

Traffic Connectivity in Croatia in the Past: The Dubrovnik Region Case

*By Marija Benić Penava**

This paper analyses the development of traffic routes in the far south of Croatia during the 19th and 20th century. Poor traffic connectivity was the consequence of traffic policy which was subordinated to the interests of Vienna in the Austro-Hungarian Monarchy, and after World War I, to Belgrade. Since the Dubrovnik region was oriented towards the sea, and since traditionally it had strong entrepreneurship and sea traffic that enabled great economic prosperity of Dubrovnik in the past centuries. Ships flying the flag of Sveti Vlaho (Saint Blaise, the patron saint of the city) were present in the Mediterranean and the world's oceans, yet the service industry which Dubrovnik provided was completed by tourism only in the Kingdom of Yugoslavia. The perception of Dubrovnik as a world tourist destination was established in the first half of the 20th century and that could only be maintained by quality traffic routes. Therefore it was extremely important for the prosperity of the far south of Croatia to have and retain the best connectivity by railway as well as sea, land and air traffic.

Introduction

The transition from the eighteenth to the nineteenth century was a period of great economic change in Europe. The discovery of the Watt's steam engine (1764) enabled mechanical transport, which neither the working animals nor the natural power, on which transportation was dependent previously, could not contest. The steam engine passed the milestone in the field of transport connection. Croatian areas very early became part of the European transport system. Only 25 years after the first public railway line was built in England, the railway passed through Croatia rapidly and efficiently linking Vienna and Budapest with the distant borders of the empire, particularly the Adriatic ports – Trieste and Rijeka. Shortly after Fulton's first steamboat (1807), steamship transport came to the Adriatic. The introduction of this new technology increased the demand for coal that had to be transported, and resulted in initiating the construction of the first railroads in Dalmatia in the 1870.

The Dubrovnik area, traditionally oriented towards the sea, was delayed in connecting by land to the developed countries of Europe. The first narrow gauge railway arrived in the port of Gruž only in 1901, while Dubrovnik was connected by the Adriatic Highway (a tourist road) only in the mid-1960s. Regarding traffic connectivity Croatia was fragmented; the Dubrovnik area remained disconnected from the rest of Croatia which happens up to now. The paper analyzes the transport links between the Dubrovnik area through the 19th and 20th century and the reasons for its slow development.

*Assistant Professor, University of Dubrovnik, Croatia.

Traffic on Croatian Territory in the 19th Century

A new era of economic prosperity, which started with the Watt steam engine and resulted in increasing productivity and provided an amazing speed, in which the society adapted to the new knowledge and technological achievements. Knowledge has the important characteristic of being a non rival good. Relatively poor economies, characteristic for the Croatian areas of the Austro-Hungarian Empire, can be expected to grow faster than more advanced economies once they get started.¹ Steam power, since it could be increased ad infinitum, changed the perspective of travelling and reduced the distances. Revolutionary changes in traffic – travelling with steam trains and steamboats, enabled freedom of capital flow and the growth of international trade.

While the European West recorded tremendous growth, its border lands lagged behind in development. Contrary to the great Austro-Hungarian market, Croatia was disunited and its traffic fragmented. The degree, in which Croatia was economically backward with the majority of its population engaged in agriculture, was high compared to the rest of the Empire. Austro-Hungarian level of industrial development was below the European average to which Sweden and the Netherlands were the closest in 1900.² Croatian areas have long resisted the challenges of the industrial revolution, thereby slowing its capitalist transformation.

While advanced countries changed the structure of their economies in the 19th century, orienting towards their growing secondary activities, Croatia remains a country with a backward feudal system with the absolute majority of its population working in agriculture. Leading agricultural activity of the Croatian south – viticulture – was not profitable due to grape diseases (downy mildew and phylloxera), but also extremely unfavourable government policies towards viticulture that continued from Austrian bias against German wines (aka Wine clause from 1893, which enabled the import of cheap Italian wine).

After agriculture, transport was the second most important industry branch in the 19th century on Croatia's territory. Since Croatia lacked independence, the Austrians and Hungarians determined its transport policy, building roads and railways that were not in concordance with the economic interests of the Croatian people. Therefore, the construction of railways started late compared to the rest of Europe, since it was financially challenging Croatia was not able to independently build railroads, but was dependent on the Austrian and the Hungarian government. An example is the construction of the railway line that connected Drniš to the export ports of Šibenik and Split for an increased exploitation of coal from the mines Siverić and Velušić in the late 1870s. Moreover, the overall construction of the rail network on Croatia's territory was carried out in order to efficiently connect two central cities of the dual

¹K. G. Persson. 'Knowledge, technology transfer and convergence.' In *An Economic History of Europe: Knowledge, institutions and growth, 600 to the present*, (Cambridge: Cambridge University Press, 2012), 92-128.

²Ivan Berend and György Ránki. *Evropska periferija i industrijalizacija 1780-1914*. [[The European Periphery and Industrialization 1780-1914](#)] (Zagreb: Naprijed, 1996), 197.

monarchy of Austria-Hungary (after the split in 1867) – Vienna and Budapest with ports located only partially on Croatia's territory. The main commercial and passenger port of the Austrian Empire was Trieste. After the Croatian - Hungarian Settlement (1868), Hungary appropriated Rijeka, while Pula became the main military port of the Austro-Hungarian Navy.

Therefore, the first railway line Vienna - Ljubljana - Trieste, which was opened to traffic in 1857 did not cross over Croatian territory as Zagreb wasn't linked to the western part of the Empire until five years later with the Zidani Most – Zagreb track. Southern Railways Company, which funded the construction of railroads in the Austrian part of the state, built the railroad tracks to the naval port of Pula (1876), while Hungary built the railway to Rijeka (1873) connecting the town of Rijeka to Budapest and enabling its rapid economic development.

Rail Transport in the Dubrovnik Area

In the past the railway network on the territory of the state of Croatia was discontinued and fragmented. A railroad connection to the south – to the Dubrovnik area – was lacking. In addition to being incongruent in width from the dominantly standard tracks on the Croatian territory, this narrow gauge railway reached Dubrovnik as a part of the rail network of (what are today) its neighbouring countries: Bosnia and Herzegovina, and Montenegro. Therefore, connecting Dubrovnik with the Bosnian-Herzegovinian territory in its hinterland, as well as the neighbouring Montenegrin territory marked the traffic system of these areas for the period from 1901 to 1976. Those traffic connections to Dubrovnik were extremely important for the development of the City since its traditional orientation to maritime affairs dating from the period of the Dubrovnik Republic was insufficient in the market conditions of the 20th Century. At the same time, the transport orientation from the interior of Bosnia and Herzegovina to port Gruž led to a better commercial connectivity of the Dubrovnik area with its hinterland and this railway passage was subordinated to the Bosnian-Herzegovinian Railway Directorate in Sarajevo.

It is interesting to note that the introduction of narrow gauge network in Bosnia and Herzegovina happened completely randomly. The first track from Brod to Žepče, built for transporting war material, had a broad gauge, and it was only subsequently modified to narrow gauge so that left-over material from the construction of narrow-gauge railway Timisoara – Oršava could be used up.¹ Therefore, connecting Croatia's territory across the territory of Bosnia and Herzegovina (following the latter's occupation in 1878) into a single railway network was not achieved under Austrian rule since the transport system in Bosnia and Herzegovina (except the track Prijedor - Sunja) was built on a narrow-gauge railway track. Building Lika railway that

¹P. Senjanović. *Dalmatinska željeznica u Jugoslaviji predavanje inž. Petra Senjanovića održano u Splitu dne. 12. i 13. ožujka 1919.* [The Croatian Railways in Yugoslavia, lecturer Petar Senjanović, Split, March 12/13th 1919] (Split: Hrvatska štamparija, 1919), 10.

connected Split to Zagreb began in 1906; it was frequently interrupted and was completed only in the Kingdom of Serbs, Croats and Slovenes (1925).

As constructing railways in the karst terrain of Herzegovina was extremely challenging, linking the Dubrovnik area brought about a novelty in the application of reinforced concrete. Water supply presented a problem which, in 1912, led to the construction of the first reinforced concrete water reservoir in this part of Europe - in the vicinity of Hrasno.¹ Although Dubrovnik became part of the Habsburg Monarchy in the 1815, the possibility of rail connections across Bosnia and Herzegovina was achievable after its occupation in the late 1870s. The railway was planned primarily for military strategic purposes. This motive which arose for military purposes to connect the arsenal in the Bay of Kotor with the interior since the arsenal was close to the border and its exceptional strategic importance was still present in the aftermath of the First World War. The Army in the Kingdom of Yugoslavia was the strongest political factor and it didn't understand the economic importance of rail connectivity.² After the First World War, the Dubrovnik area was connected with western Serbia via Sarajevo and port Gruž remains the main export port of Bosnia and Herzegovina. Passenger and freight traffic on the narrow gauge railways at train station Gruž constantly increased, even though it was totally incompatible with the modern trends in rail transport (Table 1).

Table 1. *Passenger and Goods through the Train Station Gruž*

Gruž	Discharged				Received		
	Travellers	Express delivery	Fast delivery	Slow delivery	Express delivery	Fast delivery	Slow delivery
1926	36,549	57 t	170 t	28,147 t	63 t	194 t	196,892 t
1927	38,918	67 t	99 t	21,687 t	60 t	243 t	239,433 t
1928	44,645	36 t	168 t	54,177 t	71 t	283 t	292,697 t
1929	39,554	36 t	239 t	72,756 t	-	296 t	305,983 t
1930	42,386	40 t	231 t	83,970 t	27 t	162 t	235,269 t

Source: Z. Jelinović, *Borba za jadranske pruge i njeni ekonomski ciljevi*. [The Fight for the Adriatic Railway and its Economic Growth] (Zagreb: JAZU, 1957), 228

After the end of the Great Depression rail traffic increased again (514.700 tons in 1937, 534.000 tons in 1938) and Gruž participates with 25% of the total cargo transport in all the Adriatic ports.³ The port of Zelenika dealt with the cargo that Gruž port couldn't accommodate, as well as all the goods sent to the arsenal in Tivat. After World War II, the majority of transport was transferred to the port of Ploče, with the traffic in Gruž and Zelenica plummeting.

Railway traffic modernization by introducing a wide track rail bypassed the Dubrovnik area. During the period of intensive construction of railways

¹Z. Jelinović. *Borba za jadranske pruge i njeni ekonomski ciljevi*. [The Fight for the Adriatic Railway and its Economic Growth] (Zagreb: JAZU, 1957), 226.

²M. Mirković, *Ekonomska struktura Jugoslavije 1918.-1941*. [The Economic Structure of Yugoslavia 1918-1941] (Zagreb: Nakladni zavod Hrvatske, 1950), 121.

³Z. Jelinović. *Borba za jadranske pruge i njeni ekonomski ciljevi*. [The Fight for the Adriatic Railway and its Economic Growth] (Zagreb: JAZU, 1957), 228.

from 1918 until 1931, when Lika railway line was completed, Split and Šibenik were connected through a modern broad gauge in Croatia's far south, only the journey to Belgrade was shortened by an extension of the narrow-gauge railway Sarajevo - Višegrad (new branch to Užice in 1923). In the early 1930s works were carried out on the track Sarajevo – Dubrovnik which shortened the duration of the journey, such as digging the tunnel *Ivan* and the construction and repair of the section Raštelica - Pazarić, but these investments were insufficient. The old and dilapidated train station building in Gruž threatened to collapse which was bad for Dubrovnik's reputation in tourism. Removing the locomotive repair shop, train coal waste and the transit warehouse; the construction of an operational coast customs office for the inspection of foreign travellers as well as a new railway station in Gruž awaited better times.

In the summer of 1938 a fast line between Belgrade and Dubrovnik via Sarajevo was introduced. Although motor driven engines modernized trains making travelling faster, there were no significant changes in travelling with regard to the general standard narrow gauge railway. The new train, nicknamed *Crazy Sarajevo person*, marked a revolution in rail traffic because it took 16 hours and 30 minutes to reach Dubrovnik from Belgrade, while the steam train needed 24 hours for the same journey. The train travelled exclusively by day arriving in Dubrovnik at 10 p.m. However, during winter, fast trains were not provided with a direct connection in Sarajevo so the passengers were forced to interrupt their journey for 10 hours and 46 minutes, or they could continue by a passenger train which took 12 hours from Sarajevo to Dubrovnik.¹

State Railways did not operate successfully and in the 1930s the crisis culminated in the construction of railways due to lack of money and the withdrawal of foreign capital. Management board of the state railways had no ear for acquiring European transit traffic. Unfavourable tariff policy was demonstrated in the Dubrovnik area by isolating it from transit lines and while offering it only the Bosnian-Herzegovinian market. Regardless the narrow gauge, the Dubrovnik area should have been given an opportunity for acquiring a part of traffic from England to Bulgaria and Romania. For this implementation, railway tariffs would have had to have been lowered by 40%, which confirms the lack of competitiveness of the Dubrovnik area.²

In addition to the fact that the Yugoslav National Railway controlled investments in the country, it becomes clear why they were subordinated to the interests of private capital accumulation. Discrepancies in the construction of the railway network were constantly present, where economic interests of certain local areas were encouraged rather than those of the country as a whole. For example, at a Railway Conference in Belgrade (1926) the construction of the Adriatic railway across Sarajevo with access to the Adriatic was planned. Behind the selection of the ports of Split and Kotor as destinations of the planned railway sections, were profits of certain political elites, which is just

¹*Dubrovački turizam IV*. [Dubrovnik Tourism IV] (Dubrovnik: Savez za unapređenje turizma, 1939), 15.

²State archive Dubrovnik, Trgovačko obrtnička komora Dubrovnik, box 1920-1945. A report by Jugoslavenska ekspres agencije d.d. Gruž, 12th January 1935.

one example in a sea of poorly chosen routes for the economy and development of the crucial rail links. The main investments in the interwar period were in the rail traffic amounting to 3,197 million dinars; thus on Croatian territory a total of 215 km of double track lines and 627 km of reinforced tracks were built.¹

The disadvantage of rail transport in the Dubrovnik area was not its narrow-gauge tracks, but a limited port capacity in Gruž that was not suitable as the main commercial port of Bosnia and Herzegovina. Therefore, the plan to build the port Aleksandrovo (Ploče) in 1923, initiated by the Sarajevo Chamber of Commerce, from the aspect of transport geography, as well as economics prevailed. The construction of the port Ploče began in 1937, when after the Second World War, port Gruž ceased to be the main port of Bosnia and Herzegovina. The Port of Ploče took over the bulk of traffic to Bosnia and Herzegovina, and four decades later Dubrovnik lost its railway.

Maritime Transport

The development of railways was preceded by that of steamships. Resisting the force of wind and waves was regarded with awe by the first travellers. Robert Fulton introduced the first steam-powered boat in the United States (1807), but the period of steamboat navigation came about in the 1840s only after using iron as base material for the construction of ships, i.e. after the introduction of regular transatlantic steamship navigation between Great Britain and the United States. After the opening of the Suez Canal (1869), the role of steamboats in the passenger transport, as well as linking the world economy became unprecedented.² One should also bear in mind that the American steamers were much more comfortable and better equipped than the European ones.³ Maritime traffic on the Croatian territory was abandoned by the domestic shipbuilding industry that had previously serviced it. Based on family tradition, small privately owned Croatian shipyards couldn't withstand the challenges of the new era as well as the growing steamship industry and they vanished.

The first Austrian Steamship Company *Österreichischer Lloyd* was founded in 1836 in Trieste; only one year after its establishment, the first steamship lines connect Dubrovnik and Trieste. Lloyd luxury steamers: *Baron Gautsch*, *Prinz Hohenlohe*, *Baron Bruck* brought the first visitors; they were the leading coastal steamers sailing in the Mediterranean and marked the beginning of the tourism development of the area. Before that, the traffic was

¹I. Vinski. 'Procjena kapitala na području Hrvatske u razdoblju između dva svjetska rata.' In *Prilozi za ekonomsku povijest Hrvatske*, [Contributions to the Economic History of Croatia] 129-130. (Zagreb: Institut za historiju radničkog pokreta, 1967).

²C. Rondo and N. Larry. *A Concise Economic History of the World: From Paleolithic Times to the Present*. (Oxford: Oxford University Press, 2003), 204.

³W. Schivelbusch. *Povijest putovanja željeznicom: o industrijalizaciji prostora i vremena u 19. stoljeću*. [The Railway Journey : Trains & Travel in the Nineteenth Century] (Zagreb: Naklada Ljevak, 2010), 125.

carried out by sailing ships. Thus, in 1842 into the port of Gruž 772 ship came, out of which 753 were sailing ships and 19 were steamships.¹ Steamers enabled faster, more comfortable and safer travelling. Even though Austrian and Hungarian authorities after the division of the monarchy led separate economic policies, each confronting and protecting their own area of interest, both parties encouraged the development of steamships on the Croatian territory.

Table 2. *Passenger Traffic at the Ports of Gruž and Dubrovnik from 1927 to 1939*

Year	Inland			Abroad			Grand total
	Arrival	Departure	Total	Arrival	Departure	Total	
1927	66,980	59,792	126,772	4,566	3,710	8,276	135,048
1928	70,660	63,648	134,308	4,841	4,391	9,232	143,540
1929	72,524	63,334	135,858	6,017	5,824	11,841	147,699
1930	77,720	55,758	133,478	5,708	6,135	11,843	145,321
1931	63,794	68,507	132,301	4,855	4,523	9,378	141,679
1932	45,886	41,533	87,419	2,998	3,427	6,425	93,844
1933	56,139	50,912	107,051	4,134	4,777	8,911	115,962
1934	63,898	60,852	124,750	5,599	6,290	11,889	136,639
1935	69,614	67,285	136,899	9,622	10,374	19,996	156,895
1936	75,916	75,408	151,324	7,359	9,205	16,564	167,888
1937	104,088	103,187	207,275	9,841	11,369	21,210	228,485
1938	92,290	84,590	176,880	10,986	13,104	24,090	200,970
1939	92,113	86,142	178,255	6,279	7,015	13,294	191,549

Source: *Dubrovačko pomorstvo u spomen sto godina nautičke škole u Dubrovniku*. [Dubrovnik's shipping industry: in memoriam, a hundred years of naval school in Dubrovnik] (Dubrovnik: Odbor za proslavu sto godina nautičke škole, 1952), 432.

Note: from the above source only data on arrivals and departures of passengers is taken, the total and overall traffic has been recalculated.

The third port (after Sušak and Split) according to port traffic and the number of passengers in the period between the two world wars was the port of Gruž. Although the passenger traffic in the 1920s was modest with a higher proportion of domestic passengers in local transportation, after the Great Depression passenger traffic was constantly growing, and the peak was reached in 1937.² That year Dubrovnik recorded no less than 228,485 passengers. A significant decrease in passenger traffic came in the next two years, especially in 1939 due to the absence of Czech tourists. In the period from 1927 to 1939, from the total passenger traffic in departures and arrivals (2,005,519), inland passenger traffic amounted to 91.38% (Table 2).

¹I. Perić, *Razvitak turizma u Dubrovniku i okolici od pojave parobrodarstva do 1941. godine*. [Development of tourism in Dubrovnik and its surrounding area before 1941] (Dubrovnik: Zavod za povijesne znanosti Istraživačkog centra JAZU u Dubrovniku, 1983) 15.

²Detaljan pregled prometa turističkih i športskih brodova u Dubrovniku za 1936. i 1937.' In *Dubrovački turizam III*, [Dubrovnik Tourism III] (Dubrovnik: Savez za unapređenje turizma, 1937), 52-64.

Road and Air Traffic

The caravan route *Dubrovački drum* was the main medieval land route connecting the territory of the Republic of Dubrovnik with the commercial and mining centres in the Balkans. This worthy road together with the city's mediating role at sea enabled the Republic to flourish basing its prosperity on the trade between the Balkan hinterland and the Eastern Mediterranean on one side with the Christian West on the other.¹ The construction of roads that linked the Croatian coastal area came with the period of the French rule on the territory of the former Dubrovnik Republic (1808-1814).

However, road traffic was insignificant until the mid-1960s, i.e. until the construction of the Adriatic Highway (Adriatic tourist road). Until then, car transportation in the region was not modernized, with few graveled roads that were making travelling uncomfortable and slow. Road construction in the Dubrovnik area was poorly organized, neglected and laborious and lasted extremely long. As an example, the road Brgat - Postranje - Mlini, which was immensely important for the population of Župa Dubrovačka, was built during the whole period between the two world wars. Living conditions with no roads were unbearable for most residents since the transport of food and basic provisions was done by mules and donkeys, and during the winter their life they lived in almost total isolation.² Plans on the construction and repair of roads in the Dubrovnik area was started by the administration of Banovina of Croatia, which can be seen in the archival material found in the National Archives in Dubrovnik.³

The Adriatic Highway, a tourist road, marked a turning point in the transport linking the Croatian coast from Rijeka to the Croatian border crossing with Montenegro, continuing on the territory of this neighbouring state to Ulcinj in 1965.⁴ That was the main road linking coastal parts of Croatia.

Regular air traffic in the Dubrovnik area already started in the mid-1930s, and the first aircraft landed on the improvised Konavle airport in the village Gruda. After World War II, the airport was transferred to the nearby Čilipi, where it is today. Dubrovnik Airport recorded 2,464 flights in 1962, and in 2012 the number of flights has reached 16,216.

¹R. Harris. *Dubrovnik: A History*. (London: Saqi Books, 2006).

²State archive Dubrovnik, Trgovačko obrtnička komora Dubrovnik, box 1934-41. Molba za dovršenje puta Brgat - Postranje i izgradnju puta Postranje – Mlini. Martinović, 4th October 1940.

³State archive Dubrovnik, Trgovačko obrtnička komora Dubrovnik, box 1930-1940. A report No. 1612/3. & box 1934-41. A report No. 4280. [In Croatian].

⁴T. Taylor, 'Tourism and Household Enterprise in Biograd na Moru.' In *Yugoslavia's Sunny Side: A History of Tourism in Socialism (1950s-1980s)* edited by Hannes Grandits and Karin Taylor, (Budapest: Central European University Press, 2010), 241-277.

Conclusion

Transport links across the Croatian territory was a prerequisite for economic development in this region. The construction of railways was under the negative impact of the dualistic Austro-Hungarian rule. Throughout its existence until the very end and the disintegration of the Austro-Hungarian Empire railway connection between Croatia's south and north wasn't achieved, primarily due to conflicts of interest between the main political actors Austria and Hungary. Railway policy of the Austrian administration was performed in accordance with the economic interests of Vienna, thus the construction of railroads in Dalmatia was second to exploiting mineral resources in the area Drniš, and regardless of the fact that the railway from Split to Knin with a branch to Šibenik couldn't satisfy the local economic needs. Only with linking Dubrovnik to Sarajevo via Mostar and constructing the narrow-gauge railway to Metković in 1891, and with the section from village Gabela near Metković to Zelenika in the Bay of Kotor in 1898 did traffic connectivity of the Dubrovnik area begun. The railway was narrow gauge and opened to traffic to Gruž in 1901. Although the motive behind the construction wasn't the economic prosperity of the Dubrovnik area, but connecting to the Bay of Kotor - an important strategic port for the Austro-Hungarian Navy, the railways made the Dubrovnik port of Gruž the main export port on the territory of Bosnia and Herzegovina in the period between the two world wars. Unfortunately, transport connections to Dubrovnik in the past didn't meet its economic needs, yet the construction of narrow-gauge railway from Gabela to the Bay of Kotor, with a branch to Gruž, significantly increased the connectivity of southern Croatia with its hinterland and enabled new jobs in Dubrovnik.

The Road construction in southern Croatia was poorly organized, neglected and extremely long lasting. During the 1960s, with the financial participation of the World Bank, the entire route of the Adriatic tourist road, which linked the Croatian coast from the Slovenian-Croatian border to the Croatian-Montenegrin one, was completed. It was Croatia's longest road which included the Dubrovnik area into the European road network, and facilitated the development of tourism in the coming decades. Unfortunately, the project of building a highway to Dubrovnik hasn't yet been realized and the uniqueness of the Croatian south remains its traffic separation by the Bosnian-Herzegovinian territory from the rest of Croatia.

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