
Effects of Suspension and Reactivation of Passenger Traffic on Railway Lines in Pomeranian Voivodeship

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Abstract:

Purpose: The purpose of this research is to verify the course of the process of eliminating passenger traffic on the railway lines of Central Pomerania, and to analyze the effects of suspending traffic. The study includes the definition of indicators describing the importance of individual railway lines in passenger traffic.

Design/Methodology/Approach: The study was conducted for railway lines located in the Pomeranian Voivodeship, examining passenger train service. The analyzed lines were divided into three groups: lines on which passenger train service was suspended before 1989, lines on which service was suspended after the economic transformation in 1989, and lines on which passenger service was reactivated after suspension. During the study, indicators were determined to demonstrate the importance of railway lines in passenger traffic. The first indicator allows us to determine which line provides access to rail transport for the greatest number of residents, and therefore its importance in regional traffic. The second indicator determines whether a given railway line provides connections between large cities, which are centers of trade and services, and is therefore associated with long-distance and transit traffic.

Findings: The conducted research allowed for the verification of the course of the liquidation of passenger traffic on the railway lines of the Pomeranian Voivodeship, its effects and the subsequent reactivation of passenger transport on some routes. Currently, passenger train traffic in the Pomeranian Voivodeship has been reactivated mainly on routes located near the Tri-City, while other areas have been omitted. Based on the defined indicators, it can be concluded that ensuring connections between major cities was crucial in selecting railway lines for the revitalization and reactivation of transport in the Pomeranian Voivodeship. However, ensuring access to rail transport for residents of towns located near railway lines was of lesser importance.

Practical Implications: The two indicators presented in this study allow for a quick assessment of the suitability of individual railway lines for passenger traffic. They allow for the consideration of an analyzed line's importance for both regional and transit traffic. These indicators may be helpful in the future when selecting additional lines for reactivation or modernization. Their usefulness is not limited to the Pomeranian Voivodeship. In the future, these indicators can be used to verify and compare railway lines before making investment decisions in other regions as well.

Originality/Value: The originality of this research stems from the use of new, practical indicators proposed to determine the suitability of railway lines for passenger transport.

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These indicators, considering both local and long-distance traffic, can provide a basis for future selection of closed railway lines for reactivation.

Keywords: Rail transport, railway line, passenger transport, Poland.

JEL codes: R41, L92, Y10.

Paper type: Research article.

1. Introduction

In the Pomeranian Voivodeship, the density of railway lines is 6.61 km/100 km², which is close to the average density of railway lines in Poland (6.2 km/100 km²). The operation of railways in the Central Pomerania region reflects the nature of the use of this means of transport in Poland. After World War II, many railway lines in Pomerania were dismantled by the Russian army.

This phenomenon occurred in many areas of Poland, but in Pomerania it was extremely intense (larger scale thefts were committed in Warmia and Masuria). Some of the local lines located in the current Pomeranian Voivodeship were never rebuilt (Buko & Makowski, 2024). Passenger and freight trains were restored on the remaining lines after 1945.

The suspension of passenger and freight trains, and the liquidation of subsequent railway lines began on a larger scale in the 1970s. However, it concerned almost exclusively narrow-gauge lines connecting small towns. In 1974, train services were suspended on the entire left-bank network of the Gdańsk Commuter Railway. One of the factors was the problematic operation of the ferry from Mikoszewo to Świbno after World War II. After a few years, the ferry stopped operating, and the network of the Gdańsk Commuter Railway located on both sides of the Vistula operated independently, without any connection (Nowak *et al.*, 2025).

Due to the low operating speed, the area with small population centers and the development of bus transport, narrow-gauge railways began to lose their importance. Currently, the few remaining narrow-gauge railways in Poland are treated as a tourist attraction (Gosa, 2018).

Access to efficient rail transport is important in the case of regions popular among tourists (Wendt *et al.*, 2021). These are often areas with low population density, but during the tourist season they are visited by crowds of tourists. In the Pomeranian Voivodeship, such areas include the forest areas of the Tuchola Forest and seaside resorts. Increased passenger flows in these areas, however, occur only in the summer season.

The key issue is to ensure access to rail transport for the largest possible number of residents from medium and small towns. Equally important is ensuring the fastest possible direct connection between larger urban centers. Providing access to an efficiently functioning rail transport system helps combat the phenomenon of transport exclusion. It occurs in many urban areas in Pomerania. In addition to direct access to the railway line, the development of car infrastructure, parking lots near railway stops and pedestrian infrastructure allows the use of rail transport by residents of nearby villages (Żukowska *et al.*, 2023).

The aim of the research is to verify the course of the process of eliminating passenger traffic on the railway lines of Central Pomerania, to analyze the effects of suspending traffic and later reactivating transport on part of the line. Important criteria for the line is to ensure access to rail transport for residents of towns located on this route. Another important factor is ensuring a connection between large cities, which are centers of trade and services in the region.

Similar calculations have already been made for the Lower Silesian Voivodeship, but the analysis was limited to the first factor - the access of residents to rail transport (Kamiński, 2023). Moreover, the density of railway lines and the scale of reactivation of subsequent lines in Lower Silesia are significant and do not reflect the nationwide situation in this matter.

2. Literature Review

Passenger rail transport after World War II had an important role in the development of Poland, at a time when individual motorization was not available on a large scale. However, the functioning of rail transport was not without problems. Many, especially local railway lines, used rolling stock with inadequate capacity, often outdated, which generated high maintenance costs. In turn, the course of railway lines, the development of which practically stopped at the beginning of the 20th century, did not always meet current needs (Keller, 2021).

These problems became apparent after the political transformation. The suspension of passenger train services on standard gauge lines on a large scale began after the socio-economic changes in 1989. The largest number of residents of the Pomeranian Voivodeship were deprived of access to rail transport this time. The adaptation of rolling stock to the needs began only at the beginning of the 21st century.

At that time, new rolling stock began to appear, including diesel multiple units and light railbuses, which were important in servicing passenger traffic on local lines. The appearance of new rolling stock was related to the adaptation of rolling stock factories to orders. In 2020, there were 10 rolling stock manufacturers operating in Poland (Graff, 2021).

Several years later, passenger services were reactivated on some of the previously

suspended routes. However, they were limited to lines connecting the largest population centers and areas around the Tri-City agglomeration. In intra-regional communication, the most important connections are those between urban centres within a voivodeship and its capital (Rydzewski, 2023).

Investments in the railway network should not be limited to towns located near the voivodeship capital. The transport infrastructure in the Pomeranian Voivodeship is not as well developed as in the neighbouring Greater Poland Voivodeship (Stepanok and Kholodenko, 2024). This is due, among other things, to the larger scale of investments in the revitalisation and modernisation of railway lines, which are not concentrated solely in the area around Poznań.

In Pomeranian Voivodeship, most railway investments are related to routes leading directly to the Tri-City. Reactivation of passenger transport usually must be preceded by modernization or revitalization of the railway line. The condition of railway lines on which passenger trains were suspended years ago is usually poor. Some routes may be impassable. Modernization of the railway line involves the installation of new rail traffic control systems. It is important to select the appropriate type of devices (Gołębiowski *et al.*, 2019).

The expansion of the agglomeration railway, located around the largest cities in the region, allows for a significant increase in the use of rail transport in passenger transport. Even the construction of new stops on existing routes allows for an increase in passenger flow on this route by about 5%. By building new stops for the agglomeration railway, a large group of passengers can be encouraged to use rail transport during their daily commutes and give up commuting by their own car (Puławska-Obiedowska *et al.*, 2024).

The main factors influencing the size of passenger flows on a given route are the number of trains running on it and their speed (Jurkowski & Smolarski, 2021). Therefore, by providing an appropriate transport offer, demand can be stimulated.

Providing access to efficiently functioning rail transport has an impact on the development of settlements not only in the vicinity of large cities. Areas located in the immediate vicinity of a railway line, near a railway stop, become attractive to investors. As a result, new housing estates are then created (Susetyaningsih *et al.*, 2021). In areas without passenger rail transport, the development of settlements is slower and strictly dependent on the functioning of road transport.

3. Methodology

3.1 Railway Lines in Pomeranian Voivodeship

Figure 1 shows all railway lines in the Pomeranian Voivodeship that operated passenger trains after World War II. Sections seized by Russian troops and not

rebuilt after the war, as well as sections that operated exclusively for freight trains, are omitted. Gray dashed lines indicate railway lines currently operating passenger trains after previously suspended services were reactivated. Lines that operated by passenger trains after 1945 but were suspended and no longer operate are marked with solid gray lines. Lines that continue to operate passenger trains are marked in black.

Figure 1. Railway lines in the Pomeranian Voivodship



Source: Own study based on Nationwide Railway Base.

3.2 Suspension and Reactivation of Passenger Traffic on Railway Lines

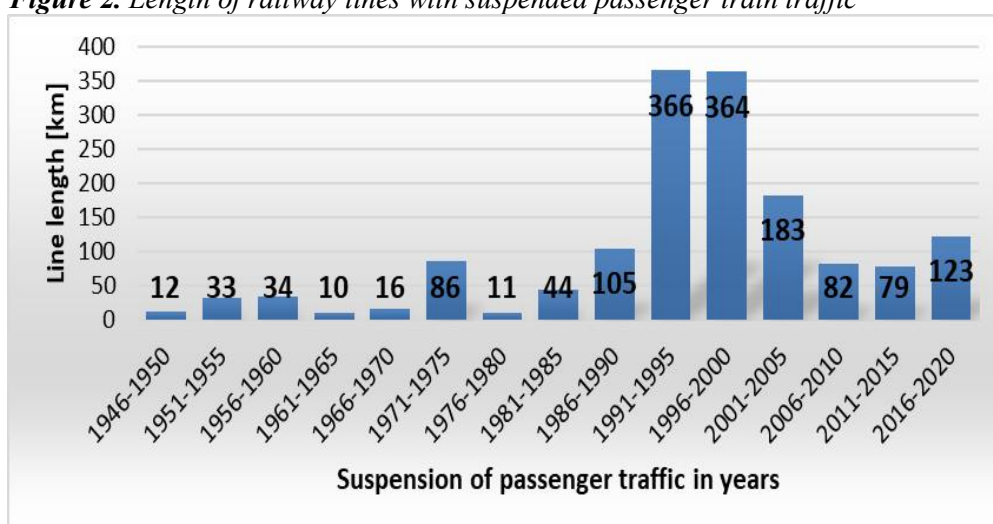
The length of railway lines in the Pomeranian Voivodship on which passenger train service was suspended in individual years is presented in Figure 2. The graph in Figure 2 shows that from the end of World War II until the end of the 1960s, passenger train service was suspended on very short sections. These included both standard-gauge and narrow-gauge lines located in areas with very low population density (e.g., the route from Opalenie Tczewskie to Smętowo).

In the early 1970s, passenger train service was suspended on 86 km of routes. This was related to the discontinuation of service on the entire left-bank network of the Gdańsk Commuter Railway on 1 January 1974. In turn, at the end of 1985, train service was suspended, and subsequently, the Kwidzyn Commuter Railway was liquidated. The suspension of passenger train service on a larger scale began during

the socio-economic changes that took place in Poland in 1989. Between 1991 and 1995, passenger train service was suspended on lines totaling 366 km. Lines of similar length were deprived of passenger trains between 1996 and 2000.

In 2000, train service was suspended for 198 km of routes. Passenger train service was not restored in most of these sections. In subsequent years, train service was also suspended on some routes. However, passenger train service did return to most of these sections. Almost all the lines where passenger service was suspended were not electrified. Overhead lines were installed only on a short section from Wejherowo to the Żarnowiec Nuclear Power Plant.

Figure 2. Length of railway lines with suspended passenger train traffic



Source: Own study.

After more than a decade of continuous suspension of passenger services on various routes in Pomeranian Voivodeship, the process of reactivating passenger services has begun. On some routes, train service was reactivated, then suspended again, and currently no passenger trains operate. These routes were primarily used seasonally for tourist services, such as the route from Bytów to Lipusz.

The length of the railway lines on which passenger train service was reactivated in subsequent years is shown in Figure 3. The narrow-gauge line, part of the Gdańsk Commuter Railway from Lisewo Wąskotorowe to Malbork Kałdowo Wąskotorowy, is omitted. After suspending services on this route in 1955, passenger trains returned to this section in 1974. However, after 14 years of operation, they were permanently suspended in 1988.

Between 2001 and 2005, passenger train service was reactivated on 221 km of railway lines in the Pomeranian Voivodeship. However, this result was most significantly impacted by the sections around Chojnice, where passenger trains

were interrupted for only a few days. During this period, train service was also restored seasonally on the last remaining section of the former Gdańsk Commuter Railway. In subsequent years, the number of kilometers of lines on which passenger service was reactivated was also significant.

However, the reactivations affected routes on which passenger train service had been suspended in subsequent years. The first passenger service reactivations, which were not suspended shortly after, were on the routes from Chojnice to Szczecinek and from Chojnice to Kościerzyna.

These were the return of trains after a break of several days. Subsequent reactivations were solely related to the construction of the Pomeranian Metropolitan Railway, the first section of which entered service in 2015. In subsequent years, passenger train service was resumed on other routes near the Tricity metropolitan area, including the routes from Glinisz station to Kartuszy and from Stara Piła to Gdańsk Kiełpiniek.

Figure 3. Length of railway lines with reactivated passenger train traffic



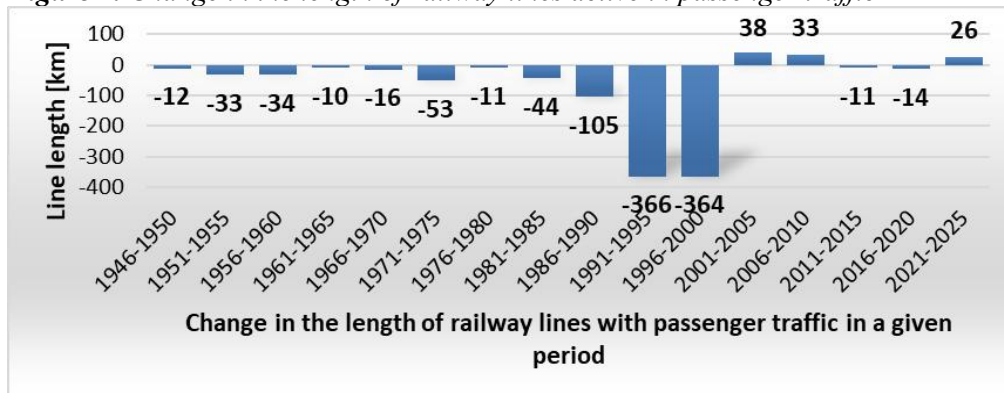
Source: Own study.

Passenger train traffic was suspended on the largest number of line sections in the years 1996-2000, it was 15 sections. In turn, in the years 1991-1995, passenger trains stopped running on 14 routes. In the years 2001-2005, train traffic was reactivated in 8 sections, which is the best result in Pomeranian Voivodeship. At the same time, however, passenger trains were suspended on 6 routes. The reactivations therefore mainly concerned the resumption of train traffic after a short break.

Figure 4 shows changes in the length of railway lines on which passenger trains operate in individual time periods. The value for a specific period indicates how many kilometres the length of railway lines on which passenger trains operated decreased or increased in that period. After World War II until the end of the 20th century, the length of railway lines in the Pomeranian Voivodeship on which passenger trains operated systematically decreased. The greatest decrease in the length of lines occurred in the years 1991-2000. In the last decade of the 20th century, passenger train traffic was suspended on 730 km of lines.

Since 2001, the length of lines on which passenger trains operate has not changed much. The differences in the length of lines are less than 40 km.

Figure 4. Change in the length of railway lines active in passenger traffic



Source: Own study.

The reason for suspending rail service on railway lines is usually a low passenger count. Low passenger flows on railway lines can be caused by many factors. The most important include excessive travel times, which result from low commercial speeds and too few connections. When the transport offer is insufficient and not tailored to passenger needs, rail transport cannot be used for commuting to work or school by all potential groups of travelers.

After its reactivation, the transport offer was most improved on the Pomeranian Metropolitan Railway (PKM) routes from Gdańsk Wrzeszcz to Gdańsk Kiełpiniek. Before the suspension of passenger service in 1973, three pairs of passenger trains operated on this route. Currently, trains run every few minutes during peak hours, providing 64 pairs of trains, which is very attractive to residents. The transport offered on the route to Kartuzy has also been significantly improved. Before the suspension of services in 1994, two pairs of trains operated there. Currently, 24 pairs of trains provide connections from the Tricity to Kartuzy.

Unfortunately, on other routes, the number of trains increased only slightly after the reactivation, and the transport options remain unattractive to passengers. On the Chojnice to Kościerzyna route, the number of trains increased from two pairs before the reactivation to four pairs currently. Therefore, the offer remains comparable to that before the suspension.

3.3 Cutting Off Residents' Access to Railway Transport

The suspension of passenger traffic on a railway line result in residents of towns located along that line being deprived of access to rail transport. This problem is particularly acute when other means of public transport do not reach towns cut off

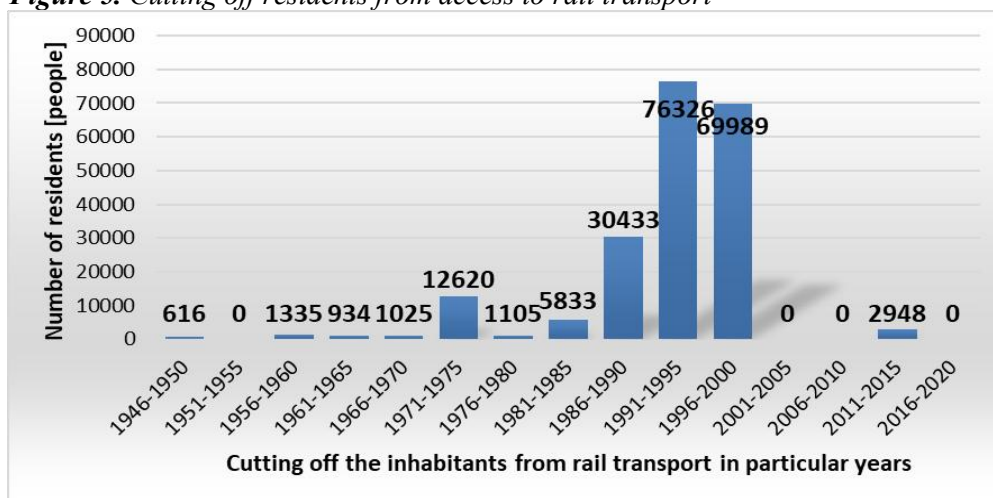
from rail transport or when bus transport is operational, but its transport offer is poor. The Pomeranian Voivodeship is inhabited by 2.36 million residents, of which 760 thousand are residents of the Tri-City.

Therefore, around 1.6 million people live in the remaining towns and villages of the Pomeranian Voivodeship. From 1946 to 2015, over 282 thousand people were deprived of access to rail transport in the Pomeranian Voivodeship. This number includes only residents of towns where there was a railway stop and due to the suspension of transport it was no longer serviced.

In connection with the commencement of the process of reactivating passenger transport on individual railway lines, which began in 2003, access to passenger trains was restored for slightly over 79 thousand residents. However, over 203 thousand still residents of the Pomeranian Voivodeship who could use trains before the suspension of transport do not have access to rail transport in their towns.

Figure 5 shows the number of residents cut off from access to rail transport in individual periods of time. This graph only includes residents of towns that permanently lost access to rail. Passengers who temporarily did not have access to passenger trains and who can now use rail transport after the reactivation of transport have been omitted.

Figure 5. *Cutting off residents from access to rail transport*



Source: *Own study.*

From the graph presented in Figure 5, from 1946 to 1985, train services were suspended only on railway lines passing through the least populated areas of the Pomeranian Voivodeship, which cut off access to rail transport for a small group of residents. After the period of socio-economic changes, train services were also suspended on lines passing through larger towns.

In the years 1991-2000, over 146 thousand residents were deprived of access to rail transport. Then, the process of depriving access to rail transport related to the suspension of transport practically stopped. Only in December 2012, passenger train services on the route from Kościerzyna through Bąk to Czersk were suspended, depriving a small group of residents of access to the railway.

3.4 Indicators Explaining the Importance of Railway Lines in Passenger Traffic

Many different factors influence the importance of a given railway line in passenger traffic. The most important is providing direct access to rail transport for residents of towns located near the railway line. Another important factor is providing a direct, fastest connection between large towns. These factors were considered in this analysis.

The number of people cut off from rail transport following the suspension of service on individual lines varies. Some lines run through relatively densely populated areas, while others run through small villages or are located at significant distances from major population centers. The number of residents cut off from rail transport following the suspension of service on a given route provides significant information about the importance of that railway line.

However, this number cannot be used to compare all lines. This is due to the varying lengths of individual railway lines. For this purpose, this study introduced an indicator that considers the different lengths of lines, calculated using formula (1). This indicator allows for a comparison of different railway lines in terms of their importance in providing access to passenger trains.

$$I_L = \frac{\sum N_r}{L_l} \quad (1)$$

where:

I_L - indicator describing the importance of lines in local traffic [persons/km]

N_r - number of residents of towns located near railway lines [persons]

L_l - length of line [km].

In addition to its importance in local passenger traffic, the potential for long-distance rail service also significantly impacts the assessment of a given railway line. Providing the fastest, direct rail connection between large urban centers largely determines the importance of a given railway line in passenger traffic. In this case, large passenger flows are generated by passengers traveling between the origin and destination stations of a given railway line, while passenger exchange at intermediate stations and stops is low.

Consequently, demand for rail transport will be high, even if the line passes through small, sparsely populated towns. To assess the importance of a railway line

in long-distance rail traffic, the indicator presented in formula (2) was determined. The population of towns located along the entire route is not dependent on the length of the analyzed railway line. When calculating this indicator, the population of towns located near the starting and ending stations of the analyzed railway lines is considered, taking into account the population of nearby large urban centers, for which the analyzed railway lines constitute the shortest connection.

$$I_D = \sum_{i=1}^n N_p \quad (2)$$

where:

I_D - indicator describing the importance of the lines in long-distance traffic [persons]

N_p - number of residents of towns located along the entire route of the analyzed line [persons]

n - number of towns along the entire route.

4. Research Results and Discussion

4.1 The Importance of Railway Lines in Local Traffic

Table 1 shows the number of residents cut off from passenger train service following the suspension of service on individual lines. The next column in Table 1 presents the value of an indicator describing the importance of specific lines in local traffic, calculated using formula (1). The lines in the table are ranked according to this parameter because it allows for comparison between lines.

Railway lines on which passenger train service has been restored are bolded in the table. Table 1 shows that the need to provide access to rail transport for residents of towns located near railway lines was an important, but not decisive, factor in the reactivation of passenger traffic in the Pomeranian Voivodeship. Railway lines running through sparsely populated areas were omitted.

However, passenger connections have not yet been restored on such important lines running through medium-sized towns as the Kartuzy–Łębork, Bytów–Lipusz, Pruszcz Gdański–Stara Piła, Szymankowo–Nowy Dwór Gdański, Chojnice–Więcbork, and Pszczółki–Skarszewy routes. Passenger trains are planned to be restored on the first two sections in the future.

Revitalization efforts have already begun on the section from Kartuzy to Łębork, and passenger trains will return in a few years. Similarly, the decision has already been made to revitalize the section from Kartuzy to Łębork. For the remaining sections, which received high value of indicators describing the importance of these lines in local traffic, there are currently no plans to reinstate service.

Table 1. Population deprived of access to the railway network on a analyzed line

Section:	No. res. [pe.]:	I_L [pe/km]:	Section:	No. res. [pe.]:	I_L [pe/km]:	Section:	No. res. [pe.]:	I_L [pe/km]:
Gliniec - Kartusy	15529	1552.90	Koszwały – Lewy Brzeg Wisły	4704	174.22	Czersk - Bąk	2205	95.87
Stegna Gd. – Nowy Dwór Gd. Wąsk.	13639	909.27	Jeziernik - Lichnowy	2589	172.60	Opalenie Tczewskie - Smętowo	934	93.40
Bytów - Lipusz	18314	763.08	Skarszewy – Kościerzyna	5160	161.25	Szlachta – Lipowa Tuch.	182	91.00
Pruszcz Gd. – Stara Piła	17877	715.08	Przejazdowo - Koszwały	1116	159.43	Smętowo - Skórcz	1364	90.93
Szymankowo – Nowy Dwór Gd.	14665	586.60	Skórcz - Szlachta	4919	153.72	Mikoszewo – Stegna Gdańska	2216	82.07
Morzeszczyn - Gniew	6390	580.91	Mareza – Rusinowo W.	2916	145.80	Malbork K.W. - Lipinka Gd.	902	82.00
Stegna Gd. - Sztutowo	1931	482.75	Człuchów - Słosinko	7875	143.18	Lisewo W. – Malbork K.W.	2555	77.42
Chojnice - Więcbork	19203	480.08	Lipinka Gd. - Nowy Dwór Gd. Wąsk.	3103	141.05	Lichnowy – Lipinka Gdańska	1025	64.06
Pszczółki - Skarszewy	9068	431.81	Malbork - Małdyty	7760	138.57	Nowy Dwór Gd. Wąsk. - Jeziernik	1276	53.17
Chojnice - Szczecinek	21109	346.05	Starogard Gd. - Skarszewy	2499	131.53	Kwidzyn – Opalenie Tcz.	616	51.33
Kartusy - Lębork	17050	284.17	Czersk - Szlachta	1425	129.55	Lichnowy – Lisewo Wąsk.	442	49.11
Gdańsk Kiełpiniek – Stara Piła	1897	271.00	Prabuty - Kwidzyn	2716	129.33	Rybno Kasz. – Żarnowiec El. Jądrowa	423	42.30
Skórcz – Starogard Gdański	6377	265.71	Grudziądz - Kwidzyn	4882	125.18	Malbork Kałd. Wąsk. - Świetliki	1335	39.26
Swarzewo - Krokowa	4324	254.35	Mareza – Pastwa - Gurcz	2917	121.54	Kościerzyna - Bąk	743	37.15
Chojnice - Kościerzyna	15686	227.33	Stara Piła - Gliniec	685	114.17	Korzybie - Sławno	488	30.50
Gdańsk Wąskotorowy - Giemlice	4258	212.90	Korzybie – Bytów	5398	112.46	Bąk – Lipowa Tucholska	405	17.61
Giemlice - Koszwały	2542	195.54	Prabuty - Kisielice	2115	111.32	Gdynia Główna – Gdynia Port	0	0.00
Wejherowo - Garczegorze	11491	182.40	Lębork – Maszewo Lęb.	1105	100.45	Gdańsk Wrz. – Gdańsk Kiełpiniek	0	0.00

Source: Own study.

4.2 The Importance of Railway Lines in Long-Distance Traffic

Table 2 presents the values of the indicator describing the importance of railway lines in long-distance traffic. Railway lines on which passenger trains have been restored are shown in bold. The data presented in Table 2 show that this factor had a decisive influence on the decision to reactivate railway services in the Pomeranian Voivodeship.

Table 2. Number of inhabitants of cities for which a given line is a direct connection

Section:	I_D [pe.]	Section:	I_D [pe.]	Section:	I_D [pe.]
Bąk – Lipowa Tuch.	564597	Chojnice – Więcbork	44470	Mikoszewo – Stegna G.	3101
Gdańsk K. – St. Piła	501521	Malbork – Małdyty	38001	Opalenie T. – Smętowo	2758
Stara Piła – Gliniec	501521	Czersk – Kościerzyna	33196	Lichnowy – Lipinka Gd.	1632
Bytów – Lipusz	280125	Skar. – Kościerzyna	29940	Mareza – Gurcz	1596
Gliniec – Kartusy	254241	Człuchów – Słosinko	22241	Przejazdowo – Kosz.	1561
Grud. – Kwidzyn	125389	Smętowo – Skórcz	15139	Mareza – Rusinowo W.	1466
Korzybie – Bytów	101353	Skórcz – Szlachta	14879	Rybno Kasz. – Żarnowiec El. Jądrowa	1068
Prabuty – Kwidzyn	76891	Korzybie – Sławno	12756	Giemlice – Koszwały	1032
Chojn. – Szczecinek	76656	Czersk – Szlachta	12415	Gdańsk W. – Giemlice	-
Pszczółki – Skarsz.	67395	Swarz. – Krokowa	12318	Wejch. – Garczegorze	-
Szymankowo – Nowy Dwór Gd.	66111	Stegna Gd. – Nowy Dwór Gd. Wąsk.	12180	Gdańsk Wrzeszcz – Gdańsk Kiełpinek	-
Chojnice – Kościerzyna	61861	Nowy Dw. G. Wąsk. – Lisewo Wąsk.	11873	Kwidzyn – Opalenie Tczewskie	-
Starogard Gdański – Skarszewy	51771	Prabuty – Kisielice	10161	Malbork Kałd. Wąsk. – Świetliki	-
Kartusy – Lębork	50581	Szlachta – Lipowa	9963	Gdynia Gł. – Gdynia P.	-
Skórcz – Starog. Gd.	48606	Morzesz. – Gniew	6827	Lębork – Maszewo L.	-
Malbork K. Wąsk. – Nowy Dw. G. Wąsk.	46861	Stegna Gdańska – Sztutowo	4268	Lisewo Wąskotorowe – Malbork Kałddowo Wąskotorowy	-
Pruszcz Gdański – Stara Piła	45957	Koszwały – Lewy Brzeg Wisły	4031		

Source: Own study.

The section from Bąk to Lipowa Tucholska provides an alternative connection between the Tricity and Bydgoszcz and southern Poland. Its modernization and electrification are planned in the coming years. Similarly, the revitalization of the route from Bytów to Lipusz is planned. Restoring connections on the route from Bytów to Korzybie was planned as part of the Kolej Plus program, but ultimately, the project was not implemented.

Routes connecting large urban centers, such as the Kwidzyn–Prabuty, Pszczółki–Skarszewy, Szymankowo–Nowy Dwór Gdański, Starogard Gdański–Skarszewy,

and Kartuzy–Łębork sections, were omitted. The reactivation of services on lines connecting smaller towns only applies to the Żuławy Narrow Gauge Railway (part of the former Gdańsk Commuter Railways) and the route from Czersk to Lipowa Tucholska via Szlachta.

The Żuławy Narrow Gauge Railway operates mainly during the summer season and is a tourist attraction, not a primary means of public transport. The section from Czersk to Lipowa Tucholska, on the other hand, operates on a longer route to Wierzchucin, allowing transfers to trains to Bydgoszcz.

5. Conclusions, Proposals, Recommendations

The proposed indicators, which determine the importance of individual railway lines in both regional and long-distance passenger traffic, allow for the verification of these lines. Providing access to rail transport for residents of towns along the lines is a crucial factor. In most analyses, the lengths of the compared lines vary. In such cases, comparing different lines is possible using the indicator presented in this study, which determines the importance of lines in passenger traffic. This allows for simultaneous comparison of multiple railway lines. In the conducted study, the line from Glinisz to Kartuzy station (1,552.9 inhabitants/km), located near the Tricity metropolitan area, received the highest rating.

An equally important factor influencing the importance of a particular railway line in passenger traffic is its potential use for long-distance transport. Ensuring direct rail connections with large urban centers is crucial in a transportation system. This parameter is defined by the indicator presented in this study, which describes the importance of a line in long-distance traffic.

As the study results demonstrate, this factor was crucial in selecting railway lines for revitalization and reactivation of transport in the Pomeranian Voivodeship. The proposed indicators can be used in the future to verify and compare railway lines before making decisions about investments, revitalization, or modernization, including other regions.

Based on the analyses conducted, were identified railway lines located in the Pomeranian Voivodeship that are no longer in use but run through relatively large towns and connect relatively large urban centers. These lines achieved high value for both indicators, demonstrating their significant importance in both regional and long-distance traffic. In the future, similar analyses may be helpful in making investment decisions on these routes.

References:

Buko, J., Makowski, A. 2024. Post-war transformation: socio-economic development and urban evolution in Gryfino, Western Pomerania. *European Research Studies Journal*,

- 27(4), pp. 941-952. <https://doi.org/10.35808/ersj/3638>.
- Gołębiowski, P., Jacyna, M., Żak, J. 2019. Multi-criteria method of selection the way of conducting railway traffic on the open line for modernized and revitalized railway lines. *MATEC Web of Conferences*, 294, pp. 04015. <https://doi.org/10.1051/mateconf/201929404015>.
- Gosa, G. 2018. Narrow-gauge railway as a tourist attraction illustrated by the example of Zachodniopomorskie Voivodeship. *Ekonomiczne Problemy Turystyki*, 43(3), pp. 105-114. <https://doi.org/10.18276/ept.2018.3.43-10>.
- Graff, M. 2021. Rolling stock manufactures and new rail vehicles in Poland. *Problemy Kolejnictwa*, 192, pp. 121-151. <https://doi.org/10.36137/1922E>.
- Jurkowski, W., Smolarski, M. 2021. The influence of transport offer on passenger traffic in the railway transport system in a post-socialist country: case study of Poland. *Bulletin of Geography. Socio-economic series*, 53, pp. 33-42. <https://doi.org/10.2478/bog-2021-0021>.
- Kamiński, W. 2023. Suspension and reactivation of passenger traffic on railway lines in Lower Silesia. In: XV International Conference "Transport Problems". Katowice-Częstochowa, 28-30 June 2023. pp. 276-288.
- Keller, D. 2021. Polish railways 1945-1989 – a research contribution. *Studia Historiae Oeconomicae*, 39, pp. 216-249. <https://doi.org/10.2478/sho-2021-0009>.
- Nationwide Railway Base. Available at: <https://www.bazakolejowa.pl>.
- Nowak, B., Dumieński, G., Ławniczak-Malińska, A. 2025. Water management instructions as an element of improving the state of the Pakoski Reservoir (Central-Western Poland). *Water*, 17(3), pp. 403. <https://doi.org/10.3390/w17030403>.
- Puławska-Obiedowska, S., Ciastoń-Ciulkin, A., Soboń, M. 2024. The impact of introducing new stops into the agglomeration railway network on changes in transport behaviour in the catchment area – case study of Kraków and Łódź, Poland. *Archives of transport*, 72(4), pp. 89-108. <https://doi.org/10.61089/aot2024.t6jbnt55>.
- Rydzewski, T. 2023. Railway communication as a measure of spatial relations of Polish cities in 2023. *European Research Studies Journal*, 26(4), pp. 523-533. <https://doi.org/10.35808/ersj/3303>.
- Stepanok, N., Kholodenko, A.M. 2024. The impact of the transport sector on regional development. A case study. *Scientific Papers of Silesian University of Technology. Organization and Management Series*, 205, pp. 593-607. <https://doi.org/10.29119/1641-3466.2024.205.36>.
- Susetyaningsih, A., Zhafirah, A., Cahyana, C., Farida, I., Nanang, N. 2021. Changes in spatial patterns and the availability of social facilities in urban settlements due to reactivation of the railroad tracks in Garut. *IOP Conference Series: Materials Science and Engineering*, 1098, pp. 1-5. <https://doi.org/10.1088/1757-899X/1098/2/022083>.
- Wendt, J.A., Pashkov, S.V., Mydlowska, E., Bógdał-Brzezińska, A. 2021. Political and historical determinants of the differentiation of entrepreneurial ecosystems of agritourism in Poland and Kazakhstan. *Sustainability*, 13(18), pp. 10487. <https://doi.org/10.3390/su131810487>.
- Żukowska, S., Chmiel, B., Połom, M. 2023. The smart village concept and transport exclusion of rural areas – a case study of a village in northern Poland. *Land*, 12(1), pp. 260. <https://doi.org/10.3390/land12010260>.