The use of Virtual Reality (VR), Augmented Reality (AR), and digital presentations offers immersive and interactive experiences, making railway history more accessible and engaging for contemporary audiences.

Virtual Reality (VR) allows users to step into historical railway environments, explore restored locomotives and stations, and even simulate railway operations. Through VR applications, railway heritage can be preserved and experienced in a way that traditional museum displays cannot offer. The virtual reconstruction of such structures can help communicate the history, culture, and technology to the public (Ganobjak, 2017). Key advantages include:

- Full immersion – Users can experience railway environments as if they were physically present.
- Interactivity – Digital reconstructions allow users to move through railway stations, explore train interiors, and interact with historical artifacts.
- Educational value – VR enhances learning by providing realistic historical simulations and technical insights into railway systems.

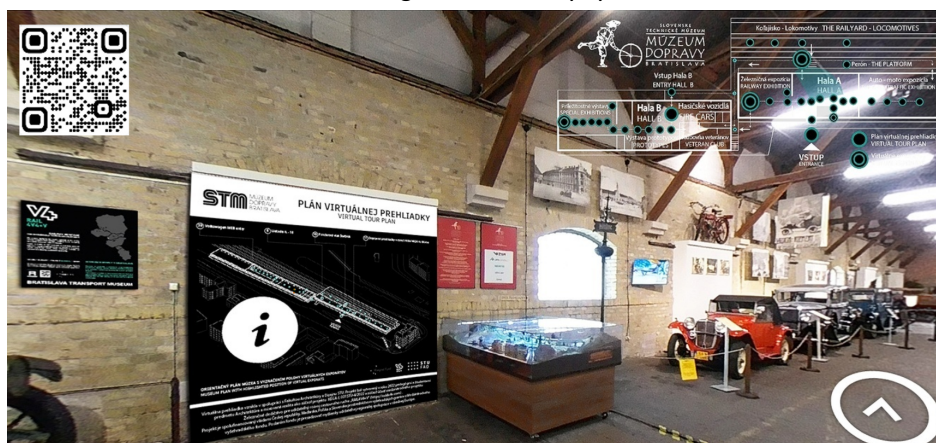


Fig. 8: Virtual guide to the Museum of Transport in Bratislava created by FAD STU, <https://dopravnemuzeum.mixedrealityarchitecture.eu/>, 2022. Source: V. Hain

### Digital Presentations and Virtual Exhibitions

Beyond VR, digital presentations and online platforms offer alternative ways to showcase railway heritage. These can include:

- 3D digital models of railway stations, trains, and infrastructure.



- Virtual tours of historic railway sites, allowing users to explore locations remotely.
- Online exhibitions featuring high-resolution imagery, archival materials, and interactive storytelling. (Spallone, 2019)

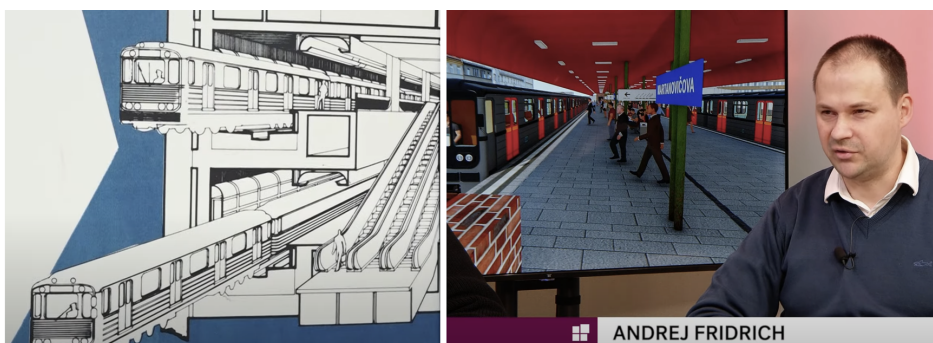
These digital tools help bridge the gap between traditional railway heritage and modern digital experiences, making historical content more engaging, shareable, and accessible to wider audiences. (Hain, Hajtmanek 2023)

One example of the use of digital presentation in railway heritage interpretation is the exhibition "The Metro We Never Rode" at the Museum of Transport in Bratislava.<sup>11</sup>

The Exhibition Takes You Through the Story of Bratislava's Unbuilt Metro. The Bratislava Metro project, which was repeatedly reconsidered and redesigned, began construction in the 1980s. But what would the first route from Petržalka to the city center have looked like if it had actually been completed?

The answer to this question is provided through the visualizations by Mgr. art. Andrej Fridrich, offering a detailed and artistic interpretation of how Bratislava's unbuilt metro system could have taken shape.

His digital renderings bring to life the envisioned stations, infrastructure, and urban integration of the metro, allowing visitors to explore this lost chapter of public transportation history through a modern visual narrative.



*Fig. 9: Presentation by Andrej Fridrich -Museum of Transport in Bratislava. Source: authors*

Visitor can join a journey through a major chapter in the history of public transportation planning in Bratislava. Using computer animation, visualizations, and archival materials, the exhibition offers a unique glimpse into what could have been, bringing the vision of Bratislava's metro to life in a captivating digital presentation.<sup>12</sup>

<sup>11</sup> More about: <https://stm-ke.sk/sk/vystavy/metro-ktorym-sa-nevozime/detail/302>

<sup>12</sup> Full video accesible here: [https://youtu.be/4g5g\\_FCpjwU?si=x\\_K2N99nZ0QC\\_cCI](https://youtu.be/4g5g_FCpjwU?si=x_K2N99nZ0QC_cCI)

By integrating modern digital presentation methods, the exhibition offers a unique and immersive experience, allowing visitors to engage with what could have been while gaining a deeper understanding of urban transport planning and infrastructure development.

### c) Digital games

Digital games represent highly sophisticated simulations that integrate realistic railway conditions into their core gameplay. Beyond the action-driven narrative, these games incorporate serious elements such as regulations, technical standards, and management strategies relevant to railway operations.

One such example is the Railroad Tycoon series, developed by PopTop Software in 2003<sup>13</sup>. The game's objective is to construct railway networks and manage the economy of railway operations. It features 25 scenarios, where players are challenged to recreate some of the most remarkable achievements in railway history from around the world.



*Fig. 10: The Game Railroad Tycoon series was released in 1990. Railroads was originally released for the PC in 2006, but this is its first appearance on the Mac.<sup>14</sup> Source: authors*

The game provides a diverse selection of locomotives, each with unique technical specifications such as traction power, speed, and design, as well as a variety of terrains to choose from. Some versions allow players to modify the landscape, while others require them to construct tunnels and bridges.

Technical constraints of railway construction are realistically implemented, including permitted gradients, curve radii, and engineering limitations. Additionally, the game integrates economic effects, enabling players to evaluate the financial impact of their proposed railway designs. The game supports multiplayer competition, where players can compete to build the most efficient railway network. However, an economic-free mode is also available, allowing players to focus solely on railway construction. Over time, the developers have released newer versions of the game, enhancing its realism and complexity.

<sup>13</sup> More about the game for example here: [https://en.wikipedia.org/wiki/Railroad\\_Tycoon\\_3](https://en.wikipedia.org/wiki/Railroad_Tycoon_3)

<sup>14</sup> More about Railroad Tycoon 3: <https://www.flipkart.com/railroad-tycoon-3/p/itmd796jwpsj4egv>

Digital railway games integrate realistic railway conditions into their gameplay, allowing young users to experience railway operations firsthand. Games like Railroad Tycoon enable players to design railway networks, manage economic aspects of railway operations, and understand the technical requirements of railway construction. These games provide an interactive, competitive, and educational experience, helping players appreciate the complexity of railway infrastructure and logistics.

#### **d) Other Engaging Examples for Youth Participation**

Beyond digital games, several interactive and immersive experiences offer young people the opportunity to engage with railway heritage in meaningful ways. Some notable examples include:

- Historic Train Rides – Providing firsthand experiences of railway travel from different historical periods, allowing participants to appreciate restored locomotives, authentic railway routes, and operational techniques of the past.
- Railway Enthusiast Clubs – Existing and continuously growing, these clubs bring together passionate individuals interested in rail transport, fostering a sense of community and encouraging knowledge-sharing and hands-on involvement.
- Model Railway Clubs – Dedicated to the creation and operation of miniature railway systems, these clubs offer young people a chance to explore railway design, engineering principles, and historical accuracy in a creative way.
- Popular, Science and Professional Literature – Books, magazines, and academic publications provide accessible insights into railway history, technology, and management, sparking curiosity and deeper engagement for readers from children to seniors.
- Comprehensive Popularization Events – Large-scale events that integrate all the above-mentioned activities, offering a multifaceted railway experience through exhibitions, train rides, workshops, and interactive presentations. Such events tend to last longer and often cover a larger area, while also engaging other forms of artistic presentation. See e.g.: A festival celebrating the birth of the modern railway from March to November 2025.<sup>15</sup>

These initiatives help bridge generations, promote railway culture, and strengthen public appreciation of railway heritage.

---

<sup>15</sup> <https://www.sdr200.co.uk/>



*Fig. 11: 20th anniversary of this traditional event of Railway Modelers Club Vrútky - Slovakia – Model of TT track in the Vrútky Railway Modelers Club, 2018. Source: Railway Modelers Club*

## 7. CONCLUSION

Railways have historically played a key role in industrial progress and regional development, yet for younger generations growing up in the digital age, they may seem distant and unrelatable. To ensure that railways and railway heritage remain relevant, it is essential to use innovative educational methods and digital tools that make them accessible and engaging.

Building awareness among young people requires personal experiences that spark curiosity and encourage active participation. Since modern youth are highly connected to digital technologies, interactive solutions such as virtual reality (VR), mixed reality (MR), digital photography, and simulation-based games serve as effective gateways to railway education. The use of digital platforms and social media further increases engagement, allowing young people to share their perspectives with a broader audience.

Railways are not just a mode of transportation; they are a socio-technical phenomenon that plays a vital role in sustainability, economic growth, and cultural heritage preservation. By fostering awareness and engagement among younger generations, we ensure that railways continue to be valued, innovated, and developed as a key part of public infrastructure and environmental responsibility.

Encouraging youth participation through digital technology, interactive experiences, and hands-on involvement will help build a new generation of railway

enthusiasts and professionals, ensuring that railway heritage remains an integral part of our collective identity and future mobility solutions.

## REFERENCES

- Ganobjak, M. (2017). Virtual presentations as a tool to present values of extinct historical objects. In Bardkontakt Proceedings *Monuments and heritage sites in development programs of municipalities and regions* (pp. 181–188). City Bardejov.
- Hain, V., Hajtmanek, R. (2023). *How to use mixed reality in architecture*. 1st ed. Bratislava: Spektrum. University textbook edition, edition number 6172, 6173.
- Herring, P. (2005). *Vlaky a železnice* (orig. Ultimate Train), Slovart.
- Kačírek, L. (2016). *Kultúrne Dedičstvo Slovenska*. Vysokoškolské Skriptá. Muzeológia a Kultúrne Dedičstva, o.z. Bratislava.
- Spallone R. (2019). Reconstructive Architectural and Urban Digital Modelling; Advanced Methodologies and Technologies in Mehdi Khosrow-Pour (Ed.), *Government and Society* (pp. 591-605). D.B.A., IGI Global, 20 February 2021, <http://doi:10.4018/978-1-5225-7661-7.ch046>









**Anica Draganić, PhD, Professor**

Department of Architecture and Urbanism, Faculty of Technical Sciences, UNS, Serbia,  
draganic@uns.ac.rs

**Szilágyi Mária, PhD, Assistant Professor**

Department of Architecture and Urbanism, Faculty of Technical Sciences, UNS, Serbia,  
maria\_siladji@uns.ac.rs

## **RAILWAY HERITAGE REVISITED – CRITICAL APPROACHES**

**Abstract.** This paper explores railway heritage through the lens of critical heritage studies, emphasising its complex significance beyond traditional preservation methods. It challenges conventional perspectives that view railway heritage solely as technological artefacts or architectural monuments, instead highlighting its social, cultural, and political dimensions.

The study addresses the multifaceted nature of railway heritage, examining its industrial and technological impacts, architectural values, and potential for adaptive reuse, as well as its socioeconomic and cultural influences and its connections to politics and memory. The paper advocates for community-driven heritage conservation, integrating digital heritage tools, such as virtual reality and mapping, with sustainable urban planning initiatives, like converting old railway corridors into eco-friendly spaces.

Ultimately, the paper argues that railway heritage should be reinterpreted as a cultural asset promoting social dialogue, environmental sustainability, and community engagement. The critical approach ensures its historical significance and future relevance within urban and cultural landscapes.

**Keywords:** Railway Heritage, Critical Studies, Sustainability, Identity, Nova Crnja

## **1. INTRODUCTION**

### **1.1. Theoretical framework**

During the past few decades, cultural heritage studies have faced paradigmatic changes due to diverse social, political, economic and cultural transformations. The concept of heritage itself should be understood from a critical perspective as a complex phenomenon that merges various tangible and intangible dimensions. This complex issue requires a cross-disciplinary approach, integrating knowledge from architecture, anthropology, archaeology, sociology, art history, digital humanities, and other fields.

The critical heritage approach challenges traditional perspectives that treat railway heritage solely as a collection of technological artefacts or architectural monuments. The most recent studies provide critical insights into railway heritage conservation, its socio-political impact, and digital efforts to document and restore historic railway sites (García-Hernández, Gravari-Barbas, 2025).

### **1.2. Railway heritage**

Railway heritage encompasses many sites, structures, complexes, landscapes, machinery, and documents that provide evidence of past and present rail traffic. The richness of railway heritage lies in its remarkable diversity, which includes historical, technological, social, architectural, and scientific values. It consists of tangible elements such as rails, tracks, and extensive infrastructure, including signalling systems, bridges, tunnels, viaducts, and aqueducts. Additionally, it includes railway stations, ancillary buildings, depots, workshops, warehouses, and spaces dedicated to cultural and social activities related to railway life, such as housing, leisure, and education.

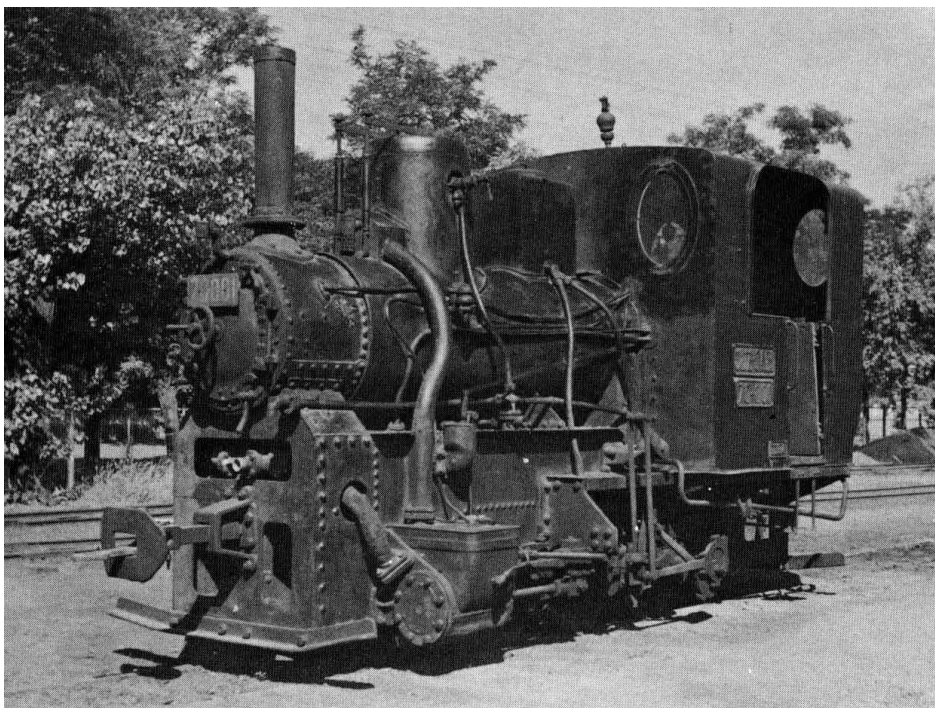
Railway heritage reflects the interaction between cultural and natural environments, as rail transport—historical or contemporary—relies on natural resources for raw materials, energy, and transportation networks. Beyond its physical components, railway heritage also includes intangible aspects, such as the knowledge, skills, traditions, and social and cultural legacies that have shaped the lives of railway workers and their communities (Solomon, 2013).

The tracks themselves are the fundamental layer of railway heritage. From the 18th century to the present, iron and steel rails have transformed landscapes and cities, traversing vast plains, following river courses, cutting through mountain ranges, and connecting remote areas with urban centres. The ingenuity of railway engineers in the 19th century, combined with advancements in engineering skills, materials, and technology, enabled the construction of significant heritage landmarks, such as bridges, tunnels, viaducts, and aqueducts.

Another essential component of railway heritage is the marshalling yard. These networks of tracks, divided into grids for receiving, sorting, forming, and dispatching trains, were crucial for expanding freight transportation. Although modern logistics and

technology have reduced their necessity, marshalling yards remain integral to goods transportation, serving as hubs for assembling, disassembling, and directing rail freight.

Railway architectural heritage includes various building types and structures designed to serve more than just transportation needs. This category encompasses freight stations, locomotive and tram depots, maintenance workshops, watchtowers at level crossings, and signal boxes. (Valkoinen, 2021) Railway stations, in particular, acted as gateways to cities, places of welcome and farewell, and spaces where people engaged with the outside world. Depending on the policies of the railway companies and the station's importance within the network, these facilities ranged from monumental, individually designed structures to standardised buildings constructed according to typical architectural plans (Kubinszky, 1986). The central railway station complex often included business and administrative buildings, hotels, restaurants, and post offices, playing a significant role in urban transformation by creating new relationships between city centres and peripheral areas. Housing colonies specially designed for railway workers and their families represent a unique yet often overlooked aspect of railway heritage, illustrating the deep integration of railway infrastructure into daily life.



*Fig. 1: Steam locomotive JZ 70-001, volt MÁV 399,004, 1938. Source: Tadej Braté felvétele*

Movable railway heritage includes locomotives, carriages, freight wagons, tramways, draisines, and prototypes. Additionally, minor yet significant artefacts are

part of this heritage, such as station clocks, train guards' whistles, staff uniforms, ticket printing devices, ticket validation pliers, station benches, concrete markers, and various traffic signals and crossing gates.

One of the most valuable yet often intangible aspects of railway heritage is the traditional knowledge and specialised skills required for railway operations. The functioning of the railway system depended on numerous occupations, each with its expertise and practices, including train drivers, boilermakers, signalers, wagon connectors, station chiefs, conductors, ticket sellers, train guards, maintenance workers, and porters. Many of these roles required mastery of complex techniques, such as steam locomotive maintenance, railway signalling operations, and the precise art of coupling and decoupling freight wagons.

Beyond professional expertise, the railway system nurtured a distinctive cultural and social environment. Railway communities developed their traditions, language, and customs, fostering strong bonds among workers and their families. Oral histories, songs, and folklore associated with railway life have been passed down through generations, contributing to a rich and unique cultural heritage. Railway workers often lived in close-knit communities, where shared experiences shaped collective identities and narratives. In many regions, railway workers' strikes and labour movements played significant roles in the broader fight for social and economic justice, leaving an enduring legacy in political and labour history.

## **2. RAILWAY HERITAGE – MULTILAYERED PHENOMENON**

### **2.1. Industrial and technological legacy**

Railways have played a crucial role in industrialisation and modernisation, revolutionising transportation, communication, and economic development. The introduction of the railway system in the 19th century significantly accelerated industrial production by enabling the efficient movement of raw materials, manufactured goods, and labour (Schivelbusch, 2014: 1-15). Factories and industrial centres increasingly depended on rail networks to transport coal, iron, steel, and other resources essential for mass production.

Railways also played a transformative role in modernising societies (Richards & MacKenzie, 1986: 94-122). They facilitated the swift circulation of ideas, people, and goods, fostering economic integration and cultural exchange across regions. The standardisation of time zones, implemented to synchronise train schedules, exemplifies how railways influenced the broader organisation of modern life.

Furthermore, railway networks were instrumental in nation-building projects, symbolising progress and unity. Many governments invested in railway infrastructure to consolidate political control, improve administrative efficiency, and foster national identity. Colonial powers utilised railways to expand their reach, integrating distant territories into global trade networks while controlling local populations.

In the 20th and 21st centuries, railways continuously play a pivotal role in modernisation, adapting to technological advancements such as high-speed rail, electrification, and sustainable transport solutions. As societies seek environmentally friendly alternatives to road and air transport, railways remain a key component of modern infrastructure, balancing heritage conservation with future development.

Recognising and preserving both the tangible and intangible aspects of railway heritage is essential for understanding broader historical, technological, and social transformations of rail transport. By safeguarding knowledge, practices, and traditions alongside physical structures, we ensure that railway heritage remains a dynamic and meaningful part of our cultural legacy.

## **2.2. Architectural significance**

Railway architecture showcases a diversity of styles influenced by functional requirements, technological advancements, and regional architectural traditions. From the grandeur of neoclassical and Beaux-Arts stations to the practical designs of industrial depots and maintenance workshops, railway buildings exhibit multiple aesthetic and structural characteristics. (Sheppard, 1996).

In the early stages of railway construction, elaborate station buildings symbolised modernity and progress. They often incorporated decorative elements and monumental facades to project civic pride and economic prosperity. Over time, however, standardised designs became more common, emphasising efficiency, durability, and modular construction.

Construction techniques evolved alongside engineering advancements. Initially, railway buildings were constructed using masonry and timber, but this later shifted to iron, steel, and reinforced concrete. This transition allowed for larger spans, increased loads, and improved fire resistance. Innovations such as prefabrication and modular construction further facilitated the rapid expansion of railway networks, enabling the development of stations, depots, and ancillary structures with standardised components that could be easily replicated across various locations.

As railway infrastructure has aged and transportation needs have changed, adaptive reuse has emerged as a critical strategy for preserving railway heritage while integrating it into modern urban landscapes. Former railway stations have been repurposed as cultural centres, museums, and commercial hubs, while abandoned depots and warehouses have been transformed into creative spaces, offices, and residential complexes. These adaptive reuse projects conserve architectural heritage and contribute to sustainable urban development by revitalising disused spaces and fostering new social and economic activities (Di Ruocco, Sicignano, Fiore, & D'Andria, 2017: 1643-1652).

Successful examples of adaptive reuse illustrate how railway heritage can remain a dynamic and relevant part of contemporary cities, bridging the past and present through thoughtful conservation and innovative use.



### **2.3. Socioeconomic and cultural impact**

Railways have played a crucial role in shaping socioeconomic structures and driving social mobility, migration, and the formation of regional identities. By providing accessible and efficient transportation, rail networks have enabled people to travel in search of employment, education, and new opportunities, effectively breaking traditional geographic and economic barriers.

The expansion of railways facilitated large-scale migration, connecting rural populations with growing industrial and urban centres. This movement contributed to economic growth and urbanisation while fostering cultural exchange and the development of diverse, multiethnic communities (Roth & Polino, 2003). Railway hubs often became melting pots where different social classes, ethnic groups, and cultures interacted, influencing local traditions, languages, and lifestyles.

Additionally, railways have reinforced regional identities. The construction of railway lines linked remote areas with national and international markets, integrating them into broader economic and political frameworks. In many instances, railway infrastructure symbolises regional pride, modernisation, and progress, contributing to communities' collective memory and historical narratives (Harris, R. J. P, 2020: 254-277).

In contemporary society, heritage railways and railway museums continue to celebrate these cultural dimensions, preserving the legacy of rail travel and its impact on social structures. Understanding railways' socioeconomic and cultural significance enriches heritage studies, ensuring the legacy remains relevant for present and future generations.

### **2.4. Memory and politics of railway heritage**

Political ideologies and state policies significantly influenced railway heritage development and preservation. Throughout history, railway networks have served as instruments of nation-building, imperial expansion, and political control. Governments and ruling elites have strategically invested in railway infrastructure to assert territorial dominance, promote economic integration, and strengthen administrative control (Anastasiadou, 2011).

Different political regimes have shaped narratives surrounding railway heritage in various ways. In colonial contexts, railways were often built to facilitate resource extraction and maintain control over occupied territories. In socialist states, the expansion of railways was celebrated as a symbol of industrial progress and collective labour, with impressive stations and worker settlements embodying state ideology (Jacolin & Roth, 2013). Conversely, in post-industrial and neoliberal contexts, the decline of rail infrastructure and its privatisation have changed perceptions of railway heritage, leading to debates about preservation, ownership, and cultural significance.

The politics of railway heritage also extend to commemorative practices and public memory. Monuments, museums, and heritage railway projects reflect changing interpretations of the railway's historical role. While some sites are preserved as symbols of technological achievement and national pride, others remind us of forced labour, displacement, and the environmental consequences of railway expansion. This contested nature of railway heritage underscores the importance of adopting inclusive and critical approaches to its study and conservation.

### **3. CRITICAL HERITAGE APPROACHES**

#### **3.1. Beyond preservation: a critical heritage framework**

Traditional heritage discourse often views railway heritage solely as a collection of architectural and technological artefacts, focusing on conservation and aesthetic values. However, critical heritage studies challenge this static perspective by considering power dynamics, memory politics, and social agency in heritage production.

Historically, railways have served as state power, modernisation, and economic control instruments. Their meanings are often contested—celebrated as symbols of progress in some contexts while being perceived as tools of oppression in others. The critical heritage approach raises questions about who defines railway heritage, emphasising how political regimes, economic structures, and social movements shape heritage narratives.

Utilising dissonant heritage theory, we can examine the tensions inherent in railway heritage (Lähdesmäki, Passerini, Kaasik-Krogerus, Van Huis, 2019). While railways are often portrayed as engines of modernisation, their historical roles in colonial exploitation, forced labour, and environmental degradation complicate this narrative. Imperial and colonial railways were frequently constructed to extract resources and enforce control rather than to benefit local communities.

Socialist railway networks were symbols of industrial pride and collective labour, but after the fall of socialism, many were abandoned or repurposed, raising questions about how post-socialist societies grapple with their past (Jacolin & Roth, 2013). The closure of railways and neoliberal redevelopment expose the tensions between heritage conservation and urban gentrification, where former industrial hubs are either neglected or rebranded as heritage tourism sites.

Railway heritage is also deeply connected to social class and labour history (Strangleman, 2002: 147-158). A critical approach acknowledges:

- Railway workers as historical agents, rather than passive subjects, in heritage narratives. Labour unions, strikes, and railway communities significantly shaped industrial history and deserve recognition in heritage discourse.

- The gendered aspects of railway work, as women in the railway industry (such as ticket sellers, administrative staff, and station workers) are often underrepresented in heritage narratives.
- The perspectives of marginalised groups, including indigenous communities displaced by railway expansion, migrants employed in railway construction, and communities that relied on but were excluded from railway infrastructure.



*Fig. 2. Nova Crnja Railway Station. Source: Irene Kremer*

### **3.2. Railways as political symbols: shifting narratives over time**

Railways have often served as tools for state-building, enabling empires to consolidate power, integrate economies, and control mobility. Railways facilitated administrative oversight and economic exploitation in the Austro-Hungarian, Ottoman, and Russian empires. The legacy of these railways continues to fuel debates about heritage, national identity, and historical accountability.

In socialist regimes, railways symbolised collectivism, industrial progress, and the unity of workers. Many railway stations were monumental structures that reflected ideological aspirations, as seen in projects from Yugoslavia (Костадиновић и др, 1997). However, after the fall of socialism, deindustrialisation and privatisation led to an abandonment, decay, or transformation of railways. Some former railway hubs were repurposed into cultural spaces, while others became nostalgic and memorable sites.

Nowadays, railway spaces are increasingly commodified through urban renewal projects, with old stations and depots converted into shopping malls, hotels, or entertainment venues. Heritage tourism initiatives, such as European heritage routes (<https://www.coe.int/en/web/cultural-routes/european-route-of-industrial-heritage>) and UNESCO-listed railway sites (Coulls, 1999), reframe railway infrastructure as cultural assets. It raises an important question: Does this form of tourism promote historical reflection, or does it simply commodify heritage for profit? A growing grassroots movement advocates for participatory railway heritage conservation, challenging corporate-led heritage projects that overlook working-class and local histories.

### **3.3. Memory, identity, and participatory heritage**

Who Owns Railway Heritage? Railway heritage involves various stakeholders, including governments, corporations, historians, local communities, and activists. Their differing interests often lead to conflicts over preservation versus redevelopment, top-down versus bottom-up heritage initiatives, and official versus real memories (Draganić & Szilágyi, 2022: 75-99).

Some communities are actively reclaiming disused railway infrastructure for public use by:

- Transforming old railway tracks into green spaces—parks and walking trails.
- Revitalising former railway stations into community hubs, art spaces, or local museums.
- Engaging in memory activism, where former railway workers and local historians document oral histories and preserve archives that might otherwise be lost.

Institutional heritage organisations tend to focus on monumental sites and official narratives. In contrast, local memory practices often emphasise everyday experiences, labour struggles, and the social aspects of railways. Tensions arise when top-down heritage policies exclude local voices, raising questions about who decides which railway sites are preserved and how they are interpreted.

### **3.4. Digital and environmental futures of railway heritage**

The exploration of digital heritage in railroad history presents a fascinating opportunity to revitalise and preserve the legacy of lost railway networks. Through advanced digital technologies, researchers meticulously map the remnants of these vanished infrastructures, creating a visual narrative highlighting the historical significance of rail corridors that once thrummed with activity (Draganić, 2024: 163-183).

Additionally, virtual reality (VR) technology breathes life into the past by allowing users to experience the grandeur of historic railway stations and the intricacies

of vintage trains. This immersive engagement offers a unique, firsthand glimpse into the railway's rich tapestry of history, enabling individuals to walk through time and witness the architectural splendour and operational bustle that characterised a bygone era (Chun-Chun, Fanfan, Chien-Hsu & Yang-Cheng, 2018: 42-46).

Digital archives are also being developed to capture and preserve the voices of those intimately connected to the railway world. Oral history projects gather valuable testimonies from former railway workers, engineers, and passengers, creating a rich repository of personal experiences and collective memories that honour the human stories woven into the fabric of railway travel.

As society reexamines the role of rail transport as a sustainable alternative to cars and aeroplanes, there's a growing interest in reimagining former railway corridors. These defunct tracks can be transformed into vibrant paths for sustainable mobility initiatives, harnessing green infrastructure to repurpose disused railways into picturesque cycling paths or serene nature trails. This innovative approach honours the remnants of industrial heritage and aligns seamlessly with efforts to promote environmental conservation.

The question arises: Could railway heritage be innovatively integrated into the framework of climate-conscious urban planning, creating a harmonious blend of history and sustainability for future generations?

## **4. CASE STUDY – NOVA CRNJA RAILWAY STATION**

### **4.1. Background**

Nova Crnja (Magyarcsernye) railway station was one of the 16 stations planned along the Banat narrow-gauge railway. The line construction began in 1894. Spanning 65.5 km with a 760 mm track width, it was completed in 1898 and operated with steam locomotives until its closure.

Banat narrow-gauge railway, officially part of the Torontal vicinal railways, played a crucial role in the growth and development of the settlements along its route. Stretching from Zrenjanin (Nagybecskerek) to Žombolj (Zsombolya), it served a region closely tied to the influential Csekonics family, one of the wealthiest in Banat (. Count Csekonics Endre supported the project for its economic benefits, developing a private 60 km horse-drawn commercial railway for agricultural transport. The railway's significance declined after WWI, as shifting national borders placed Žombolj in Romania, shortening its route. Despite limited interwar expansion, the railway played a role in the colonisation of Banat. By the 1960s, road transport had outcompeted the railway, leading to its closure in 1968. Attempts to save it failed due to poor maintenance, and in 1969, the tracks were dismantled for the Danube–Tisa–Danube canal project, officially ending its operation.

Banat narrow-gauge railway was unique in the region. Its development was shaped by regional needs and conditions, reflecting the importance of transport

infrastructure in supporting agriculture and connecting local communities. It held significant economic and social value, facilitating regional trade and mobility.



*Fig. 3. Nova Crnja, at the beginning of the 20th century. Source: Ferenc Felek*

After cancelling the narrow-gauge line, the Nova Crnja railway station lost its original purpose. The reception building served multiple functions, including the headquarters for the local agricultural cooperative and various non-governmental organisations within the settlement. However, this building has been abandoned for years and is now in disrepair.



*Fig. 4. Nova Crnja, 2024. Source: Marijana Perić*

The guardhouse also lacks a defined purpose, while the wooden warehouses are currently utilised by a nearby oil factory. The station master's apartment has been converted into a family home. In its yard, the original wooden warehouse has been preserved. Unfortunately, the other buildings from the station complex have vanished without a trace.



In 2021, designated as the European Year of Rail, CULTstore launched Rail4V4+V, an international initiative supported by the Visegrad Fund. The project aimed to showcase the historical and cultural significance of railways while emphasizing their role in shaping Central European collective identity. Aligned with the European Year of Rail and the Visegrad Group's strategic priorities, its primary objective was to raise awareness of railways' potential in fostering sustainable tourism in the region. This was achieved through distinctive branding and the presentation of railway heritage, both on-site and via a digital platform.

The Banat narrow-gauge railway was among 25 railway sites from five countries integrated into a shared virtual route, designed to highlight their historical significance and contemporary relevance for local and international audiences. Within this initiative, particular focus was placed on the abandoned railway station in Nova Crnja, whose tourist potential drew interest from the local government.

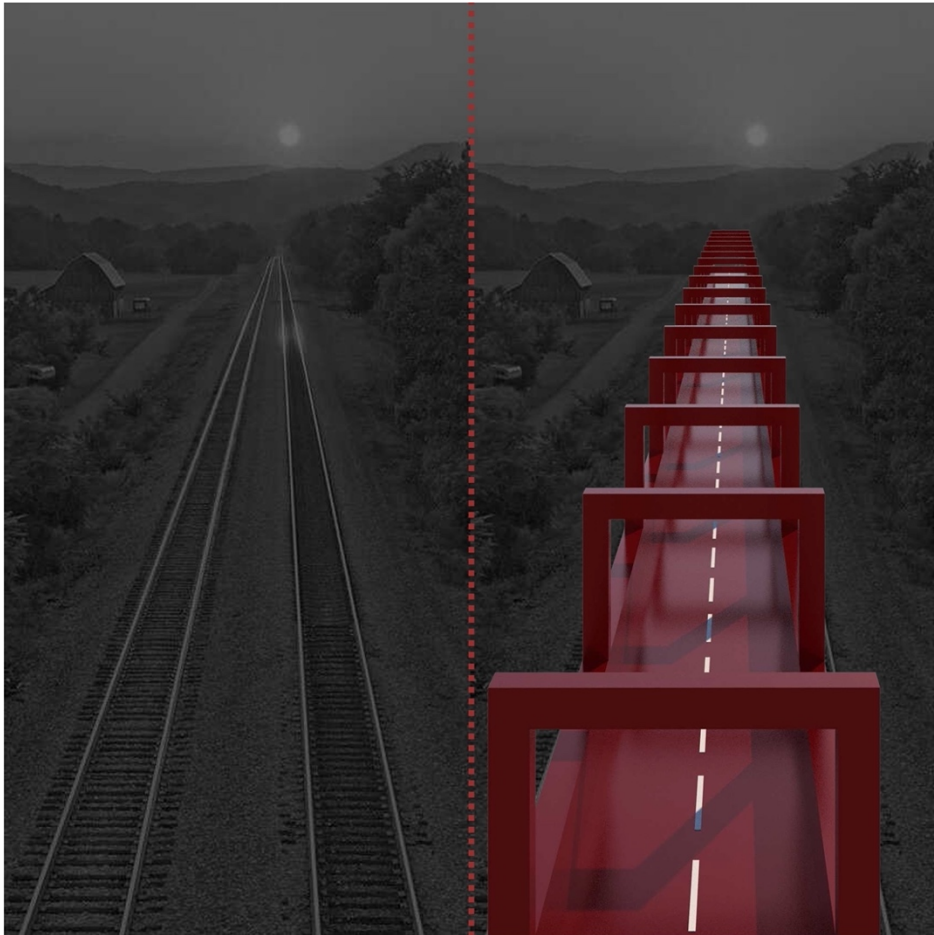
#### **4.2. Research method**

During the 2023/24 academic year, students in the Master's course on Adaptive Reuse of Built Heritage, under the mentorship of Draganić and Szilágyi, conducted a comprehensive assessment of the station's condition. They analysed its structural stability, identified damages, and performed a SWOT analysis to align restoration efforts with community needs. Based on these findings, along with a thorough examination of historical, socio-political, economic, traffic, urban, and architectural factors, the students developed conceptual projects for site reactivation.

Despite the decline of narrow-gauge railways during the mid-20th century, Nova Crnja railway station remains vital to local communities, representing their identity and rural distinctiveness. As living heritage, it reflects ongoing community ties and cultural traditions. Preserving railway heritage authenticity needs integration of efficiency and modernity. Thus, it was essential to acknowledge the intangible aspects that are a crucial part of the physical characteristics of the railway heritage when planning its renewal. A transformative approach to railway heritage offered a comprehensive understanding of its historical importance and sustainable future.

#### **4.3. Results**

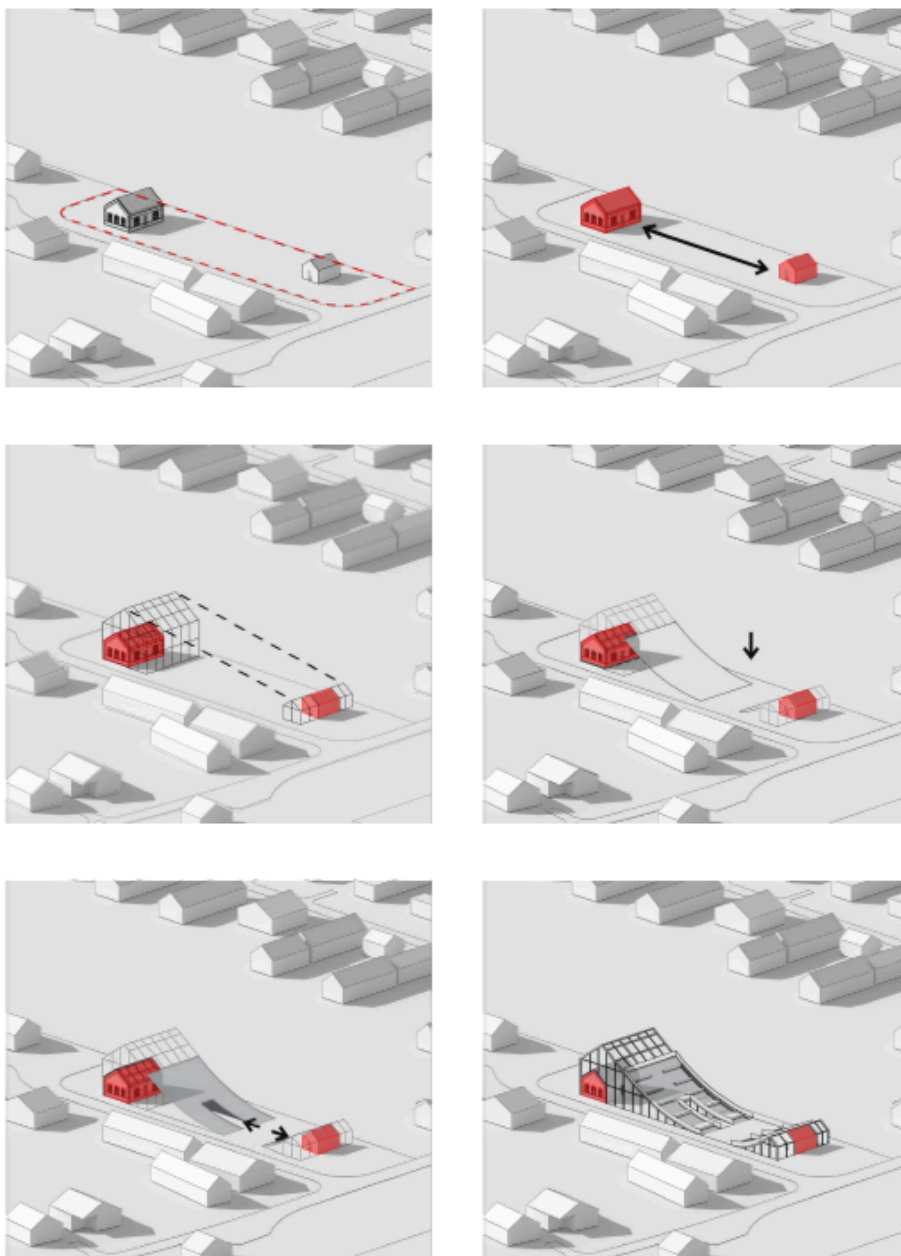
The research results showed the following. The railway station in Nova Crnja is a significant historical and infrastructural facility, crucial in the development of the community from the mid-19th to the mid-20th century. Although it has been neglected for decades and is no longer functional, this area still retains elements of living history that reflect the traditional way of life of the local population. This space has the potential to stimulate new initiatives that could contribute to the economic and social revitalisation of the community. The station must be treated broadly - as part of the Banat narrow-gauge railway.



*Fig. 5. Revitalisation of the Banat narrow-gauge railway, 2024. Source: Marijana Perić*

The project we are highlighting proposed the restoration of the former railway line for the needs of bicycle traffic. By cycling along the historical route, locals would have a new experience of the past and traditional values. Furthermore, the natural environment surrounding the station, including green areas and small watercourses, presents opportunities for projects focused on sustainability and ecology, such as aquaponic systems and community gardens (Perić, 2024: 47-48). The railway station is a relic of the past but also a potential platform for the future—a place where tradition and innovation can converge to create a dynamic and sustainable community.

Marijana's railway station reactivation concept represents a critical approach to revitalising this unique space. It has the potential to become a community centre and an example of sustainable development (Perić, 2024).



*Fig. 6. Conceptual diagram, Nova Crnja railway station, 2024. Source: Marijana Perić*

A key element of this initiative is an aquaponic system as an innovative solution for food production. Aquaponic systems combine hydroponics and aquaculture, allowing fish and plants to coexist in a single ecosystem. This approach reduces the need for chemical fertilisers and pesticides, optimising water use and contributing to sustainability.

The reactivation of the railway station in Nova Crnja and the implementation of aquaponic systems are not merely architectural projects—they are part of a broader vision for sustainable development and the renewal of urban spaces. These initiatives contribute to:

- Sustainable economy: Decreasing the ecological footprint and promoting sustainable agricultural practices.
- Social cohesion: Creating spaces for gathering and fostering community through collaborative activities.
- Economic stability: Providing local entrepreneurs with development opportunities and stimulating the growth of the local economy.

This vision entails activating, adapting, and innovatively utilising old spaces to create sustainable and functional communities. Introducing new architectural programs—such as a cultural centre, educational and recreational activities, and aquaponic systems within the railway station—represents a transformation of the area and an investment in the community's future.

Aquaponic gardens within the train station complex can ensure a local supply of fresh, organic food, thereby enhancing local self-sufficiency. Marijana's project showcases the sustainable transformation of traditional space to meet modern needs.



*Fig. 7. Design, Nova Crnja railway station, 2024. Source: Marijana Perić*

## 5. CONCLUSIONS

A critical heritage approach to railways moves beyond traditional preservationist narratives and acknowledges contested histories, power dynamics, and evolving social meanings. By integrating intersectional perspectives, political critique, and participatory strategies, railway heritage can be reinterpreted not only as a remnant of the past but as a site of social dialogue, environmental innovation, and community engagement in the present and future.

Key conclusions from the paper include:

1. Railway heritage as a site of social dialogue: This perspective underscores the importance of railway heritage in shaping historical narratives, influencing labour movements, and constructing community identities, thereby serving as a significant component of collective memory.

2. Environmental innovation and sustainability: The text advocates for the reinterpretation of railway heritage within sustainable development frameworks, highlighting the necessity of integrating eco-friendly repurposing initiatives that revitalize historical resources while prioritizing environmental responsibility.

3. Participatory strategies and community engagement: The emphasis on local community involvement in the heritage conservation process is critical. This approach ensures that preservation efforts align with the social and cultural needs of the communities concerned.

## REFERENCES

- Anastasiadou, I. (2011). *Constructing Iron Europe Transnationalism and Railways in the Interbellum*. Amsterdam: Amsterdam University Press.
- Burman, P. & Stratton, M. (Eds.) (2013). *Conserving the Railway Heritage*. New York: Routledge.
- Chun-Chun W., Fanfan C., Chien-Hsu C. & Yang-Cheng L. (2018). Virtual and Augmented Reality to Historical Site Reconstruction: A Pilot Study of East Taiwan Old Railway Station. In *Proceedings of the 2018 International Conference on Artificial Intelligence and Virtual Reality* (pp. 42–46). New York: Association for Computing Machinery.
- Coulls, A. (1999). *Railways as World Heritage Sites*. Paris: International Council on Monuments and Sites (ICOMOS).
- Draganić, A. (2024). Virtual Train Journey through Visegrad and Vojvodina Regions. In A. Draganić, (Ed.), *Rethinking Industrial Routes and Networks* (pp. 163–183). Novi Sad: Cultural studies platform CULTstore.
- Draganić, A. & Szilágyi, M. (2022). Towards a sustainable approach to railway heritage – the role of the community. In A. Draganić & M. Szilágyi (Eds.), *Railway heritage for sustainable tourism development RAIL4V4+V* (pp. 75–99). Novi Sad: Cultural studies platform CULTstore.
- Di Ruocco, G., Sicignano, E., Fiore, P. & D'Andria, E. (2017). Sustainable Reuse of Disused Railway. *Procedia Engineering*, Volume 180, 1643–1652.
- European Route of Industrial Heritage. (2019). Retrieved January 12, 2025, from <https://www.coe.int/en/web/cultural-routes/european-route-of-industrial-heritage>
- García-Hernández, M. & Gravari-Barbas, M. (Eds.) (2025). *Cultural Heritage on the Urban Peripheries: Towards New Research Paradigms*. Taylor & Francis.

- Harris, R. J. P. (2020). Building Regional Identity: Social and Cultural Significance of Railways for Cornwall in the Late Nineteenth and Early Twentieth Centuries. *The Journal of Transport History*, 41(2), 254–277.
- Jacolin, H. & Roth, R. (Eds.) (2013). *Eastern European Railways in Transition – Nineteenth to Twenty-first Centuries*. Aldershot: Ashgate Publishing Limited.
- Костадиновић, С. и др. (уред.) (1997). *Југословенске железнице 1945-1995*. Београд: Želnid.
- Kubinszky, M. (1986). *Régi magyar vasútállomások: Építészeti hagyományok* Budapest: Corvina Kiadó.
- Lähdesmäki, T., Passerini, L., Kaasik-Krogerus, S. & Van Huis, I. (2019). *Dissonant Heritages and Memories in Contemporary Europe*. Palgrave Macmillan Cham.
- Richards, J. & MacKenzie, J. M. (1986). *The railway station: a social history*. New York: Oxford University Press.
- Roth, R. & Polino, M.N. (Eds.) (2003). *The City and the Railway in Europe*. Aldershot: Ashgate Publishing Limited.
- Sheppard, C. (1996). *Railway Stations: Masterpieces of Architecture*. Todtri Book Publishers.
- Schivelbusch, W. (2014). *The Railway Journey: The Industrialization of Time and Space in the Nineteenth Century*. Berkeley: University of California Press.
- Shorland-Ball, R., Cossons, N. & Withuhn, W. (1994). *Common Roots - Separate Branches: Railway History and Preservation*. London: Science Museum for the National Railway Museum, York.
- Szilágyi, M. & Draganić, A. (2016). *Domenilul de la Jimbolia. Das Landgut von Hatzfeld. A zombolyai uradalom*. Székesfehérvár: MNL Fejér Megyei Levéltára.
- Solomon, B. (2013). *The Golden Age of European Railways*. Barnsley: Wharncliffe Transport.
- Strangleman, T. (2002). Constructing the Past: Railway History from Below or a Study in Nostalgia? *The Journal of Transport History*, 23(2), 147–158.
- Valkoinen, C. (2021). *Railways: A History in Drawings*. London: Thames and Hudson.





**Károly Teleki**

Industrial Heritage Hungary, Hungary, mail@industrialheritagehungary.com

## **CHILDREN’S RAILWAYS IN CENTRAL AND EASTERN EUROPE – A HERITAGE WORTH PRESERVING**

**Abstract.** The history of children’s railways spans over 90 years. The author presents the establishment of the first children’s railways in the Soviet Union during the 1930s and the development of these railways in both the old and new Soviet republics. The analysis explores how the fate of children’s railways evolved in the post-Soviet states and illustrates an example of sustainable operation of a children’s railway. The author then discusses the children’s railways in the Eastern Bloc (the European states under Soviet occupation) and outlines their trajectory from the fall of socialism to the present day. In the conclusion, the author emphasises the social utility of children’s railways and provides an example of why it is worthwhile to preserve narrow-gauge railways and operate them as children’s railways.

**Keywords:** Railway Heritage, Children’s Railway, Pioneer Railway, Narrow Gauge Railway, Park Railway, Tourism, Sustainability, Revitalisation

## 1. INTRODUCTION

Few better examples exist of the close relationship between children and youth and the railway than the children's railways and pioneer railways that operated in the Soviet Union and former socialist countries. This unique railway heritage has persisted in some of the successor states following the dissolution of the Soviet Union and the political transformations in the so-called Eastern Bloc<sup>1</sup> (or Central European satellite states).

Although the pioneer and children's railways were ideologically politicised during the years of communism and formed part of communist propaganda, their social acceptance was nonetheless unanimous. Even groups within society that opposed or were critical of the regime accepted or viewed their operations positively.

The popularity of children's railways can primarily be attributed to two factors.

Firstly, there is the so-called 'cuteness factor'; nothing is more endearing than seeing 10 to 12-year-old children performing the demanding tasks of the railway with serious expressions and a sense of responsibility: ticket handling, ticket office duties, switch operation, or even train dispatching. Even the grumpiest passenger cannot help but smile when a 12-year-old child railway worker firmly instructs them, "Please finish boarding, the train will depart immediately."

The second reason for their popularity is that children's railways were generally built for leisure and entertainment purposes. They mostly operated in urban parks, camping, and excursion sites, which were associated with positive experiences.

Additionally, it can be noted that in the former Soviet republics and former socialist countries, the community regards the role of a child railway worker as an honour and a privilege. It is always surprising when Western journalists and bloggers describe the work, uniforms, and daily routines of these young railway workers as "strange," "controversial," or "a lovable communist legacy," implying that the service resembles a form of child labour or child slavery. A recurring element is the question, "And do you get paid for this work?" followed by wondering why not...

The history of children's railways dates back over 90 years. Today, it is hard to imagine that the establishment of the first children's railways in the Soviet Union coincided with the darkest years of Stalin's dictatorship. In this study, we aim to present the history of pioneer railways built in the Soviet Union and the countries of the Eastern Bloc, tracing their fate to the present day. This is not an exhaustive account, as 81 children's railways operated in the Soviet Union, with an additional 54 in the Eastern Bloc for varying lengths of time (or at least were planned for opening)

---

<sup>1</sup> The Eastern Bloc refers to the European states that fell under the sphere of influence and military occupation of the Soviet Union after World War II (Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and the German Democratic Republic).

## 2. THE WORLD'S FIRST CHILDREN'S RAILWAY

When searching various internet search engines in different languages for "the world's first children's railway," the results vary significantly. There is consensus among sources that the first children's railway was established in the Soviet Union, but some articles cite Moscow (1932) while others refer to Tiflis (now Tbilisi, Georgia) (1935).

Numerous documents are available regarding the commencement of operations of the Tbilisi children's railway in 1935. In the Soviet Union—and in the successor states after its dissolution—this was officially regarded as the first children's railway.

A.I. Volkov's book, "25 Children's Railways in the Soviet Union" (Volkov, 1936), published in April 1936 in Voronezh, supports this claim. Volkov<sup>2</sup> states at the beginning of the book: *"The construction of the first children's railway in the world started in Tiflis on 12 October 1934, and the first children's railway commenced operations in April 1935... The length of the line is 400 metres, with a gauge of 750 millimetres..."*.

The existence of a children's railway in Gorky Park, Moscow, during the 1930s was long supported by only a single document, namely Volkov's cited book. In the section related to Moscow, Volkov describes that a children's railway was already operating in Gorky Park. However, he does not specify when it began operations, although he notes that the existing 528-metre track would be extended by 410 metres and an additional station would be built. Moreover, this project had already been approved! It is intriguing that if the Moscow children's railway was constructed after the commissioning of the Tbilisi railway (i.e., April 1935), how could there be approved plans for significant track extensions and the construction of additional stations and platforms by April 1936?

Volkov's book is quite propagandistic, exaggerating the Soviet initiatives for building children's railways. Among the 25 children's railways mentioned, several were realised with different technical specifications, some were only completed decades later (e.g., Khabarovsk), and others were never built at all (e.g., Voroshilovgrad (Luhansk), Kramatorsk, Stalinsk (Novokuznetsk), Voronezh, Taganrog and other locations in Moscow).

Since the only reference to the railway operating in Gorky Park, Moscow, was found in Volkov's book—with no other sources available—experts studying the history of Soviet children's railways believed that the Moscow railway did not exist, except in propaganda, and thus the Tbilisi railway was considered the first.

However, during the digitisation of the archives of the newspaper Vechernaya Moskva in the early 2000s, a photograph depicting an electric multiple unit and a brief caption from Vechernaya Moskva (January 10, 1933, No. 8)<sup>3</sup> surfaced.

---

<sup>2</sup> A.I. Volkov was the deputy chairman of the committee responsible for coordinating the construction of children's railways in the Soviet Union.

<sup>3</sup> Several sources incorrectly state the date as January 9, 1933.



Fig. 1: Children's railway in Gorky Park, Moscow. Source: *Vechernaya Moskva*, 1933 n.8 10<sup>th</sup> Jan

The caption supports the location and certain technical specifications of the Moscow children's railway mentioned in Volkov's book: *"Which child has not dreamed of becoming a train driver? This was mostly an unattainable dream, at least in the beginning. But now it can easily come true. All you need to do is visit the Maxim Gorky Children's Educational Centre. Here, a real electric railway operates. Currently, during the break, the railway attracts particularly many visitors. The boys alternately transform the train into an armoured vehicle and then back to its usual peaceful appearance. Operating the electric railway is so simple that it can easily be entrusted to the boys. The boys successfully earn this trust."*

Since the image appeared in the January 10 issue, we can assume that the railway was commissioned in 1932, but it was certainly operational by 1933.

It is difficult to ascertain why this initiative, which aligned well with Soviet ideology and represented a forward-looking technical solution —electric traction only began on certain railway lines in Moscow in 1929— has been so minimally represented in the surviving archives.

The editors of the website "Children's Railways of the former USSR - Past and Present" ([dzd-ussr.ru](http://dzd-ussr.ru)) that comprehensively and scientifically processes the history and technical parameters of children's railways in the Soviet Union and its successor states also find this perplexing, but they offer a possible explanation:

*“According to the official version, the first children's railway in the Soviet Union (and in the world) was the Tbilisi railway (then still referred to as the Tiflis railway). However, for some unknown reason, the fact that a children's railway already existed in Moscow's Gorky Central Cultural and Leisure Park in 1933—two years earlier than the Tbilisi railway—is omitted. Under Soviet rule, history was rewritten multiple times to align with new political directions: some real historical events were suppressed, while others were fabricated in their place. It is possible that the 1933 Moscow railway was artificially erased from history for political reasons, to give precedence to Gruzia (now Georgia) —the homeland of Joseph V. Stalin, the 'leader of the Soviet peoples'— in railway construction. However, when debating the historical precedence of one railway over another, we do not wish to diminish the merits and historical role of the Tbilisi railway. Its example inspired pioneers across the country to create their own railways. The builders of many other children's railways in the country learned from the experiences of the Tbilisi railway. Whether it was the first or the second, it became a role model for many generations of young railway workers” (dzd-ussr.ru Tbilisi).*

### **3. CHILDREN'S RAILWAYS IN THE SOVIET UNION AND SUCCESSOR STATES**

#### **3.1. Moscow**

Information about the children's railway operating in Gorky Park, Moscow, comes solely from Volkov's not very reliable book (Volkov, 1936) and the cited issue of Vechernaya Moskva (January 10, 1933, No. 8).

According to this, the Gorky Park children's railway had a 528-metre single-track electrified railway, which included a station building, a platform, a warehouse, and its own electrical substation. A three-car electric multiple unit operated on the line.

In 1936, plans were approved for the further extension of the line by 410 metres, the construction of an additional station building, a platform, a bridge, and the refurbishment (or new construction) of the warehouse. Additionally, plans were made to build a second three-car electric multiple unit and a steam locomotive with three carriages. By the end of the 1930s, the Moscow children's railway was certainly no longer operational. Instead, a large-scale children's railway was planned to be built in Izmailovsky Park in 1940 (dzd-ussr.ru Izmailovsky), near the Stalin Stadium, the construction of which began in 1936 (liberoguide.com Stalin stadium).

Due to the outbreak of World War II and the subsequent economic difficulties, the children's railway was never built, and the construction of the Stalin Stadium was also left unfinished. Thus, there is currently no children's railway operating in Moscow, except for the one in Kratovo, a suburban settlement located 45 km from central Moscow. This children's railway has been in operation since 1937, with a current track length of 5 km and diesel-powered trains (dzd-ussr.ru Kratovo).



### 3.2. Tbilisi

In 1933, a group of railway workers in Tbilisi (officially known as Tiflis until 1936) decided to build a working model railway. During the discussions about the project, an interesting idea emerged—to choose a size that would allow people to fit inside the steam locomotive's cab and operate it (dzd-ussr.ru Tbilisi). The idea captured the attention of Tbilisi students, who offered their assistance in constructing the railway. With the help of the Tbilisi Railway Engineering Institute, a plan was developed that called for a standard gauge of 750 mm, a 400-metre track, and the construction of two stations. On September 13, 1934 (dzd-ussr.ru Tbilisi), or according to other sources, on October 12 (Volkov, 1936), the construction of the track began, with hundreds of Komsomol members (young communists) and children participating in social work.

On June 24, 1935<sup>4</sup>, the first train rolled out from the Pioneers' Station under the direction of 10-year-old driver Viktor Sokolskiy. On its first operational day, the miniature railway made 37 trips and transported over a thousand passengers! Following the commencement of regular operations, the need for extending the track to 1,600 metres and electrifying the line soon arose, but these plans were not realised. Instead, the track was extended to 1,200 metres, a return loop was created, and an additional station was built.

The construction of the Tbilisi children's railway triggered a chain reaction, as those involved in its construction called on their peers through the newspaper "Pionerskaya Pravda" to build children's railways in other cities across the country. The idea was also embraced by L. M. Kaganovich, the People's Commissar for Railways, and Soviet propaganda, leading to enthusiastic promises from almost all major cities in the republics that children's railways would be built there within 1-2 years, as noted in Volkov's book (Volkov, 1936).

The Tbilisi children's railway became a model for other children's railways, and visits from pioneers and Komsomol members from other cities became regular, allowing them to learn about the Tbilisi railway and, of course, to pay their respects to Stalin's mother. The children's railway in Tbilisi was operated by students aged 9 to 15, who carried out all railway operations—including driving the locomotives—under the supervision of adults. Until 1987-88, only steam locomotives operated on the line, which were later replaced by TU7 diesel locomotives.

The Tbilisi children's railway has been in operation since 1935 in the current Mushthaid Park, and operations did not cease during World War II. Following the dissolution of the Soviet Union (25 December 1991), the line was temporarily closed between 1990 and 1992 at the peak of Georgia's economic crisis. It was subsequently renovated and reopened in 1999 as a park railway operated by adults (wikipedia.org Kindereisenbahn Tiflis).

---

<sup>4</sup> dzd-uss.ru note: "We note that the descriptions of this event mix up the dates: there are references to the opening of the line in April, early June, and July. We assert that the opening of the line occurred precisely on June 24."



*Fig. 2: The train arrives at Tbilisi Pionerskaya station. Photo by M. Kvirikashvili. 5 June 1947.  
Source: dzd-ussr.ru Tbilisi*

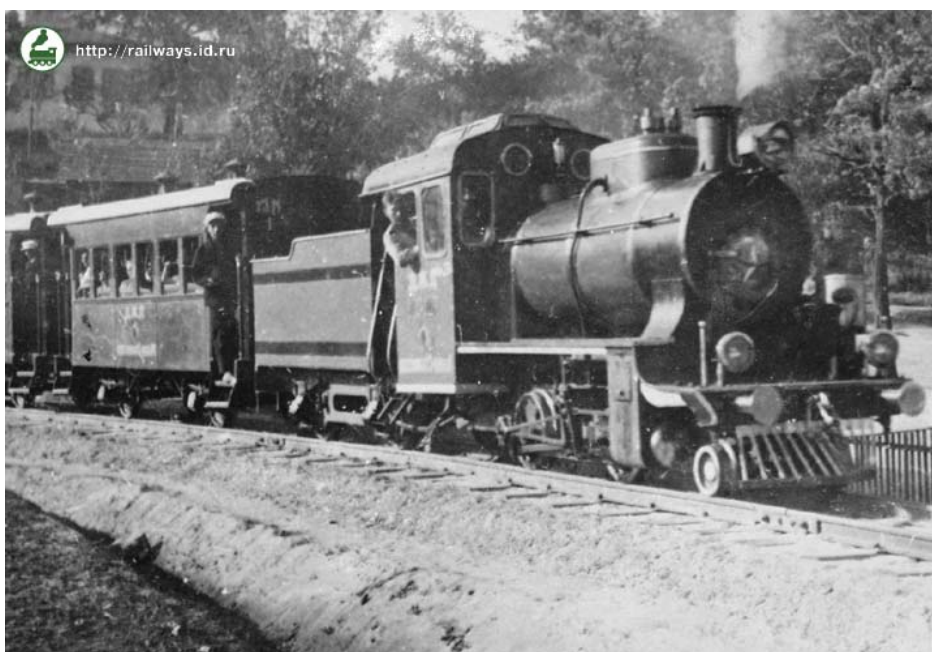
### **3.3. Dnipro**

The Dnipro Children's Railway was the third<sup>5</sup> of its kind in the Soviet Union and the first in Ukraine. The initiative for the construction of the Dnipro Children's Railway came from members of the Komsomol at the Dnepropetrovsk Steam Locomotive Repair Plant. In the spring of 1936, the city's pioneers and Komsomol members began the construction of the railway. The two-kilometre-long loop line, with a gauge of 750 mm, ran around the lake and amusement park located in what is now Lazar Globa Park.

The Malaja Stalinskaya (Little Stalin) Children's Railway was inaugurated on 6 July 1936 and represented a high technical standard at the time, featuring two stations, a locomotive shed, and two railway tunnels. Additionally, a telegraph system operated between the stations, and later, the railway was equipped with a shortwave radio transmitter. During the 1930s, there was a shortage of narrow-gauge locomotives and railway cars in the Soviet Union, leading young communists to manufacture them from various decommissioned locomotives and carriages. The first locomotive was the YUP-3-01 steam locomotive.

---

<sup>5</sup> Although a so-called "children's tram" began operation in Sahty on 23 August 1935, very little is known about its functioning and fate, and it is not certain that it was operated by children.



*Fig. 3: Dnepropetrovsk YUP-3-01 steam locomotive in the 1930s. Source: dzd-ussr.ru  
Dnipropetrovsk*

A contemporary newsreel was also made about the Malaja Stalinskaya railway (youtube.com Full-Fledged...), capturing the technology and operations of the time.

Unfortunately, the railway could not operate uninterrupted for long. On 22 June 1941, Nazi Germany invaded the Soviet Union, and after rapid advances, occupied the right bank of the Dnipro River, including the area where the children's railway operated, on 25 August.

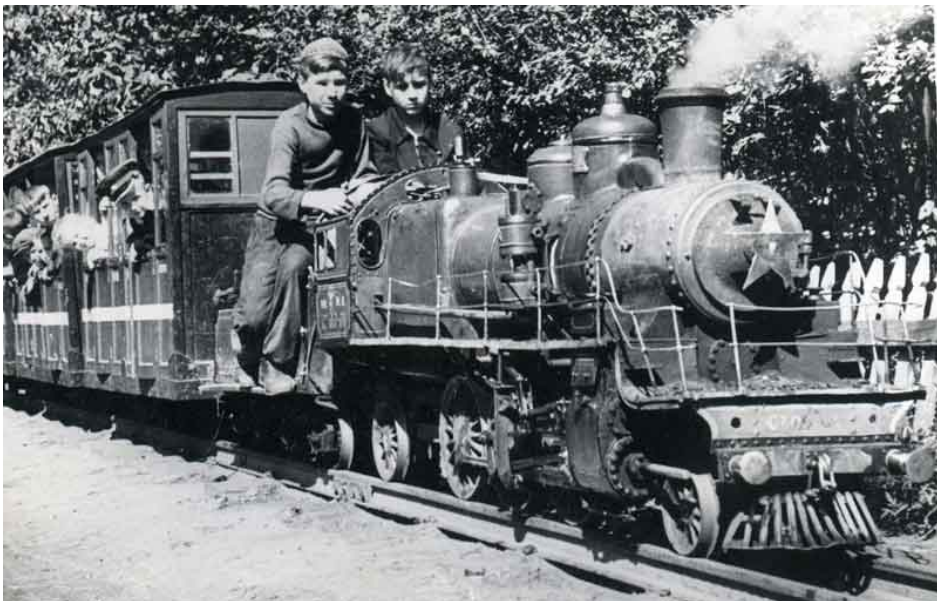
The German occupation caused immense damage throughout the Soviet Union, and the children's railways were not spared. Many children's railways were destroyed. In Dnipro, 95% of the tracks were missing, and buildings, locomotives, and carriages were damaged. The Red Army liberated Dnipro on 25 October 1943. The reopening of the children's railway was a matter of political will and was given priority. As a result, services resumed on 29 October, a year later.

After the Second World War, a TU-172 diesel locomotive was introduced in 1958, followed by additional TU-134 locomotives from 1972. The Dnipro Children's Railway is the oldest of its kind still in operation, run by children (in contrast to the Tbilisi Children's Railway, which is operated by adults).

Unfortunately, the operation of the Dnipro Children's Railway had to be suspended due to the war that broke out in 2022.

### 3.4. Krasnoyarsk

The Krasnoyarsk Children's Railway, which opened on 1 August 1936, was the third of its kind in the Soviet Union and is currently the oldest operating children's railway in Russia. It illustrates the significant differences in technical parameters among these railways. The Krasnoyarsk railway began when a vocational teacher from the Krasnoyarsk Steam Locomotive Repair Plant initiated a project for students to build a 1:5 scale model of the Cy locomotive. This completely unique locomotive also had a custom gauge, measuring 305 mm, which is one-fifth of the 1524 mm Russian gauge.



*Fig. 4: Krasnoyarsk 1:5 scale model of locomotive Cy. Source: dzd-ussr.ru Krasnoyarsk*

The locomotive was too small for the child drivers to fit inside, so a decorative tender was placed behind the locomotive, on which the boys could sit. The carriages were also custom-built, but not to scale, as even the children would not have been able to fit inside, let alone adults. The track length was 816 metres, with two turntables at the termini. The steam propulsion was later replaced by a locally manufactured Junost locomotive, which used the engine from a Moskvitch 401 car, employing a 1:3 scale. At this time, the gauge was changed to 508 mm, one-third of the Russian gauge. In 1966, Moskvitch 412 engines began to be used in Mechta 00-02 railcars, and a more modern version of this engine is still in use today in the Jubileiny railcar, built in 1986.

### 3.5. Further Children's Railway Constructions in the Soviet Union

Volkov's booklet (Volkov, 1936) lists 25 children's railways that were reportedly set to open soon. According to the book, dated 15 April 1936, several railways were expected to open on 1 May 1936, including those in Voroshilovgrad (Luhansk), Stalino (Donetsk), and Orenburg. The Donetsk railway did open, albeit six months late, on 24 November, while Orenburg opened in 1953, and the Luhansk children's railway was never completed.

Of the 25 planned children's railways, only 17 were actually opened by the end of the Second World War: 8 in Russia, 4 in Ukraine, 1 in Belarus, 1 in Georgia, 1 in Armenia, 1 in Turkmenistan, and 1 in Uzbekistan, as illustrated in the figure below.

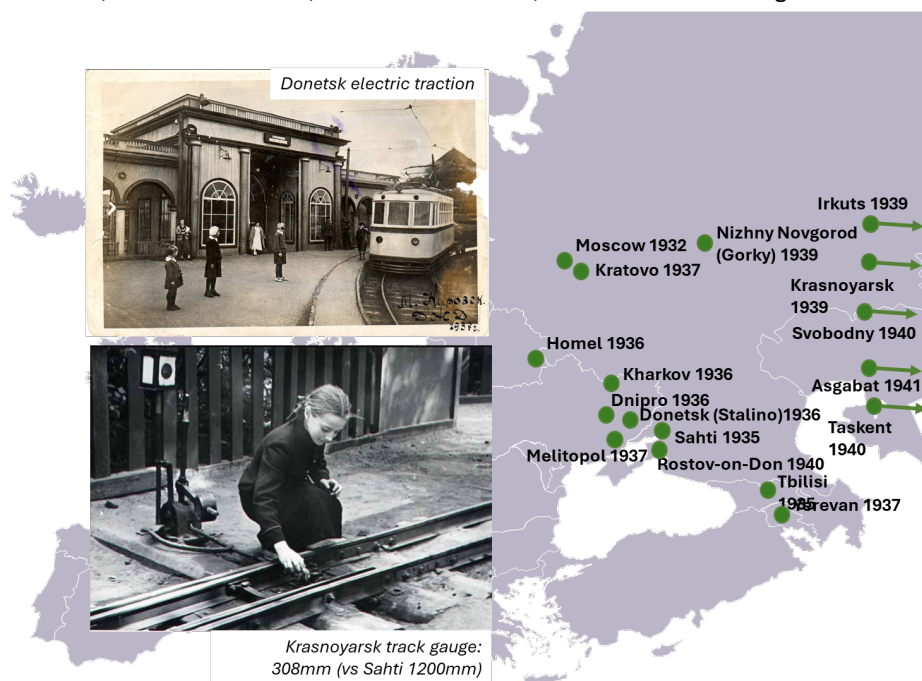


Fig. 5: Children's railway construction in USSR and variety of technical content, 2023. Source: Teleki

The lengths of the children's railway tracks varied significantly, ranging from 0.3 to 11.6 km, with a median length of 2.3 km. A similar diversity was observed in the gauges, which ranged from 308 mm to 1200 mm (Krasnoyarsk at 308 mm and Sahti at 1200 mm), although the majority were 750 mm. Most were powered by steam locomotives, but the railways in Moscow and Donetsk (Stalino) were electrified.

The Second World War marked a significant setback in the development of children's railways. Many children's railways were damaged, and many were not rebuilt or reopened (e.g., Donetsk<sup>6</sup>, Melitopol, Homel).

The Soviet Union concluded the war with territorial gains, annexing the Baltic states, Bessarabia, and territories from Finland, Poland, and Czechoslovakia, while also occupying additional areas in Asia (Tuva, Sakhalin, and the Kuril Islands).

After the war, the construction of children's railways began in the territories that fell under Soviet occupation. By the time of the dissolution of the Soviet Union, 81 children's railways had operated for varying lengths of time in the Soviet republics, with 8 projects remaining unrealised.

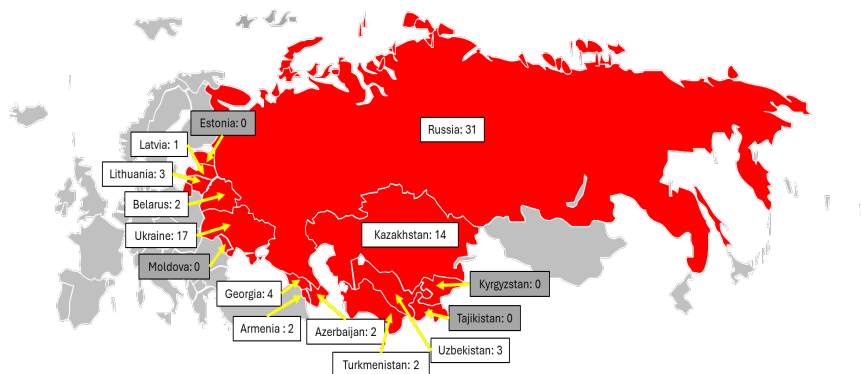


Fig. 6: Children's railways in USSR Soviet socialist republics, 2023. Source: Teleki



Fig. 7: Locations of children's railways in the USSR. Source: dzd-ussr.ru index

<sup>6</sup> In 1972, the second children's railway was re-launched in Donetsk at a different location and with a different concept and technical content.

Of the 81 children's railways, 75% were located in Russia, Ukraine, and Kazakhstan. It is worth noting that children's railways were built not only beyond the Ural Mountains but also in cities located in Siberia, beyond Lake Baikal.

When examining the momentum of children's railway constructions, it is evident that there was a gradual decline. The number of children's railways opened in the Soviet Union was as follows:

- 1932-1945: 17, averaging 1.7 railways per year (excluding war years)
- 1946-1964: 25, averaging 1.3 railways per year
- From 1964 onwards: 39, averaging 0.8 railways per year

In total: 81 commissioned children's railways (+8 unrealised projects). Although it has not been typical in recent years for any country or city to construct a children's railway—maintaining the existing ones is a challenge in several cities— there are still positive examples. For instance, in Russia, the Malaya Oktyabrskaya Children's Railway in Saint Petersburg was inaugurated in 2011.

### **3.6. The Collapse of the Soviet Union and Its Impact on Children's Railways**

In 1989, peaceful revolutions took place in Central European socialist countries. On 9 November 1989, the Berlin Wall was torn down, sealing the fate of socialist systems in the region. The Soviet Union was unable to maintain the influence and power it had established in the region after the Second World War and was also grappling with internal crises.

In August 1991, an unsuccessful coup was attempted against Gorbachev. Following the coup, Gorbachev resigned as the head of the Communist Party, marking the separation of the Communist Party's power from the presidency of the Soviet Union. Shortly after the coup, the Baltic states, Belarus, and Ukraine declared their independence.

On 8 December 1991, the leaders of Russia, Ukraine, and Belarus signed a communiqué establishing a trilateral agreement to create the Commonwealth of Independent States (CIS), to which all former Soviet republics, except for the Baltics and Georgia, also joined. On 25 December 1991, Gorbachev resigned from the presidency of the Soviet Union and announced its dissolution.

#### **3.6.1. The fate of children's railways in the successor states of the Soviet Union**

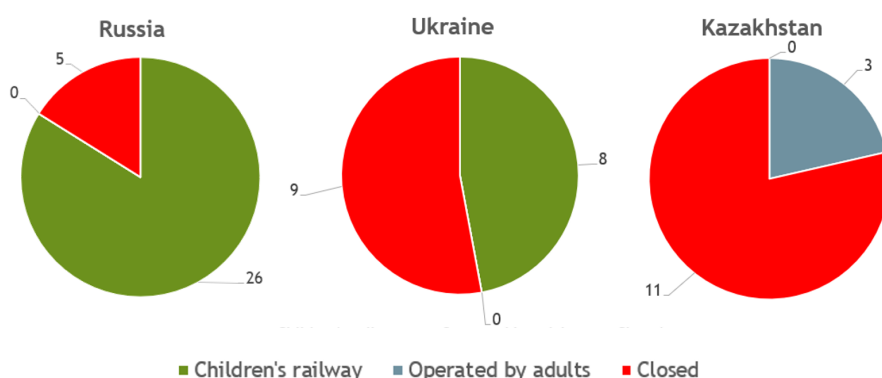
Throughout the 90-year history of children's railways, various railways were built and closed. After the dissolution of the Soviet Union, the different successor states faced various challenges (economic difficulties, local and regional conflicts). Due to these circumstances and cultural preferences, the countries managed their children's railways in different ways.



Since 75% of children's railways were located in Russia, Ukraine, and Kazakhstan, we examined how the fate of children's railways unfolded in these countries.

Three main scenarios emerged:

- The railway continued to operate as a children's railway (i.e., operated by children).
- It transformed into a railway operated by adults.
- The railway was closed



*Fig. 8: The fate of children's railways in Russia, Ukraine and Kazakhstan, 2023. Source: Teleki*

It is evident that the children's railways in Russia are in the most fortunate position, with 85% remaining operational and still run by children. However, five railways have been closed.

In Ukraine, more than half of the children's railways have ceased operations, while those that remain continue to operate as children's railways. However, due to the ongoing war, the Dnipro and Kharkiv railways have temporarily closed or only operate on certain days.

Kazakhstan's children's railways have ceased to exist. Eleven former children's railways have completely closed, while the remaining three are operated by adults.

### **3.6.2. Sustainability of Children's Railways**

In the Soviet Union, the economic viability of children's railways was not a primary concern. This changed in the successor states, where the socialist economic model was replaced by a market economy. The economic rationality of operating children's railways became a primary consideration, which sealed the fate of many children's railways, leading to their closure.

Moreover, with the dissolution of the Soviet Union and the fall of communism, the pioneer movements and young communist organisations that had formed the foundation of the children's railways also ceased to exist.

However, in Russia, Ukraine, and Belarus (Minsk), the traditions of children's railways continue to be preserved. In fact, in Russia —unlike elsewhere— children's railways were still constructed after the fall of communism, such as in Novosibirsk (2005), Kazan (2007), and Saint Petersburg (2011).

To illustrate sustainability, we have chosen an example that remains viable despite the country's difficult economic situation and the ongoing war: the Kiev Children's Railway.



*Fig. 9: Kiev children's railway nowadays. Source: Facebook Kiev children's railway*

On 2 August 2023, the Kiev Children's Railway celebrated its 70th anniversary. Established in 1953, it operates in Syretsky Park. The line has two operational stations. Various sources provide different figures for the track length: 2.8 km (dzd-ussr.ru Kiev); 3.7 km (wikipedia.org Київська дитяча...); 5.6 km (kyivpastfuture.com.ua); and 6.7 km (swrailway.gov.ua). The first figure likely refers to the length of the line, while the second represents the total length of the tracks (including storage tracks and sidings), and the last two figures indicate possible travel distances on the double-loop track. The railway features two stations and is notable for its 19.7 m high, 100 m long viaduct. The gauge is 750 mm. Its rolling stock includes the GR 336 steam locomotive, TU7A-3192 and TU7A-3197 diesel locomotives, as well as 12 passenger and 2 freight carriages.

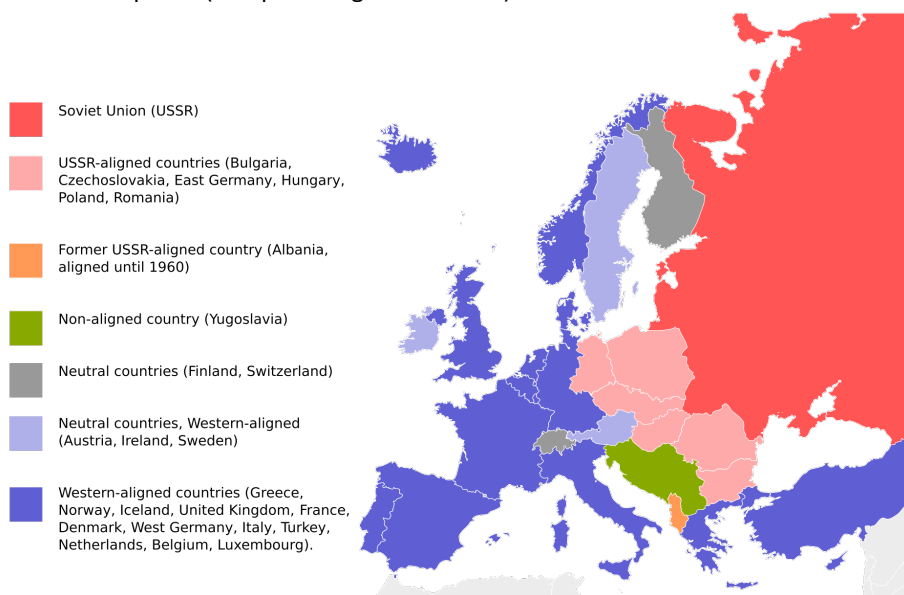
The Kiev Children's Railway underwent a major renovation in 2019. Its popularity is evident, as it transported 70,000 passengers in 2022, although it only operated periodically during the winter months.

In Ukraine, children's railways play an important role in the supply of labour to the state railways. Since its establishment, 50,000 children's railway workers have been trained.

In 2024, 114 graduates from the Kiev Children's Railway continued their studies at railway-oriented institutions.

#### 4. CHILDREN'S RAILWAYS IN THE EASTERN BLOC COUNTRIES

The Eastern Bloc refers to the European states that fell under the sphere of influence and military occupation of the Soviet Union after the Second World War. This included Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and the German Democratic Republic (Wikipedia.org Eastern Bloc).



*Fig. 10: The political situation in Europe after 1948. Source: Wikipedia.org Eastern Bloc*

These satellite states copied the Soviet model in all respects, including the construction of children's railways. Following the consolidation of power by the communist parties, the construction of children's railways or pioneer railways also began in these countries.

Children have always been an important part of communist political propaganda, representing the appealing face of communism.

There was a wide variation in which countries, when, and how many children's railways were created, and how their fate unfolded after the collapse of the Soviet world order.

#### **4.1. German Democratic Republic**

In East Germany, 16 pioneer railways (Pioniereisenbahn) were built between 1950 and 1976. These mostly operated as park railways. Their lengths varied widely, with the shortest being just 400 metres and the longest (in Berlin) measuring 7.5 km (wikipedia.org PionierEisenbahn). The average length was 2.3 km, with a median of 1.9 km (Teleki, 2023).

The gauge was typically 600 mm, although several railways operated on a 500 mm gauge, and even one on a 381 mm gauge (which is a quarter of the Russian gauge).

The traction was provided by steam, diesel, or electric battery power. Of the 16 railways, 3 have closed, while 13 have essentially become railways operated by adults, although some still have minor tasks performed by children.

Closed railways: Lauchhammer-Süd, Magdeburg, Prerow

Operational railways: Berlin Wuhlheide, Bernburg, Chemnitz, Cottbus, Crispendorf, Dresden, Gera, Görlitz, Halle, Lauchhammer-West, Leipzig-Wahren, Plauen, Vatterode (wikipedia.org PionierEisenbahn).

#### **4.2. Poland**

In Poland, two children's railways were built in Poznań and Chorzów.

The Chorzów park railway was opened in 1957. It had a length of 4.2 km and a gauge of 750 mm. It was popular for a long time, but its technical condition deteriorated. Some of the tracks were dismantled, resulting in a shorter line. A minor renovation took place in 2014, but the railway permanently closed in 2017 (chorzow.naszemiasto.pl).

The Maltanka Park Railway in Poznań was built in 1956. It has a length of 3.85 km and a gauge of 600 mm. It is now operated by adults. Significant renovations were carried out on the line in 2018. The railway transports an average of 120,000 to 140,000 passengers annually (wikipedia.org Maltanka).

#### **4.3. Czechoslovakia**

In Czechoslovakia, 12 children's railways were built between 1951 and 1959. Ten were located in what is now Czechia, and two in Slovakia. The railways in the Czech part significantly differed from those built in Slovakia.

In Czechia, children's railways were generally park railways. The longest line was only 2.3 km (in Plzeň), while the shortest measured just 0.5 km (in Nymburk). The average line length was 1.14 km, with a median of 1 km. The gauges were typically 600, 760, or 1000 mm, with 600 mm being the most common. Children's railways operated in the following cities: Bohumín, Karviná, Nymburk, Pionierske nad Ohří (Karlovy Vary region), Plzeň, Prague, Opava, Ostrava, Rychnov nad Kněžnou, and České Budějovice. By the mid-1970s, all Czech children's railways had ceased operations (wikipedia.org Список).

In Slovakia, two children's railways were built: in Prešov and Košice.

The Prešov Children's Railway was constructed between 1958 and 1961, initially measuring 8.2 km in length. This was extended to 11.3 km in 1963. The gauge was 760 mm. The line was closed in 1969 and dismantled by 1974 (wikipedia.org Прешовская).



*Fig. 11: Košice Historical Children's Railway. Source: Facebook Detská železnica*

The Košice Children's Railway was built between 1955 and 1956, following the Soviet model and named the Košice Pioneer Railway. It features a 1000 mm gauge unique in Czechoslovakia. The railway runs for 3.9 km in the valley of the Čermel' stream, with the steepest gradient being 26 ‰ (detskazeleznica.sk História). The line has faced closure several times but has always found a way to be saved and has been renovated in stages. After 1989, with the dissolution of the pioneer movement, the railway is no longer operated by children. Its official name is the Košice Historical Children's Railway, and the operation is currently managed by the Košice Children's Railway Civic Association, which operates it seasonally, although there are further plans and projects for the railway's revitalisation.



#### 4.4. Hungary

The first children's railway in Hungary was built in Budapest. Construction of the 760 mm gauge railway line began on 11 April 1948, and the first 3 km section was ceremonially opened on 31 July 1948. At that time, the children's railway was already referred to as the Pioneer Railway. The line was expanded in two phases over the following years. By June 1949, it had reached 6.7 km, and by 20 August 1950, it had been completed to the terminus at 11.2 km. Initially, steam locomotives operated on the railway, but they were later replaced by diesel locomotives (Wikipedia.org Gyermekvasút Budapest).

During the regime change in 1990, the name of the Pioneer Railway was changed to Children's Railway. The children's railway reached its peak passenger numbers in 1961, with approximately 800,000 passengers. The lowest point occurred in the years following the regime change, with only 94,000 passengers transported in 1993. Since then, the numbers have improved, with annual passenger numbers stabilising between 300,000 and 400,000.



*Fig. 12: Budapest Children's Railway, 2024. Source: Author*

The Children's Railway in Budapest is unique in its kind. In 2015, it was included in the Guinness World Records: with its 11.7018-kilometre line, it is the longest railway in the world operated by children in both traffic and commercial services (gyermekvasut.hu).

Another narrow-gauge railway still operating as a children's railway is the one in Nagycenk, officially known as the Nagycenk Széchenyi Museum Railway. This line was constructed in 1972. It has a track gauge of 760 mm and a length of 3,600 m, with trains running between Nagycenk and Fertőboz. Here too, children perform the operational duties, and the service is seasonal. Next to the Nagycenk station building, there is an outdoor exhibition of railway vehicles, which are part of the collection of the Transport Museum. The Children's Railway and the outdoor exhibition serve as a tourist attraction in the area.

Between 1958 and 1990, seven additional pioneer railways were established in major cities across Hungary, which operated for varying lengths of time. In addition, several narrow-gauge rural and forest railways were attempted to be transformed into pioneer railways, where children occasionally undertook certain operational tasks. However, these solutions were mostly unsuccessful in the long-term.

In total, there were 22 locations in Hungary where children's railway initiatives operated, of which only the Budapest and Nagycenk railways remain as children's railways today. The 22 railways include: Budapest (Széchenyi Hill), Gúti Forest Railway, Nyíregyháza, Mezőhegyes, Sztálinváros/Dunaújváros, Debrecen, Eger1, Veszprém, Mátravasút, Pécs/Mecsek, Székesfehérvár, Celldömölk/Kemenesalja, Tompa, Szilvásvár, Szolnok, Eger2, Nagycenk, Tiszakécske, Börzsöny/Királyrét, DKV Debrecen (Zsuzsi), Miskolc, and Dombóvár (Balogh, 2021).

#### **4.5. Romania**

In Romania, there has only been one children's railway, located in Târgu Mureş. The Platoul Corneşti railway was opened in the 1970s and operated as a pioneer railway until 1989. The line was closed around 2000 but was reopened in 2009 as the "Thomas" locomotive. In 2016, the line was renovated, and new carriages were introduced. The line is only 1 km long, with five stops, and is operated by adults. In 2022, the railway was suspended due to various technical and financial issues (radiomures.ro). In 2023, it was reported that the train might restart in 2024, but no further information has been found. The future of the railway remains uncertain.

#### **4.6. Bulgaria**

In Bulgaria, two pioneer railways operated, one in Kardzhali and the other in Plovdiv.

The children's railway in Kardzhali, located in Prostor Park, was opened in 1962. The line is 1,210 m long with a track gauge of 600 mm. It was closed at the end of the 1990s. In 2006, the children's railway was reopened under adult management, but due to technical problems, this popular attraction was closed again in 2021. Fortunately, following track reconstruction and maintenance of the rolling stock, the railway has



been operational again since June 1, 2023 ([facebook.com DetskaZheleznitsaKardzhali](https://facebook.com/DetskaZheleznitsaKardzhali)) ([bnr.bg](https://bnr.bg)).

The Plovdiv children's railway was opened in 1979 and was named "Flag of Peace." The line was 900 m long with a track gauge of 600 mm. It was closed in 1989 but reopened in 2007 after reconstruction, extending the line from 900 m to 1,090 m. Another renovation took place in 2013. The train operates between the two terminal stations, making the 2 km shuttle trip in 25 minutes. During this journey, the train passes through a 50-metre tunnel, which is used for storing and charging the trains outside of operating hours. The railway is operated by adults ([wikipedia.org](https://wikipedia.org) Пловдивская).

## **5. CONCLUSION**

The first children's railways were established in the 1930s during the darkest days of communist dictatorship in the Soviet Union. In addition to ensuring a supply of railway personnel, they also served political propaganda purposes. Their foundation was supported by the pioneer and young communist movements.

After World War II, pioneer railways were built in Central European countries that fell under the Soviet sphere of influence and military occupation, following the Soviet model, where children, as pioneers, performed the operational duties.

Following the political changes in Central European socialist countries in 1989 and the dissolution of the Soviet Union in 1991, children's railways in the Soviet successor states and former socialist countries in Central Europe faced a crisis, leading to the closure of many railways. One reason for this was the dissolution of the pioneer and young communist movements, which had provided a supply of children and young people. Another reason was economic: many railways were not economically viable and lost the ideological financial support that had been provided by the communist states.

Children's railways were left with three options: a) closure, b) operation by adults, or c) continued operation as children's railways. Unfortunately, most children's railways were closed or are now only operated by adults. However, real children's railways continue to operate in Russia, Ukraine, Belarus, and Hungary, where the service is predominantly provided by children.

The children's railways, now free from ideological burdens, have significant social benefits. They continue to play an important role in railway training, serve as examples for new generations, and have a notable tourism role.

It is essential to preserve and revitalise these narrow-gauge railways, as there is a social demand for their operation. The tourism appeal of narrow-gauge railways is significantly enhanced when the service is provided by children. Therefore, it is worthwhile to make efforts to transform the former pioneer railways, which are now operated solely by adults, back into children's railways.

## REFERENCES

- Balogh, T.Z. (2021). *Úttörővasutak zsebkönyve*. Cívisporta kiadó, Debrecen, ISBN 978-615-01-0709-7, 147p
- bnr.bg Детското влакче в парк "Простор" се завръща. Retrieved 20 January 2025 from <https://bnr.bg/kardzhali/post/101647353>
- chorzow.naszemiasto.pl Park Śląski bez wąskotorówki. Retrieved 20 January 2025 from <https://chorzow.naszemiasto.pl/park-slaski-bez-waskotorowki-parkowa-kolejka-nie-wyruszy-w/ar/c15-7796056>
- detskazeleznica.sk Historia. Retrieved 20 January 2025 from <https://www.detskazeleznica.sk/-historia>
- dzd-ussr.ru Dnipropetrovsk. Retrieved 20 January 2025 from <http://www.dzd-ussr.ru/towns/dnepr/index-eng.html>
- dzd-ussr.ru index Children's Railways of the former USSR - Past and Present. Retrieved 17 January 2025 from <http://www.dzd-ussr.ru/towns/index-eng.html>
- dzd-ussr.ru Kiev. Retrieved 21 January 2025 from <http://www.dzd-ussr.ru/towns/kiev/index.html>
- dzd-ussr.ru Krasnoyarsk. Retrieved 19 January 2025 from <http://www.dzd-ussr.ru/towns/krasnoyarsk/index.html>
- dzd-ussr.ru Kratovo. Retrieved 19 January 2025 from <http://www.dzd-ussr.ru/towns/kratovo/index-eng.html>
- dzd-ussr.ru Moscow (Izmailovsky Park). Retrieved 19 January 2025 from <http://www.dzd-ussr.ru/towns/moscow/index-eng.html>
- dzd-ussr.ru Moscow (Gorky Park). Retrieved 17 January 2025 from <http://www.dzd-ussr.ru/towns/moscow/cpkio-eng.html>
- dzd-ussr.ru Tbilisi. Retrieved 17 January 2025 from <http://www.dzd-ussr.ru/towns/tbilisi/index.html>
- facebook.com Київська дитяча залізниця. Retrieved 8 December 2023 from <https://www.facebook.com/childrens.railway.in.kyiv>
- facebook.com DetskaZheleznitsaKardzhali Retrieved 23 January 2025 from <https://www.facebook.com/DetskaZheleznitsaKardzhali/>
- gysev.hu Múzeumvasút története. Retrieved 21 January 2025 from <https://www2.gysev.hu/muzeumvasut/a-muzeumvasut-tortenete>
- gyermekvasut.hu Gyermekvasút. Retrieved 19 January 2025 from <https://gyermekvasut.hu/>
- kyivpastfuture.com.ua Киевская детская железная дорога. История. Retrieved 17 January 2025 from <https://kyivpastfuture.com.ua/ru/kyevskaya-detskaya-zheleznaya-doroga-istoriya/>
- liberoguide.com Stalin's secret stadium. Retrieved 19 January 2025 from <https://liberoguide.com/stalins-secret-stadium/>
- radiomures.ro Trenulețul de la Platoul Cornești din Tg.Mureș nu va fi funcțional decât în 2024 . Retrieved 22 January 2025 from <https://www.radiomures.ro/stiri/trenuletul-de-la-platoul-cornesti-din-tg-mures-nu-va-fi-funcional-decat-in-2024.html>
- swrailway.gov.ua Київська дитяча залізниця. Retrieved 21 January 2025 from <https://swrailway.gov.ua/head/services/children/>
- Teleki, K. (2023). History of Children's Railways (presentation). Rail4V4+V project seminar (11 December 2023)
- Vechernyaya Moskva (1933). Photo of Children railway in Gorky Park Moscow, with subtitle. Photo by G. Gracheva. *Vechernyaya Moskva (daily)* 1933. No 8. 10 January

Volkov, A.I. (1936). *25 Children's Railways of the USSR (booklet)*. Voronezh, AChO of the UNKVD, Dzerzhinskogo str. 3.

wikipedia.org Детские железные дороги. Retrieved 19 January 2025 from [https://ru.wikipedia.org/wiki/Детские\\_железные\\_дороги](https://ru.wikipedia.org/wiki/Детские_железные_дороги)

wikipedia.org Днепровская детская железная дорога. Retrieved 19 January 2025 from [https://ru.wikipedia.org/wiki/Днепровская\\_детская\\_железная\\_дорога](https://ru.wikipedia.org/wiki/Днепровская_детская_железная_дорога)

wikipedia.org Eastern Bloc. Retrieved 3 December 2023 from [https://en.wikipedia.org/wiki/Eastern\\_Bloc](https://en.wikipedia.org/wiki/Eastern_Bloc)

wikipedia.org Gyermekvasút (Budapest). Retrieved 22 January 2025 from [https://hu.wikipedia.org/wiki/Gyermekvas%C3%BAt\\_\(Budapest\)](https://hu.wikipedia.org/wiki/Gyermekvas%C3%BAt_(Budapest))

wikipedia.org Київська дитяча залізниця. Retrieved 21 January 2025 from [https://uk.wikipedia.org/wiki/Київська\\_дитяча\\_залізниця](https://uk.wikipedia.org/wiki/Київська_дитяча_залізниця)

wikipedia.org Kindereisenbahn Tiflis. Retrieved 19 January 2025 from [https://de.wikipedia.org/wiki/Kindereisenbahn\\_Tiflis](https://de.wikipedia.org/wiki/Kindereisenbahn_Tiflis)

wikipedia.org Maltanka Park Railway. Retrieved 21 January 2025 from [https://en.wikipedia.org/wiki/Park\\_Railway\\_Maltanka](https://en.wikipedia.org/wiki/Park_Railway_Maltanka)

wikipedia.org Pioniereisenbahn Retrieved 3 December 2023 from <https://de.wikipedia.org/wiki/Pioniereisenbahn>

wikipwdia.org Пловдивская детская железная дорога , Retrieved 23 January 2025 from [https://ru.wikipedia.org/wiki/Пловдивская\\_детская\\_железная\\_дорога](https://ru.wikipedia.org/wiki/Пловдивская_детская_железная_дорога)

wikipedia.org/ Прешовская пионерская (детская) железная дорога, Retrieved 21 January 2025 from [https://ru.wikipedia.org/wiki/Прешовская\\_пионерская\\_\(детская\)\\_железная\\_дорога](https://ru.wikipedia.org/wiki/Прешовская_пионерская_(детская)_железная_дорога)

wikipedia.org Список детских железных дорог Retrieved 20 January 2025 from [https://ru.wikipedia.org/wiki/Список\\_детских\\_железных\\_дорог](https://ru.wikipedia.org/wiki/Список_детских_железных_дорог)

youtube.com Full-Fledged Railways Ran By Kids: Children's Railways Of Eastern Europe Retrieved 05 December 2023 from <https://www.youtube.com/watch?v=kDIsXUMqMxw> 2:44-3:22 min





**Mgr. Lukáš Beran, Ph.D**

Research Centre for Industrial Heritage of the Faculty of Architecture at the Czech Technical University in Prague, Czech Republic, [beran\\_lukas@post.cz](mailto:beran_lukas@post.cz)

## **BORDER STATIONS: THEIR TYPOLOGY, ARCHITECTURE, AND FATES**

**Abstract.** This paper maps, examines, and compares examples of cross-border railway stations in the Czech lands in terms of their typology, architecture, and new use after they ceased to be used for customs clearance. The stations can be divided into two basic groups: older stations on the traditional railway lines connected larger towns and cities, which in most cases continued to be used for regular rail services, and newer stations, which are located in remote areas and their continued use today is primarily dependent on the growth of tourism.

**Keywords:** border stations, typology, architecture, new use

## INTRODUCTION

By the first half of the nineteenth century, the primary task of designers working for railway companies was to create a systematic series of buildings of different sizes that each used the same elements. This approach to design was introduced to Central Europe by the French Pereire brothers' banking house *Crédit Mobilier*, and its Austrian State Railway Company / *österreichische Staats-Eisenbahn-Gesellschaft*, for which in 1856, the architect Wilhelm Flattich (1826–1900) produced the first set of standard building designs / *Hochbau-Normalien*, and these were for stations on the Szeged–Temesvár line (Fischel 1898: 398; Friedl 1979: 30–35). The station building in Jasenovó is the best preserved among them (Draganić 2022).

This paper, however, focuses on station buildings built according to designs that were not from a standardised series. The railway companies tended to do this in two types of locations: at the centre of a railway network, i. e. in major cities, and at the outer edge of their network, where it connected to the network of a neighbouring country, i.e. at border crossing railway stations.

### 1. 1847–1874

The main reason in the latter type of location was the need to include space to accommodate the offices and related services of customs and passport control. It was also, however, necessary to consider the role that the first building visitors would see upon arriving in a country played in representing the country and the state authorities. And this was true not just in the case of state-owned railway companies, as private ones were largely dependent on the state and impacted by its support and restrictions.

The basic type of station building for border crossing stations was developed in Austria even before the railway extended as far as the country's borders. In 1839, the Emperor Ferdinand Northern Railway Company / Kaiser Ferdinands-Nordbahn – which was controlled by the Rothschild banking family and had been working on building a steam railway between Vienna and Galizia since 1837 – reached Břeclav, where a branch line was to separate from the main line and run to the town of Přerov. It is perhaps for this reason that the architect Antonín Jüngling (1798–1885) (Krejčířík 1996) chose a more complex layout for the station building in Břeclav / Lundenburg: two identical two-storey administrative pavilions built on a square ground plan connected through a narrower ground-floor wing that housed the entrance and two halls for passenger check-in (Krejčířík 1991). This design, which was a good reflection of the architectural doctrine of axial symmetry, as well as of the structural possibilities of the time, proved well-suited for the first real border station, which, based on an agreement between Prussia and Austria, was built by the company six years later, in 1847, in Bohumín / Oderberg, where it connected to the line of the Prussian Prince William Railway Company / Prinz Wilhelm Eisenbahngesellschaft (Protokoll 1848; Adamus 1936). Here, however, the chief engineer of this line, Karl Hummel, extended the length of the central part of the building to create rooms for customs and passport control, and the rooms were connected through an open corridor on the track side of the



building. This would become a popular layout in the future. It is not clear from the surviving plan whether the end pavilions, which housed apartments for staff on the first floor, were used by the Saxon and Austrian authorities respectively on either side, but their symmetrical placement in the ground plan at least suggests that they were. In the meantime, in 1842 negotiations began between the Austrian state and the Kingdom of Saxony to connect the Northern State Railway along the Elbe to the railway running to Dresden (*Die sächsisch-böhmische... 1851*). The border station was originally supposed to be located not in Podmokly / Bodenbach near Děčín, where it still is today, but in Ústí nad Labem, where at the end of 1850 the architect Antonín Brandner (1823–1902), who at the time worked briefly for the Northern State Railway, designed a station building with a layout similar to that in Bohumín, but which was not ultimately built (Krejčířik 2005, p. 183). Brandner then also designed a provisional wooden border station in Podmokly, which began operating on 6 April 1851.



*Fig. 1: Karl Hummel, Station Building in Bohumín, 1847. Source: Strach 1898, p. 205.*

The first large and representative railway station, serving the railway companies of two countries, was not built in the Czech lands until 1857–1858, in Liberec. The German Southern North Junction Railway / Süd-norddeutsche Verbindungsbahn built an extension of the railway line from Liberec to Pardubice to connect there with a line built by the Saxon Zittau–Reichenberger Railway Company (-s- 1989), whose chief engineer, Gustav Heinrich Rachel (1815–1886), had also designed the connecting line from Zittau to Löbau (~ 1887). The Neogothic station building in Liberec is very similar to the station building that was built in Zittau around the same time, as well as to the one built later in Freiberg, but it was designed by the chief engineer of the domestic railway, František / Franz Riesemann (1826–1896), who used the same stylistic elements in the smaller standard station buildings that he designed, for example, in Semily and Turnov-Poříčí (Krejčířik 2009; Borovcová 2023). Over the next half century, the five-part layout in this design would be used repeatedly in the Czech lands and be further elaborated on: the end pavilions, with four storeys here, are connected through a lower wing, at the centre of which there is a new four-storey transverse wing containing a spacious vestibule on the raised ground floor. To the left of this were the service rooms and to the right the waiting rooms and the restaurant, with offices and staff apartments located on the upper floors, while the northern pavilion on the right-hand side was reserved for Saxon railway workers.

On 25 October 1865, a new 175-metre-long border railway station building was opened in Podmokly / Bodenbach, today's Děčín-Main station. In the meantime, the Northern State Railway, which had been operating the aforementioned provisional station here, had become the property of the Austrian State Railway Company, where from 1857 the head of the design office was the architect Carl Schuman (1827–1898) (Reuter 1898; Prokop 2006). In this position he first elaborated on the standard plans of his predecessor, Wilhelm Flattich, with whom he also collaborated at the time on a number of private building projects, and in the same spirit he then also designed his own standard-model series of buildings for the company's junctions (Borovcová 2016). Schuman worked on the project for the Podmokly station building with Eduard Bazika (1830–1914), the chief engineer of the Prague–Dresden line. Although the detailed arrangement of space in the building sought to respond to the difficult combination of requirements of the two railway companies and the authorities of both states (Bazika 2022), its overall layout built on the prototype of a symmetrical building with administrative pavilions at its two ends, with the halls for passenger and customs clearance in the middle section, which were connected on the outside by open corridors. An innovation in this station, however, was the the avant-corps entrance in the middle of the street façade. The building's external appearance clearly drew from Schuman's previous seven-year engagement in the office of architect Ludwig von Förster (1797–1863), who, often in collaboration with his son-in-law, architect Theophil Hansen, tended to use a similar Neoclassical style, even on technically and operationally innovative buildings such as hotels, apartment blocks, and factories (Wagner-Rieger 1970). The Děčín station's strongest link to the local environment is the pinkish Elbe sandstone of the façade cladding. Schuman used a similar but more modest design, and with just a plaster façade, for another station building on the same line, in Kralupy nad Vltavou, which has not survived, and which was not a border station but served three different railway companies. This station comprised two two-storey pavilions with single-storey vestibules and waiting rooms between them, which, like in Děčín, were connected on the street side by an open corridor and on the track side by a canopy (Krejčířík 2005: 159–191). The building in Děčín continued to serve as a border station even after the fall of the Iron Curtain: in 1955, sgraffito was etched into the wall of the northern hall with the inscription 'Děčín, the city that connects the Czechoslovak Socialist Republic and the German Democratic Republic' (Borovcová 2016: 162). In April 1998, the building was listed as a cultural heritage site and it underwent complete renovation in 1999–2003.



*Fig. 2: Carl Schuman and Eduard Bazika, Station Building in Děčín-Podmokly, 2007. Source: Author*

At the very same time, in 1865, Bavarian railway companies arrived in Bohemia, but they employed their own architectural language, which was originally devised by the Munich architect and engineer Friedrich Bürklein (1813–1872). He designed and built one of the first railway stations in Germany, in Munich, in 1847–1849, for Royal Bavarian State Railways / Königliche Bayerische Staats-Eisenbahnen using a style inspired by the early Florentine Renaissance – the Rundbogenstil (Krings 1985). After working directly for King Maximilian of Bavaria, he went back to working for the state railways (1853–1872) and became the chief architect of their core railway lines. He also designed the additions built onto the stations in Augsburg and Nuremberg, and he was the architect behind the new station building in Würzburg (1865, no longer in existence) (Lutz 1883: 234–235), and maybe also its smaller counterpart in the northern Bohemian spa town of Františkovy Lázně, as well as, and most notably, the large building of the ‘Bavarian’ railway station in Aš / Asch (Fischel 1898: 401). The strictly symmetrical composition of this structure unfurled in stages: the central five-bay section of the building was connected on both sides by elongated two-storey tracts extending to the three-storey side wings, which in turn connected the ground-floor tracts to the two-storey end pavilions. The public areas were concentrated in the ground-floor halls in the middle section and, except for the post office and customs administration, were shared by both railway companies. After the Second World War, the line as far as the state border came under the control of Czechoslovak State Railways, which partially resumed cross-border traffic at this location. But this came to a definitive end in 1951, after a hijacked train passed through the station on 11 September carrying several dozen Czechoslovak citizens emigrating to the Federal Republic of Germany (Jiřík 1999). The station building was demolished in 1968

and replaced in late 1970 by a new building designed by architect Julie Trnková from the State Institute of Transportation Design in Prague (Krejčířik 2009: 107–109). This happened amidst the political reforms of the 1960s in Czechoslovakia, and the commission was thus for a building that could again be used for cross-border passenger traffic (–jan- 1968), though with a more economical design than the lavish new station that had just been built in Cheb. The station was built with a prefabricated frame and curtain-wall façades.

In Cheb / Eger, the line, built by the Bavarian state met the state line from Saxony (Königlich Sächsische Staatseisenbahnen) and a line of the joint-stock company of Bavarian Eastern Lines / Actiengesellschaft der bayerischen Ostbahnen, which undertook the construction of a joint station building at this location (Krejčířik 2009: 102–105). The large 180-metre-long structure had a two-storey wing in the middle, housing a vestibule, waiting rooms, and a restaurant, which was flanked on both sides by lower wings that, here again, terminated in two-storey pavilions. The project was designed by architect Heinrich Hügel (1828–1899), the company's chief architect from 1859 to 1869 (Heinrich... s. d.; Lutz 1883: 251). Like in the station buildings in Regensburg and Munich that he had designed earlier, he applied the Rundbogenstil to the façades in Cheb – and in the original form of the style as seen in the work that Friedrich von Gärtner did in Munich in the 1840s. The station building in Cheb was, however, destroyed during the bombing of the city at the end of the Second World War, and it was replaced with a building designed by the architect Josef Danda, which opened on 22 December 1962 (Štursa 1973; Danda 1988).



*Fig. 3: Heinrich Hügel, Station Building in Cheb, 1865. Postcard, 1903. Source: Collection of Mojmír Leštinský, reproduced in Krejčířik 2009, p. 103.*

The largest building of the company of Northern Bohemian Railway / Böhmsche Nordbahn was the border station in Varnsdorf, which was also used by the Royal Saxon State Railways. After the death of the company's chief designer, Josef Pavlovský (1822–1877), it commissioned a project in 1869 from the successful Viennese architect Moritz Hinträger (1831–1909) (Brandstetter 2007), who later also published his design. Once again the building had two end pavilions and a lower middle section, with the entrance hall at its centre, from where the Austrian ticket office and, later, baggage claim were accessed on the left, while the Saxon ticket office was accessed on the right. The layout of the other public areas, reached through the central corridors of the three-bay building, was economically but less clearly arranged: the baggage hall was in the pavilion on the left and the waiting room and restaurant were in the pavilion on the right (Hinträger 1877). Most of the building was demolished in 2020, with only the pavilion on the left undergoing renovation.

In 1869–1875 the Austrian North-Western Railway Company / Österreichische Nordwestbahn built a railway line from Vienna through Moravia and Bohemia to the town of Děčín / Tetschen, where it connected to a line that ran to Dresden and Berlin. The standard station buildings were designed by the architect and engineer Carl Schlimp (1834–1901) (Caltana 2011), who in 1873 also designed the superb railway station in Prague, which was later needlessly demolished (Zlámaný 2006). In 1869, the company's director of construction, Wilhelm Hellwag (1827–1882) (~ 1882), invited the Württemberg architect Wilhelm Bäumer (1829–1895) (Scheidl 2011) to Vienna to design the company's main station in Vienna – Nordwetsbahnhof, destroyed during the Second World War. He then also invited Bäumer's pupil from the Stuttgart Polytechnic Rudolf Frey (1846–1908) (~ 1908), who designed the cross-border station building in Děčín, built in 1873–1874. *'In the older border stations, various services, such as customs/clearance, ticket offices, and baggage claim, were divided up both by state and by railway company, which created an indecipherable maze of corridors between rooms in which passengers got lost. In this case, however, it became possible to circumvent these usual difficulties and introduce centralisation, which the project uses both aesthetically, giving proportion to the rooms, and to facilitate operations: it made an overall simplification of the floor plan possible and thus made it easier for passengers to find their way around.'* (Frey 1876) Frey was thus able to concentrate ticket offices and customs clearance in one central departure hall, which led to other rooms in the north wing, terminating in the pavilion with the restaurant hall. However, the still inviolable rule of symmetry meant that the southern half was given the same façade design as the northern half, even though it contained 3–4 floors of offices and flats, the floors of which are inscribed in the divisions of the tall windows. The central hall mentioned above is covered (as it was in Prague) with the steel Polonceau trusses, which are clearly visible in the interior, while the walls feature lavish stucco decorations executed by Viennese craftsmen. The main features here are the sculptural allegories by Georg Schröffel, with a female figure representing the Danube and a male figure representing the Elbe. The connection between these European river basins, and thus between then Austria-Hungary and the newly unified Germany, is symbolised by Frey's



Saxony, Bavaria, Thuringia, and Bohemia, which built a line from Herlasgrün to Cheb and, in 1865, a large border station about two kilometres east of the small village of Vojtanov / Voiterreuth. An individual project, using, however, the same façade elements applied across the entire line, was created for this station by the company's building department in Oelsnitz, which was headed by a not yet known assistant engineer named Richter (Jahn 1865, p. 35). The building was given the usual layout, with the areas accessible to passengers placed in the central ground-floor section, and the offices and apartments located in the two two-storey pavilions at opposite ends of the station (~ Stationsbauten 1865). Originally built in an area almost devoid of settlement, over time three small textile factories were built along with housing for employees, and a grain store was added in 1939 (Zeidler 1987). Cross-border traffic was resumed at this location in 1955 and the station underwent renovation in 1971–1975, during which the façade of the passenger building was, unfortunately, simplified.

The Prague railway company of the Buštěhrad Railway / Buschtěhrader Bahn built a railway line from Prague to Chomutov, which then connected to its own mountain line to Vejprty, and from there the Saxon Reitzenhain railway continued on to Chemnitz. The architect Saturnin Heller (1840–1884), who worked for the Buštěhrad Railway Company from 1872 to 1875, designed a new series of model buildings for this line, but he drew up an individual project for the border station in Vejprty, in which he included elements from the older standard plans designed by his predecessor, Josef Chvála (1826–1872). The two-storey station building followed the layout of a three-tract building with an interior corridor and two end pavilions, but the middle section, with a vestibule on the ground floor, was designed with three storeys, which gave the station as a whole a cohesive appearance (Krejčířík 2005: 278). With the exception of the restaurant, the public areas were arranged within the layout on the track side of the building on the ground floor. At the start of the Second World War cross-border traffic ceased here and the unused building fell into decline, and it continued to do so even after traffic resumed in 1993. Despite the efforts of the mayor of Vejprty and an attempt to designate the building a cultural monument, most of it was demolished in 2014.

The construction of Austrian railway lines in a northbound direction only took off on the basis of demands from Prussia following its victory in the Austro-Prussian War in 1866 – a victory unquestionably aided by Prussia's better railway network (sh 1978). The border station on the first of these new lines to Prussia, which ran from Josefov via Královec to Kamienna Góra (Landeshut) and was opened in 1869 by the German Southern North Junction Railway, was built, however, on the Prussian side of the border in Liebau (today's Lubawka). This 300-metre-long station building is now abandoned. In 1872, the Austrian State Railway Company, under the direction of the head of construction, Auguste de Serres-Wieczffinsky (1841–1900), began building a line from Choceň to Meziměstí / Halbstadt, where in 1877 it connected to the Prussian railway network's line to what was then Waldenburg, now Wałbrzych in Poland, and the coal mines located there. The *'spacious and tastefully designed'* (~ Linie... 1877) station building literally reversed the traditional layout by placing the administrative



offices in the central part of the station where an intermediate floor was added, and putting elevated hall pavilions at the end of the building. The author of this unusual architectural design was likely Johann Oehm (1836–1905), who under Serres's direction had in 1873 already collaborated on the design of the company's largest railway station in Pest (from 1890 the Western/Nyugati Railway Station), which was given a similar entrance hall and restaurant pavilions (*Der neue... 1877; Das Aufnahms-Gebäude... 1883*). In 1901 Oehm designed a similar entrance hall, topped by a mansard roof with circular bull's-eye windows, as part of the extension to the Main Station in Brno, which was done in 1903–1904 (Krejčířík 2005: 121–123).

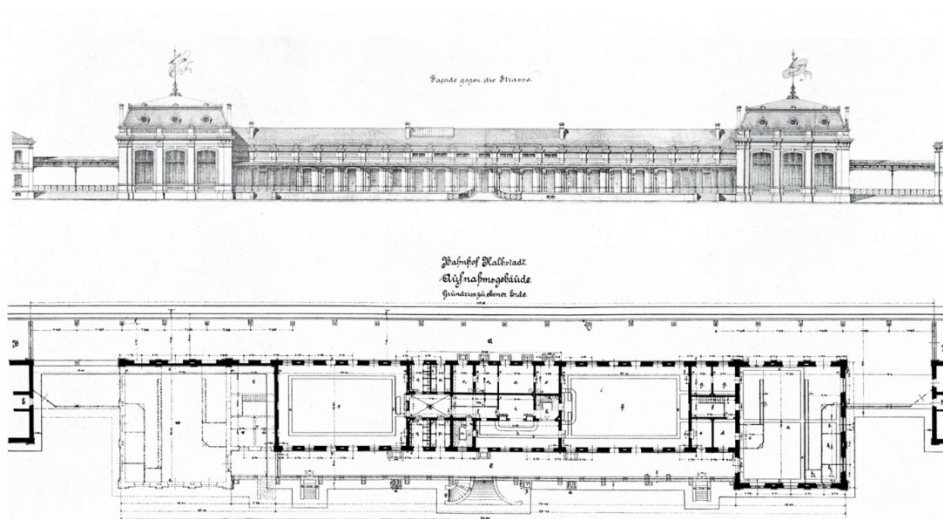


Fig. 5: Johann Oehm (?), Station Building in Meziměstí, 1875. Source: Krejčířík 2022, Vol. 1, p. 39.

The border railway station in Železná Ruda / Eisenstein was built in 1877 on the basis of an agreement between Austria-Hungary and the Kingdom of Bavaria from March 1873. The railway was extended here from Pilsen by Plzeňsko-Březenská Railway Company / Eisenbahn Pilsen–Priesen, but the line from Plattling in Bavaria and the station building were built by the joint-stock company of the Bavarian Eastern Lines, which in the meantime was nationalised. The original project was designed by its former main architect, the above-mentioned Heinrich Hügel, but the head office of the Bavarian State Railways had it redesigned by its own construction office, which retained the layout of the original design but adapted the façades to reflect the station's location in a valley in the Šumava Mountains – using stone cladding in the form of Cyclopean masonry and wood planking on the upper floors, like those found in the nearby stations in Regen and Zweissel (Krejčířík 2022: 186–192). The usual model of a long symmetrical building with pavilions at either end found perfect operational justification in this location, as the border between Bohemia and Bavaria literally runs right through the central vestibule. The building's façade was originally adorned with two bronze

medallions featuring the coats of arms of both lands, which were replaced after the First World War by two border stones, one in the floor of the vestibule and the other in the track area. Cross-border traffic ended in 1953. The Bavarian half of the station, which also housed the restaurant, continued to function as the terminus of the local line from Plattling. The train shed on the Czech side was destroyed during a disastrous snow storm in 1967, but on the Bavarian side it was then acquired by Bayerischer Localbahn Verein e. V. (Zahrádka 1991), which used it as a depository and opened it to the public as a museum in 1994 (Localbahnmuseum... s. d). The site resumed its original operations in 1991, and the reconstruction of the station building was completed eight years later (Zlámaný 2008).

In 1871 the Prague-Duchcov Railway / Prag-Duxer Eisenbahn began building a railway for the transport of coal from the Most Basin to Prague. Construction of the next stage, to transport coal across the Ore Mountains to Saxony and to Freiberg and the iron works there, was, however, stalled by the economic crisis, and the section of the line from Hrob to the border, which is now known as the Moldavian Mountain Railway, was not built until 1883–1884, with the work carried out under the direction of the company's director, Ludwig Komrs (1825–1908) (Ředitel... 1908) according to designs by the chief engineer, Georg Rupprecht (Rupprecht 1876). Because the Prague–Duchcov Railway shared buildings with other railway companies in Prague and Duchcov, the station building, built close to a small secluded settlement called Moldava / Mulde or later Moldau, was the largest of all of the company's buildings. It was given an individual design, but the architectural articulation of the façades matches that on the buildings in Dubí and Hrob, which were built at the same time. Cross-border traffic did not resume here after the Second World War, and on the Saxon side the line was actually dismantled all the way to Holzhau. The small volume of freight transport that continued was gradually replaced by tourist traffic, and the station building in Moldava came to be used instead as a vocational school and a restaurant (Krivý 1980). In 1996, the Friends of the Ore Mountains Railway Club was founded by local activists, and this not only helped to maintain traffic on the line but also to get the line added to the list of Czech cultural heritage sites two years later. In late 2024, the site was purchased by the 'Zdice Locomotive Shed Association', which until recently had been operating a railway museum on the premises of a former locomotive shed in the central Bohemian town of Zdice.



Fig. 6: (?), Station Building in Moldava, 1884. Postcard by Brück und Sohn, 1905.  
Source: Deutsche Fotothek, <http://www.deutschefotothek.de/documents/obj/71827618>

The border crossing station in Kořenov was built as part of the most technically demanding mountain line in the Czech lands, constructed in 1900–1902 on the border of the Jizera and Ore Mountains by the Liberec–Jablonec–Tanvald Railway Company / Reichenber-Gablonz-Tannwalder Eisenbahn. The line's main purpose was to transport Lower Silesian coal from Jelenia Gora / Hirschberg to local industrial enterprises and especially to the Riedel family glassworks in the Desná Valley. But from the outset it was also a 'true tourist line' (Fuchs 1901). The line's design and the construction of the railway were entrusted to the Vienna office of a company in Berlin that specialised in railway construction and operations (Berliner vereinigte Eisenbahnbau- und Betriebs-Gesellschaft), which was headed by the engineer Josef Saliger (1859–1917) (Doležal 1918). The steep gradient of the line necessitated the construction of several sections of rack-and-pinion railway – the inventor of this system, Roman Abt (1850–1933), personally carried out a test run of the line with three locomotives (in 1902). The station building and the four-track roundhouse were designed by the architect Eduard Kramer (1874–1943), a graduate of the Wagner School in Vienna (Damjanović, 2024: 35), who was at that time employed by the Emperor Ferdinand Northern Railway, which in 1903 then began operating the entire line (Beischläger 1907: 287). Today, however, Kramer's fingerprints can only be seen on the detached building that housed customs services and a warehouse, which was recently converted into a community and sports centre. Here, too, freight transport was gradually supplanted by tourist transport, especially when in 1958, after the border was moved, the connecting, originally Prussian, part of the line ended up on the territory of Czechoslovakia, and it also began to serve as a connection to a centre of winter sports – Harrachov. Cultural use of the station area dates back to at least 1980, when one of the original locomotives was exhibited here and after that was stored in the roundhouse (Bek 1981).

The Northern Bohemian Railway built another crossing station in 1904 near the village of Dolní Poustevna / Nieder Einsiedel, from where it continued on to the neighbouring Saxon town of Sebnitz. Its chief engineer, Karl Kirschner, designed a coherent and sophisticated layout – the vestibule with the ticket office in the middle of the ground floor was connected to the customs clearance hall shared by customs authorities from both sides of the border (Krejčířík 2009: 170–171). The three-storey building with 21 window bays and a length of almost 70 metres has been preserved in almost its original form, but it has remained unused for a long time, and even the restaurant it housed closed in 2016.

## REFERENCES

- ~ (1848). *Protokoll über die Verhandlungen der am 30. März 1848 abgehaltenen sechzehnten Generalversammlung der Actionäre der ausschl. privil. Kaiser Ferdinands Nordbahn*. University of Michigan Library Digital Collections. Retrieved March 1, 2025, from <https://name.umd.umich.edu/1354519.0001.001>.
- ~ (1851). Die sächsisch-böhmische Staatseisenbahn. *Illustrierte Zeitung*, Vol. 16, No. 408, 261–263, No. 409, 277–278, No. 410, 295–298.
- ~ (1865). Stationsbauten in Voiteersreuth. *Centralblatt für Eisenbahnen und Dampfschiffahrt in Oesterreich*, Vol. 4, No. 9, 66.
- ~ (1877). Linie Chotzen–Halbstadt–Braunau. *Verkehrszeitung*, Vol. 4. No. 17, 5.
- ~ (1877, October 10). Der neue Bahnhof der Oesterreichischen Staats-Eisenbahn-Gesellschaft. *Pester Lloyd*, Vol. 24, No. 300, 2.
- ~ (1882). Willhelm Hellwag. *Der Bautechniker*, Vol. 11, No. 2, 21.
- ~ (1883). Das Aufnahms-Gebäude der K. K. priv. Osterr. Staats-Eisenbahn-Gesellschaft in Budapest. *Allgemeine Bauzeitung*, Vol. 68, 3–11, 13–19, tab 1–12.
- ~ (1887), G. H. Rachel †, *Centralblatt der Bauverwaltung*, Vol. 7, No. 1, 16.
- ~ (1908). Rudolf Frey, be. aut. Architekt †. *Der Civiltechniker*, Vol. 30, No. 12, 48.
- ~ (1908, March 12). Ředitel státních drah Ludvík Komrský. *Národní listy*, Vol. 48, No. 71, 2.
- ~ (s. d.). Dworzec kolejowy Lubawka (ruina). *Polska-org.pl*. Retrieved March 1, 2025, from [https://polska-org.pl/4531550,Lubawka,Dworzec\\_kolejowy\\_Lubawka\\_ruina.html](https://polska-org.pl/4531550,Lubawka,Dworzec_kolejowy_Lubawka_ruina.html)
- ~ (s. d.). Heinrich von Hügel. *Wikipedia*. Retrieved March 1, 2025, from [https://en.wikipedia.org/wiki/Heinrich\\_von\\_Hügel](https://en.wikipedia.org/wiki/Heinrich_von_Hügel)
- ~ (s. d.). *Localbahnmuseum Bayerisch Eisenstein*. Retrieved March 1, 2025, from [https://www.blv-online.eu/museum\\_home/index.php/](https://www.blv-online.eu/museum_home/index.php/)
- Adamus A. et al. (1936). *Pohled do dějin Severní dráhy Ferdinandovy po stoleté činnosti 1836–1936*. Příbor: Jan Richtr.
- Bazika, E., Hlavačka, M. (2022). *Eduard Bazika: (1830–1914): Mé paměti*. Praha: Národní technické muzeum.
- Beischläger, O. (1904). Die Bahnlinie Tannwald–Grünthal. *Österreichische Eisenbahn-Zeitung*, Vol. 27, No. 23, 264–266, No. 24, 273–275, No. 25, 285–289, No. 26, 295–300.
- Bek, J. (1981). Stanice 701 metr nad mořem. *Železničář*, Vol. 31, No. 14, 217.
- Borovcová, A. (2016). *Kulturní dědictví Severní státní dráhy*. Ostrava: Národní památkový ústav, Územní odborné pracoviště v Ostravě.
- Borovcová, A. (2023). *Průmyslové dědictví: Jihoseveroněmecká spojovací dráha (Pardubicko-liberecká dráha)*. Ostrava: Národní památkový ústav, Územní odborné pracoviště v Ostravě

- Brandstetter, J. (2007). Moritz Hinträger. *Architektenlexikon Wien 1770–1945*. Retrieved March 1, 2025, from <https://www.architektenlexikon.at/de/760.htm>
- Caltana, D. (2011). Carl Schlimp. *Architektenlexikon Wien 1770–1945*. Retrieved March 1, 2025, from <https://www.architektenlexikon.at/de/1257.htm>
- Damjanović, D. (2024). *Otto Wagner and Croatian Architecture*. Zagreb: Faculty of Humanities and Social Sciences, University of Zagreb, FF Press.
- Danda, J. (1988). *Naše železniční nádraží*. Praha: Nadas.
- Doležal, [E.] (1918). Direktor Ing. Josef Saliger †. *Zeitschrift des Österreichischen Ingenieur- und Architekten-Vereines*, Vol. 70, No. 29, 324–325.
- Draganić, A. and Szilágyi, M. (2022). The First Railway Of Vojvodina. Retrieved March 1, 2025, from <https://rail4v4v.com/rail4v4-sites/the-first-railway-of-vojvodina/>
- Fischel, H. (1898). Hochbau. In H. Strach (Ed.), *Geschichte der Eisenbahnen der Oesterreichisch-Ungarischen Monarchie* (Vol. 2, pp. 381–422). Wien–Teschen–Leipzig: Karl Prochaska.
- Flattich, W. (1884). Ueber Eisenbahn Hochbau... *Österreichische Eisenbahn-Zeitung*, Vol. 7, No. 18, 232–235.
- Frey, R. (1876). Der Grenzbahnhof Tetschen der österr. Nordwestbahn. *Allgemeine Bauzeitung*, Vol. 41, 42–44, Tab. 36–42.
- Friedl, G. (1979). *Der Architekt Wilhelm von Flattich (1826–1900)*. Wien: Verband der Wissenschaftlichen Gesellschaften Österreichs (Dissertationen der Universität Wien, 141)
- Fuchs, [M.] (1901). Lokalbahn Tannwald–Grünthal. *Technische Blätter*, Vol. 33, No. 1, 73–74.
- Hinträger, M. (1877). Das Aufnahmegebäude d. k. k. priv. böhm. Nordbahn i. Warnsdorf. *Zeitschrift des österreichischen Ingenieur- und Architekten-Vereines*, Vol. 29, No. 5, 97–98, tab. 16.
- Jahn, G. (1865). *Die Voigtländische Staatseisenbahn Herlasgrün-Eger*. Oelsnitz: Expedition des Amtsblattes.
- jan- (1968). Nové nádraží v Aši. *Železničář*. Vol. 18, No. 47, 7.
- Jiřík, V. (1999). *Vlak svobody: kniha reportáží z moderních dějin*. Cheb: Svět křidel.
- Krejčířík, M. (1991). *Po stopách našich železnic*. Praha: Nadas.
- Krejčířík, M. (1996). Antonín Jüngling – architekt našich prvních parostrojních drah. In *Dějiny vědy a techniky: z dějin železniční dopravy v Českých zemích* (Vol. 2, pp. 5–13) Praha: Národní technické muzeum (Rozpravy Národního technického muzea v Praze, 143).
- Krejčířík, M. (2005). *Česká nádraží: architektura a stavební vývoj* (Vol. 2). Litoměřice: Vydavatelství dopravní literatury.
- Krejčířík, M. (2009). *Česká nádraží: architektura a stavební vývoj* (Vol. 3). Litoměřice: Vydavatelství dopravní literatury.
- Krejčířík, M. (2022). *Česká nádraží: architektura a stavební vývoj* (Vol. 5). Litoměřice: Vydavatelství dopravní literatury.
- Krings, U. (1985). *Bahnhofsarchitektur: deutsche Grossstadtbahnhöfe des Historismus*. München: Prestel.
- Krivý, B. (1980). Dráha pod Bouřňákem. *Železničář*, Vol. 30, No. 2, 24–25.
- Lutz, K. (1883). *Der Bau der bayerischen Eisenbahnen rechts des Rheines*. München–Leipzig: Rudolf Oldenbourg.
- m (1902, June 20). Von Bahnbau Tannwald–Grünthal–Peterdorf. *Bohemia*, Vol. 75, No. 168, 5.
- Prokop, U. (2006). Carl Schumann. *Architektenlexikon Wien 1770–1945*. Retrieved March 1, 2025, from <https://www.architektenlexikon.at/de/573.htm>
- Reuter, Th. (1898), Architekt Carl Schumann, *Zeitschrift des österreichischen Ingenieur-Vereines*, Vol. 50, No. 19, pp. 304–305.

- Rupprecht, G. (1876). Über Projects- Verfassung von Gebirgsbahnen. *Wochenschrift des österreichischen Ingenieur- und Architekten-Vereins*, Vol. 1, No. 27, 218–219.
- s- (1989), První cizí dráha v Království českém, *Železničář*, Vol. 39, No. 20, pp. 312–313, No. 22, 344–345, No. 24, 376–377.
- sh- (1978). Tratě ve stínu války zrozené. *Železničář*, Vol. 28, No. 1, 10–11, No. 3, 40–41, No. 5, 72–73.
- Scheidl, I. (2011). Wilhelm Bäumer. *Architektenlexikon Wien 1770–1945*. Retrieved March 1, 2025, from <https://www.architektenlexikon.at/de/1009.htm>.
- Strach, H. (1898): Die erste Privatbahnen. In Prochaska, K. (ed.): *Geschichte der Eisenbahnen der Oesterreichisch-Ungarischen Monarchie* (Vol. 1, part 1, pp. 132–216). Wien–Teschen–Leipzig: Karl Prochaska.
- Štursa, J. (1973), Soudobá architektura drážních budov. *Architektura ČSR*, Vol. 32, No. 10, 496–509.
- Vates, P. (2010–2015). Bahnknoten Eger. Retrieved March 1, 2025, from <https://ceskedrahy.de/seite/index.php?page=asch-rossbach-adorf>
- Vates, P. (2010–2015). Eisenbahn durch das Jeschkengebirge. Retrieved March 1, 2025, from <https://ceskedrahy.de/seite/index.php?page=eisenbahn-durch-das-jeschkengebirge>
- Wagner-Rieger, R. (1970). *Wiens Architektur im 19. Jahrhundert*. Wien: Österreichischer Bundesverlag.
- Zahrádka, V. (1991). Obnovená cesta k sousedům, *Železničář*, Vol. 61, No. 5, 74–75.
- Zeidler, K. (1987). *Voitersreuth, das Dorf an der Grenze: die Geschichte eines egerländischen Dorfes*. Passau: Kurt Zeidler.
- Zlámaný, M. (2006). Nádraží Praha–Těšnov. *Industriální topografie*, entry no. V000335. Retrieved March 1, 2025, from <http://www.industrialnitopografie.cz/karta.php?zaznam=V000335>
- Zlámaný, M. (2008). Železniční stanice Železná Ruda–Alžbětín. *Industriální topografie*, entry no. V014955. Retrieved March 1, 2025, from <http://www.industrialnitopografie.cz/karta.php?zaznam=V014955>





**Maciej Mądry**

Foundation for the Protection of the Industrial Heritage of Silesia, Poland,  
maciej.madry@muzeatechniki.pl

## **RAILWAYS. THE NERVOUS SYSTEM OF INDUSTRY**

**Abstract.** The perception of railway heritage often focuses on architectural landmarks while overlooking the broader industrial significance of railway infrastructure. This narrow perspective neglects less prominent but equally essential elements such as sidings, auxiliary facilities, and technical structures that once played a key role in industrial development.

The transition from a centrally planned economy to a market-driven system led to the loss of many historic industrial sites and their railway infrastructure. While some remnants have survived, ongoing economic and environmental transformations present new challenges. The systematic closure of obsolete industries is resulting in not only their abandonment but also immediate demolition to make space for new investments.

Recent efforts have highlighted lesser-known railway-related sites integral to industrial operations, including transportation hubs, production facilities, and specialized railway networks. Many of these sites, though still functional, face the threat of disappearance due to redevelopment pressures.

As modernization continues, the future of industrial railway heritage remains uncertain. The challenge is not only to document these sites but also to determine whether they can be repurposed and integrated into contemporary urban and economic landscapes. Without a systematic preservation strategy, much of this heritage may be lost before its historical significance is fully recognized. Addressing these challenges requires a broader understanding of railway heritage, moving beyond iconic architecture to include the full scope of industrial infrastructure that once shaped economic development.

A selection of sites exemplifies these challenges, including a historic coking plant, a former city port, a sand railway bridge, a steel rolling mill, and a coal mine. These locations, once essential for industrial operations, illustrate that railway heritage is more than just visually striking structures—it is an integral part of industrial history that requires recognition and protection.

**Keywords:** Industrial Railway Heritage, Railway Infrastructure, Preservation Challenges, Silesia, Railway History

## 1. INTRODUCTION

In 2024, a report titled "Railway Architecture and Technical Monuments" was commissioned by the National Institute of Heritage Conservation in Poland. This document was developed in response to the enactment of the new Government Program for the Restoration of Monuments for 2023-2026, one of whose two priority tasks is the verification and classification of railway technical monuments. Published in March 2024, the report spans over 200 pages and describes, among other things, the origins and history of the railway network in present-day Poland, introduces a standardized typology of railway buildings and structures, and extensively outlines the evolution of railway architecture. By focusing on railway architecture, it omits the broader significance of rail transport in Poland's industrialization history and marginalizes railway infrastructure beyond stations, locomotive depots, or visually striking railway bridges. In my opinion, this document is a classic example of how railway heritage is perceived, not only in Poland but globally. This perspective treats the railway system as a kind of desert where occasional oases of notable architecture appear.

In the project carried out by the Industrial Heritage Protection Foundation of Silesia within the Rail4V4+V 2023 consortium, titled "Railways. The Nervous System of Industry," we sought to highlight lesser-known, often deeply hidden historic railway buildings, structures, and technical railway facilities within Poland's railway system. These are sites that played a key role for decades, first enabling industrialization and later supporting the daily operations of Polish industry. At the turn of the 20th and 21st centuries, Poland, like other Central and Eastern European countries, underwent an unprecedented transformation. Overnight, not only political but also economic, social, and industrial systems collapsed. The revolution brought democracy and economic growth but also led to the decline of many historic industrial sectors and, in some cases, entire industrial regions. This erosion of material traces of Poland's economic development was not accompanied by a thoughtful plan to protect key witnesses of its industrial past. During this time, many invaluable technical and railway monuments were lost forever.

It seemed that after 30 years, on the threshold of the next revolution—the green transition—the lessons had been learned, and this dramatic history would not repeat itself. Today, we know otherwise. The gradual, planned elimination of heavy and extractive industries in Poland, which appears to be a natural consequence of technological progress, market forces, and societal will, also poses a threat to industrial heritage. The main difference now is that previously, closed industrial plants were stripped of valuable equipment and abandoned, gradually decaying over the years. Many of them, in the form of more or less preserved relics, have survived to this day. The current revolution condemns them to immediate destruction. Closed sites are being demolished to free up valuable space for new investments.

## **2. HISTORICAL OUTLINE. THE DEVELOPMENT OF RAILWAYS IN THE LOWER AND UPPER SILESIA REGION.**

The railway in Silesia has its roots in the first half of the 19th century, when the region was part of Prussia. The first initiatives to build a railway system in Silesia emerged after the opening of the first railway line in Germany in 1825, connecting Bad Dürkheim with Mannheim. However, the true development of the railway network in Silesia began only in 1842, when the first railway line connecting Wrocław with Oława was constructed.

Railways in Silesia developed rapidly in response to growing industrial and transport needs. In 1855, the Upper Silesian Railway (Ober-Schlesische Eisenbahn-Gesellschaft) was established, connecting Wrocław with Opole and further with Kędzierzyn-Koźle. These lines were crucial for transporting coal, steel, and industrial raw materials, which supported the intensive industrial development in the region. In 1862, a railway line connecting Wrocław with Gliwice was opened, and in 1870, a line linking Bytom with Opole was inaugurated, further connecting the major industrial centers of Silesia.

In the second half of the 19th century, state-owned railways took control of many private railway lines, having an increasing impact on the region's development. The Silesian Railway became an integral part of the Prussian transport network. New investments focused not only on expanding routes but also on building bridges, tunnels, and modern railway stations. In 1873, a railway line connecting Wrocław with Katowice was established, and in 1877, a connection between Wrocław and Poznań was created. These investments aimed to strengthen connections between Silesia and the rest of Prussia, facilitating the transport of raw materials and industrial goods.

In the 1880s and 1890s, narrow-gauge railways became particularly significant in Silesia, especially for transporting coal and other raw materials to industrial plants. The increase in the number of such lines responded to the growing demand for transport. Silesia became one of the major industrial regions in Germany, and the development of the railway network was a key factor in this process.

At the beginning of the 20th century, railways in Silesia continued to develop. Modernization of existing lines and the introduction of new technologies, such as electric railways, became widespread. Wrocław and other cities in Silesia became key railway hubs in Germany, connecting the region with the rest of Europe. The development of railways contributed to further industrialization and facilitated communication within the region.

During this period, secondary railways became increasingly important, particularly after the introduction of a law in 1878 in Prussia aimed at developing the regional railway network. Private companies, such as Lenz & Co. and Vering und Waechter, began building many of these lines, including the Ostrowo–Skalmierzyce line (1896) and the Legnica–Rawicz railway (1898). Increased private investment in railways

helped meet growing transport needs, especially in local areas, connecting smaller towns with larger industrial centers.

Leading up to World War I, the railway infrastructure in Silesia was systematically modernized. New technologies, such as electrification and signal systems, were introduced to improve transport efficiency. Key railway hubs, such as those in Wrocław, Legnica, and Gdańsk, were reconstructed. Despite the challenges of wartime conditions, railway development did not stop, and after the war, reconstruction and further expansion of the network continued.

Railways in Silesia became the foundation for the region's development, and their history remains an inseparable part of Silesia's industrial history. Many of the lines built in the late 19th and early 20th centuries remain in use today, although some have been abandoned or repurposed for other forms of transport. Silesian railways, both state-owned and private, played a significant role in the development of cities such as Wrocław, Katowice, Gliwice, Zabrze, and Bytom.

After regaining independence in 1918, the railway network in Silesia was reorganized. In 1919, the construction of new sections began to fill the gaps in the connections. Among the most important investments were the construction of the Kalety–Podzamcze line (1925–1927) and the Chorzów Stary–Piekary Szarlej line (1925). Investments in narrow-gauge networks, which had significant economic importance, were increased, and the construction of the Pawłowice–Chybie line (1924), Chybie–Skoczów line (1927), and Ustroń–Wiśła Uzdrowisko line (1928–1929) was also started, which was extended to Wiśła Głębce in 1933.

The Silesian railway network suffered significant damage at the turn of 1944/1945 due to the impact of the front passing through the region. Additional losses were caused by the actions of the Red Army, which dismantled entire railway lines, including infrastructure and rolling stock, sending them deep into the USSR. As a result of these actions, approximately 1087 km of standard gauge tracks and 129 km of narrow gauge tracks were removed. Among the most significant sections that were not rebuilt were lines such as Wrocław–Legnica, Opole–Kędzierzyn-Koźle, and parts of lines in southern Silesia. Many double tracks were dismantled, with the rails sent to the USSR. Ultimately, around 1772 km of track were never rebuilt, and some sections were only reconstructed in the 1950s.

As a result of these destructions, only single tracks remained in many places, including on the lines from Wrocław to Legnica and Opole. After the war and the stabilization of borders, the reconstruction of the railway network began, although much of the infrastructure was a reconstruction of existing structures. Most of the tracks were rebuilt in the style of previous ones, often using partially recovered materials.

Despite numerous difficulties related to the shortage of rolling stock, the railway network in the region was systematically developed, particularly to serve the growing number of industrial plants in Silesia. In the 1950s, many investments were

made to modernize stations and lines, and in the following decades, efforts continued to improve the efficiency of railway transport.

After the end of the war and the establishment of new national borders, the railways in Silesia began to regain their functionality despite a shortage of rolling stock. In both Lower and Upper Silesia, an intensive expansion of the railway network began to support the dynamic industrial development and mass transport, especially of coal, which became a key raw material for the economy. In Upper Silesia, a series of investments were made to serve heavy industries and mining, as well as to improve coal transport.

In Upper Silesia, railways connecting industrial centers played a particularly important role, such as the line to the Katowice Steelworks, where the need for raw material transport required the construction of the broad-gauge Silesian-Hungarian Line (1978-1979). Additionally, investments included lines within the Upper Silesian Industrial Region (GOP), such as the Sosnowiec - Dąbrowa Górnicza - Łazy line and the Tychy Miasto - Bieruń - Łędziny line, which facilitated the transport of coal and other raw materials.

At the same time, new railway lines began to be built in Lower Silesia, such as the bypass of Częstochowa, and lines connecting Staszów with Połaniec, Kozłów with Koniecpol, and lines to new industrial centers in the region. During these years, investments were also made in building bypasses for cities and improving freight transport.

In the post-war period, some local narrow-gauge lines in Lower Silesia also began to disappear. In 1960, the liquidation of the least profitable sections began, especially those leading to small towns, such as the Krzeszów - Okrzeszyn line or the Pyrzyce - Płońsko line. In the 1970s, this process gained momentum, including narrow-gauge lines in areas of rapidly expanding cities like Wrocław, Poznań, and Kraków. Local railway sections were also closed in Lower Silesia, such as the Krzelów - Góra Śląska line and the Wołów - Lubiąż line.

At the same time, in Western Silesia, existing railway lines were being intensively modernized, with electrification, track replacement, and automation of signaling systems. Major railway hubs, such as stations in Poznań or Kielce, were also being reconstructed, and modern sorting stations were introduced to replace outdated equipment.

In both Western and Southern Silesia, the development of industrial sidings, particularly near railway stations, played an important role in providing transport access for local industries. In the 1960s and 1970s, this process gained momentum, with significant resources from PKP allocated to meet the growing needs of industry.

In terms of infrastructure, the 1970s also saw the development of prefabricated engineering structures and technical buildings, which influenced the design of railway stations and buildings, making them more functional and simplified. The modernization of the railway network during this time was particularly significant

for Lower and Upper Silesia, where many lines urgently required modernization, especially those leading to industrial centers.

Finally, as passenger transport demand decreased, less profitable sections were also closed on Silesian railways, primarily local and narrow-gauge lines that could not sustain themselves in the new transport system. The liquidation process was especially visible in regions with strong urban and industrial development, such as Wrocław and Katowice.

The collapse of the socialist economy and the implementation of free-market reforms starting in 1989 led to a radical shift in the railway sector. The closure of major industrial plants, which had generated both freight traffic and mass transportation of workers, rising unemployment, the unrestricted availability of road transport, and price dumping by road carriers caused a severe crisis in the railways, which lacked support typical for public service providers. As a result, during the period of greatest intensity (1992–1995 and 2000), numerous railway lines were formally closed, and unused tracks were stolen by organized criminal groups and unemployed individuals.

In the years 1991–2001, based on flawed economic criteria, 4,507 km of standard-gauge and 1,422 km of narrow-gauge railway lines were closed. Additionally, several hundred kilometers of industrial and siding tracks were abandoned with the collapse of industry or the shift to road transport. In 2001, PKP ceased operations of all narrow-gauge railways, either selling them to interested local authorities or physically dismantling them. This included valuable narrow-gauge networks like the Trzebnica (Wrocław) Narrow-Gauge Railway, one of the first such railways built in Poland, which stood out for its technical solutions and scenic value.

The restructuring of the railway system, which involved dividing the formerly unified (though inefficiently managed) entity into commercial companies, each responsible for specific transport segments and infrastructure maintenance, disrupted the historical model. Revenue from freight and main lines had traditionally subsidized passenger services and less trafficked lines. The result was a decline in passenger transport, further exacerbated by deindustrialization and competition from road carriers, which led to the abandonment of most freight services and rapid degradation of infrastructure.

In Lower and Upper Silesia, this process was particularly evident. The closure of key industrial lines and the shift to road transport contributed to the loss of important connections in these regions. The poor financial situation of PKP, which owned many of the railway buildings, led to the abandonment of their maintenance and a rapid deterioration of their condition. Issues with the legal status of railway properties and a tax system encouraging the physical dismantling of surplus, often historically valuable assets intensified the crisis, which was further fueled by widespread vandalism and theft of unused facilities.

### 3. 2023 PROJECT EDITION

As mentioned in the introduction, the sites selected for participation in the project are located in Lower and Upper Silesia—Poland's most industrialized regions, both historically and in the present day. These sites are either linked to the history of key industrial sectors that for nearly two centuries drove economic development and technological progress—such as mining and metallurgy—or were directly associated with the transportation of raw materials and consumer goods.

The sites representing mining and metallurgy heritage include the "Wujek" coal mine in Katowice, the "Victoria" coking plant in Wałbrzych, the sand railway bridge of the "Wieczorek" mine in Katowice, and the "Batory" sheet metal rolling mill in Chorzów. A site documenting the history of transportation is the former municipal port in Wrocław. All of these sites have ceased to serve their original functions (such as the sand railway bridge and municipal port), are only partially operational (as in the case of the "Wujek" mine), or, due to Poland's international commitments to phase out heavy industry, are set to be decommissioned in the not so long term, like the rolling mill and coking plant.

A particular challenge, especially for sites located in or near major cities, is their highly attractive location for real estate development. In cities such as Katowice and Wrocław—fast-growing centers of science, business, and services—there has been a significant and steady increase in population. This has led to a growing demand for investment land, naturally drawing investor interest toward large, well-connected post-industrial sites. The historical significance of these sites, their impact on the region's economic history, their role in technological progress, and, in many cases, their architectural value are often treated instrumentally or as secondary concerns.

Media narratives are increasingly dominated by discussions emphasizing the necessity of progress and transformation (which is, in itself, unquestionable), while simultaneously pointing out various—sometimes real, sometimes exaggerated—threats. A striking example of this is the case of the Upper Silesian Railway Station in Wrocław, located in the city center, right next to Wrocław Główny (the main railway station). Built in 1842, it is not only the oldest railway station within Poland's current borders but also one of the oldest in Europe. Although the station lost its original function in the 1860s, it remained in railway use with minimal modifications well into the 21st century. However, after the site was purchased by a private investor, it has been repeatedly set on fire over the past few years by "unknown perpetrators," "homeless individuals," or "vandals"—incidents that curiously coincided with public debates about the building's future. Notably, the investor plans to erect a high-rise on the site, a structure that would completely dominate the surrounding 19th-century urban landscape. This example illustrates the "determination" of investors in achieving their goals. Without regard, of course, for the site's historic character, which is officially recognized and listed in the heritage register.



### 3.1. “Victoria” coking plant in Wałbrzych (Lower Silesia)

The Wałbrzych coking plant is the oldest still-operating facility of its kind in Europe. The first successful coke production trials in this region date back to 1776. Over the years, the plant was expanded and modernized. By the late 19th century, new regenerative ovens, which used the released coke gas for heating, were introduced on a large scale. This principle is still used in coking plants today. In 1945, the damaged facility was taken over by the Polish administration, with only one of its three coke oven batteries operational. By 1954, all batteries had been restarted, and the plant reached 278% of its pre-war foundry coke production levels. In the 1990s, the Wałbrzych-New Ruda Coal Basin was shut down. All local coal mines and three out of four coking plants were closed, leaving only Victoria in operation. Today, the facility still produces coke, relying on coal transported via a railway line built in 1867.



*Fig 1: “Victoria” coking plant in Wałbrzych, 2024. Source: Maciej Mądry*

### 3.2. City port in Wrocław (Lower Silesia)

The increase in coal, coke, and industrial goods production in Lower Silesia necessitated improved transport conditions. One of the largest investments of the late 19th and early 20th centuries in the region was the construction of the Wrocław City Port. At the time, it was the most expensive project ever financed by the city in its nearly 1,000-year history. From the outset, the port's design included an extensive railway

siding with a track system, a locomotive depot, a signal box, and a railway weighbridge. Tracks led directly to the port basins and all warehouse buildings. On dead-end tracks, a system of winches was used to move wagons without locomotives. The port's railway siding was operational until 2020, primarily for coal transport to a nearby heating plant. However, due to the formal liquidation of the port and the sale of its land for a new residential development, the siding is being gradually dismantled.



*Fig 2: City port in Wrocław, 2024. Source: Maciej Mądry*

### **3.3. Sand railway bridge in “Wieczorek” coal mine (Upper Silesia)**

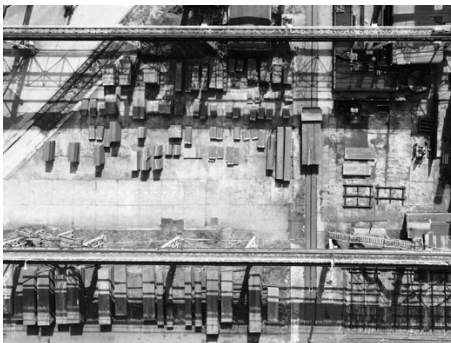
The sand railway system in Upper Silesia was a unique network crucial to the region's mining industry. Built mainly in the 19th and 20th centuries, it transported backfill sand used to fill mine voids after coal extraction. This railway network, spanning hundreds of kilometers, connected sand pits with mines, industrial plants, and transportation hubs. One of the last remaining relics of this system is a truss unloading bridge behind the Poniatowski shaft of the former KWK Wieczorek coal mine in Katowice. Built in 1912, it remained in use until 2020 but is now an inactive railway monument due to mine closures.



*Fig 3: Sand railway bridge in “Wieczorek” coal mine, 2024. Source: Maciej Mądry*

### **3.4. “Batory” steel rolling mill in Chorzów (Upper Silesia)**

Founded in 1873 as part of the expansion of the Bismarck steelworks, the rolling mill was modernized in 1900 to produce heavy steel plates. In 1913, one of Europe’s largest duo rolling mills was installed. The mill occupied a vast area, with numerous production halls connected by an internal railway network for transporting materials. Although it lost its link to the public railway in the early 21st century, its internal rail transport system remains operational.



*Fig 4: “Batory” steel rolling mill in Chorzów, 2024. Source: Maciej Mądry*

### 3.5. “Wujek” coal mine in Katowice (Upper Silesia)

Established in 1904, the mine played a key role in Poland’s labor movement history and was the site of the tragic suppression of a miners’ strike in 1981. Its railway siding, built in 1899, was essential for coal and waste transport until 2021, when it was shut down due to the merger of the Wujek and Staszic mines. Plans now exist to redevelop the former railway site for new investments.



*Fig 5: “Wujek” coal mine in Katowice, 2024. Source: Maciej Mądry*

## 4. CONCLUSION

The sites selected by the Silesian Industrial Heritage Protection Foundation for the 2023 edition of the Rail4V4+V project complement the list from the first edition. At that time, the historical railway station in Jaworzyna Śląska, Wrocław Główny station, the Railway Museum in Silesia, the bridge over Lake Pilchowickie, and the tunnel under Wołowiec were included – objects not only recognizable but often even spectacular: the longest tunnel, the highest bridge, the oldest station. This time, the goal was to highlight lesser-known and unusual places, contrasting them with the icons of railway heritage. By raising awareness of their existence, we hope they will not be forgotten.

## REFERENCES

- Cywiński B. (1964). Encyklopedia kolejnictwa. Warszawa: Wydawnictwo Komunikacji i Łączności.
- Czapliński M., Kaszuba E., Wąs G., Żerelik R. (2007). Historia Śląska. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego,
- Dobbelmann H., Frużyński A., Greiner P., Husberg V., Mrass P. (2004). Od maszyny parowej do kolei żelaznej. Rattingen-Zabrze: Oberschlesisches Museum / Muzeum Górnictwa Węglowego.
- Frużyński A. (2015). Historia przemysłu koksochemicznego na ziemiach polskich. Zabrze: Koksoprojekt.
- Grzegorek G., Frużyński A., Rygus P., Jodliński L. (2017). Kopalnie i Huty Katowic. Katowice: Wydawnictwo Prasa i Książka.
- Jerczyński M. (1922). 150 lat kolei na Śląsku. Opole: Instytut Śląski.
- Ministerstwo Kultury i Dziedzictwa Narodowego (2019) Wytyczne dotyczące zabytków techniki (DOZ.6521.15.2019.DJ)
- Narodowy Instytut Konserwacji Zabytków (2024) Raport. Zabytki architektury i techniki kolejowej. Typologia, zasoby, stan zachowania, rekomendacje. Warszawa: Narodowy Instytut Konserwacji Zabytków
- Trammer K. (2019). Ostre cięcie. Jak niszczone polską kolei. Warszawa: Wydawnictwo Krytyki Politycznej







## **RAILWAY HERITAGE CATALOGUE**



**CZECH REPUBLIC**





## CHEB RAILWAY STATION

Cheb became an important railway crossroads as early as 1865. In 1895, new warehouses and a multi-stall locomotive shed were built here, which today are the only reminders of the original station destroyed in WWII. The new station building, combined with the bus terminal, thus acquired a generous forecourt area, whose main axis in the direction of the city determined the basic symmetrical arrangement of the complex. The architect Josef Danda was appointed as the station's chief designer. His decision to give the exterior and interior architecture an optimistic air also determined the careful choice of materials. While the building's shell features dark red and white ceramic tiles combined with grey stone, the interior is dominated by glass, polished steel, aluminium, and synthetic materials. The building was officially opened on 22 December 1962. At the end of 2016, the passenger building was added to the national protected heritage list.

Žižkova 4/1301, 350 02 Cheb, Czech Republic

<https://rail4v4v.com/rail4v4-sites/railway-station-cheb/>





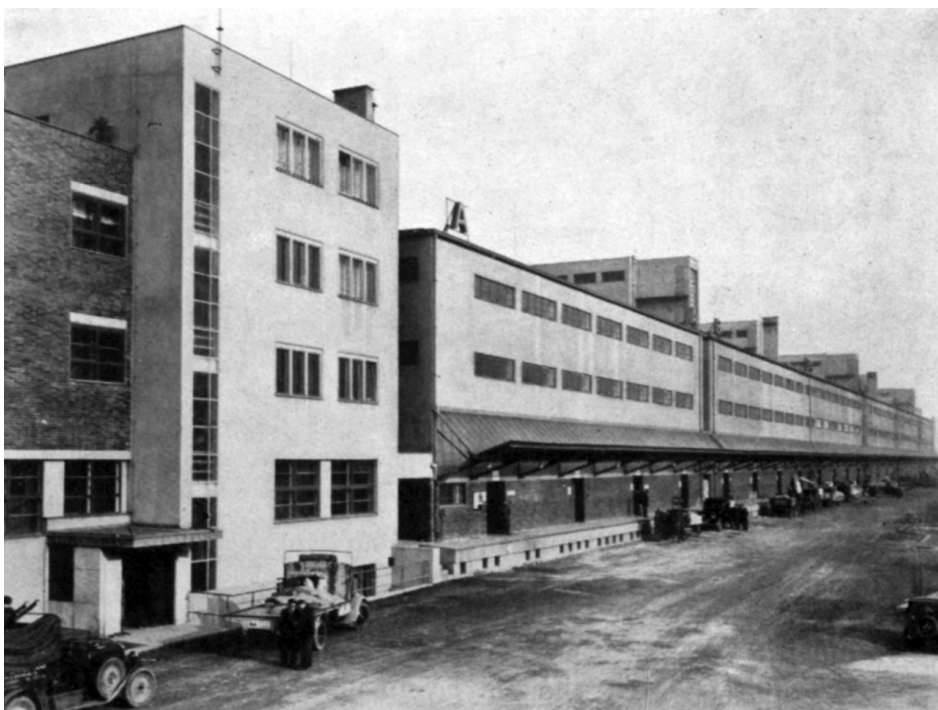
## DĚČÍN-EAST RAILWAY STATION

Between 1869 and 1875 the Austrian Northwestern Railway Company built a railway line Vienna–Děčín connected with Dresden–Berlin. The Děčín border station, designed by Rudolf Frey, opened on 15 October 1874. It had a large rail yard with warehouses, train sheds, and repair shops, and it sat directly adjacent to the older station of the Bohemian North Railway Company. Together they form a single Děčín–East station. The passenger's hall stucco decorations are sculptural allegories: a female figure of the Danube and a male figure of the Elbe. The connection between these two European river basins, and thus between Austria-Hungary and the newly unified Germany, is symbolised in Frey's architecture itself, which combines the Renaissance Revival style of the Vienna Ringstrasse with references to the Berlin Neoclassicism of Karl Friedrich Schinkel. Exceptionally well-preserved and a listed building since 1964, the station is, however, currently unused.

17. listopadu 15/362, 405 02 Děčín I-Děčín, Czech Republic

<https://rail4v4v.com/rail4v4-sites/railway-station-decin-east/>







## PRAGUE–ŽIŽKOV FREIGHT STATION

Žižkov Freight Station opened for regular service on 1 March 1936. It represented the first stage in implementing the 'Scheme of Future Modifications to the Railways in Prague' in 1927 by the state's chief railway engineer, Miroslav Chlumecký. It was based on the North American style of multi-level stations accompanied by multistory buildings. The prevailing direction of Prague's freight transport determined the size of the two parallel freight and warehouses. However, Chlumecký could vertically separate the different operators of the two-directional traffic using a method of three-dimensional routing diagrams that he came up with himself. Architects Karel Caivas and Vladimír Weiss gave this unique operational layout physical form in a thoroughly elaborated complex that perfectly fulfilled the idea of a building as a machine.

Jana Želivského 2200, 130 00 Praha 3-Žižkova, Czech Republic

<https://rail4v4v.com/rail4v4-sites/praha-zizkov-freight-station/>





## UHERSKÉ HRADIŠTĚ RAILWAY STATION

The railway was brought to Uherské Hradiště by the Austrian Local Railway Company in 1883, and five years later, the 20-kilometre local line running between Staré Město and Uherský Brod was linked to the Vlárý line connecting Brno with Trenčianska Teplá. The project for the station in Uherské Hradiště was drawn up by the Directorate's construction department in 1925 but then revised by engineer Miloš Fikr. He used 'elements of distinctive rustic architecture', most notably apparent in the high wooden gables and the carpentry design applied to the roof structure over the station platform. It was also decorated with ornamentation representing examples of folk embroidery from the unique local ethnographic region of Moravian Slovakia. The building was renovated again in 2004, and in 2011 was named 'Most Beautiful Railway Station' in a national survey. Together with its less well-preserved twin in Uherský Brod, it is probably the most impressive outcome of contemporary efforts to reform and contextualise railway architecture using folkloric motifs.

Nádražní 212, 686 01 Uherské Hradiště, Czech Republic

<https://rail4v4v.com/rail4v4-sites/railway-station-uherske-hradiste/>







## MEZIMĚSTÍ RAILWAY STATION

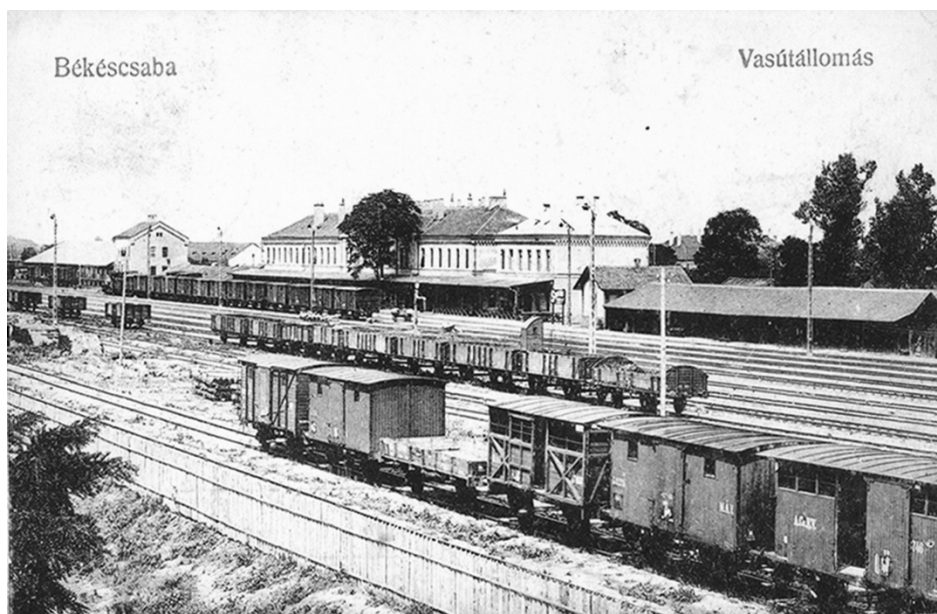
The railway line from Choceň to Meziměstí, designed under the direction of the eminent railway engineer Auguste de Serres-Wieczffinsky, in 1877 was linked to the Prussian railway network, from where it led to the coal mines in Waldenburg. The nearly two-kilometre railway yard at the border station in Meziměstí is still in its original triangle shape. Construction took place between June 1876 and August 1877. The single-storey station building is elongated and consists of two halls, connected at the centre by a two-storey section. It is accessed from the street side of the building through an eighty-meter-long glazed veranda. This unusual architectural design was likely created by architect Johann Oehm, who designed a similar entrance hall in Brno Central Station. Meziměstí never experienced the expected level of international traffic, and in 1939, customs operations ceased here. In 1947, the second-class waiting room was turned into a theatre hall. Since 2008, it has also been possible to visit a small private museum exhibition accessed directly from the hall.

5. května 102, 549 81 Meziměstí, Czech Republic

<https://rail4v4v.com/rail4v4-sites/railway-station-mezimesti/>

**HUNGARY**







## **BÉKÉSCSABA RAILWAY STATION**

The Békéscsaba railway station on the Arad-Szayol railway line was opened on October 25, 1858. The original station building was constructed according to the Tiszavidéki Railways plan for Class III station buildings. In 1928, a new neo-baroque building designed by MÁV engineer Béla Goszleth was added. Unfortunately, both stations suffered damage during the war and fell into disrepair in the following decades. A partial and stylistically inappropriate renovation was done at some point. However, between 2013 and 2016, the Hungarian State Railways (MÁV) restored both station buildings to comply with monument protection requirements.

Andrássy út 24-28, 5600 Békéscsaba, Hungary

<https://rail4v4v.com/rail4v4-sites/bekescsaba-railway-station/>





## **MISKOLC-TISZAI RAILWAY STATION**

The Miskolcz railway station was inaugurated on 24 May 1859 without a festive ceremony. In 1901, the station was reconstructed according to the plans of Ferenc Pfaff, MÁV's chief architect. By the 1940s, Miskolc had become a major railway hub. During World War II, Tiszai railway station and the marshalling yard suffered one of the largest bombing raids. Throughout the communist era, the station building deteriorated. However, in 2003, the station building was renovated to its original 1901 appearance and modernized to meet contemporary needs.

Kandó Kálmán tér 1-3, 3530 Miskolc, Hungary

<https://rail4v4v.com/rail4v4-sites/miskolc-tiszai-railway-station/>







## KELETI RAILWAY STATION BUDAPEST

Keleti Railway Station, initially known as Központi Railway Station, was opened on 16th August 1884. The building was designed by Gyula Rochlitz, while the large iron shed was designed by János Feketeházy. During the Second World War, the station was severely damaged, with part of it burnt out, and it took years to restore. Between 2002 and 2008, the central facade and the iron shed were renovated, and the Lotz Hall was restored. On 1st May 2023, the modern and accessible Keleti Passenger Centre was opened on the underpass level. Despite these improvements and renovations, many parts of the Keleti station are still decrepit.

Kerepesi út 2-4, 1087 Budapest, Hungary

<https://rail4v4v.com/rail4v4-sites/keleti-railway-station/>





## CHILDREN'S RAILWAY BUDAPEST



The first section of the narrow-gauge railway between Széchenyihegy and Virágvölgy was opened on July 31, 1948. Initially, the railway was known as the Pioneer Railway. The line was extended in two stages over the following years. By June 1949, the single-track line was completed up to Szépjuhászné station (6.7 km), and by August 20, 1950, it was extended to Hűvösvölgy station (11.2 km). The railway operated several locomotives, motor coaches, and passenger cars. In 1990, it was renamed the Children's Railway. The Budapest Children's Railway is unique. In 2015, it was recognized in the Guinness World Records as the longest railway in the world where children manage traffic and commercial services, with a track length of 11.7018 kilometres.

Hegyhát út, 1121 Budapest, Hungary

<https://rail4v4v.com/rail4v4-sites/childrens-railway/>

<https://gyermekvasut.hu/en/home/>



## ALFÖLD INDUSTRIAL GARDEN RAILWAYS



Alföld Industrial Garden Railways (AKGV) is the largest private collection of narrow gauge industrial railways in Hungary. Its history dates back to 1998 when a section of the 600 mm gauge industrial railway at the Bohn brickworks in Békéscsaba was at risk of demolition. The founder of AKGV purchased two dismantled turntables and enough track material to build a 50-meter-long garden railway on his weekend estate. Over the years, the railway line was significantly extended, and other heritage enthusiasts joined the effort. The former weekend estate has been transformed into a miniature railway open-air museum, showcasing 600 mm gauge industrial railway vehicles and their operational infrastructure.

Kígyósi út 32, 5600 Békéscsaba, Hungary

<https://rail4v4v.com/rail4v4-sites/alfold-industrial-garden-railways/>  
<http://akgv.hu/>

**POLAND**



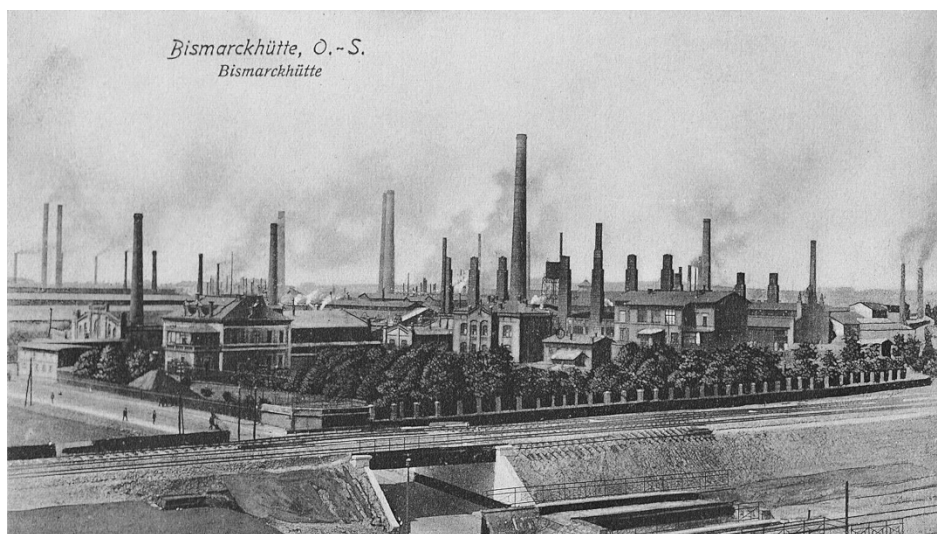
## WUJEK-STASZIC COAL MINE RAILWAY SIDING



The Wujek Coal Mine (KWK Wujek) was established in 1904 under the name Oheim Mine, although extraction had already begun in November 1899 when the first chunks were brought to the surface. The mine's dedicated railway siding was built in 1899 and continuously facilitated the transport of coal and rocks from the site until 2021. The siding was decommissioned after the merger of Wujek Mine with Staszic Mine due to the implementation of an underground system for transporting coal and waste from the mine. A similar fate befell the coal processing plant located on the railway siding. There are plans to separate the area of the former railway siding and technical infrastructure and convert the land into investment areas.

Wincentego Pola 40, 40-596 Katowice, Poland

<https://rail4v4v.com/rail4v4-sites/wujek-coal-mine-in-katowice/>





## BATORY SHEET ROLLING MILL, CHORZÓW



The Batory Sheet Rolling Mill was established in 1873 in response to the intensive expansion of production capacity at the Bismarck steelworks in Chorzów. In 1913, it launched one of the largest duo-rolling mills in Europe. From the beginning, the rolling mill occupied several hundred hectares, covered with dozens of extensive production halls, all interconnected by a rail system. This system facilitated the external transport of finished products and internal transport between different departments. In the early 21st century, the rolling mill lost its connection to the public railway network, and the transport of steel and steel plates is now carried out entirely by road. However, the internal rail transport system has been preserved and continues to support the daily operations of the enterprise. Special dedicated traction vehicles and wagons transport steel ingots and plates weighing up to several dozen tons.

Leśna 42, 41-506 Chorzów, Poland

<https://rail4v4v.com/rail4v4-sites/batory-sheet-rolling-mill-in-chorzow/>



## WAŁBRZYCH COKING PLANT VICTORIA



The history of coking in the Wałbrzych area can be traced back to the late 18th century. The first successful coking of hard coal from local mines was recorded in 1776. By 1798, there were already four coking batteries operating at the site of what is now Victoria, producing over 4,500 tons of coke annually. The construction of a railway line to the plant was connected to the expansion of the Silesian Mountain Railway and the building of Wałbrzych Fabryczna station in 1867. Before the railway line was built, transportation was carried out by horse to the nearest railway station, Wałbrzych Miasto. Despite undergoing several significant reconstructions and modernizations over its more than 130 years of operation in its current form, the railway siding remains in operation, supporting the transport of coal and coke.

Marcelego Kosteckiego 9B, 58-300 Wałbrzych, Poland

<https://rail4v4v.com/rail4v4-sites/walbrzych-coking-plant-victoria/>





## KWK WIECZOREK SAND RAILWAY BRIDGE

The sand railway system in Upper Silesia, built during the 19th and 20th centuries, was a unique rail network crucial to the region's mining industry. It was used to transport filling sand, essential for backfilling mine workings after coal extraction. The sand railway consisted of hundreds of kilometres of tracks connecting sand pits with mines, industrial plants, and the region's transportation infrastructure. Although the sand railway's importance diminished with the restructuring of heavy industry, its remnants are still visible. One of the last remaining landmarks is the truss unloading bridge behind the Poniatowski shaft, part of the former KWK Wieczorek mine in Katowice. The bridge was in use for nearly 100 years, from its construction in 1912 until 2020.

Górniczego Dorobku 26, 40-431 Katowice, Poland

<https://rail4v4v.com/rail4v4-sites/kwk-wieczorek-sand-railway-bridge-in-katowice/>



## WROCŁAW CITY HARBOR SIDING



The Municipal Port in Wrocław was constructed between 1899 and 1904. It was the most expensive investment funded by the city at that time. The port design included wide railway tracks, a roundhouse, a signal box and a railway scale for weighing wagons. The port's siding was operational until 2020, mainly transporting coal to the nearby combined heat and power plant. Unfortunately, the port has been formally closed, leading to the gradual degradation and dismantling of its various components. As a result, the siding is no longer in use.

Port Miejski, 50-227 Wrocław, Poland

<https://rail4v4v.com/rail4v4-sites/municipal-port-in-wroclaw/>



**SERBIA**





## KIKINDA RAILWAY STATION

The first train arrived in Velika Kikinda on November 15, 1857, when the Szeged - Velika Kikinda - Timișoara railway was put into service. In 1883, it was connected with the County centre - Veliki Bečkerek. Its importance as a railway hub is highlighted by the famous Orient Express, which operated through the city until 1972. The reception building was built according to the then-valid standard projects. Velika Kikinda railway station remains operational, having undergone careful renovation in recent years to preserve its architectural significance, consistent with Pfaff's 19th-century expansion project.

Bulevar Oslobođenja 11, 23300 Kikinda, Serbia

<https://rail4v4v.com/rail4v4-sites/kikinda-railway-station/>





## **MOKRIN RAILWAY STATION**

The Mokrin railway station is on the historic Szeged - Kikinda - Timișoara railway, which commenced operations on November 15, 1857. This station was a stop along the route of the renowned Orient Express, which travelled between Paris and Constantinople. The reception building was designed according to one of the typical projects used during the expansion of the railway network in the then empire. The station was abandoned when the railway was closed after WWII, and traffic has not been restored. Today, the railway line is hardly visible, and the interior of the reception building has been largely demolished.

Milana Kneževa 7, 23305, Mokrin, Serbia

<https://rail4v4v.com/rail4v4-sites/mokrin-railway-station/>







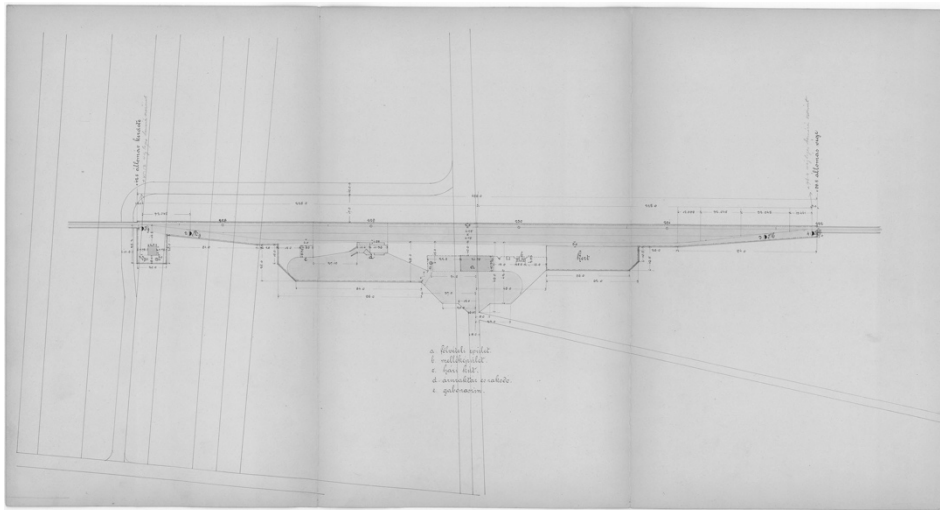
## MELENCI RAILWAY STATION

Melenci witnessed the passing of its first train on July 8, 1883, when the Velika Kikinda - Beodra - Veliki Bečkerek railway opened. The reception building is rectangular, with the longer side facing the rails and nine openings (windows and doors) with segmental arches made of plaster above them. The reception building is in relatively bad condition. A reconstruction planned for 2024 will include facades, roofs, carpentry, and locksmithing renovation, installation of restrooms, and other internal and external works. The complex holds significant value due to the preserved movable and immovable train control equipment, which is still operational today.

Železnički red, 23270, Melenci, Serbia

<https://rail4v4v.com/rail4v4-sites/melenci-railway-station/>







## **BEODRA RAILWAY STATION**

In August 1882, work on building the railway station in Beodra was suspended. However, it was built in that place because Count Karátsonyi Guidó contributed to the construction of this line on the condition that the station is at the end of the park of his castle. On the former Velika Kikinda-Veliki Bečkerek line, this reception building is the most authentic, and it is assumed that only minimal maintenance interventions were carried out on it. The building used to house official rooms, waiting rooms and the station master's apartment. Even though the reception building is closed, trains still stop at this station.

Mare Pajić BB, 23273, Novo Miloševo, Serbia

<https://rail4v4v.com/rail4v4-sites/beodra-railway-station/>





## ZRENJANIN RAILWAY STATION

Veliki Bečkerek was included in the railway bloodstream of the monarchy on July 8, 1883, when it was connected to Velika Kikinda by a vicinal railway. Among notable personalities of that era who arrived at this station was Franz Ferdinand, enchanted by the Torontal hunting grounds. The reception building was a one-story building with accentuated side risalits. Characteristic elements of railway architecture are also present in this building: oculus, stone and brick imitation in mortar, brick decoration. The railway station in today's Zrenjanin was abolished during the 20th century. There are social apartments, and the building is not adequately maintained.

Dr. Vasa Savić, 1, 23000 Zrenjanin, Serbia

<https://rail4v4v.com/rail4v4-sites/zrenjanin-railway-station/>

**SLOVAKIA**





## RAILWAY MUSEUM OF THE SLOVAK REPUBLIC



The Railway Museum of the Slovak Republic was established in 1983 as part of the former Eastern Railway Administration of the Czech and Slovak Railways in Bratislava. Since 1994, it has operated as a department of the Railway Research and Development Institute. The museum is registered in the Register of Museums and Galleries and conducts comprehensive documentation activities related to railway development in Slovakia. This includes collecting, evaluating, expertly managing, and presenting three-dimensional and flat artefacts from the railway history of Slovakia. The Railway Museum of the Slovak Republic collaborates closely with the Slovak National Archives, a professional institution responsible for collecting and preserving archival documents and processing funds. This collaboration makes the records publicly available for research activities related to the history of the Slovak Railways and its predecessors.

Dopravná, 831 06 Bratislava, Slovakia

<https://rail4v4v.com/rail4v4-sites/railway-museum-of-the-slovak-republic/>





## KYSUCE–ORAVA FOREST HEADLAND RAILWAY



Two mutually independent forest railways were the predecessors of the Kysuce–Orava Forest Headland Railway. The Orava forest railway, built in 1918, was 22.6 km long but did not have a direct connection to the public railway network. The Kysuce forest railway, also built in 1918, was 29 km long and directly connected to the Košice–Bohumín line. Although both tracks were only 8 km apart, a high mountain ridge separated them. The connecting line was constructed in 1925-26. The terrain was so steep that in one section, three tracks were underneath each other. This railway system is the only one of its kind preserved in Europe. The railway served exclusively for the transportation of wood. In 1965, the railway suffered a major blow during a flood. The larger section was gradually dismantled between 1969 and 1972, and some of the rolling stock was scrapped. In 1972, state authorities approved a decision to preserve the technically and historically most interesting section with headlands as a monument. Both sections of the track were declared a national cultural monument by Slovak heritage authorities in 1991.

95P5+96, Tanečník, 029 57 Oravská Lesná, Slovakia

<https://rail4v4v.com/rail4v4-sites/kysuce-orava-forest-headland-railway/>





## TISOVEC–POHRONSKÁ POLHORA COG RAILWAY



The Tisovec–Pohronská Polhora railway line was established in 1896 to connect the ironworks in Hronec and Tisovec. The track was built in two stages: the Podbrezová-Pohronská Polhora section and the Pohronská Polhora–Tisovec section. The railway line crossed the mountain ridge through the Zbojská saddle (725 m above sea level) over a length of 41.2 km. The track, particularly in the steepest sections between Pohronská Polhora and Bánovo stations, had a gradient of up to 50.2 ‰. The total length of the sections with rack and pinion was 5,836 km. Between the Bánovo and Zbojská stations, the line covered a height difference of 166 m over a length of 4.7 km. The mountain terrain could only be overcome through extensive earthworks and the construction of bridges to span deep valleys. Currently, the track is used for passenger transport and tourist purposes. In Europe, steam traffic on a standard-gauge cog railway is unique.

Hviezdoslavova 433, Nádražie Hámor, 980 61 Tisovec, Slovakia

<https://rail4v4v.com/rail4v4-sites/cog-railway-tisovec-zbojska-pohronska-polhora/>



## TATRA ELECTRIC RAILWAYS

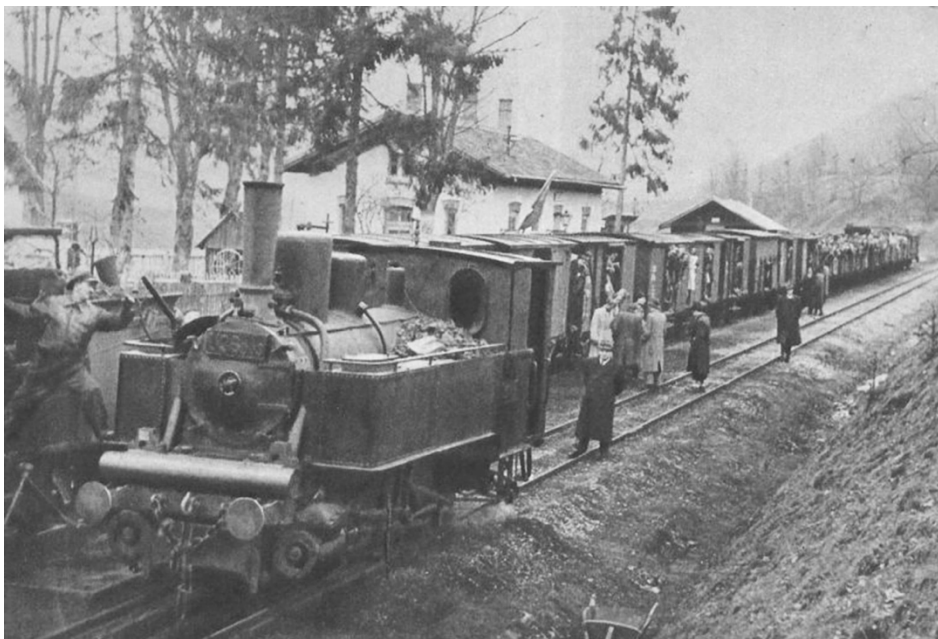


Tatra Electric Railways (TEŽ) have provided ecological transport in the High Tatras since their inception. They are the oldest electrified railways in Slovakia. It is also the mountain track with the steepest adhesion climb in the Slovak Railways network at 59 per mile. The total length of the track is 35 km, of which 19 km consists of curves. The route and appearance of some station buildings have remained unchanged, documenting the architectural style from the period of the first trains. The entire TEŽ complex, including the cogwheel railway, is still fully functional and effectively ensures ecological passenger transport within the protected area of the Tatra National Park. The building and equipment of the switchyard in Horný Smokovec and the power plant in Poprad illustrate the technical solution of one of the first electric railways in Slovakia, highlighting the uniqueness of this complex.

Jiřího Wolkera, 376W+43 Poprad, Slovakia

<https://rail4v4v.com/rail4v4-sites/tatra-electric-railways-acronym-tez/>







## KOŠICE HISTORICAL CHILDREN'S RAILWAY



The Košice Historical Children's Railway was built in Košice between 1955 and 1956 as the Pioneer Railway. It was the first recreational railway in Czechoslovakia at the time. Modelled after similar railways in the Soviet Union of that period, it also aimed to educate and motivate young railway workers. Throughout the years and up to the present, the operation is primarily financed by Košice City. The Košice Historical Children's Railway features a specially designated track and is categorized as a national railway intended to meet the transport needs of the city of Košice during the summer tourist season. The railway was and still is intended for children, tourists, and the training of future railway workers. The track is 3,899 km long and features a "German gauge" with a wheelbase of 1,000 mm. The steepest gradient on the track is 26 ‰, with a maximum permitted speed of 20 km/h. In 2021, the historic narrow-gauge railways in Košice and the village of Nagybörzsöny received European funding for modernization.

Čermel' 1/A, 040 01 Sever, Slovakia

<https://rail4v4v.com/rail4v4-sites/childrens-historical-railway-kosice/>

CIP - Каталогизација у публикацији  
Библиотеке Матице српске, Нови Сад

656.2(4)(091)(082)

**RAILWAY heritage for engaging the young generation : RAIL 4V4+V 2023** / [editor Anica Draganić]. - Novi Sad : Cultural Studies Platform CULTstore, 2025 (Novi Sad : Stella). - 161 str. : ilustr. ; 21 cm

Dostupno i na: <https://rail4v4v.com>. - Prema predgovoru, publikacija je rezultat istoimenog projekta. - Tiraž 100. - Bibliografija uz svaki rad.

ISBN 978-86-82166-12-2

а) Железнички саобраћај -- Млади -- Европа -- Зборници б) Железнички саобраћај -- Историја -- Европа -- Зборници

COBISS.SR-ID 166194697





ISBN 978-86-82166-12-2