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THE THESSALONIKI RAILWAY CORRIDOR: TECHNICAL EVOLUTION, ARCHITECTURAL HERITAGE, AND SOCIO-CULTURAL MEMORY OF THE NIŠ–PREŠEVO MAINLINE

Abstract. The development of the railway network in the Kingdom of Serbia during the late 19th century established a critical geopolitical and economic artery connecting Western Europe with the Near and Middle East. This paper presents the comprehensive findings of the research project "*Technical and Architectural Heritage on the Niš–Preševo Railway (Thessaloniki Railway)*", evaluating this specific 156.76 km segment within the broader historical and contemporary framework of the Belgrade–Preševo corridor (Pan-European Corridor X).

Utilizing a multidisciplinary approach that combines archival historiography with extensive field-survey methodology, this study systematically documents the line's civil engineering structures, lineside apparatus, and station architecture. The findings reveal a critical tension between infrastructural modernization and heritage preservation. Active structural overhauls along the route have led to the de-staffing, abandonment, and imminent demolition of late-19th-century station buildings and minor halts, which were originally built according to standardized European architectural typologies. Consequently, the authentic photographic and technical registry compiled in this project serves an urgent preservation function.

Furthermore, the paper examines the rich socio-cultural and historical layers of the line, tracing its golden era from 1883 to 1977 when it accommodated legendary luxury services like the *Orient Express*, as well as documenting its most profound modern tragedy—the 1999 NATO airstrike on a civilian passenger train in the Grdelica Gorge—through a balanced analysis of conflicting international legal and humanitarian reports. Ultimately, this study argues that despite pressing technical and economic constraints, the Thessaloniki Railway possesses unique historical and architectural depth, making it a prime candidate for integration into global industrial heritage tourism networks.

Keywords: Thessaloniki Railway, Industrial Heritage, Station Architecture, Railway Historiography, Niš–Preševo, Orient Express, Grdelica Gorge.

1. Introduction

The geopolitical transformation of the Balkans in the late nineteenth century was fundamentally driven by the expansion of the railway network. Following the diplomatic outcomes of the Congress of Berlin in 1878, the newly independent Kingdom of Serbia assumed binding international obligations to construct a transit rail corridor across its territory [1]. This network was designed not merely to serve domestic economic interests, but to act as the vital missing link between the established railway networks of Central Europe and the transport arteries of the Ottoman Empire, extending southward to the Aegean port of Thessaloniki and eastward to Constantinople. The completion of the Belgrade–Niš line in 1884, followed closely by the phased opening of the Niš–Preševo section—widely designated as the "Thessaloniki Railway"—officially integrated Serbia into the global transport infrastructure.

For nearly a century, this corridor operated as an indispensable nexus of trans-continental transit, socioeconomic modernization, and cultural exchange. It served as the literal tracks upon which Europe's most legendary luxury express trains, such as the *Orient Express* and the *Simplon Orient Express*, connected Western metropolises with the Near East. However, the line's strategic geographic positioning through vulnerable choke points, such as the narrow Grdelica Gorge, also rendered it a focal point of intense military and political conflict throughout the twentieth century. The most acute modern manifestation of this vulnerability occurred during the 1999 NATO bombing campaign, when a civilian passenger train was struck on the Grdelica railway bridge, sparking intense international debates concerning international humanitarian law and the ethics of modern asymmetric warfare.

In the contemporary era, this historical alignment has been designated as Mainline 102 within the Serbian national categorization, forming a core component of the Pan-European Corridor X. Today, the route is undergoing a comprehensive, multi-phase infrastructural modernization designed to satisfy contemporary European high-speed rail standards. While these civil engineering interventions are vital for regional economic integration, they pose an immediate and existential threat to the line's industrial and architectural heritage. Large-scale structural overhauls have resulted in the decommissioning, abandonment, and planned demolition of numerous late-nineteenth-century station buildings and minor halts, which represent rare, authentic examples of standardized European railway architecture in the Balkans.

This paper addresses this critical tension between modernization and preservation by presenting the comprehensive documentation compiled under the research project "*Technical and Architectural Heritage on the Niš–Preševo Railway*". The study aims to achieve three interconnected objectives:

- To provide a rigorous historical and engineering chronicle of the line's development and its primary civil structures (tunnels and bridges);
- To systematically log and photograph the current architectural state of the stations and halts before they are permanently altered or destroyed; and
- To contextualize the socio-cultural memory of the route, evaluating both its elite cosmopolitan past and its wartime tragedies.

Through this multidisciplinary framework, the paper argues that the Thessaloniki Railway is not merely a passive conduit for freight and passengers, but a dynamic monument of industrial heritage that warrants integration into global heritage tourism frameworks.

2. Negotiations and preparations for the construction of the Belgrade–Vranje railway

Due to unresolved political and territorial disputes between Serbia and the Ottoman Empire, the Sublime Porte initially refused to construct its section of the railway towards Vranje and the Serbian border. Hoping to retain its grip on Serbian and Bosnian territories, the Ottoman Empire proposed an alternative route that completely bypassed Serbia: Istanbul–Sofia–Niš (which was under Ottoman rule at the time)–Pristina–Kosovska Mitrovica–Banja Luka, and onward towards Vienna. Contrary to Ottoman plans, and recognizing the strategic value of the ancient, natural corridor through the Morava Valley, Austria-Hungary prioritized the Serbian route. Under sustained Austro-Hungarian diplomatic pressure, the Ottoman Empire eventually accepted the obligation

to connect with the Serbian railway network at Niš. This alignment would establish a unified European corridor routing through Serbia and Bulgaria to Istanbul.

Nevertheless, Serbia steadfastly insisted on a railway extending along the Belgrade–Niš–Vranje axis to the southern Ottoman border. Following further pressure from Vienna, the Ottoman Empire agreed to provide Serbia with a rail connection at the southern frontier station of Ristovac. Believing these diplomatic hurdles had been cleared, the Serbian government announced its first tender for the routing and construction of the Belgrade–Niš–Vranje railway in August 1870. Once the preliminary surveying of the route through Serbia was completed, Prince Milan Obrenović issued an official decree stating:

"That in the interest of the state and the people, a railway should be built from Belgrade to Aleksinac and onward to the border. This railway will traverse the valleys of the Topčider River, Kubršnica, Jasenica, and Morava, then continue through Jagodina, Čuprija, Paraćin, Deligrad, and Aleksinac to the frontier, where it will connect with the Turkish railway..." [2]

The public tender for the construction and concession of the Serbian Belgrade–Niš–Vranje railway, alongside the Niš–Pirot branch line, was officially announced on 6/19 August 1880:

"... The mainline, Belgrade–Niš–Vranje, starting from Belgrade, runs along the valleys of the Topčider, Jasenica, and Morava rivers and passes through or near the following towns: Palanka, Jagodina, Čuprija, Paraćin, Stalać, Aleksinac, Niš, Leskovac, and Vranje. The Niš–Pirot branch will pass along the valley of the Nišava River to the Serbo-Bulgarian border. The length of the Belgrade–Niš–Vranje mainline is 362 kilometres and 560 metres, and the Niš–Pirot branch is 91 kilometres and 620 metres. The Belgrade–Niš–Vranje mainline should be built and put into service by 3 (15) June 1883. The construction of the Niš–Pirot branch will begin once the connection of this railway is agreed with the Bulgarian Principality..."

Following the tender, the construction contract was signed on 17 (30) March 1881 with the French financial conglomerate *Union Générale* (Lyon), and physical works commenced on 2 (15) June 1881.[3]

3. The opening of the Belgrade–Niš railway

In July 1884, it was officially announced that the entire Belgrade–Niš railway mainline would be inaugurated on 21 August (3 September). Prior to the official opening, the French journalist Monférié, a correspondent for *Le Journal des débats* (Figure 1), wrote one of the most comprehensive contemporary accounts of the railway and his journey from Belgrade to Niš. Writing just before his departure, he noted:

"The Serbian capital has one of the most beautiful locations in the world, situated at the confluence of two rivers, one of which is the Danube—a great artery of Central Europe. The Serbian railway, upon which I shall travel tomorrow and which is set to open on 23 August [O.S.], forms the mainline of the great transit route between West and East. When traffic is connected first with Thessaloniki, and later with Istanbul, this line will become the most important European railway. That connection will be achieved, even if Turkey hesitates and displays a lack of political will. Within five years, it will be a flawless work..."[4]

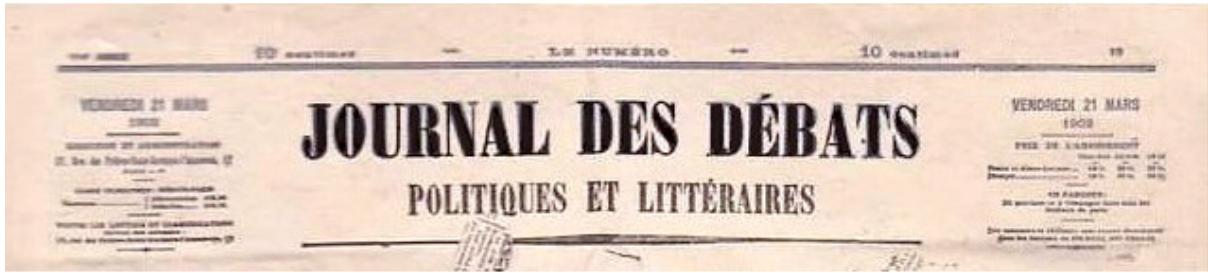


Figure 1. The masthead of *Le Journal des débats* (1789–1944). Outstanding contributors cemented the journal's reputation as one of the most influential publications devoted to politics and French culture during this period.

Following his journey, Monférié recorded his detailed impressions of the line's engineering and infrastructure:

"I travelled from Belgrade to Niš, covering 244 kilometres in a first-class carriage... In Niš (Figure 2), the railway branches. The right-hand fork heads towards Thessaloniki, running for 123 kilometres through Serbian territory to Vranje. The section to be constructed on Turkish territory will be a mere 80 kilometres long and could be completed within a year without any significant topographical difficulties; the fact that Turkey hesitates to connect the lines remains a purely diplomatic matter... The 240-kilometre railway, which we examined in detail, is exceptionally well constructed, featuring notable engineering works. These include three large iron bridges over the Morava, two tunnels, and extensive embankments. All of this was executed with the utmost care and obvious solidity. The train glides smoothly along the permanent way without the slightest jolt, demonstrating that everything was completed with the greatest precision. The stations are spacious and elegant—one might even say luxuriously built. In short, I can assert, without fear of contradiction that the railway from Belgrade to Niš compares favourably with the best French lines, and is superior to many Italian railways..." [4]

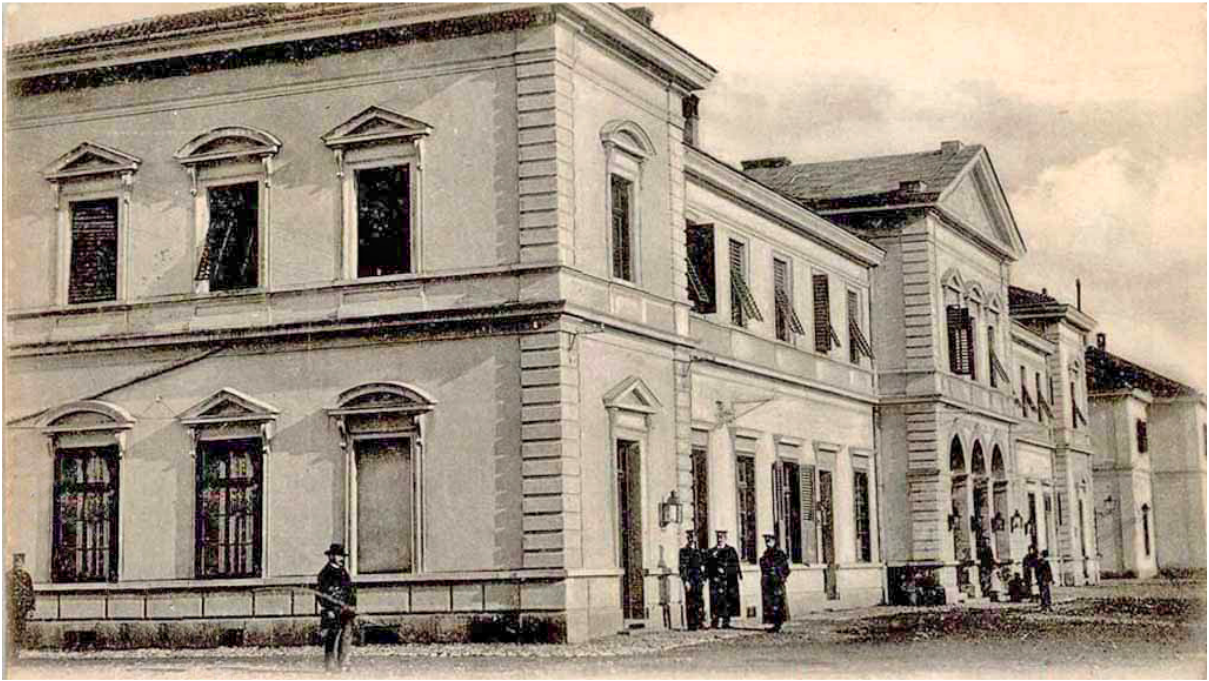


Figure 2. Railway station Niš in 1885 (source: Wikipedia)

4. The Thessaloniki railway corridor

Throughout the construction of the Belgrade–Niš line, the Ottoman authorities maintained an obstructive stance toward linking their rail network with that of Serbia. Following sustained diplomatic pressure from Vienna, the Ottoman Empire finally conceded to establishing a junction at the frontier station of Ristovac, abandoning their preferred alternative route through Kosovo and Bosnia towards Austria. Nevertheless, even after this agreement was reached, the construction of the Ottoman section of the line from Skopje to Ristovac faced persistent delays.

In the meantime, Serbia proceeded to construct its southern line towards Skopje and Thessaloniki in distinct chronological phases:

- The Niš–Leskovac section (43.71 km) was completed on 5 (18) March 1886 (Figure 3).
- The Leskovac–Vranje section (66.76 km) was opened to traffic on 1 (13) September 1886 (Figure 3)
- The final Serbian section, Vranje–Ristovac (22.46 km), was opened to traffic on 6 (19) May 1888, coinciding with the completion of the Ottoman railway link from Skopje via Tabanovce to Kumanovo.



Figure 3. Leskovac railway station by the end of the 19th century (source: Wikimedia)

Due to its ultimate terminus, this trans-Balkan line became widely known as the Thessaloniki Railway. The route sections and operational infrastructure of the railway Niš–Preševo–Kumanovo are depicted in Figure 4.

The historical infrastructure of the line was divided into distinct operational sections (Table 1):

Section D1 (Niš–Leskovac): 43.71 km, comprising 15 stations and halts.

Section D2 (Leskovac–Vranje): 66.76 km, comprising 14 stations and halts.

Section D3 (Vranje–Ristovac–Preševo–Tabanovce): 22.46 km, comprising 7 stations and halts.

Section D4 (Ristovac–Border–Tabanovce): 35.40 km.

The Thessaloniki Line (Niš–Preševo–Tabanovce) was officially opened for both freight and passenger traffic on 19 May 1888. In the early decades of operation, the entirety of the joint bilateral border services was executed at Ristovac station.

The complete contemporary line connecting Niš to the North Macedonian border spans a total of 156.76 km. As of 2025, the operational infrastructure on this line comprised 36 stations and halts. A comprehensive register of these current stations and halts, alongside their respective distances from Belgrade and inter-station intervals, is compiled in Table 2.

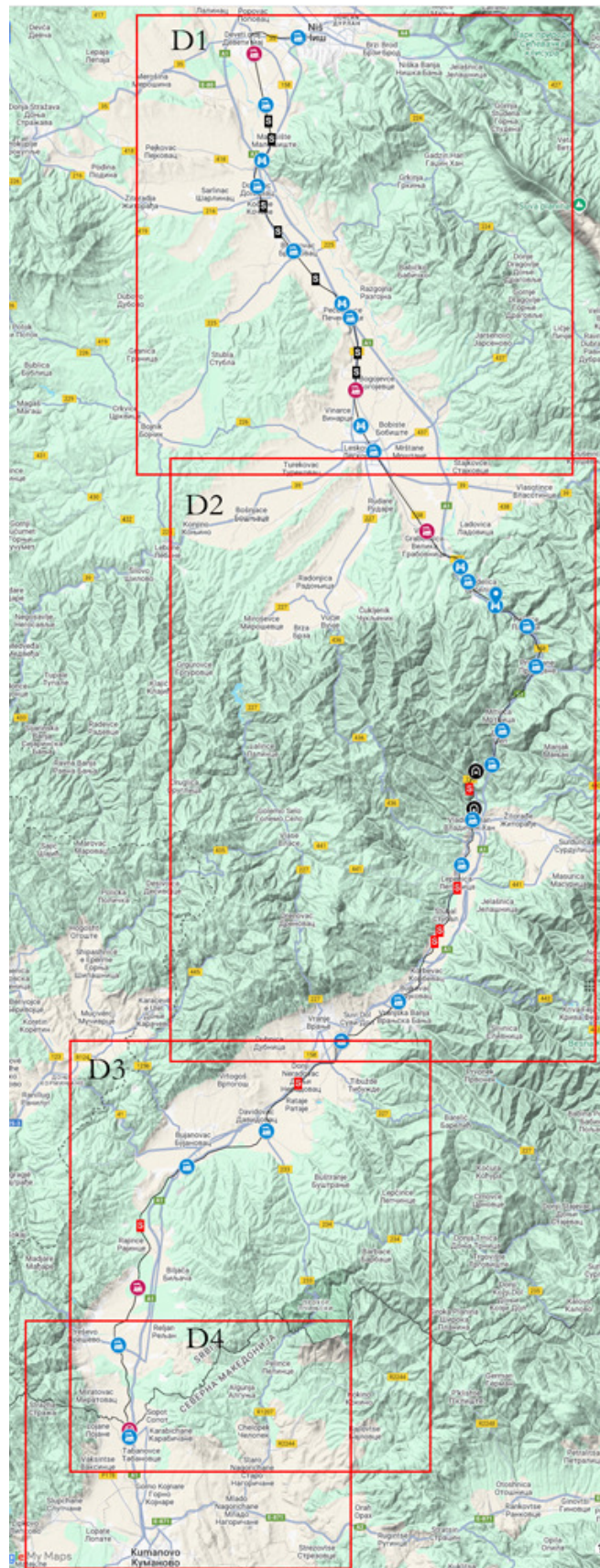


Figure 4. Route Sections and Operational Infrastructure:
Niš–Preševo–Kumanovo

5. Contemporary classification and key engineering structures

The mainlines of the Serbian railway network form an integral part of the Pan-European Corridor X, which traverses Austria, Slovenia, Croatia, Serbia, North Macedonia, and Greece (Figure 5).



Figure 5. The alignment of the Pan-European Corridor X.

According to the national categorisation of railway lines (*Official Gazette of the Republic of Serbia*, No. 50/19), these strategic routes comprise:

- **Mainline 102:** Belgrade Centre – Junction "G" – Rakovica – Mladenovac – Lapovo – Niš – Preševo – State Border – (Tabanovce, North Macedonia).
- **Mainline 106:** Niš – Dimitrovgrad – State Border – (Dragoman, Bulgaria).

The topography of the railway line is predominantly flat, with the notable exception of a 32 km central segment situated between Grdelica and Suva Morava. Within this mountainous section, the railway traverses a narrow gorge, sharing a constrained infrastructural corridor with the Corridor X motorway (UNECE, 2025).

The formidable terrain of this section necessitated the construction of key civil engineering structures, including three tunnels and 14 bridges with spans exceeding 30 metres.

Technical Overview of Existing Tunnels. The three existing tunnels were constructed in 1885 in accordance with the historical design standards of the Serbian Railways:

- **Tunnel No. 1 ('Grdelica'):** Located from km 307+508 to km 307+678; Total Length (L) = 170 m.
- **Tunnel No. 2 ('Letovica'):** Located from km 324+291 to km 324+775; Total Length (L) = 483 m.
- **Tunnel No. 3 ('Hanski'):** Located from km 328+292 to km 328+694; Total Length (L) = 402 m.

Technical Overview of Major Bridges. The longest bridges along the route span the South Morava River. These engineering works consist of twin-span steel superstructures:

- **Grdelica Bridge:** Located at km 305+072; Span arrangement: 2×44.10 m, Total Length (L) = 88.20 m (Figure 6).
- **Predejane Bridge:** Located at km 311+821; Span arrangement: 2×44.00 m, Total Length (L) = 88.00 m.
- **Lepenica Bridge:** Located at km 326+230; Span arrangement: 2×34.10 m, Total Length (L) = 68.20 m (Figure 7).



Figure 6. Grdelica Bridge over the South Morava River, (Z. Cvetković, 2025)



Figure 7. Lepenica Bridge over the South Morava River, (Z. Cvetković, 2025)

6. Stations, halts, and line modernisation

The 156.76 km of the Thessaloniki railway located within Serbian territory comprises four sections (Table 1), 19 operational handling stations and 17 passenger halts (Table 2).

Table 1. Chronological Opening and Operational Status of Stations (as of 2025)

Section / Station	Historical Opening Date	Current Operational Status
Niš Station	23 August 1884	Operational Junction Main Station
Medjurovo to Leskovac	18 March 1886	Active / Reconstructed
Djordjevo to Vranje	13 September 1886	Active / Partially Modernised
Neradovac to Preševo (and onward to Skopje)	19 May 1888	Active / Border Control

Table 2. Stations and stops on the Niš-Preševo railway (as of 2025)

No	Station	km between stations	km from Niš	km from Belgrade	No	Station	km between stations	km from Niš	km from Belgrade
1	NIŠ	0	0	243.00	20	DŽEP	6.96	75.78	318.78
2	<u>MEDJUROVO</u>	5.45	5.45	248.45	21	MOMIN KAMEN	3.23	79.01	322.01
3	BELOTINAC	4.5	9.95	252.95	22	<u>Šelince</u>	3.48	82.49	325.49
4	Čapljinac	1.41	11.36	254.36	23	Vladičin Han	3.23	85.72	328.72
5	Malošište	1.6	12.96	255.96	24	Suva Morava	4.5	90.22	333.22
6	DOLJEVAC	4.53	17.49	260.49	25	<u>Lepenički Most</u>	2.1	92.32	335.32
7	Kočane	1.84	19.33	262.33	26	<u>Stubal</u>	4.26	96.58	339.58
8	Pukovac	2.58	21.91	264.91	27	<u>Priboj Vranjski</u>	1.06	97.64	340.64
9	BRESTOVAC	2.1	24.01	267.01	28	VRANJSKA BANJA	6.6	104.24	347.24
10	Lipovica	3.12	27.13	270.13	29	VRANJE	6.23	110.47	353.47
11	PEČENJEVCE	4.54	31.67	274.67	30	<u>Neradovac</u>	5.96	116.43	359.43
12	Živkovo	3.22	34.89	277.89	31	RISTOVAC	5.56	121.99	364.99
13	Priboj Leskovački	1.66	36.55	279.55	32	BUJANOVA C	8.02	130.01	373.01
14	<u>VINARCI</u>	1.55	38.1	281.10	33	<u>Letovica</u>	7	137.01	380.01
15	LESKOVAC	5.61	43.71	286.71	34	<u>BUKAREVAC</u>	5.9	142.91	385.91
16	<u>DJORDJEVO</u>	8.2	51.91	294.91	35	PREŠEVO	5.96	148.87	391.87
17	GRDELICA	6.06	57.97	300.97	36	Granica (Tabanovce)	7.89	156.76	399.76
	Grdelički most	3.15	61.12	303.13	37	Zibevce	0.63	157.39	400.39
18	Palojska Rosulja	3.60	64.72	307.72	38	KUMANOV O	12.90	170.29	413.29
19	PREDEJANE	4.1	68.82	311.82	39	SKOPLJE	35.50	205.79	448.79

Note: Station statuses are classified as OPERATIONAL HANDLING STATIONS, passenger halts, or temporarily closed stations.

Niš Railway Station(figures 8, 9) serves as the primary hub of the Niš railway junction. It represents the terminus of the Belgrade–Niš mainline and acts as the origin point for both the Niš–Preševo and Niš–Caribrod (now Dimitrovgrad) international lines. Situated 243 km from Belgrade, it was originally opened to traffic on 10 (23) August 1884.

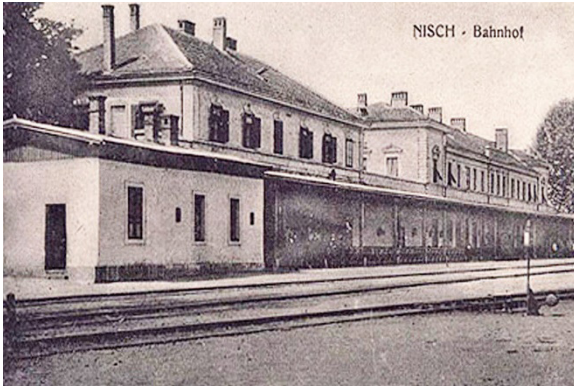


Figure 8. Niš railway station built in 1884
(source: Wikimedia)



Figure 9. New railway station Niš (Z. Cvetković, 2025)

Due to extensive infrastructural upgrades and the rationalisation of passenger traffic schedules, four stations and six halts were temporarily closed to the public. Following more than a century of continuous operation, a comprehensive overhaul of the Niš–Preševo railway commenced in phases. Initial modernization works were completed in 2017 across three key sections: Vinarce–Djordjevo (13.8 km), Vranjska Banja–Ristovac (17.7 km), and Bujanovac–Bukarevac (12.9 km).

Subsequently, major civil engineering works were executed on the Medjurovo–Brestovac segment. [5] This phase encompassed structural interventions at the following operational nodes: Medjurovo (Figures 10, 11), Belotinac (Figure 12), Kočane (Figure 13), and Doljevac (Figures 14, 15).



Figure 10. Railway station Medjurovo, built in 1886 (R. Kulenović, 2025)



Figure 11. Reconstructed railway station Medjurovo (Z. Cvetković, 2025)



Figure 12. The railway reconstruction at the station Belotinac(Z. Cvetković, 2025)



Figure 13. Railway stop Kočane
(Z. Cvetković, 2025)

During recent civil engineering interventions, several historic, minor station structures and halts along the route have faced demolition or structural decommissioning. Prominent examples of these endangered or lost heritage assets include the halts at Kočane (Figure 13), Živkovo (Figure 16), and PribojLeskovački (Figure 17).



Figure 14. Railway station Doljevac built in 1886, (source: Wikimedia)



Figure 15. New railway station Doljevac
(Z. Cvetković, 2025)



Figure 16. Railway stop Živkovo (Z. Cvetković, 2025)



Figure 17. Railway stop Priboj Leskovački (Z. Cvetković, 2025)

In contrast, the major station buildings constructed during the initial late-19th-century phase were typically built using standardised blueprints reflecting broader European railway architectural typologies. Due to their scale and cultural value, these buildings are better positioned for integration into future operational frameworks.

Excellent surviving examples include the station buildings at Brestovac, Pečenjevce, Leskovac, Djordjevo, Grdelica, Predejane, Vladičin Han, etc.

7. Case studies in station architecture: junctions, and standard typologies

Doljevac railway station is a key junction located on the Niš–Preševo line, situated between Malošište (4.53 km) and Kočane (1.84 km). It lies 260.49 km from Belgrade and 17.46 km from Niš, and was originally opened to traffic on 18 March 1886. The station is positioned on a segment of the route that underwent comprehensive structural modernisation. Notably, Doljevac serves as the origin point for the regional Doljevac–Prokuplje branch line, which opened on 17 December 1925. (Figures 14, 15)

Brestovac railway station is located between Pukovac (2.10 km) and Lipovica (3.12 km), at km 267.01 from Belgrade and km 24.01 from Niš. Opened to traffic on 18 March 1886, the current station infrastructure consists of two active tracks, a single passenger platform, the principal historical station building, and a dedicated signalling and telecommunications (S&T) facility. (Figure 18)

Pečenjevce railway station is situated between Lipovica (4.54 km) and Živkovo (3.22 km), at km 274.67 from Belgrade and km 31.67 from Niš. It also opened on 18 March 1886. The configuration at Pečenjevce comprises three operational tracks, a single platform, the primary station building, an adjoining freight warehouse, detached public outbuildings, and an S&T facility. (Figure 19)



Figure 18. Railway station Brestovac (Z. Cvetković, 2025)



Figure 19. Railway station Pečenjevce (Z. Cvetković, 2025)

Leskovac railway station is situated between the Vinarce halt (1.55 km) and Djordjevo station (8.20 km), at km 286.71 from Belgrade and km 43.71 from Niš. The line was originally opened to traffic on 18 March 1886. The original 19th-century station building was destroyed during the Allied bombing of the city on 6 September 1944. (Figure 20). The modern configuration at the station comprises five operational tracks, two passenger platforms, the reconstructed station building, and a signalling and telecommunications (S&T) facility. (Figure 21)



Figure 20. Railway station Leskovac, 1916(source: Wikimedia)



Figure 21. Railway station Leskovac today (Z. Cvetković, 2025)

Djordjevo railway station is located between Leskovac (8.2 km) and Grdelica (6.06 km) stations. It is 294.91 km from Belgrade and 51.91 km from Niš. It was opened to traffic on September 13, 1886. The layout at Djordjevo comprises three tracks, a single passenger platform, the primary station building, and an S&T facility. The station is currently temporarily closed to traffic. (Figure 22)

Grdelica railway station lies between Djordjevo (6.06 km) and the Palojska Rosulja halt (6.75 km), positioned at km 300.97 from Belgrade and km 57.97 from Niš. Opened to traffic on 13 September 1886, the site features a complex of railway infrastructure consisting of three tracks, two platforms, the main station building, an integrated residential building for railway staff, a detached sanitary outbuilding, a freight warehouse, and an S&T facility. (Figure 23) **Crucially, the complex also retains its historic water tower once used for replenishing steam locomotives.** (Figure 24)



Figure 22. Railway station Djordjevo (R. Kulenović, 2025)



Figure 23. Railway station Grdelica(R. Kulenović, 2025)



Figure 24. Historic water tower at the railway station Grdelica is an exceptional example of railway technical heritage. This structure stands as a rare, tangible link between the route's 19th-century origins and the modern era. (Z. Cvetković, 2025)

Predejane railway station is situated between the Palojska Rosulja halt (4.10 km) and Džep station (6.96 km), located at km 311.82 from Belgrade and km 68.82 from Niš. It opened to traffic on 13 September 1886. The layout at Predejane comprises three tracks, a single platform, the primary station building, detached public outbuildings, a freight warehouse, and an S&T facility. (Figure 25)

Vladičin Han railway station is located between the Šelince (3.23 km) and Suva Morava (4.50 km) halts. It is situated at km 328.72 from Belgrade and km 85.72 from Niš, and opened for traffic on 13 September 1886. The operational layout consists of four tracks, two platforms, the main station building, a warehouse, and a dedicated S&T facility. (Figure 26)



Figure 25. Railway station Predejane (Z. Cvetković, 2025)



Figure 26. Railway station Vladičin Han (Z. Cvetković, 2025)

Džep railway station is located between Predejane station (6.96 km) and Momin Kamen station (3.23 km), situated at km 318.78 from Belgrade and km 75.78 from Niš. It was originally opened to traffic on 13 September 1886. (Figure 27) The line

infrastructure at Džep comprises three tracks, a single passenger platform, the main station building, a detached sanitary outbuilding, a residential building for railway personnel, an Emergency Tripping System (ETS) facility, and an S&T facility. (Figure 28)

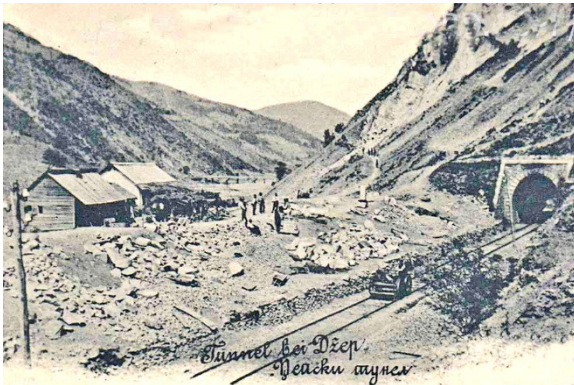


Figure 27. Building the tunnel near the Džep railway station, 1886 (source: Wikimedia)



Figure 28. Railway station Džep (Z. Cvetković, 2025)

Vranjska Banja railway station is positioned between Priboj Vranjski station (6.60 km) and Vranje station (6.23 km), located at km 347.24 from Belgrade and km 104.24 from Niš. It opened to traffic on 13 September 1886. (Figure 29) The layout consists of two tracks, a single platform, the primary station building (Figure 30), integrated S&T and ETS facilities, a freight warehouse, lineside residential buildings, and a detached sanitary outbuilding.

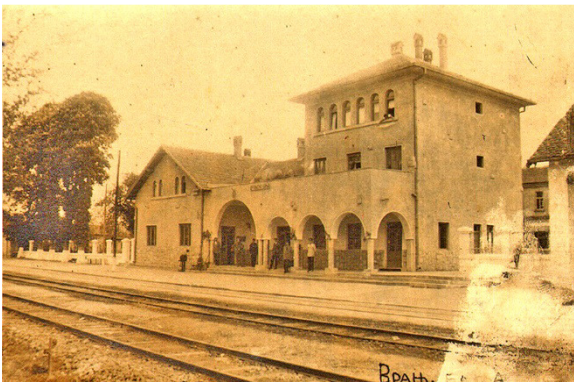


Figure 29. Railway station Vranjska Banja, 1926 (source: Wikimedia)



Figure 30. Railway station Vranjska Banja, (R. Kulenović, 2025)

Vranje railway station is situated between Vranjska Banja (6.23 km) and Neradovac (5.96 km), at km 353.47 from Belgrade and km 110.47 from Niš. The station was constructed in 1886 by royal decree of King Milan I Obrenović and officially opened to traffic on 13 September 1886. (Figure 31) Notably, the principal station building has fully preserved its original late-19th-century architectural form, making it a rare and highly valuable example of authentic Serbian industrial heritage. The station complex features five tracks, two passenger platforms, the historic station building (Figure 32), an ancillary outbuilding, an S&T facility, an integrated platform café, and multiple freight warehouses.



Figure 31. : Welcoming the first train in Vranje, September 1, 1886. (source: Wikimedia)



Figure 32. Railway station Vranje (R. Kulenović, 2025)

Ristovac railway station is located on the Niš–Preševo mainline, situated between the Neradovac halt (5.96 km) and Bujanovac station (8.02 km). It lies at km 364.99 from Belgrade and km 121.99 from Niš. The station was officially opened to traffic on 19 May 1888. (Figure 33) Crucially, at the time of its inauguration, Ristovac served as the principal international frontier station between the Kingdom of Serbia and the Ottoman Empire, handling comprehensive bilateral customs and passport controls. (Figure 34) Today, the station infrastructure comprises six tracks, two passenger platforms, administrative office buildings, the main passenger station building, and an S&T facility.



Figure 33. Railway station Ristovac on the border with Ottoman Empire, the end of XIX century (source: Wikimedia)



Figure 34. The joint border crossing between Serbia and Ottoman Empire at the Railway station Ristovac, the end of XIX century, (source: Wikimedia)

Preševo railway station is the final operational station on the Niš–Preševo line within the territory of the Republic of Serbia. It is positioned between Bukarevac station (5.96 km) and the state border with North Macedonia, located at km 391.87 from Belgrade, km 148.87 from Niš, km 7.89 from the international border, and km 8.52 from Tabanovce station (North Macedonia). (Figure 35) At the time of its opening in May 1888, the station was under Ottoman administration. Reflecting its modern role as an international border crossing, the station complex currently features four operational tracks, a single passenger platform, the main station building, an S&T facility, detached public outbuildings, a border police station, and a dedicated customs clearing facility. (Figure 36)



Figure 35. Sokolsko društvo at the Preševo railway station, June 19, 1936. (source: Wikimedia)



Figure 36. Railway station Preševo (Z. Cvetković, 2025)

8. The 1999 NATO airstrike in Grdelica Gorge - historiographical, technical, and legal perspectives

One of the most significant tragedies in the history of the Serbian railway network occurred during the 1999 NATO bombing of Yugoslavia. On 12 April 1999, at approximately 11:40 a.m., passenger train No. 393, operating on the Niš–Preševo mainline, was struck while traversing the railway bridge over the South Morava River in the Grdelica Gorge. A pair of NATO F-15E Strike Eagle aircraft deployed two AGM-130 television-guided missiles; the strikes directly hit the second and third carriages of the moving train. Authentic gun-camera footage of the bombardment was subsequently released by NATO and remains documented across public archival platforms. (Figures 37, 38)



Figure 37. An authentic movie of the train attack (Source: www.youtube.com/watch?v=rMC3MpUf6SY)



Figure 38. The fire and the destroyed train after the attack (source: Wikimedia)

The explosions and the subsequent intense fire resulted in the deaths of at least 15 civilians, including a child and a pregnant woman. (Figure 39) The exact casualty toll has never been definitively established, primarily because an official, complete passenger manifest for the transit was unavailable. In the aftermath, recovery teams identified nine complete bodies and four separate sets of human remains, while numerous other passengers were classified as missing.

The primary witnesses to the tragedy included the locomotive drivers, Boban Kostić and Goran Mišić, who were operating international passenger train No. 393. Reflecting on the event seventeen years later, Kostić recalled the moments of the strike:

"Everything seemed calm. Suddenly, there was a loud, deafening explosion. I lost control of the locomotive. When Goran and I got out, we saw the carriages in flames and another rocket flying straight at us. Then came the horror that I will never forget."

Following the cessation of hostilities, the heavily damaged railway bridge in the Grdelica Gorge was repaired and officially reopened to rail traffic in September 1999. A permanent memorial dedicated to the victims was erected adjacent to the structure. Annually, on 12 April, a formal commemorative ceremony is observed at the site to honour the civilian casualties. (Figures 39, 40)



Figure 39. Monument to the family Todorov, victims of the airstrike(Z. Cvetković, 2025)



Figure 40. Grdelica Bridge and the Memorial to victims (Z. Cvetković, 2025)

As is frequent with controversial modern military interventions, the involved combatants, eyewitnesses, and international observers maintain differing interpretations regarding the operational circumstances and tactical justifications of the attack. Due to its catastrophic nature, the Grdelica Gorge incident became the subject of extensive international investigations by legal, human rights, and military analysts. The resulting documentation highlights the complex divergence in interpretations regarding the operational circumstances of the attack:

- **The ICTY Final Report:** Following the conflict, the International Criminal Tribunal for the former Yugoslavia (ICTY) established a specialized committee to evaluate whether the airstrike violated International Humanitarian Law (IHL). The *Final Report to the Prosecutor* provided a meticulous chronology of the event, assessing the rapid decision-making cycle of the pilot and the Weapons Systems Officer (WSO) across the deployment of both the first and second AGM-130 missiles. In her final judicial assessment, Prosecutor Carla del Ponte concluded that the attack, while tragic, did not demonstrate systemic recklessness or intent to target civilians, thereby determining it did not constitute a formal violation of the laws of war (ICTY, 2000). [6]
- **The Human Rights Watch (HRW) Investigation:** Conversely, an independent field investigation conducted by Human Rights Watch focused on the structural risks of the operation. Published in their 2000 report *Civilian Deaths in the NATO Air Campaign* (Appendix A), the organization compiled a verified registry of the identified civilian casualties from train No. 393. HRW offered a

critical critique of the tactical decision-making process, questioning the validity of striking high-risk infrastructural bottlenecks along active transit routes during daytime hours when civilian presence was highly probable (Human Rights Watch, 2000). [7]

- **The ICRC and Amnesty International Case Studies:** The International Committee of the Red Cross (ICRC) maintains a dedicated academic casebook incorporating Amnesty International's critique, *NATO Intervention in Yugoslavia: "Collateral Damage" or Unlawful Killings?*. This body of research addresses the extreme technical and cognitive pressures under which the flight crew operated, noting that the reaction window between the emergence of obscurants (smoke and dust from the initial impact) and the release of the second missile was less than one second. Furthermore, these studies evaluate the technical controversy surrounding the public dissemination of the gun-camera footage by NATO command under General Wesley Clark, which was subsequently revealed to have been inadvertently accelerated by a factor of 4.7 due to video processing errors (ICRC / Amnesty International, 2000). [8]

9. Legendary European express trains on the Serbian railway network

With the completion of the Belgrade–Ristovac mainline (then the international frontier with the Ottoman Empire) extending towards Skopje, Thessaloniki, and Athens, alongside the simultaneous completion of the Niš–Caribrod (now Dimitrovgrad) section heading toward Sofia and Istanbul, the Serbian railway network became structurally integrated into a unified European rail system. This development established the single most important geopolitical and economic corridor connecting Western Europe with the Near and Middle East (Figure 41).

From 1885 until 1977, the most prestigious and luxurious international trains traversed these Serbian lines, including the *Orient Express*, the *Simplon Orient Express*, the *Arlberg Orient Express*, and the *Direct Orient Express*.



Figure 41. The Orient Express and Simplon Orient Express lines, which successfully linked the continental European rail network with the transport arteries of the Middle East

The operational history of these legendary services can be divided into three distinct historical periods:

- **1883–1918: From Inception to the First World War.** During this foundational era, one of the primary branches of the *Orient Express* operated along the Serbian Belgrade–Niš trunk line before diverging eastward through Sofia to Constantinople. (Figure 42)
- **1919–1945: The Interwar Golden Age.** The period between the world wars marked the zenith of luxury rail travel, characterized by the expansion of the *Simplon Orient Express* via the Southern Balkan route, solidifying the strategic importance of the Niš junction. (Figure 43)
- **1945–1977: The Post-War Era and Modern Rationalisation.** Following the Second World War, the lines adapted to a shifting geopolitical landscape. Until the services were systematically phased out or discontinued in 1977, both the *Orient Express* to Istanbul and the *Simplon Orient Express* to Athens maintained regular international schedules across the Serbian network. (Figure 44)



Figure 42. The route mapping of the Orient Express network during the pre-World War I era (1883–1918).



Figure 43. The expansion of the Orient Express and Simplon Orient Express networks during the interwar golden era (1919–1945).



Figure 44. Cartographic overview of the post-war Orient Express and Direct Orient Express alignments (1945–1977).

9.1. Civilizational and Socio-Cultural Impact. In his monumental 1914 monograph, *The Railways of the World*, Ernest Protheroe offers an insightful analysis of the *Orient Express* as a potent symbol of technological and cultural synthesis between the Western world and the Orient (Protheroe, 1914) [9]. Protheroe places specific emphasis on the Balkan route, noting that the infrastructure traversing the Kingdom of Serbia served as a vital geographic linchpin connecting Central Europe with Constantinople. Through vivid descriptions of the diverse passenger profiles—ranging from high-ranking

diplomats to wealthy adventurers—Protheroe illustrates how this luxury line fundamentally transformed the socioeconomic spaces through which it passed. Consequently, within this contemporary British narrative, Serbia ceases to be viewed as an isolated European periphery and is instead framed as an indispensable hub within the global transport network. This analysis provides an invaluable historical record of how foreign travellers experienced the landscape, culture, and emerging modernization of Serbia directly from the vantage point of their first-class carriages.

9.2. Prominent Historical Figures on the Balkan Route. Since its maiden voyage, the *Orient Express* network served as Europe's premier gateway to the East, eventually allowing passengers to transfer in Istanbul to the *Taurus Express* for onward travel to Cairo, Jerusalem, Baghdad, and Tehran (Figure 45). Traversing the rugged terrain of the Balkans via the Serbian tracks was regarded as both a thrilling adventure and a distinct marker of elite social prestige for high society in the late 19th and early 20th centuries. A remarkable array of international monarchs, statesmen, and cultural icons journeyed along these lines via the Belgrade–Niš axis, including Kings Edward VII and George V of the United Kingdom, King Leopold II of Belgium, Tsar Ferdinand I of Bulgaria, and Emperor Franz Joseph of Austria-Hungary. The pioneering Turkish statesman Mustafa Kemal Atatürk and the British military strategist T. E. Lawrence ("Lawrence of Arabia") similarly traversed the line.

The glamorous, cosmopolitan atmosphere of the train likewise complemented the avant-garde lifestyles of the cultural elite. Celebrated figures from the worlds of art and performance who frequented the route included Sergei Diaghilev, the visionary founder of the *Ballets Russes*, alongside legendary dancers Vaslav Nijinsky and Anna Pavlova. Icons of stage and screen such as Marlene Dietrich, Maria Callas, and Josephine Baker were regular passengers, as was the political philosopher and author Leo Tolstoy in the final year of his life (1910). Notably, an arduous winter journey on this very line in 1929 famously inspired Agatha Christie to pen her seminal literary masterpiece, *Murder on the Orient Express* (Figure 46), while the notorious wartime intelligence agent Mata Hari similarly utilized the privacy of these trans-European carriages for her travels. [9]



Figure 45. The Winter time table of the Orient Express, 1888/89 (source: Wikimedia)

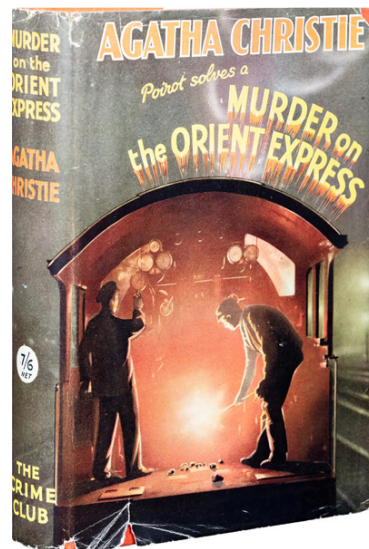


Figure 46. The first edition of Agatha Christie's novel *Murder on the Orient Express*, 1931 (source: Wikimedia)

10. Conclusion

The development of the railway network in the Kingdom of Serbia commenced in the late 19th century with the construction of the Belgrade–Niš mainline, which opened to traffic in 1884. The establishment of railways in Serbia was driven both by international treaty obligations and by the overarching expansion of the wider European rail network. These pioneer lines were strategically routed through the Morava Valley—an ancient European transport corridor that successfully integrated continental Europe with the Near and Middle East.

This article has presented a segment of the findings from the research project "*Technical and Architectural Heritage on the Niš–Preševo Railway (Thessaloniki Railway)*". The primary objective of the study was to identify and systematically document the heritage assets along the Niš–Preševo line, commonly referred to as the "Thessaloniki Railway" due to its historic connection to the Aegean port. Given that the Niš–Preševo section constitutes a vital component of the broader Belgrade–Preševo corridor, this project evaluated the line within its holistic, transnational framework. Through a comprehensive field survey and site-inspection methodology, the current state of the stations was recorded, and surviving engineering structures, lineside apparatus, signalling equipment, and level crossings were comprehensively photographed and catalogued.

During the fieldwork phase, regular rail traffic along the line was suspended. Furthermore, extensive infrastructure modernization and structural overhauls were actively underway along the Niš–Medjurovo–Kočane–Pukovac segment. Consequently, a significant number of these historical stations lacked active railway personnel, leaving the station buildings and lineside technical equipment unsecured and vulnerable to severe deterioration and vandalism. In the course of future modernization phases, the majority of the original buildings at minor stops and halts are slated for demolition, to be replaced by standardized passenger platforms (as seen at Medjurovo, Belotinac, Čapljinac, Malošište, Kočane, and Pukovac). Because of this imminent threat, the authentic photographic documentation compiled during this project serves an urgent preservation function, capturing the original architectural ambience and structural forms before they are lost.

The historical prestige and enduring allure of the Belgrade–Niš–Preševo axis are further underscored by its legacy as a major international transit route. Until the late 1970s, this line accommodated the regular schedules of Europe's most famous and glamorous luxury trains, most notably the *Orient Express* and the *Simplon Orient Express*. Accordingly, a dedicated portion of this study examined the socio-cultural history of these services and the prominent historical figures who traversed the Belgrade–Niš–Preševo corridor en route to Istanbul and Athens.

While the primary scope of this project did not encompass the broader military conflicts of the 20th century, this article addressed one of the greatest humanitarian tragedies in the history of the Serbian railway network, which occurred during the 1999 NATO bombing campaign. On 12 April 1999, an airstrike executed by NATO combat aircraft struck a civilian passenger train traversing the railway bridge in the Grdelica Gorge, resulting in at least 15 civilian casualties. This study evaluated the tragic event by analysing the conflicting legal, ethical, and tactical interpretations maintained by the involved actors. While NATO, the United States, and the International Criminal Tribunal for the former Yugoslavia (ICTY) categorized the civilian loss as unintended "collateral damage" during combat operations, independent reports by international organizations—such as Human Rights Watch, Amnesty International, and the

International Committee of the Red Cross—critiqued the action as a breach of international humanitarian standards.

Without delving into the geopolitical complexities of contemporary railway development strategies or pressing technical and economic constraints, there remains a compelling case for the re-establishment of direct, continuous passenger rail services linking Belgrade, via Niš, to Thessaloniki and the southern Balkans. Ultimately, the insights gained from this field research demonstrate that the Thessaloniki Railway—including the foundational Belgrade–Niš section—possesses the necessary historical depth and architectural character to be integrated into global heritage rail maps, capitalising on contemporary international trends in industrial heritage tourism.

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