Abstract: A tourist attraction is everything that raises tourists’ interest and stimulates them to travel. The revitalization of the railway infrastructure elements and transforming them into objects that serve tourist needs may positively affect urban space, as well as contribute to socio-economic development. Foreign and Polish examples show many tourist attractions created on the basis of closed railway lines, degraded railway areas or railway stations. A ride by narrow-gauge railway, a cycle route created on a former railway embankment or even a walk along the promenade alongside the railway viaduct can be an attraction in itself. Such objects become a magnet that attracts tourists to the region, and at the same time stimulate demand for other tourist services.

The aim of the article is to identify and classify tourist attractions that have arisen as a result of revitalization of the railway infrastructure. The article is divided into three parts. In the first one, the essence of the revitalization of the railway infrastructure is characterized. The second explains the term "tourist attraction" and the classification of tourist attractions, while the third contains practical examples of revitalization of inactive elements of railway infrastructure transformed into tourist attractions.

Key words: tourist attraction, railway infrastructure, revitalization of railway infrastructure
1. Introduction

According to statistical data, the number of travelers on the rail passenger market is increasing. Long-distance transport is particularly important. The total number of passengers transported is the highest since 2002, when 304.1 million passengers used rail services. In the years 2010-2017 passenger transport increased from approx. 264 to 303 million passengers. It is the result of the increase in the number of passengers in intercity and agglomeration, and in some voivodships also in regional transport. In 2018, 310.3 million people used the rail services, by 2.2% more than in the previous year. The number of passengers has increased by over 15% over the last 4 years. Compared to 2014, this means an increase of 41 million passengers. However, the average annual number of rail travel per inhabitant in Poland is 7.6, which is much lower than in neighboring countries – the Czech Republic (16.8), Germany (34.1). These differences show the potential for an increase in the importance of rail transport in Poland (see e.g. Strategia Zrównoważonego Rozwoju. . ., no data).

Despite the development of rail passenger transport, rail infrastructure is often deprived of its main function, and the introduction of new infrastructure requires time and thorough spatial, economic and social analyses. However, the creation of a new function for unused railway infrastructure is a desirable objective, both for residents and visitors. Therefore, the issues related to the revitalisation of railway infrastructure included in this paper seem to be important and worthwhile to address.

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2. The essence and goals of the revitalization process

The concept of revitalization has already been defined very broadly in foreign and Polish literature. This is due to the complexity of the issues related to the transformation of degraded areas and the large variation in the interpretation of this process. Revitalization is a concept considered in geography, sociology, spatial planning, architecture or urban planning, as well as economics. The literature on the subject comprises numerous definitions which compare revitalization with the renewal of the urban area. According to the definition presented by Kaczmarek (2001) revitalization “is a sequence of planned activities aimed at economic recovery and a change in the spatial and functional structure of degraded areas of the city”. Urban areas can be subjected to this process for various purposes, e.g. industrial, military, and transportation. Therefore, revitalization can be understood as the entirety of activities targeted at changes in the functioning of territorial units, especially in cities, of a social, organizational, ecological, planning and economic character (Noworól, 2010). A similar opinion is expressed by many other researchers dealing with this issue (see e.g. Thomas, Bromley, 2000; Rofe, 2004; Markowski, Stawasz, 2007; Czyżewska, 2009; Lorens, 2010; Boryczka, 2016; Webb, Webber, 2017).

The concept of revitalization was introduced into the Polish legal system also in the context of the restoration process of degraded urban space¹. The concept of revitalization is increasingly more often used not only in the context of urban area renewal, but also in agricultural, tourist and infrastructure areas (e.g. water canals, transport infrastructure). Revitalization understood as an urban equivalent of recycling is supposed to counteract degradation, “bring back to life” dead or degraded sites (facilities) (Soltysiak, 2010). In a narrower sense, revitalization is identified as the change in architectural development and spatial transformations of selected parts of the city (Godlewska-Majkowska, 2008). In a broad sense, revitalization is a process that aims to give another – new function to a single facility or entire areas referred to as degraded (Lisowska, Ochmański, 2016). A phenomenon defined in such a way allows for a broad interpretation of the significance of such activities.

Furthermore, the revitalization process may concern railway infrastructure, in accordance with the assumption that one of the revitalization tasks is the adaptation of the area and facilities located thereon for other purposes. Railway infrastructure is understood as railway lines and other structures, buildings and facilities, including land occupied by them. Elements of railway infrastructure include, among other...
ers (Act on rail transport): railway tracks, turntables and traverses, track bed (in particular embankments and cuttings, drainage channels and ditches, masonry trenches, planting for protecting side slopes), engineering structures (such as bridges, overpasses, culverts and other bridge constructions, tunnels, passages above and below the tracks), rail traffic control systems, platforms with infrastructure enabling passengers to reach it, on foot or by vehicle, from a public road or railway station.

In the process of revitalizing disused railway lines, the function of the railway infrastructure is being changed and directed to other groups of recipients. The renewed, developed railway infrastructure becomes an attractive and desirable place for spending free time, which significantly changes its image and perception. The originality of an area such transformed by revitalization is further emphasized by the fact that the new function allows it to be restored to public space, encouraging to explore and spend time.

The literature review indicates that due to the scale and universality of the occurrence of degraded old railway areas, they constitute an important subject of revitalization process implemented there. Many railway connections in Poland have been closed and as a result, their existing railway infrastructure has been abandoned. Closed railway lines may be a local tourist attraction and can be changed into tourist trails for a small investment. Among tourists who use the revitalized railway infrastructure, there are people who are motivated by curiosity to see a currently closed railway line or an old, decrepit railway station.

3. Revitalization and tourism attractions

In the process of revitalization, railway infrastructure can be transformed (intentionally or accidentally) into a tourist attraction, which is defined as all objects that are of interest to tourists and attract tourism movement (Kurek, 2007). According to this definition, a tourist attraction is a natural or man-made permanent resource which is developed and managed to attract tourists². A tourist attraction can be a completely new venture or an adaptation of old, non-profitable places or buildings. In the latter case, it is necessary to modernize or completely replace (revitalize) existing devices. One of the ways of creating tourist attractions is the revitalization of railway infrastructure elements. Degraded railway routes, deserted and decrepit stations, decaying viaducts become an infamous showcase of some towns. Properly managed and renovated can be a magnet attracting tourists and used by residents.

In the literature tourist attractions are classified mainly due to their spatial dimension, which makes it possible to distinguish point, line and surface attractions (Kruczek, 2011b). Point attractions are individual natural objects (waterfalls, caves, rock forms) or anthropogenic (museums, religious buildings, events, architectural objects), which are most often the main reason for tourists’ visits, with highly commercialized surroundings and a high level of development. Linear attractions include the shorelines of water reservoirs and rivers, landscape forms of a linear nature, landscape routes, tourist routes (usually thematic). The level of their development is varied, but they contribute to the concentration of tourists in narrow spatial corridors. Surface attractions are usually protected areas, areas of natural, landscape or cultural interest. Due to their extensive area, tourist traffic is dispersed, with local concentration points of tourists around the objects perceived as the most representative (attractive), the most accessible or places of spatial accumulation of objects, which are usually also richly equipped with infrastructure (Meyer, 2012).

This classification can also be applied to tourist attractions created on the basis of revitalized railway facilities. While revitalized rail infrastructure is often found in the form of points (e.g. train station, railway

² The term “tourist attraction” was introduced into the literature by Cohen (1972), who in his sociology dissertation Towards a Sociology of International Tourism states that the main purpose of international mass tourism is to visit tourist attractions. MacCannell (2002) defines the structure of a tourist attraction as a sign. Most definitions emphasize that a tourist attraction is a characteristic feature of the area that attracts tourists, is well managed, provides fun, pleasant experience, the right level of facilities and services, and its use is often conditioned by a fee (Hu, Wall, 2005). The term tourist attractions can be also examined in a broad and narrow sense (Nowacki, 2014). In the broad sense, a tourist attraction constitutes all features and elements of the environment (places, objects, areas) that attract tourists. In the narrow sense these are places or objects that have an organizational form and are managed due to their value and functioning throughout the year. You can also read about tourist attractions in the scientific works of authors such as: Gunn (1980), Lew (1987), Stasiak (2007), Kruczek (2011a). The concept of tourist attractions is understood in a narrower sense than tourist values. The term “tourist values” should be understood as a more general, objective category, covering all the features that create potential grounds for the development of tourism phenomena. On the other hand, “tourist attractions” appear as a subjective category, as their presence on the market and in the awareness of a potential tourist requires appropriate organizational measures and promotions. Tourist attractions can be made, created from scratch, even in areas lacking primarily tourist values, such as the construction of a global gambling centre in Las Vegas in the desert (Kruczek, 2004).
museum) or linear (narrow-gauge railway, walking trail along a disused railway line), spatial forms are rare because it is difficult to adapt them for potential users (visitors). As an example of a spatial attraction, we should give High Line Park in New York. It is considered one of the most unusual parks in the world as it was built on the site of a disused railway line and is located approx. 9 m above the ground. The park route runs through 22 blocks of New York, along the west bank of Manhattan (Fig. 1).

![Fig. 1. Bird’s eye view of the High Line Park. Source: https://www.thehighline.org/ [12.07.2019].](image)

This undertaking was implemented in 2009-2011. The first two stages of the project received a very high degree of social acceptance and positive international architectural criticism (David, Hammond, 2011). The initiators of the idea of revitalizing the former railway line were local enthusiasts who in 1999 created a non-profit organization, “Friends of the High Line” and built a strategy of defence of the former track line, thus becoming an official party in wide public consultations regarding the mission (Gadomska, 2014).

In order to find the best way to develop this area, an international architectural competition was announced (720 teams from 36 countries submit their proposals). The competition works were presented to the residents of the city in the Grand Central station building, where everyone could analyse all the proposals and express their opinions. In 2004, the Friends of High Line, together with the city authorities, made the final decision and chose the winning concept for the development of the entire viaduct area. The chosen project assumed the removal of railway lines in some fragments, but only to the extent that would make transportation easier, as the main idea was to preserve some tracks and maintain the original purpose and history of the place (Jopek, 2013). In June 2005, the decision of the United States Senate provided funds for the implementation of the project.

The development of the High Line area resulted in the closed railway line becoming one of the more eagerly visited places in New York within a span of a couple of years. The implementation of the project helped to preserve the specific character and atmosphere of this fragment of the city, and changed the standard railway tracks into the symbol of the city.

4. Revitalized railway facilities – linear attractions

There are many examples of how to use close railway lines for the creation of linear tourist attractions in Europe and the United States. One of them is the “Promenade Plantée” in Paris created in place of a closed railway line running in the direction of Varenne-Saint—Maur (Fig. 2). The promenade begins next to the Opéra Bastille at the Place de la Bastille, crosses the twelfth district and runs on the viaduct to the eastern suburbs (Skiba, 2009). The total length of the promenade is 4.6 km. It starts at the viaduct built in 1859. The biggest attraction of the promenade is a walk on the viaduct, which allows seeing architectural details that are invisible from the street level from the height of three storeys.

![Fig. 2. One of the sections of Promenade Plantée. Source: http://www.ifrancja.fr/ [12.07.2019].](image)
A similar method of developing a closed railway line can be found in Chicago. The unused railway line of Bloomingdale has been transformed into a trail and park that extends over four kilometres along four bustling north-west districts of Chicago. The official opening of the park took place in 2015. The Bloomingdale Trail is part of a larger city project called „The 606“, which assumes the creation of six ground-level parks and an innovative park space, serving both residents and tourists.

In Poland, one can also point to examples of revitalizing the railway infrastructure for creating linear tourist attractions. One of them is the transformation of the closed railway line in Zielona Góra towards Kożuchowa into a facility satisfying the needs for a fast bike path. This idea gained considerable support among the residents and town authorities. The fast bike path, colloquially called the bicycle highway, has been officially named the „Green Arrow“ (Skiba, 2009).

The first section of the bicycle highway was built in 2011, and two years later it was completed in its entirety. It was not until 2018 that the city opened two pedestrian-bicycle viaducts. They are indispensable elements for extending the bike path. The implementation of this stage of the project made it possible to cycle from one end of the Zielona Góra to the other end of the city. The bicycle highway creates a separate corridor with greenery, equipped with elements of small architecture such as litter bins, benches, bollards and elements of a playground for children. Bike paths, which were designed and built as part of the Integrated Territorial Investments in Zielona Góra, have become the complement of a fast bike path created on the basis of a closed railway line.

Another example of the transformation of inactive rail lines into bike paths is a cycle route called „Route of Rolled up Tracks“ with a length of about 125 km. It is an unfinished loop route running entirely on embankments of inactive railway lines. It starts in Białogard, then goes through Bobolice, Grzmiąca, Barwice, Połczyn-Zdrój to Świdwin (Koncepcja sieci tras..., 2015). The areas are characterized by weak socio-economic indicators and are located outside the main tourist areas. Only the southern part runs through Pojezierze Drawskie with Połczyn-Zdrój being the main centre. The location of the railway stations both on the route (Grzmiąca) as well as at its beginning and end (Świdwin and Białogard) creates opportunities for the route to be used as an independent tourist attraction. However, the fact that there are nodal points along the route broadens possibilities for choosing this direction as destination of cycling trips. Moreover, due to the fact that the route runs on a railway embankment, the height profile is very mild, which significantly increases the number of potential recipients.

In 2018, a new 7.5 km-long cycle route was opened in Trzebietów commune that leads along the former railway embankment from Nowielice through Trzebusz to Mrzeżyno. Moreover, another interesting trail is the cycle route on the embankment of a narrow gauge railway running from Karlino to Gościno, which is about 20 km long. Cycle routes on railway embankments are often an attraction in itself that is enjoyed by tourists who want to get to know the area better. Bicycle systems for a given area are designed in such a way that the route comprises objects attractive from the point of view of tourists (for example related to sites: monuments, bathing areas, amusement parks, viewpoints; area – forest complexes, areas of natural significance; and line – selected theme paths, scenic sections of roads, etc.).

Another example of the use of railway infrastructure to create a linear tourist attraction are narrow-gauge railways. In Europe, the most popular is the German narrow-gauge railways in the Harz Mountains (Harzer Schmalspurbahnen HSB), which has several dozen active steam locomotives and runs on several routes, for example from Wernigerode Brocken (Meyer, Sawińska, 2009). The beginnings of narrow-gauge railways in Poland date back to the 19th century. For a long time, the narrow gauge railway played an important complementary role to the standard gauge railway and in the second half of the 20th century was used both in the scheduled transport of passengers and goods over short distances. Its advantages, such as the relatively low cost of construction and operation of infrastructure, allowed it to be used, among others, in places where the use of standard-gauge infrastructure and rolling stock was unprofitable (Kolej wąskotorowa w..., 2017). The network of narrow gauge lines was relatively dense in Poland. Unfortunately, only few routes have survived to the present day, which constitute mainly a tourist attraction and a kind of cultural heritage, providing the opportunity to travel on an exceptional historical rolling stock through places of special natural and historical value.

In the years 2014-2016, there were 23 narrow-gauge railways located in 12 Polish voivodships (Fig. 3). In 2016, narrow gauge railways transported nearly 950 thousand passengers, while in 2014 it was almost 590 thousand passengers, which means that the number of passengers increased by over 60% (Kolej wąskotorowa w..., 2017).
Narrow-gauge railways are the most popular in Wielkopolskie, Zachodniopomorskie, Podkarpackie and Kujawsko-Pomorskie voivodships. Their advantage is the exceptional values of the regions, and in the case of Wielkopolskie voivodship – a very large number of passengers being transported by the park railway (Maltanka) and the Pleszew narrow-gauge railway, which is usually open all year round. The Upper Silesia Narrow-Gauge Railway (the oldest continuously operating narrow-gauge railway in the world) and the Maritime Narrow-Gauge Railway (due to its route along the Baltic Sea) are considered the most attractive tourist destinations. The route of Upper Silesian Narrow-Gauge Railway leads from the town of Bytom to Miasteczko Śląskie. The train runs regularly in July and August (Saturdays, Sundays and holidays) according to a fixed timetable, stopping at each station. Its length is 21 km, and the travel time is one hour and 10 minutes. The stops are in close vicinity to tourist attractions, such as a locomotive depot at Bytom Karb Wąskotorowy station, Dolomity Sportowa Dolina, the historic silver mine or the Nakło-Chechło water reservoir. The organizers also offer the possibility of renting a train to any available destination.

In contrast, the route of Maritime Narrow-Gauge Railway is 40 km from Gryfice to the village of Pogorzela (Rewal commune), located by the Baltic Sea. The train runs every day from May to September; however, only the first and last run of the day covers its entire route. Other runs are carried out on a revitalized, ten-kilometre route from the villages of Trzęsacz (Rewal commune) to Pogorzela or vice
versa. The one-way route can be covered in almost two hours, while in the case of a shorter trip it takes 35 minutes. The railway has a rich offer for organized groups. A branch of the National Museum in Szczecin – Exhibition of Narrow Gauge Railway is located in Gryfice, in the vicinity of the railway.

5. Revitalized railway facilities – point attractions

Another way to revitalize railway infrastructure facilities is to create point-like tourist attractions by renewing and giving new functions to railway stations. As indicated by Jaszczak and Witkowska (2012) interesting examples of revitalization of railway stations are:

- Hundertwasser Bahnhof Uelzen in Germany, rebuilt as part of the international Expo 2000 exhibition,
- the Gare Montparnasse in Paris, France, with the Jardin Atlantique, i.e. the Atlantic Garden and a museum honouring Philippe Leclerc de Hauteclocque being built on its roof,
- Oosterdokseiland station in Amsterdam, the Netherlands, (after revitalization in 2010 a multi-functional district), called “a city within the city”. A high-class transport hub was created there, serving about 300 thousand passengers a day, combined with a housing, profit and leisure function,
- transformation of the disused d’Orsay train station in Paris into an art museum of the 19th century, which took place in 1986. Currently, the museum collection includes paintings, sculptures, applied arts, photography and graphics.

Polish railway stations subjected to the revitalization process clearly draw on Western European patterns. Railway stations in cities such as Katowice, Poznań, Wrocław, Sopot, Szczecin and Warszawa have undergone reconstruction mainly as a result of the organization of the UEFA European Championship – Euro 2012. Their reconstruction proves that, both at home and abroad, modernization of railway stations leads to the formation of large complexes connected with shopping and exhibition-office centres, which become a tourist attraction and do not serve only a transportation function (e.g. Galeria Katowicka, Galeria Krakowska, Poznań City Center). Therefore, when constructing new facilities for passenger service or revitalizing old, special attention should be paid to the quality and originality of architectural solutions (e.g. glazed and illuminated roof of a building in Poznań or a stained glass window in Gdańsk).

Point attractions of the railway infrastructure can be additionally classified due to their primary function at stations:

- serving a leading transport function – these are historic (historic) stations, whose main function as a result of revitalization is the transport of passengers (e.g. Wroclaw railway station, Gare de Strasbourg – a railway station from the 19th century in Strasbourg covered with a glass pane) or attractive new stations visually (original), which due to their attractive form are of interest to tourists, among others modern Hauptbahnhof station in Berlin (Fig. 4), Shanghai South Railway Station (Fig. 5), Liège-Guillemins station in one of the largest cities in Belgium – Liege (Fig. 6), East Station Gare do Oriente in Lisbon – one of the largest stations in the world designed by Spanish architect Santiago Calatrava (Fig. 7);
- fulfilling a transport function and other additional functions – these are mainly stations connected to shopping malls, e.g. the train station in Kraków and Poznań (Fig. 8) or the main train station Puerta de Atocha in Madrid, where train traffic was moved underground and a large botanical garden was created in the main hall (Fig. 9);
- not having a transport function.

In the case of train stations that do not have a transport function, an example can be the Museum d’Orsay in Paris. This museum is one of the most interesting in Europe and is located in the building of the former station, where in perfectly arranged interiors you can admire French art from the turn of the 19th and 20th centuries. There are also examples of other development of station buildings located alongside liquidated (demolished or suspended trains) railway lines. Most of these buildings were used for residential purposes or adapted to provide other services, e.g. accommodation or catering.

Conclusions

There are a lot of abandoned, degraded and undeveloped elements of railway infrastructure in cities. With limited resources – i.e. the land, areas of such value, which thanks to their often central location are an opportunity for the development of cities, must be used. In order to revive such places, it is necessary to undertake comprehensive revitalization activities, which should be flagship investments of degraded urban areas. Areas or objects of railway infrastructure that have been revitalized using original urban planning solutions, by introducing an original and diversified functional program may become a new tourist attraction.

Tourist attractions created on the basis of revitalized elements of the railway infrastructure can be classified and categorized in various ways. Attractions are distinguished by their spatial form, function, place
Fig. 4. Berlin Hauptbahnhof station.

Fig. 5. Shanghai South Railway Station.

Fig. 6. Liège-Guillemins Railway Station.

Fig. 7. Gare de Oriente Railway Station.

Fig. 8. Poznań Railway Station.

Fig. 9. Puerta de Atocha Railway Station.
of occurrence or even ownership. Most often, tourist attractions arise on the basis of a railway line (linear tourist attractions) or use railway stations (point tourist attractions). Linear attractions are most often created where they do not have a transport function or the type of transport means used (e.g. for a bicycle) changes. In the case of point attractions, it is mostly the transport function that is supplemented with additional functions.

Revitalization of such areas can fundamentally change the entire local economy, the standard of living and lives of the region’s inhabitants by attracting tourists and developing tourism. Revitalization activities contribute to improving the technical condition of the existing old buildings and restore to „life” places that have often lost their original function. Unused railway routes can be transformed into bike paths, promenades and even parks.

Rail attractions usually gather railway lovers’ associations who take care of rolling stock repairs, clear railway routes and help in starting tourist trains as a hobby. Their involvement is particularly evident in the case of narrow-gauge railways as well as handcars.

The promotion of particular attractions in social media is also very important. On the basis of messages or comments posted by other users, it can be inferred that a desire to see such places appears among visitors to a given city.

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